



**12th Annual Conference of the
EuroMed Academy of Business**

**Business Management Theories and Practices
in a Dynamic Competitive Environment**

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Business Management Theories and Practices in a Dynamic Competitive Environment

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FOREWORD

The Annual Conference of the EuroMed Academy of Business aims to provide a unique international forum to facilitate the exchange of cutting-edge information through multidisciplinary presentations on examining and building new theory and business models for success through management innovation.

It is acknowledged that the conference has established itself as one of the major conferences of its kind in the EuroMed region, in terms of size, quality of content, and standing of attendees. Many of the papers presented contribute significantly to the business knowledge base.

The conference attracts hundreds of leading scholars from leading universities and principal executives and politicians from all over the world with the participation or intervention of Presidents, Prime Ministers, Ministers, Company CEOs, Presidents of Chambers, and other leading figures.

This year the conference attracted about 210 people from over 37 different countries. Academics, practitioners, researchers and Doctoral students throughout the world submitted original papers for conference presentation and for publication in this Book. All papers and abstracts were double blind reviewed. The result of these efforts produced empirical, conceptual and methodological papers and abstracts involving all functional areas of business.

ACKNOWLEDGEMENT

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It is acknowledged that a successful conference could not be possible without the special co-operation and care of the Track Chairs and Reviewers for reviewing the many papers that were submitted to this conference. Special thanks to the Session Chairs and Paper Discussants for taking the extra time to make this conference a real success.

The last but not the least important acknowledgment goes to all those who submitted and presented their work at the conference. Their valuable research has highly contributed to the continuous success of the conference.

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BOOK OF CONFERENCE PROCEEDINGS

COMPLEMENTARY ASSETS, ENVIRONMENTAL STRATEGIES AND SMES PERFORMANCE

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ABSTRACT

The aim of this study is to present the conceptual framework for examining the complementary assets of SMEs that allow them to successfully implement environmental strategies. These assets include innovativeness, environmental collaboration and entrepreneurial attitude. We propose that SMEs, which are innovative and collaborate with their suppliers and customers on the development of environmental-friendly products, are more prone towards adopting environmental strategies than their counterparts. Moreover, the perceptions of the owners of SMEs regarding the adoption of environmental strategies affect their decisions on implementing these strategies. Finally, the impact of environmental strategies on the internationalization, competitiveness and corporate performance of SMEs are discussed. SMEs that adopt environmental strategies are expected to have increased corporate performance, higher competitiveness than their counterparts, and enhance international activity. The first part of this study is dedicated in presenting the above conceptual framework. The second part presents the environmental strategies adopted by SMEs and focuses on the research tools and methods needed to validate our research hypotheses.

Keywords: Environmental Strategy, SMEs, Innovativeness, Environmental Collaboration, Entrepreneurial Attitude, Corporate Performance, Competitiveness, Internationalisation.

INTRODUCTION

Small and Medium Enterprises (SMEs), which form the backbone of the EU's economy were severely affected by the 2008 financial crisis. Regarding Greek SMEs, their number declined by 7,1% from 2009 to 2014, while the number of employees in these enterprises decreased by 10,6%. In 2016, almost all member states recorded growth in SME employment and increase in value added (Annual Report on European SMEs, 2017). However, according to the same report, Greece, along with Croatia, Cyprus, Italy, Portugal and Spain have not yet recovered from the financial crisis, with regard to the number of SME enterprises, SME employment and value added. Based on the above, it is important to examine the characteristics of those SMEs that have endured the crisis as well as those strategies that can enhance the performance of SMEs.

Moreover, during the last two decades, SMEs have been under increasing pressure to improve their environmental performance, which has prompted many of them to adopt environmental strategies (Revell et al., 2010). In this context, the benefits of developing environmental strategies have often been the subject of scientific research, according to which green initiatives can improve not only the environmental performance of enterprises (Lenox and King, 2004, Florida and Davison, 2001) but also their corporate performance through the creation of sustainable competitive advantages (Al-Najjar and Anfimiadou, 2011; Lucas, 2010). While existing literature includes several studies on the relationship between SMEs environmental strategies and corporate performance, these studies are concerned with individual case studies (Sroufe et al., 2002). In addition, no potential factors that affect a company's ability to develop successful SMEs environmental strategies have been identified. From a dynamic perspective, some complementary assets may be required to successfully implement environmental strategies (Kerr, 2006), such as the ability to innovate and to collaborate.

The aim of this study is to record the environmental strategies employed by SMEs and to present the conceptual framework, the research tools and the methods for examining the complementary assets of SMEs that allow the successful implementation of these strategies. These assets include innovativeness, environmental collaboration and entrepreneurial attitude. Finally, the impact of environmental strategies on the internationalization, competitiveness and corporate performance of SMEs will be discussed. In the next section, we present our conceptual framework. Afterwards, we analyse the methods and the research tools necessary for analysing and validating our research hypotheses.

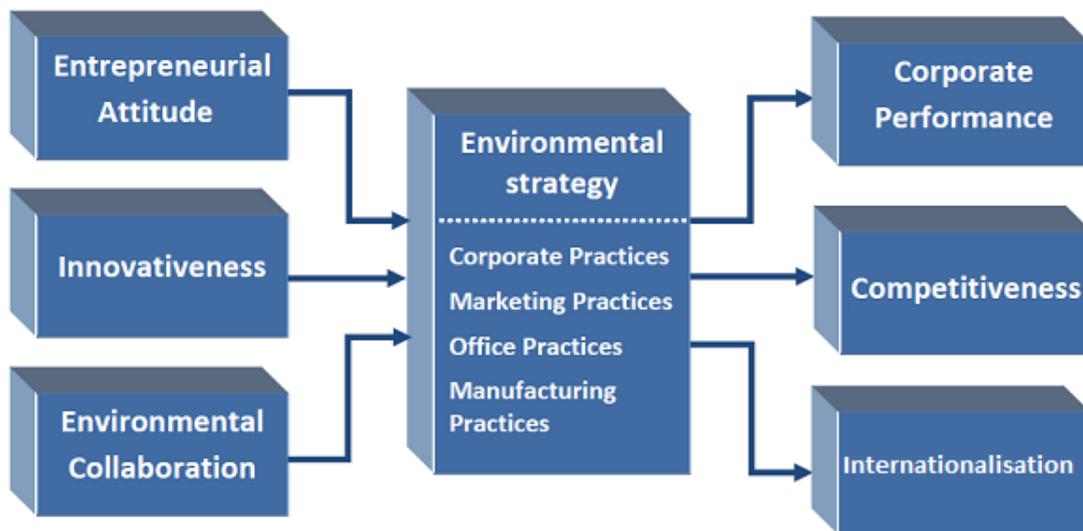


FIGURE 1. Conceptual Research Framework

CONCEPTUAL FRAMEWORK

As we have discussed above, the aim of the research is to present the factors that affect the adoption of environmental strategies in SMEs. We propose that an environmental oriented entrepreneurial attitude, corporate innovativeness and environmental collaboration positively affect the adoption environmental strategies. Finally, we propose that the adoption of environmental strategies positively affects corporate performance, competitiveness and corporate internationalisation. A graphic representation of the proposed research framework is presented in Figure 1. The rest of this section is dedicated into discussing the relationship between the variables of the research framework.

Entrepreneurial Attitude and Environmental Strategy

While empirical evidence shows that larger companies are increasingly integrating environmental strategies into their core business strategies, previous surveys have shown that SMEs are lagging behind in this area. Many SMEs owners are not sufficiently aware of the environmental impact of their business, they do not have the tools and resources to deal with environmental problems, and they believe that taking environmental action or adopting environmental practices has a great cost and little benefit to their business (Hillary, 2004; Revell et al., 2010). However, over the past decade, the media exposure of environmental problems, the social pressure for environmental protection and the focus of policy makers on tackling environmental problems have prompted many SME owners to think more closely about the environmental impact of their businesses. The aim of study is to examine whether the perceptions of the owners or senior executives of SMEs affect the extent to which they promote the adoption of environmental strategies. Based on the above, the following research case is formulated:

H₁: An environment-oriented entrepreneurial attitude is positively related to the adoption of environmental strategies in SMEs.

Innovativeness and Environmental Strategy

Innovation is a crucial factor in achieving and maintaining a competitive advantage. Global research has focused on identifying the determinants of innovation (Lederman, 2010). The present study examines the impact of innovativeness on the successful implementation of environmental strategies. The ability to innovate requires companies to adopt modern business processes and to keep track of technological developments in their external environment. Innovative businesses spend more resources on research and development activities and are usually the first to import new technologies from abroad (Lederman, 2010). Moreover, an innovative business culture fosters internal communication and supports "innovative" executives (Berchicci and Bodewes, 2005).

Finally, companies with innovative capabilities perceive environmental strategies as another source of innovation (Crowe and Brennan, 2007; Berchicci and Bodewes, 2005), providing a strong incentive to

implement such strategies. Also, the ability of an enterprise to develop innovative business processes is positively related to the implementation of environmental business strategies, especially those focusing on the design and development of environmentally friendly products and the elimination of hazardous materials used as inputs into the production process (Dangelico and Pontrandolfo, 2015). The following hypothesis is thus formed:

H₂: Innovativeness is positively related to the adoption of environmental strategies in SMEs.

Collaboration and Environmental Strategy

Although the majority of collaborative efforts are usually aimed at enhancing industrial performance, inter-company relationships have also proved effective in adopting environmental strategies (Florida, 1996). Businesses often describe these strategies as a consequence of wider collaborative efforts. Collaboration can offer companies new opportunities and facilitate the diffusion of know-how to solve problems between the parties involved. Research also suggests that relationships with suppliers influence the adoption of innovative environmental technologies (Geffen and Rothenberg, 2000). For example, many companies have adopted environmental practices, such as re-designing their products and their production processes, with the help of their supply chain partners (Lee and Kim, 2011). These joint efforts accelerate solutions, reduce costs, drive productivity growth, improve environmental performance, and enhance economic performance (Christmann and Taylor, 2002).

Also, resolving environmental issues in collaboration with customers or suppliers can be faster, cheaper and more effective if businesses can successfully use communication channels and gain knowledge and experience that translate into green business strategies (Lee and Kim, 2011; Sharfman et al., 2009).

Therefore:

H₃. Environmental Collaboration is positively related to the adoption of environmental strategies in SMEs.

Environmental Strategy and Corporate Performance

According to Dangelico and Pontrandolfo (2015), the successful implementation of environmental business practices, especially those focusing on energy efficiency and pollution reduction, has a positive impact on corporate performance. Additionally, Al-Najjar and Anfimiadou (2012) also confirm that eco-efficient firms exhibit a higher market value than those lacking environmental strategies. Furthermore, Nakao *et al.* (2007) have shown that a firm's environmental performance has a positive significant impact on its financial performance and vice versa, and estimate that increasing environmental management scores could lead to an increase in a firm's intangible assets in the long-run.

Nevertheless, the relationship between business development and the implementation of environmental strategies is not always clear, especially for SMEs (Simpson et al., 2004). Although there are many business examples that have succeeded in successfully implementing such strategies, these cases are individual and in different industries (Sawhney and Jose, 2003). The aim of the proposed research is to examine the relationship between the adoption of environmental strategies in SMEs and the development of these enterprises. Considering the above we can assume the following:

H₄: The adoption of environmental strategies is positively related to corporate performance.

Environmental Strategy and Competitiveness

Firms have devoted significant resources to the development and implementation of environmental strategies in an effort to control the negative impacts of their business activities on the natural environment. Therefore, it is important to examine the impact of these actions on corporate performance, i.e. whether they put additional cost burdens that cannot be offset by the firm's economic performance or whether they improve the firm's overall corporate performance, for example, through the adoption of energy efficient technologies that reduce the total cost of production or the development of differentiated and environmentally friendly products for which customers are willing to pay a higher price (Porter and van der Linde, 1995; Ruf et al., 2001). Regarding SMEs, Leonidou et al. (2017) have found a positive and significant relationship between green business strategies and competitive advantage regarding cost savings, product/service differentiation, etc. while Jorge et al. (2015) have also found that environmental performance has a positive, direct and significant influence on competitive performance. Based on the above we formulate the following hypothesis:

H₅: The adoption of environmental strategies is positively related to corporate competitiveness.

Environmental Strategy and Internationalisation

According to the Hellenic Federation of Enterprises, internationalisation is the main driver of SME success. Greek small enterprises are mainly importers of goods and services. However, during the last years increased export activity has been reported in medium-sized enterprises. Specifically, in the period 2010-2014, the increase in exports was 40% (from € 4bn to € 5.6bn) while the deficit in the trade balance of SMEs decreased from €15.7 billion to € 10.6 billion (SEV, 2017). The relationship between environmental performance and internationalisation has been examined in the context of international trade and the diffusion of environmental standards from developed countries to countries whose economies are in transition. The term "California Effect," developed by Vogel (1995), is often used to describe the phenomenon in which businesses in developing countries may tighten the standards of their products as a result of adopting the standards of their trading partners in developed countries. Additionally, by adapting their own production standards to standards of the country to which they

export their products, firms are able to maintain and expand their market share. Consequently, the adoption of environmental strategies has a direct impact on the internationalisation of businesses by giving them access to markets of developed countries whose consumers are often sensitive to environmental issues. Based on the above we expect that:

H₆: The adoption of environmental strategies is positively related to corporate internationalisation.

RESEARCH TOOLS AND METHODS

Measuring the Variables

The aim of this study is to discuss the impact of environmental strategies on the competitiveness, internationalization and corporate performance of Greek SMEs. A competitive advantage is defined as the company's ability to maintain its returns at a better level than its competitors and particularly whether the company's customers are willing to pay higher prices for its products / services than that of competitors'. Besides, we propose that customer satisfaction and product quality compared to that of the company's competitors should also be examined as measures of competitiveness (Madueno et al., 2016). Moreover, since SMEs were critically affected by the 2008 crisis, the ability of the company to maintain a market presence in times of crisis should also be taken into account (Duffett et al., 2018). Regarding corporate performance, in addition to key performance indicators such as sales growth, profits and market share, we also take into consideration factors such as increased customer satisfaction and product quality (Jorge et al., 2015; Ko and Liu, 2017; Bagur-Femenias et al., 2013; Cantele and Zardini, 2018). Finally, with regard to internationalization, we propose that internationalization is measured based on the number of countries to which the products are exported, the proportion of international sales to total sales, the development of the company's network of partners as well as the company's relations with its partners abroad (Ruzzier et al., 2007; Dasi et al., 2015; Chetty et al., 2014). For a detailed presentation of the measurement of the above variables as please refer to Table 1.

Variable Measures	Research References
Corporate Performance	
Sales have increased over the last two years.	López-Pérez et al. (2017); Jorge et al. (2015); Ko and Liu (2017); Bagur-Femenias et al. (2013); Cantele and Zardini (2018)
Profits have increased over the last two years.	
Market share has increased over the last two years.	
Customer satisfaction has increased over the last two years.	
Quality of our products/services has increased over the last two years.	
Company's image has improved over the last two years.	
Competitiveness	
Customer satisfaction is higher than that of competitors.	Bagur - Femenias et al. (2013); Duffett et al. (2018); Madueno et al. (2016); Dangelico and Pontradolfo (2015); Brammer et al. (2012); Jorge et al. (2015)
Customers are willing to pay a price premium for our products.	
The quality of our products is better than that of our competitors.	
Sales have increased more than those of competitors.	

Company's ability to maintain a market presence in times of crisis is higher than that of competitors. Company is considered a leader in the market.
Internationalisation
The number of countries to which you export your products/services has increased over the last two years. The proportion of international sales to total sales has increased over the last two years. The company's networks and relationship with its partners abroad have increased over the last two years. The company's international activities have been successful over the last two years.

Ruzzier et al. (2007); Dasi et al. (2015); Chetty et al. (2014); Bausch and Krist (2007);Torkkeli et al. (2012)

TABLE 1. Description of Variable Measures for Corporate Performance, Competitiveness and Internationalisation



FIGURE 2. Corporate Environmental Strategies

Environmental strategy can be described as the systematic business approach to reducing or eliminating the damage created by a company's activities in the natural environment in which it operates. The adoption of environmental strategies is also affected by market and competitor pressure (Kolk and Pinkse, 2008; Christmann and Taylor, 2006) and concerns: (i) the effects of energy prices on the production costs that provides incentives for firms to promote energy efficiency or reduce waste, and (ii) the diversification of products and services with higher social and environmental characteristics and (iii) the environmental and social requirements in the supply chain, associated with specific standards of operation and corporate behavior.

Variable Measures	Research References
Corporate Practices	
Our firm conducts environmental audits at regular intervals.	Brammer et al. (2012); Jorge et al. (2015); Madueno et al. (2016); Hofmann et al. (2012); Revell et al. (2010)
Our firm has a written environmental policy.	
Our firm sets specific environmental goals every year.	
Our firm has an environmental management system at place.	
Marketing Practices	
Our firm is involved in environmental community activities.	Brammer et al. (2012); Madueno et al. (2016); Duffett et al. (2018)
Our firm advertises its environmental efforts.	
Our firm publishes annual environmental reports.	
Office Practices	
Our firm has an in-home paper and/or plastic recycling program.	Revell et al. (2010); Brammer et al. (2012); Bos-Brouwers (2010)
Our firm conducts special training programs on environmental issues for employees.	
Our firm has a car-pooling scheme for employees.	
Our firm uses cleaning products that have reduced harmful effects for the environment.	
Our firm encourages energy efficiency in the offices (turn down unnecessary heating/cooling; use energy efficiency lights; monitor energy and water use).	
Manufacturing Practices	
The amount of waste that our firm produces has been decreasing over the last two years.	Revell et al. (2010); Brammer et al. (2012); Cantele and Zardini (2018); Testa et al. (2016); Jorge et al. (2015); Bagur-Femenias et al. (2013); Dangelico and Pontrodolfo (2015); Bos-Brouwers (2010); Madueno et al. (2016)
The amount of waste recycled has increased over the last two years.	
Our firm has increased the energy efficiency of the production process over the last two years.	
The consumption of water has decreased over the last two years.	
Our firm has reduced harmful emissions over the last two years.	
Our firm has reduced the carbon intensity of the production process over the last two years.	

TABLE 2. Description of Variable Measures for Corporate Environmental Strategies

In response to above, companies have implemented various environmental strategies. In the framework of the proposed research study we will divide these strategies into four categories: *Corporate Practices*, *Marketing Practices*, *Employee Practices*, and *Manufacturing Practices*. The environmental strategies that are implemented at the highest corporate level are included into the *Corporate Practices* category. *Marketing practices* include the environmental strategies that are closely related corporate social and environmental responsibility. *Office practices* include strategies that are concerned with the training of employees and implementation of environmental initiatives that are related to the daily office operational activities, not to the production or manufacturing processes employed by the company. On the contrary, *Manufacturing Practices* includes all strategies related to the production process; such are waste and emissions reduction or energy efficiency. For a graphic presentation of these strategies please refer to Figure 1. For a detailed presentation of the measurement of the above variables as please refer to Table 2.

As mentioned above, this study will also examine the complementary assets of enterprises that determine the implementation and success of these environmental strategies. That includes

innovativeness, entrepreneur attitude and environmental collaboration. In the context of this study, innovation will involve the development of environmentally friendly products, e.g. products that can be converted, reused or recycled, as well as the development of production processes that reduce the environmental footprint of a company (Brammer et al., 2012; Revell et al., 2010; Cantele and Zardini, 2018, Testa et al., 2016). Entrepreneur attitude involves the perceptions and beliefs of the company's owners or senior management. In the context of this research we will examine the perceptions of SMEs owners regarding environmental protection and whether the adoption of environmental strategies can have positive effects on their company, e.g. whether reduction in the environmental impact of a company can lead to a significant reduction in its operating costs (Testa et al., 2016; Revell et al., 2010; Brammer et al., 2012; Cassells and Lewis, 2011; Leonidou et al., 2017). Finally, as environmental collaboration, we examine the ability of the company to collaborate with customers and suppliers for developing environmentally friendly products, setting environmental standards and providing information (Testa et al., 2016; Cantele and Zardini, 2018). For a detailed presentation of the measurement of the above variables as please refer to Table 3.

Variable Measures	Research References
Entrepreneur Attitude	
Environmental issues should be a priority in business management.	Testa et al. (2016); Revell et al. (2010); Brammer et al. (2012); Cassells and Lewis (2011); Leonidou et al. (2017)
My business is too small to have an environmental impact.	
I believe in business as usual leaving the government to tackle environmental issues.	
Reducing the firm's impact on the environment can also lead to a significant reduction in costs.	
Our firm can enter new markets by adopting environmental strategies.	
Our firm can increase market share by making our current products more environmentally friendly.	
Reducing the environmental impacts at our firm's activities will lead to a quality improvement in our products and processes.	
Being environmentally friendly can increase profits.	
Environmental Collaboration	
We collaborate with customers for the development of cleaner processes/recyclable products/use of environmental friendly materials	Testa et al. (2016); Revell et al. (2010); Torkkeli et al. (2012); Cantele and Zardini (2018); Hofmann et al. (2012)
We collaborate with suppliers for the development of cleaner products/processes/recyclable products/use of environmental friendly materials	
We set environmental standards for our suppliers	
We provide customers with the information needed to make sound purchasing decisions	
Innovativeness	
Our firm invests in R&D for environmental friendly products.	Brammer et al. (2012); Revell et al. (2010); Madueno et al. (2016)
Our firm designs products that can be re-used, repaired or recycled.	
Our firm designs/uses packaging that can be re-used or recycled.	
Our firm utilizes renewable energy wherever possible.	

TABLE 3. Description of variable measures for environmental attitude, collaboration and innovativeness

Proposed Survey Methodology

Based on the variable measures developed above, we will create a questionnaire divided in sections respective to the description of the measures we have presented. The questions that will be used to measure the variables will be of a closed type and will be formulated in such a way as to allow the use of Likert scales in their evaluation. At its initial stage, the questionnaire will be piloted in selected businesses where participants will be asked, in addition to answering questions, to assess whether the questions are helpful to measuring the variables. In this way a primary validation of the questionnaire will be achieved based on its content validity. Questionnaires will be sent via the use of an online platform that will allow survey participants to respond to the questionnaire electronically. Before sending the questionnaires, the company representatives will be contacted and asked whether they want to participate to the survey.

Sampling

The survey will focus on Greek SMEs that have "active" export activity according to the database of the Hellenic Exporters' Association. By "active" we mean that only companies with a web site translated into at least one foreign language will be included in the sample. In addition, the sectors to be included in the sample will be: Agricultural Products, Livestock Products, Fisheries, Forestry, Minerals / Metals, Energy Production, Nutritional Products, Drinks / Soft Drinks, Leather / Fur, Plastics, Chemicals / Paints, Paper, Medicines / Cosmetics / Medical Products. The above sector selection is in line with the categorization scheme used by the Hellenic Exporters' Association in its database. Based on a preliminary survey that has been conducted, the number of companies with the above characteristics is about 1700.

Data analysis

Before we use the data collected in survey to create the variables described above, we will conduct a construct validity check of the questionnaire based on the factor analysis method. This methodology allows us to check whether the questions we have included in the questionnaire are a valid measure of the variables they are called to measure. In this research, we are going to use *exploratory* factor analysis since our questionnaires have not been previously validated by other researchers. After the validity check, a statistical analysis of the reliability of the questionnaire will be performed based on the internal consistency method, which calculates in mathematical terms the degree of correlation between the questions used for the construction of the individual variables (Cronbach alpha coefficient). Reliability analysis indicates the extent to which repeating the same survey procedure yields the same results. Finally, the testing of the research hypotheses will be done using the Structural Equation Modeling

(SEM) methodology, which allows us to create an integrated model where the relationships between the variables will be clearly seen.

CONCLUSION

The aim of this study was to propose a conceptual framework for examining the complementary assets of SMEs that allow them to successfully implement environmental strategies. The complementary assets that were analysed were innovativeness, environmental collaboration and entrepreneurial attitude. We proposed that SMEs which are innovative and collaborate with their suppliers and customers are more capable in developing environmental strategies than their counterparts. Moreover, we claim that the perceptions of the owners of SMEs regarding environmental problems and green entrepreneurship affect their decisions on adopting environmental strategies. Finally, we discussed the impact of environmental strategies on the internationalization, competitiveness and corporate performance of SMEs. Based on previous research, we can expect that SMEs, which adopt environmental strategies, will have increased corporate performance, higher competitiveness than their counterparts, and enhanced international activity.

REFERENCES

1. Al?Najjar, B. and Anfimiadou, A. (2012), "Environmental policies and firm value", *Business Strategy and the Environment*, Vol. 21 No. 1, pp. 49-59.
2. Annual Report on European SMEs (2017), "Annual Report on European SMEs 2016/2017, Focus on self-employment, SME Performance Review 2016/2017", European Commission, November 2017.
3. Bagur-Femenias, L., Llach, J. and del Mar Alonso-Almeida, M. (2013), "Is the adoption of environmental practices a strategic decision for small service companies? An empirical approach", *Management Decision*, Vol. 51 No. 1, pp. 41-62.
4. Bausch, A., and Krist, M. (2007), "The effect of context-related moderators on the internationalization-performance relationship: Evidence from meta-analysis", *Management international review*, Vol. 47 No. 3, pp. 319-347.
5. Bellesi, F., Lehrer, D., and Tal, A. (2005), "Comparative advantage: The impact of ISO 14001 environmental certification on exports", *Environ. Sci. Technol*, Vol. 39 No.7, pp. 1943-1953.
6. Berchicci, L., and Bodewes, W. (2005), "Bridging environmental issues with new product development". *Business Strategy and the Environment*, Vol.14 No.5, pp. 272-285.
7. Bos?Brouwers, H. E. J. (2010), "Corporate sustainability and innovation in SMEs: evidence of themes and activities in practice", *Business strategy and the environment*, Vol. 19 No.7, pp. 417-435.
8. Brammer, S., Hoejmosé, S., and Marchant, K. (2012), "Environmental management in SME s in the UK: Practices, pressures and perceived benefits", *Business Strategy and the Environment*, Vol. 21 No. 7, pp. 423-434.
9. Cantele, S., and Zardini, A. (2018), "Is sustainability a competitive advantage for small businesses? An empirical analysis of possible mediators in the sustainability–financial performance relationship", *Journal of Cleaner Production*, Vol. 182, pp. 166-176.
10. Cassells, S., and Lewis, K. (2011), "SMEs and environmental responsibility: do actions reflect attitudes? ", *Corporate Social Responsibility and Environmental Management*, Vol. 18 No. 3, pp. 186-199.
11. Chetty, S., Johanson, M., and Martin, O. M. (2014), "Speed of internationalization: Conceptualization, measurement and validation", *Journal of World Business*, Vol. 49 No. 4, pp. 633-650.
12. Christmann P and Taylor G. (2002), "Globalization and the environment: strategies for international voluntary environmental initiatives", *The Academy of Management Executive*, Vol. 15 No. 3, pp. 121–135.

13. Christmann, P. and Taylor, G. (2006), "Firm self-regulation through international certifiable standards: determinants of symbolic versus substantive implementation", *Journal of International Business Studies*, Vol. 37, pp. 863–878.
14. Crowe, D. and Brennan, L. (2007), "Environmental considerations within manufacturing strategy: an international study", *Business Strategy and the Environment*, Vol. 16, pp. 266–289.
15. Dangelico, R. M., and Pontrandolfo, P. (2015), "Being 'green and competitive': the impact of environmental actions and collaborations on firm performance", *Business Strategy and the Environment*, Vol. 24 No. 6, pp. 413–430.
16. Dasi, A., Iborra, M., and Safon, V. (2015), "Beyond path dependence: Explorative orientation, slack resources, and managerial intentionality to internationalize in SMEs", *International Business Review*, Vol. 24 No. 1, pp. 77–88.
17. Duffett, R., Edu, T., Haydam, N., Negricea, I. C., and Zaharia, R. (2018), "A Multi-Dimensional Approach of Green Marketing Competitive Advantage: A Perspective of Small Medium and Micro Enterprises from Western Cape, South Africa", *Sustainability*, Vol. 10 No.10, pp. 37–64.
18. Florida, R. (1996), "Lean and green: the move to environmentally conscious manufacturing", *California Management Review*, Vol. 39 No. 1, pp. 80–105.
19. Florida, R. and Davison, D. (2001), "Gaining from green management: environmental management systems inside and outside the factory", *California Management Review*, Vol. 43 No. 3, pp. 64–84.
20. Geffen, C. and Rothenberg, S. (2000), "Suppliers and environmental innovation: the automotive paint process", *International Journal of Operations and Production Management*, Vol. 20 No. 2, pp. 166–186.
21. Hillary, R. (2004), "Environmental management systems and the smaller enterprise", *Journal of Cleaner Production*, Vol.12, pp. 561–569.
22. Hofmann, K. H., Theyel, G., and Wood, C. H. (2012), "Identifying firm capabilities as drivers of environmental management and sustainability practices—evidence from small and medium-sized manufacturers", *Business Strategy and the Environment*, Vol. 21 No. 8, pp. 530–545.
23. Jorge, M. L., Madueno, J. H., Martinez-Martinez, D., and Sancho, M. P. L. (2015), "Competitiveness and environmental performance in Spanish small and medium enterprises: is there a direct link? ", *Journal of cleaner production*, Vol. 101, pp. 26–37.
24. Kerr, IR. (2006), "Leadership strategies for sustainable SME operation", *Business Strategy and the Environment*, Vol. 15, pp. 30–39.
25. Ko, W. W., and Liu, G. (2017), "Environmental Strategy and Competitive Advantage: The Role of Small and Medium-Sized enterprises' Dynamic Capabilities", *Business Strategy and the Environment*, Vol. 26 No. 5, pp. 584–596.
26. Kolk, A. and Pinkse, J. (2008), "A perspective on multinational enterprises and climate change: Learning from 'an inconvenient truth'?", *Journal of International Business Studies*, Vol. 39, pp. 1359–1378.
27. Lederman D. (2010), "An international multilevel analysis of product innovation", *Journal of International Business Studies*, Vol. 41 No. 4, pp. 606–619.
28. Lee, K. H., and Kim, J. W. (2011), "Integrating suppliers into green product innovation development: an empirical case study in the semiconductor industry", *Business Strategy and the Environment*, Vol. 20 No. 8, pp. 527–538.
29. Lenox, MJ and King, AA. (2004), "Prospects for developing absorptive capacity through internal information provision". *Strategic Management Journal*, Vol. 25 No. 4, pp. 331–345.
30. Leonidou, L. C., Christodoulides, P., Kyrgidou, L. P., and Palihawadana, D. (2017), "Internal drivers and performance consequences of small firm green business strategy: The moderating role of external forces", *Journal of Business Ethics*, Vol.140 No. 3, pp. 585–606.
31. Lopez-Perez, M. E., Melero, I., and Javier Sese, F. (2017), "Management for sustainable development and its impact on firm value in the SME context: Does size matter? ", *Business Strategy and the Environment*, Vol. 26 No. 7, pp. 985–999.
32. Lucas, MT. (2010), "Understanding environmental management practices: integrating views from strategic management and ecological economics", *Business Strategy and the Environment*, Vol. 19, pp. 543–556.
33. Madueno, J. H., Jorge, M. L., Conesa, I. M., and Martinez-Martinez, D. (2016), "Relationship between corporate social responsibility and competitive performance in Spanish SMEs: Empirical evidence from a stakeholders' perspective", *BRQ Business Research Quarterly*, Vol. 19 No. 1, pp. 55–72.
34. Nakao, Y., Amano, A., Matsumura, K., Genba, K. and Nakano, M. (2007), "Relationship between Environmental Performance and Financial Performance: an Empirical Analysis of Japanese Corporations", *Business Strategy and the Environment*, Vol. 16, pp. 106 – 118.

35. Porter, M.E and Van Der Linde, C. (1995), "Green and Competitive: Ending the Stalemate", *Harvard Business Review*, Vol. 9 No. 4, pp. 120 – 134.
36. Revell, A., Stokes, D. and Chen, H. (2010). "Small businesses and the environment: turning over a new leaf?", *Business Strategy and the Environment*, Vol.19 No. 5, pp. 273-288.
37. Ruf, B. M., Muralidhar, K., Brown, R. M., Janney, J. J., and Paul, K. (2001), "An empirical investigation of the relationship between change in corporate social performance and financial performance: A stakeholder theory perspective", *Journal of Business ethics*, Vol. 32 No. 2, pp. 143-156.
38. Ruzzier, M., Anton, C. B., Hisrich, R. D., and Konecnik, M. (2007), "Human capital and SME internationalization: A structural equation modeling study", *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, Vol. 24 No.1, pp.15-29.
39. Sawhney, A. and Jose, P.D. (2003), "The greening of business strategy: from compliance to competitive advantage", *IIMB Management Review*, Vol. 15 No. 3, pp. 130–133.
40. SEV (2017), "The Hellenic Federation of Enterprises: Small and Medium Enterprises in Greece", EY 2017, Athens, Greece.
41. Sharfman, M.P., Shaft, T.M. and Anex, R.P. (2009), "The road to cooperative supply-chain environmental management: trust and uncertainty among pro-active firms", *Business Strategy and the Environment*, Vol. 18, pp. 1–13.
42. Simpson, M., Taylor, N. and Barker, K. (2004), "Environmental responsibility in SMEs: does it deliver competitive advantage? ", *Business Strategy and the Environment*, Vol. 13, pp. 156–171.
43. Sroufe R, Narasimhan R, Montabon F and Wang X. (2002), "Environmental management practices", *Greener Management International*, Vol. 40, pp. 23–44.
44. Testa, F., Gusmerottia, N. M., Corsini, F., Passetti, E., and Iraldo, F. (2016), "Factors affecting environmental management by small and micro firms: The importance of entrepreneurs' attitudes and environmental investment", *Corporate Social Responsibility and Environmental Management*, Vol. 23 No. 6, pp. 373-385.
45. Testa, F., Gusmerottia, N. M., Corsini, F., Passetti, E., and Iraldo, F. (2016), "Factors affecting environmental management by small and micro firms: The importance of entrepreneurs' attitudes and environmental investment", *Corporate Social Responsibility and Environmental Management*, Vol. 23 No. 6, pp. 373-385.
46. Torkkeli, L., Puumalainen, K., Saarenketo, S., and Kuivalainen, O. (2012), "The effect of network competence and environmental hostility on the internationalization of SMEs", *Journal of International Entrepreneurship*, Vol. 10 No. 1, pp. 25-49.
47. Vogel, D. (1995), "Trading Up: Consumer and Environmental Regulation in a Global Economy". Cambridge, MA: Harvard University Press.

THE IMPACT OF BEHAVIORAL INCONSISTENCIES ON STOCK RETURN: A THEORETICAL FRAMEWORK.

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ABSTRACT

After the failure of the traditional asset pricing theories to portend and reflect real performance of markets, behavioral finance has emerged as a savior by highlighting the irrationality behind the unexplained trading behavior executed by investors. Vissing-Jorgensen (2003) documented behavioral finance achievement in asset pricing theories because of its ability to capture the variations in stocks prices which were not explained by traditional views like investor rationality and market efficiency. Also the analysis of the literature revealed that the behaviour of the individual investor has a great effect on the stock prices movements, consequently determining these variables can help in developing a stock pricing model by taking into consideration these variables with the existing asset pricing models. However, till now we are still apart from a complete psychological model describing and covering market anomalies or the behavioural variables that affect stock market prices, accordingly this study intends to bridge the knowledge gap missed by previous researchers and to move with behavioural finance branch from just being criticisms and thoughts against traditional model to a real applicable model.

Hence the aim of this paper is to propose a theoretical framework capturing the behavioral factors that have effects on the stocks' prices and investment decision making through applying a systematic review approach.

Keywords: Behavioral Finance, stock market, Behavioral factors.

INTRODUCTION

Until recently, understanding the basis on which the market participant react and make their investment decision remains a dilemma to researchers. This challenge has emerged after the failure of the classical financial theories in measuring the market behavior practically. Whereas, the classical theories are based on the main assumptions, that investors work on maximizing their utility, they are homogenous, rational or to some extent rational and they use all the available information to make their decision which are equally known to every participant in the market. Also, the traditional

thoughts assume that the decision making process requires making the optimal choice. For example, the Efficient Market Hypothesis expects the investors to act properly to any new information and that the stock prices reflect precisely all the available information, and in case the market deviates away from the fundamental values the arbitrage process will return the prices back to its normal path (Komba, 2016). However, Barberis and Thaler (2003) declared that there are limits to arbitrage, clarifying that even if the arbitrage worked; the prices prediction may not work effectively. This criticism decreases the accuracy of the classical thoughts and led to the emergence of behavioral finance. Moreover, it has been emerged after proving the limited cognitive abilities and the bounded rationality owned by investors which affect their investment decision, and proving that investors' inappropriate and spontaneous actions are based on some biases and heuristics like risk aversion, optimism, framing, anchoring, mental accountancy and other deviations that lead to increase in the supply or demand for limited time and then mispricing some stocks (Ahmed, 2017). Accordingly, behavioral finance is a branch that explains the changes in the stock's prices as a result of investors' unintentional and spontaneous actions. It can be considered as a special mix between finance, economic, psychology and sociology (Ahmed, 2017). Despite that, we are still apart from a complete psychological model describing and covering the behavioural variables that affect stock market prices and investment decision making process (Polak, 2012). Therefore, the aim of this paper is to propose a theoretical framework capturing the behavioral factors that affect stocks' prices and investment decision making. This is achieved through conducting systematic review, which will gather all the relevant articles that investigated the effect of the behavioral aspects of investors and how these variables have affected the stock markets.

The remainder of the paper is organized as follow: section two covers the literature; section three covers the methodology employed, while the analysis and discussion are illustrated in section four. Finally, the conclusion is presented in section five.

LITERATURE REVIEW

The prominent economic approaches ignore the psychological part inherent in human behavior that human owns limited cognitive abilities and power in this crowded and quickly changing environment. The basic thought of behavioral finance is the concept of bounded rationality developed by Simon in 1957, which explains that the knowledge of all information and all possible outcomes is restricted and limited to the cognitive abilities of the investor, while there are doubts about the external and internal factors influencing the market. Then, Tversky and Kahneman on 1974 explained that investors do not have to gather all the information, as they depend on "rules of thumb" and the already available information to make the investment decisions easily and more quickly rather than

using complicated methods. Behavioral finance is able to capture the market anomalies which appear as a result of investors' deviation from the rational behavior to the cognitive biases like loss aversion, overconfidence, regret aversion and others as in Kahneman and Tversky (1979).

Vissing-Jorgensen (2003) documented behavioral finance achievement in asset pricing theories, as it is able to capture variations in stocks prices that were not explained by traditional views of the classical models like investor rationality and market efficiency. Also discussed that arbitrage done by rational investors may be unable to return prices back if it veers away because of the irrational behavior of investors, this phenomenon is explained as limit to arbitrage. While Kaplanski and Levy (2010) proved the negative influence of aviation accidents on stock return, especially the return of small and more volatile industries. These results validate that the negative mood resulting from the aviation accidents has a major effect on the investment decision making process. The effect was measured by \$60 billion dollar loss per aviation accident with actual loss reached \$1 billion. Also Cohen-Charash *et al.*, (2013) employed a study to determine the ability of investors' emotions to predict stock prices movement and proved that the collective mood indices formed has a predicting power in determining whether the stock increasing or decreasing trend will continue or not. The researchers' major contribution was proving that good mood is able to forecast the boost in NASDAQ prices while the bad mood is able to forecast the downtrend in NASDAQ prices.

The analysis of the literature revealed the practicing of investors to various cognitive biases and heuristics variables like: herding, overconfidence, framing, mental accountancy, gambler fallacy and others, (see for example: Amin *et al.*, (2009), Komba, (2016)), also proved that the behaviour of the individual investor has a great effect on the stock prices movements (Komba, 2016). The complete determination of these variables can help in building a theoretical framework that can be used in developing a more relevant behavioural model which could also be added to the already existing asset pricing models. However, no study till now proposed a complete behavioural model covering all the psychological variables that affect the investment decision making process (Polak, 2012) . Accordingly, this study intends to bridge the knowledge gap missed by previous researchers and reaches a widely common acceptable model about the behavioural variables that affect stock market return and investment decision making.

METHODOLOGY

A review was applied based on a systematic review approach using the following steps implemented from Tranfield *et al.* (2003).

Firstly: providing identification for the research need ended by defining the keys words.

Secondly: A broad scanning for the titles and abstracts of the derived citations is done while excluding the studies irrelevant with the present aim.

Thirdly: A strict screen of the remaining studies that passed the previous stage and selection of the most appropriate and relevant ones is done, followed by data extraction, whereas the selection criteria are described later in this section

Fourthly: Providing a summary for the synthesizing and reviewing the relevant articles ending by developing a theoretical framework.

The strategy followed in the systematic review is using an automated search; the following search terms and keywords were employed: "behavioural factors affecting stock return", "psychological factors affecting stock return", 'Investors' sentiment and stock market". While the used search engines were: EBSCO Host, Science Direct, SAGE journal, Emerald Insight and University of Nicosia database. Each of these search engines has its own search strategy; accordingly different search term sequences and methods were employed for each electronic database. This variety has its benefit in enhancing the possibility of including as much as possible relevant articles. Moreover, the choice of the mentioned search terms emanates from their sensitivity with the present research topic and since they represent the most well-known and used search engines by academic researchers, hereupon, this will minimize the possibility of missing any research papers that could be relevant with the aim of this paper.

As for the selection criterion of the accepted articles are according to the following criteria:

- Language: The paper must be written in English.
- Study topic: it is essential for the selected research papers to meet the aim of this study. Thus, the irrelevant studies were excluded.
- Time frame: Since the objective of this study is to develop a theoretical framework through collecting the articles that investigated the effect of investors' behavioral characteristics, the time period was set from the inception of behavioural finance concept in 1970 until 2018.
- Methodology: considering the articles that adopted both qualitative and quantitative methodology
- Quality assessment: to ensure the quality of the retrieved articles, the previous mentioned databases were employed as they include the most well-known and top ranked journals, also only the peer reviewed articles were chosen as relevant articles.

The running of the search engines resulted in 835 articles. Then a broad scanning for the titles and abstract of the derived citations, this resulted in 163 articles. Then the strict screening for the aim, methodology and findings for the articles that passed the previous stage was done resulting in 80 articles. The reviewing and the synthesizing of the reached 80 articles have yielded several phenomenon, heuristics and cognitive biases measured against stock market returns or against investors' decision making process. These variables are presented in the table 1.

Howard (2012) mentioned that the decision making process involves several characteristics that enable categorizing the variables into different schemas, which means that the variable can be categorized as either a bias for one researcher or as a heuristics for another, so it depends on researchers' point of view. Therefore, there is no a widely accepted or a standard way of classification found in the previous articles. This lack of standardization led to confusion, and reduced the potential for developing a complete behavioural model.

Accordingly this study proposes a categorization way for the reached variables with the aim of developing a psychological framework covering the behavioural factors that affect the investment decision making process. Whereas, the variables presented in table 1 are categorized into 3 different subcategories based on different perspectives then within each subcategory similar variables are merged and aggregated into one variable.

Variables	Number of articles that measured each variable
1. Social media sentiment(twitter , Facebook, Google trends)	6 articles
2. Investor sentiment	20 articles
3. negative social mood	2 articles
4. Investors' attention	2 articles
5. Herding behavior	11 articulated
6. Newspaper reports / news sentiment	2 articles
7. Gamblers fallacy	1 article
8. Optimism/ excessive optimism	5 articles
9. Overconfidence/ self confidence	13 articles
10. investors' local bias and home bias/ familiarity	3 articles
11. Risk tolerance	2 articles
12. Risk avoidance	2 articles
13. Sociability	1 article
14. Perceived investments of significant others (PISO).	1 article
15. Perception of regulator (trust in government supervision of the capital market)	1 article
16. Subjective financial literacy	1 article
17. Big five personality traits (moderator variables)	4 articles
18. Disposition effect	5 articles
19. Fear	1 article
20. representativeness	3 articles
21. availability	4 articles
22. internal locus of control	1 article

23.	linguistically fluent tickers	2 articles
24.	anchoring	2 articles
25.	Environmental variables (sunshine, daylight, temperature)/ weather	6 articles
26.	Investment Ability	1 article
27.	Risk Appetite	1 article
28.	Pessimism	2 article
29.	Investor mood	2 article
30.	Sports sentiments / sports fans loyalty	4 articles
31.	Day-of-the-Week Sentiment	1 article
32.	Loss aversion	1 article
33.	Regret aversion	1 article
34.	Mental accountancy	2 article
35.	Emotions	1 article
36.	Investor Competence	1 article
37.	neurotransmitters	1 article
38.	emotional intelligence	1 article
39.	Framing	1 article
40.	Breakeven	1 article
41.	Prospect theory	1 article

Table (1): The behavioural variables extracted from the related articles

The next section will cover the critical analysis of the accepted articles and ends with the developed theoretical framework.

DISCUSSION

The categorization and consolidation are done based on the following steps.

Firstly: Integrating the repeated variables (like confidence and overconfidence).

Secondly: Assembling the variables that reflect similar meanings or used to measure same psychological effect but are presented in different terms (like pessimism and negative social mood).

Thirdly: Combining the variables that are interwoven or interrelated (like overconfidence and risk tolerance), then coming up with variables names, where the name of the variable is chosen either based on the most tested one in the accepted articles or according to the main variable that is triggering other variables.

The following figure represents the categorization and the consolidation of the extracted behavioural variables.

The explanation and justification for categorizing and merging the behavioural variables affecting stock market are presented below. The variables are divided into 3 subcategories which are Seasonality, Unconsciousness, and Neurological dimensions.

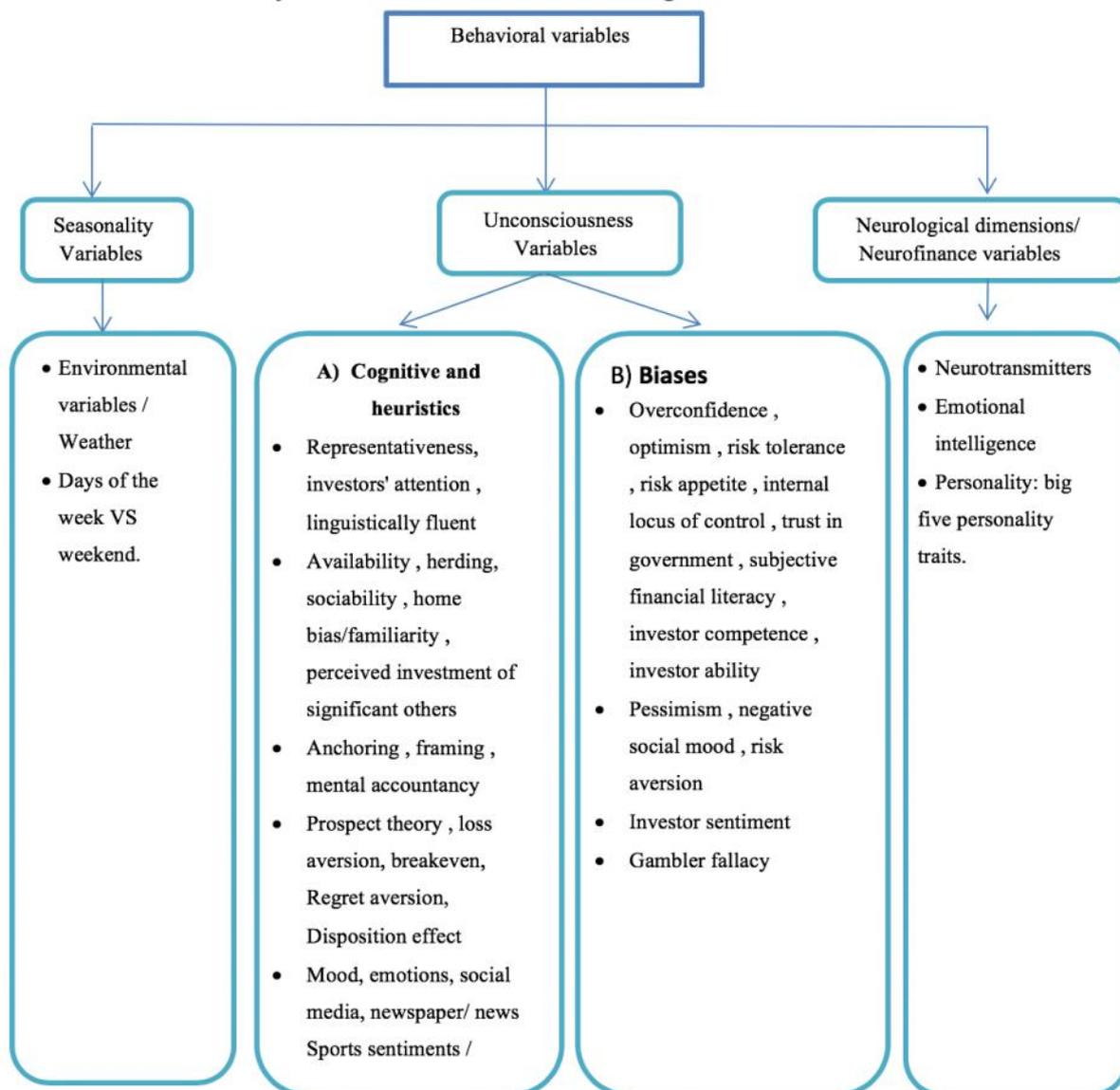


Figure 1: The categories of the behavioural variables affecting stocks' prices.

Seasonality variables:

- *Environmental variables / weather*: Sunshine, cloud cover, daylight, temperature and weather can have impact on investors' mood and accordingly can affect investment decision making. (Li and Peng, 2016) (Kimb *et al.*, 2015)
- *Days of the week vs. weekends*: This variable was examined over a longitudinal time series due to its relation with the investors' general mood (Kaplanski *et al.*, 2015). It is claimed that during weekdays stock market return is low and is high during weekends.

Unconsciousness variables:

Mercier and Sperber (2011) stated that unconsciousness is something inherent in humans mind affecting their behaviour and argued that both heuristics and biases can be categorized under investors' unconsciousness accordingly, it is divided into two subcategories heuristics/cognitive and biases variables which are presented in details in the following part.

- ***Heuristics and Cognitive variables:*** Cognitive abilities are the biggest restriction to reach the best decision rather than most pleasant one (Howard, 2012). While heuristics according to Gigerenzer and Wolfgang (2011) are a rule of thumb, it is an action plan that uses only part of the information available to make decisions easily and more quickly rather than using complicated methods, it is not aiming at reaching the optimal choice but to reach the best decision under the available restrictions. The following parts describe the variables categorized as heuristics and cognitive

- ***Representativeness, attention, linguistically fluent:***

Representativeness is a situation when decision makers' evaluate choices and make decision using cursory characteristics instead of using detailed information (Park and Sohn, 2013), also when investor focus his/her attention on specific information neglecting all other information without any bias (Chandra and Thenmozhi, 2017). In this case representativeness gives the same meaning as to investor attention which is described by Behrmann *et al.* (2004) "as a cognitive process refers to preferential processing for a selected aspect of a given sensory input"; this means that representativeness is triggered by investor attention. While linguistically fluent measures the investor focus and attention to early alphabet stocks rather than to the latter ones. This means that linguistically fluent is directed by investor attention and concentration that is at its peak for the first alphabetical letters and then decrease for the later ones.

- ***Availability, herding, sociability, home bias/familiarity, perceived investment of significant others***

Availability is defined as a situation when investor makes decision based on information that is easily recalled to his mind (Chandra and Thenmozhi, 2017) and when investor depends on information that is already available and intuitive, the easily accessible ones, the reminded or recently occurred events (Howard, 2012), (Redhead, 2011), (Park and Sohn, 2013). As for herding, it is the investor tendency to depend on others' decision instead of depending on his/her own judgment and analysis (Wong and Nwude, 2018). Accordingly, herding can be considered as a specific type of availability, since investor in this situation tend to rely on easily accessible information and is affected by the events that recently occurred or recalled to his/her mind. Whereas sociability and perceived investment of significant others are the same as herding since they represent the effect of society on investors decision and the dependence of investor mind on the already available information and dominant decisions. While home bias and familiarity, they also represent a specific type of availability since investor depends on

the available information about domestic and local stocks rather than searching for new information about international stocks.

▪ *Anchoring, framing, mental accountancy*

Anchoring is a heuristic variable occurs when investor is adhered to specific information and uses it as a reference for example, the stock initial price and historical prices (Chandra and Thenmozhi, 2017). Park and Sohn (2013) explained framing dependence and anchoring effects as a way of providing information in a form that has effect on the decision making process. While (Howard, 2012) defined framing as a situation when different specifications and descriptions for a one situation highlights different aspects of results. While Kooreman and Prast (2010) and Howard (2012) involved mental accounting as an example for the framing effects defining it as a kind of categorizing or framing funds in different ways while ignoring the fungibility of money. The above illustration can conclude that anchoring, framing and mental accounting are describing the same phenomenon.

▪ *Prospect theory, loss aversion, breakeven, Regret aversion, and Disposition effect*

Prospect theory was first introduced by Kahneman and Tversky on 1979; it defines situations when human overestimates losses than gains of the same amounts (Chandra and Thenmozhi, 2017). It is developed as a result of individual stimulation to prevent losses instead of achieving gains (Schilirò, 2012). Loss aversion gives the same meaning as it reflects investors' tendency to value loss more than gains, since a huge amount of pain is resulted from these losses (Redhead, 2011). Loss aversion according to Howard (2012) happens when investor is facing a situation of a sure loss from the beginning of the endowment so he/she has an option to hold investment until break even regardless of whether this will lead to good or bad results in the future. Howard's definition for loss aversion is matched with Wong and Nwude (2018) definition for breakeven which describes a situation when investor is insisting on overcoming losses by taking as much bets to return back to the breakeven position. While disposition effect measures investor willingness to realize gains but not losses, this phenomenon can be explained by prospect theory since the pain felt by investors from losses outweigh the joy of gains, accordingly investors decide to hold on losing stocks while selling winning stocks. As for Regret aversion, it is a heuristic phenomenon representing human action in a way that reduces feeling pain in case an adverse event occurred (Park and Sohn, 2013). Disposition effect can be considered as a decision aimed to avoid regret feelings in case an opposite event occurred since investor decide to sell the winning stock to avoid the remorse feeling in case the prices decrease while holding the losing stock aiming that its price increase.

▪ *Mood, emotions, social media, newspaper sentiment, fear, Sports sentiments / sports fan loyalty*

Nigam *et al.* (2016) considered sentiment as a dimension under heuristic and cognitive effects

and defined it as *"Physical manifestation of interaction and assimilation of five material senses associating them with or as something considered transcendental: feelings and emotions"*

Accordingly mood, emotions and fear are associated with it. As for social media and news sentiments there are a kind of expressing individual feelings and emotions, as now the social media can analyze investors feelings to anger, disgust, fear, joy, and sadness (Xu *et al.*, (2017). Also it was noticed that investor mood is affected by the results achieved by his/her favorite sports team which in turn will affect expected market return and the expected risk. Berument *et al.* (2013) found that the results of sports matches has a big effect on fans' mood and accordingly on their investment decisions.

– **Biases**

Biases are tendencies to engage in specific kinds of mistakes (Howard, 2012).

▪ ***Overconfidence, optimism, risk tolerance, risk appetite, internal locus of control, trust in government, subjective financial literacy, investor competence, Investor ability***

Overconfidence is the overestimation of individuals' capabilities, skills, knowledge and the accuracy of their estimates (Redhead, 2011). This definition is close to Chandra and Thenmozhi (2017) description to excessive optimism, presented as overstatement to one's own qualification induced by illusion of control. The same for internal locus of control which occurs when one is sure that a specific outcome will take place because of his/her own skills and capabilities (Rasheed *et al.*, 2018). Also subjective financial literacy indicates an overestimation of humans own knowledge (Sivaramakrishnan *et al.*, 2017), while investor competence refers to subjective competence owned by investor that will affect his / her decisions (Graham *et al.*, 2009). As for risk tolerance and risk appetite, they give the same meaning, also it was explained by Hardies *et al.* (2013) that risk taking is affected by the level of overconfidence and that they are interwoven. While Investor ability measures the extent to which the investor feels confident about personal abilities in making the right investment decision. The investors' ability increases by increase in the confidence level (Lathif and Aktharsha, 2016)

▪ ***Pessimism , negative social mood , risk aversion***

Pessimism is the opposite case of optimism which is always associated with negative social mood and risk aversion and caution (Redhead, 2011).

▪ ***Investor sentiment:*** Huang *et al.* (2014) stated that investor sentiment is composed of two elements optimism and pessimism. One of the ways for measuring investor sentiments is by using consumer confidence index. Duarte Neves *et al.* (2016) used Consumer Confidence Index (CCI) developed and published by University of Michigan to measure investor level of optimism and pessimism for the current and future economic situation. So this means that investor sentiment is an aggregation for optimism and pessimism.

- **Gambler fallacy:** It involves the mistaken belief that if something happened frequently in the past then the probability of its occurrence again in the future will decrease. So if a stock has been increasing in price for a long series of trading, investors may sell it, thinking that it is time for price to go down. This way of analyzing is incorrect as past event won't affect the future probabilities (Amin *et al.*, 2009)

- **Neurological dimensions (Neurofinance)**

Neurofinance is a new field that merge the neurobiology with the financial markets. Researchers awareness about Neurofinance started on 2005 accordingly it is considered the latest research area discussed with the aim of reducing future uncertainties and risks; it integrates neuroscience with behavioral and financial theories which will result in reaching better investment decision. The Neurological dimensions of finance are neurotransmitters, emotional intelligence and personality of investors (Ahmad, 2018).

- **Neurotransmitter:** The neurotransmitter has evolved as a result of the changes occurred in the financial system and the transition from normal investing to pure concentration on gain and loss (Ahmad, 2018). While according to Lodish and Zipursky, (2000) cited in (Ahmad, 2018), they are chemical signals that move from neuron to another in human's brain. Neurotransmitters composed of dopamine, serotonin, epinephrine and norepinephrine that are considered to be related to investors' behavior

- **Emotional intelligence:** It is humans' mind feeling (Mayer *et al.*, 2001). It measures individual's stimulation to invest; also it was proved that it has important relation with individual behavior like loss aversion, status quo bias and the endowment effect (Rubaltelli *et al.*, 2015). While Maccann *et al.* (2014) described emotional intelligence as the talent of determining and gathering the feelings needed to administer the thinking process also the feelings required to boost everyone power.

- **Personality traits:** Investment decision making process is affected by the level of confidence and risk tolerance that everyone possesses which in turn affected by personality traits (Ahmad, 2018). There are five personality features, Tauni *et al.* (2017) tested the effect of personality trait on trading behavior which are openness, consciousness, extraverted, agreeableness, and neuroticism.

The following figure shows the categorization of the extracted behavioural variables after merging and consolidation the same variables and naming them, where the name of the variable was chosen either according to the most tested one in the accepted articles or based on the main variable that is triggering other variables.

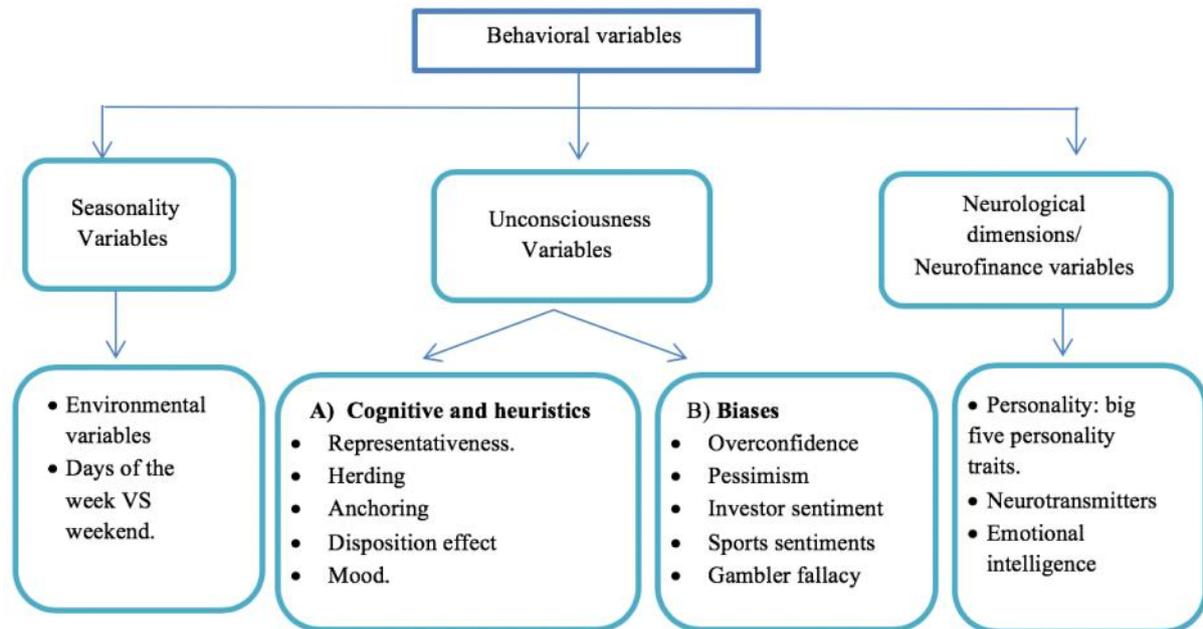


Figure 2: The theoretical framework of the behavioural categories and variables affecting stock return.

CONCLUSION

Behavioral finance is different from the classical traditional theories, it contradicts the thoughts that financial markets are rational and that it is always efficient (Polak, 2012). Most of the behavioral researchers' studies were opposing the idea of investors' rationality, ignoring the fact that there might be some reaction resulting from psychological factors or inherent characteristics and involving rational decision making as someone involved in loss avoidance situation (Kahneman and Tversky, 1979). This implies that the market may not be efficient with the full meaning of efficiency but might involve limited rationality actions that add value directly or not directly to historical data through the formation of market sentiment (Vissing-Jorgensen, 2003).

Based on the reviewing and the synthesizing of the accepted 80 articles, 41 variables were extracted; these variables represented several phenomenon, heuristics and cognitive biases. The variables were categorized into 3 subcategories based on different notions while for each subcategory identical variables were merged and aggregated into one common variable; the name of the variable was chosen either according to the most used or by choosing the main variable that is triggering other variables.

The reached theoretical framework will require further work, it needs to be tested and examined with respect to different economies especially under various degrees of development to reach a conceptual model covering the most significant variables that fit each economy. This will add assist brokerage companies and individual investors, through increasing their understanding to the connection between new concepts especially behavioral thoughts and investment decision making. Also this

would increase the understanding to how investors react to market announcement and movement, how investors plan for their future investments, in addition to the factors that help the investors or their financial advisors in setting appropriate asset distribution policy to achieve the highest gain. The same value will be added to financial managers while making strategies by taking into consideration investors' concerns and judgments.

More importantly, being aware of human behavior and the impact of psychology on decision making, will improve the performance of the traditional model to better explain the real market behavior, by taking these behavioral variables into consideration with the already existing classical theories, this can minimize the appearance of market anomalies and deviations.

REFERENCES

- Ahmed, M.A.S. 2017, "Essays in Behavioural Finance and Investment", Brunel University London.
- Ahmad, M. (2018), "Impact of Neurotransmitters, Emotional Intelligence and Personality on Investor's Behavior and Investment Decisions", *Pakistan Journal of Commerce and Social Sciences*, Vol. 12 No. (1), pp. 330-362.
- Amin, a., Shoukat, S., & Khan, Z. (July-December 2009), "Gambler's Fallacy and Behavioral Finance in the Financial Markets (A Case Study of Lahoure Stock Exchange)", *Abasyn University Journal of Social Sciences*, vol. 3, no.2, pp. 67-73.
- Barberis, N. & Thaler, R. 2003, "A survey of behavioral finance" in *Handbook of the Economics of Finance*, eds. G.M. Constantinides, M. Harris & R. Stulz, Elsevier, , pp. 1053-1128.
- Behrmann, M., Shomstein, S., & Geng, J. J. (2004), "Parietal cortex and attention", *Current Opinion in Neurobiology*, vol. 14, pp. 212-217.
- Berument, M., Ceylan, N. B., & Onar, B. (2013), "Football and the Risk-Return Relationship for a Stock Market: Borsa Istanbul", *Emerging Markets Finance & Trade*, vol 49 issue 2, pp. 19-30.
- Chandra, A., & Thenmozhi, M. (2017), "Behavioural Asset Pricing: Review and Synthesis" *Journal of Interdisciplinary Economic*, pp. 1-31.
- Cohen-Charash, Y., Scherbaum, C.A., Kammeyer-Mueller, J. & Staw, B.M. 2013, "Mood and the Market: Can Press Reports of Investors' Mood Predict Stock Prices?", *PLoS ONE*, vol. 8, no. 8, pp. 1-15.
- Duarte Neves, M. E., Duarte Gonçalves, L. A., Silva Ribeiro, M. J., Santiago Feiteira, P. J., & Pisco Viseu, C. M. (2016), "The unidirectional relationship between consumer confidence and PSI-20 returns - The influence of the economic cycle", *Revista Contabilidade & Finanças - USP*, vol 27 issue 72, pp. 363-377.
- Fenzl, T., & Pelzmann, L. (2012), "Psychological and Social Forces Behind Aggregate Financial Market Behavior", *Journal of Behavioral Finance*, vol 13 no. 1, pp. 56-65.
- Gigerenzer, G., & Wolfgang, G. (2011), "Heuristic Decision Making", *Annual Review of Psychology*, vol. 62, pp. 431-481.
- Graham, J. R., Harvey, C. R., & Huang, H. (2009), "Investor Competence, Trading Frequency, and Home Bias" *Management Science*, vol 55 issue 7, 1094-1106.
- Kaplanski, G. & Levy, H. 2010, "Sentiment and stock prices: The case of aviation disasters", *Journal of Financial Economics*, vol. 95, no. 2, pp. 174-201.
- Komba, G.V. 2016, *Essays on Investor Behaviour and Corporate Governance in Sub-Saharan African Frontier Markets*, University of Hull
- Hardies, K., Breesch, D., & IBranson, J. (2013), "Gender differences in overconfidence and risk taking: Do self-selection and socialization matter?", *Economics Letters*, Volume 118, Issue 3, pp. 442-444.
- Howard, J. A. (2012) "Behavioral Finance: Contributions of Cognitive Psychology and Neuroscience to Decision Making" *Journal of Organizational Psychology*, vol. 12 no.(2), pp. 52-70.
- Huang, C., Yang, X., Yang, X., & Sheng, H. (2014), "An Empirical Study of the Effect of Investor Sentiment on Returns of Different Industries", *Mathematical Problems in Engineering*, PP.1-11.
- Itzkowitz, J., & Rothbort, S. (2016), "ABCs of Trading: Behavioral Biases affect Stock Turnover and Value", *Review of Finance*, vol 20, issue 2, PP. 663-692.

- Tversky, A. & Kahneman, D. 1974, "Judgment under Uncertainty: Heuristics and Biases", *Science*, vol. 185, no. 4157, pp. 1124-1131.
- Kahneman, D., & Tversky, A. (March 1979). "Prospect Theory: An Analysis of Decision under Risk", *Econometrica*, Vol. 47, No. 2, PP. 263-291.
- Kaplanski, G., Levy, H., Veld, C., & Veld-Merkoulova, Y. (2015). "Do Happy People Make Optimistic Investors?", *Journal of Financial & Quantitative Analysis*, vol 50, PP. 145 - 168.
- Kimb, H. S., Kimc, J., & Ryud, D. (2015). "Weather and stock market volatility: the case of a leading emerging market", *Applied Economics Letters* Vol. 22, No. 12, PP. 987–992.
- Kooreman, P., & Prast, H. (2010). "What does Behavioral Economics mean for Policy? Challenges to savings and health policies in Thenetherlands" *De Economist*, vol. 158, NO. 2, pp. 101-122.
- Lathif, A., & Aktharsha, S. (2016), "Determinants of Investment Decision-Making: Behavioral Perspective", *SCMS Journal of Indian Management*, pp. 122-128.
- Li, Q., & Peng, C. (2016), "The stock market effect of air pollution: evidence from China. *APPLIED ECONOMICS*, VOL. 48, NO. 36, pp. 3442–3461.
- Lodish, H. B. & Zipursky, S.L. (2000), *Molecular Cell Biology, Synapses and Impulse Transmission* New York: W. H.
- Maccann, C., Newman, D. A., Joseph, D., & Roberts, R. D. (2014), "Emotional Intelligence Is a Second-Stratum Factor of Intelligence: Evidence From Hierarchical and Bifactor Models", *Emotion*, vol 14 no. 2, pp. 358-374.
- Mayer, J. D., Perkins, D. M., Caruso, D. R., & Salovey, P. (2001), "Emotional Intelligence and Giftedness", *Roeper Review*, Vol. 23, No. 3, pp. 131-137.
- Mercier, H., & Sperber, D. (2011), "Why do humans reason? Arguments for an argumentative theory", *Behavioral and Brain Sciences* vol. 34, pp. 57 –111.
- Metwally, A. H., & Darwish, O. (2015), Evidence of the overconfidence bias in the Egyptian stock market in different market states", *International Journal of Business & Economic Development*, Vol 3, Iss 3, pp. 35-55.
- Nigam, R. M., Srivastava, S., & Banwet, D. K. (2016), "Behavioral mediators of financial decision making – a state-of-art literature review", *Review of Behavioral Finance*, Vol. 10 No. 1, pp. 2-41.
- Park, H., & Sohn, W. (2013), "Behavioral Finance: A Survey of the Literature and Recent Development", *Seoul Journal of Business*, Volume 19, Number 1, pp. 1-41.
- Polak, M. (2012), *Financial Markets - An Emerging Issue The Misinformation effect in Behavioral Finance*, *Financial Internet Quarterly, e-Finanse*, vol. 8, no. 3, pp. 55-61.
- Rasheed, M. H., Rafique, A., Zahid, T., & Akhtar, M. W. (2018). "Factors influencing investor's decision making in Pakistan: Moderating the role of locus of control", *Review of Behavioral Finance*, vol 10 issue 1, pp. 70-87.
- Redhead, K. (2011), "Behavioral Perspectives on Client Mistrust of Financial Services", *Journal of Financial Service Professionals*, pp. 50-61.
- Rubaltelli, E., Agnoli, S., Rancan, M., & Pozzoli, T. (2015), "Emotional Intelligence and risk taking in investment decision-making", *Emotion and investment behavior*, pp. 1-24.
- Salovey, P. (2006), "Applied emotional intelligence: Regulating emotion to become Healthy, wealthy and Wise. In J. Ciarrochi, J. P. Forgas, & J. D. Mayer, *emotional intelligence in Everyday Life*. New York: Psychology Press.
- Schilirò, D. (2012), "Bounded Rationality and Perfect Rationality: Psychology Into Economics", *University of Messina, Volume III Issue 2(6)*, pp. 101-111.
- Simon, H.A. 1957, "Models of man; social and rational", Wiley, Oxford, England
- Sivaramakrishnan, S., Srivastava, M., & Rastogi, A. (2017), "Attitudinal factors, financial literacy, and stock market participation", *Intl Jnl of Bank Marketing*, vol 35 issue 5, pp. 818-841.
- Tauni, M. Z., Rao, Z.-u.-R., Fang, H.-X., & Gao, M. (2017), "Does investor personality moderate the relationship between information sources and trading behavior? Evidence from Chinese stock market", *Managerial Finance*, vol 43, no 5, pp. 545-566.
- Tranfield, D., Denyer, D., & Smart, P. (2003), "Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review", *British Journal of Management*, Vol 14, pp. 207-222.
- Vissing-Jorgensen, A. (2003), "Perspectives on Behavioral Finance: Does "Irrationality" Disappear with Wealth? Evidence from Expectations and Actions", *NBER/Macroeconomics Annual (MIT Press)*, vol 18, no. 1, pp. 139-194.
- Wong, A., & Nwude, C. (2018), "Investment Psychological Biases in The United States And Nigeria", *International Journal of the Academic Business World*, vol 12 issue 1, pp. 15-21.
- Xu, Y., Liu, Z., Zhao, J., & Su, C. (2017), "Weibo sentiments and stock return: A time-frequency view", *PLoS ONE*, vol 12 issue 7, pp. 1-21.

ENHANCING THE CULTURE AND CREATING VALUE FOR THE TERRITORY THROUGH OPEN INNOVATION: A CASE STUDY

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ABSTRACT

This paper aims to understand how external revealing of strategic knowledge by a focal organization can be seen as a meaning of enhancing the culture and creating value for the territory. This strategy regards the phenomenon of outbound open innovation, still under-investigated by the literature so far. In fact, a few studies addressed a specific aspect of outbound open innovation, which regards the revealing of the knowledge for free to external actors. Despite this, previous works are mostly conceptual, and thus there is a lack of empirical studies of about revealing strategies. The aim of this work is to bridge this gap, exploring the objectives of the external knowledge transfer, through a single case study in the context of the craft beer industry. We found that external revealing of strategic knowledge in the craft beer industry can be seen as a strategy for enhancing the culture and creating value for both the focal organization and the whole territory.

Keywords: open innovation, outbound open innovation, culture, territory, external knowledge.

INTRODUCTION

The literature on innovation management suggested that opening to external partners and actors can enhance performance both in terms of small improvements and radical changes (Rothaermel and Alexandre, 2009). This new paradigm, often times called “open innovation”, suggests a new way for reinventing the organization (Santoro et al., 2018). The inbound open innovation occurs when ideas flow into the organization from partners such as customers, suppliers, competitors, universities, or governments and are used with ideas developed inside with the ultimate goal of innovating (Martinez-Conesa et al., 2017). By contrast, outbound open innovation is the process of leveraging internally developed ideas and intellectual property to external partners through licensing, selling intellectual property, spinning off parts of an organization, alliances, and joint ventures (Bellantuono, Pontrandolfo & Scozzi, 2013).

To date, scholars concentrated more on inbound open innovation, while outbound open innovation remains less studied. A few studies addressed a specific aspect of outbound open innovation, which

regards the revealing of the knowledge for free to external actors (Lichtenthaler, 2008; Kutvonen, 2011). Despite this, previous works are mostly conceptual, and thus there is a lack of empirical studies of about revealing strategies. The aim of this work is to bridge this gap, studying with an empirical approach the objectives of the external knowledge transfer, through a single case study. More specifically, we aim to understand how external revealing of strategic knowledge can be seen as a meaning of re-shaping business processes and create radical innovations into business activities. This is explored in the specific context of the craft beer industry, which fits perfectly in the research context, for several reasons. First, the needs of consumers have changed over time and this requires an increasing innovation orientation (Bresciani et al., 2016). Second, the literature shows that firms operating in both food and beverage (F&B) sectors can make use of open innovation strategies in order to differentiate products and gain competitiveness (Sarkar and Costa, 2008), and we think that they might exploit outbound processes too. Third, the whole F&B industry is extremely linked to the culture and heritage of a region (Vrontis et al., 2016), and thus we believe that outbound open innovation strategies can be exploited to achieve some objectives and benefits that are not only monetary.

To achieve the paper's goal, the study uses an explorative qualitative method through in-depth interviews conducted with the founder and CEO of one of the main craft beer producers in Italy. Results show that revealing knowledge is a method to create shared value, strengthening the firm's network, re-shaping the culture, enhancing the territory, gaining access to knowledge and guaranteeing market competitiveness.

The remainder of the paper is organised as follows. The next section offers a review of the literature on open innovation and specifically on outbound. Then, we present data, methodology, and variables used in our study. Finally, we highlight the results of the analysis, proposing a novel discussion in the light of existing literature as well as recommendations to academics, managers and practitioners.

OUTBOUND OPEN INNOVATION

The traditional view of innovation poses that firms developed ideas and knowledge internally and marketed it internally too (March, 1991; Calantone and Stanko, 2007). However, in recent years this idea has evolved, leading innovative firms to acquire new ideas, knowledge and technology from the external environment (Tsai and Wang, 2008).

Therefore, the old philosophy of "closed innovation", according to which "a firm generates, develops and commercializes its own ideas" (Chesbrough, 2006), leaves space to "open innovation", according to which organizational boundaries are porous and firms interact more with their environment (von Hippel and von Krogh, 2006).

Firms may open up their innovation processes in a double way (Lichtenthaler and Ernst, 2009); the inbound open innovation refers to the use by firms of external sources of innovation. This strategy allows firms to broaden their knowledge base through the involvement of different external sources, and consequently to increase their innovative capacity (Gassman and Enkel, 2004). By contrast, outbound open innovation refers to the use of external channels and paths to market, in order to develop and commercialize innovations; in this way firms have the possibility to bring into the market the ideas developed internally through an alternative path. Thus, outbound open innovation can be seen as an external technology exploitation strategy (Lichtenthaler and Ernst, 2006). Dahlander and Gann (2010) proposed a typology for inbound and outbound activities, based on the pecuniary versus non-pecuniary feature; as such, inbound assumes the form of sourcing or acquiring, while outbound assumes the form of revealing or selling.

Regarding inbound open innovation, acquiring is a process that involves money in exchange. Its focus is on acquiring inventions and inputs to the innovative process through informal and formal relationships (e.g. Christensen et al., 2005). By contrast, the inbound open innovation strategy can take the form of sourcing strategy, whereas the firm in-source knowledge and technologies for free (e.g. Laursen and Salter, 2006).

Selling and revealing (Dahlander and Gann 2010) both refer to outbound open innovation. Selling regards the transfer of knowledge and technology through monetary exchange (Chesbrough and Rosenbloom, 2002; Lichtenthaler and Ernst, 2009). The advantages of selling as outbound strategy is the possibility of commercialization of products that are “on the shelf” (Chesbrough and Rosenbloom, 2002). On the other side the disadvantage is the difficulty of out-licensing to the over-commitment to own product and technologies (Lichtenthaler and Ernst, 2009). By contrast, revealing refers to a strategy through which internal resources are revealed to the external environment without monetary benefits, thus seeking indirect benefits.

Whatever the outbound strategy, the revenues generated by an innovative firm are governed by the appropriability regime (Teece, 1986) and firms can use both formal methods (such as patent) as well as informal methods (lead times, first mover advantages, lock-ins) to protect their inventions (Dahlander and Gann 2010). The revelation of knowledge to external firms, does not always reduce the probability of being successful (von Hippel 2005; Henkel, 2006). Studies argued that firms can increase the possibilities to gain interest from other parties if they are more open (Dahlander and Gann, 2010).

Obviously, the disadvantage of revealing is the difficulty to capture the monetary benefits of strategic knowledge. Moreover, competitors can steal internal resources if revealed for free (Laursen and Salter, 2006).

According to Lichtenthaler (2008), external technology commercialization can be pursued for three main objectives: monetary, strategic and compulsory. In fact, firms can view the outward of technology as a strategy to shape their future and also to control environmental factor, instead of only exploit the monetary goal. Of course, the main goal often times could be the monetary compensation (Davis and Harrison, 2001), but studies shed light to strategic objectives, which are three: product-oriented, technology-oriented and mixed (Teece, 2000). Accordingly, external commercialization may lead to indirect benefits for the focal firm. In this guise, Kutvonen (2011) extended the classification of the strategic objectives of external technology commercialization, splitting them into six different categories each divided in one or more strategic benefits. The six categorizations are: gaining access to new knowledge, learning from knowledge transfer, multiplication of own technologies, controlling technological trajectories, external exploitation as a core business model and exerting control over environment (fig. 1).

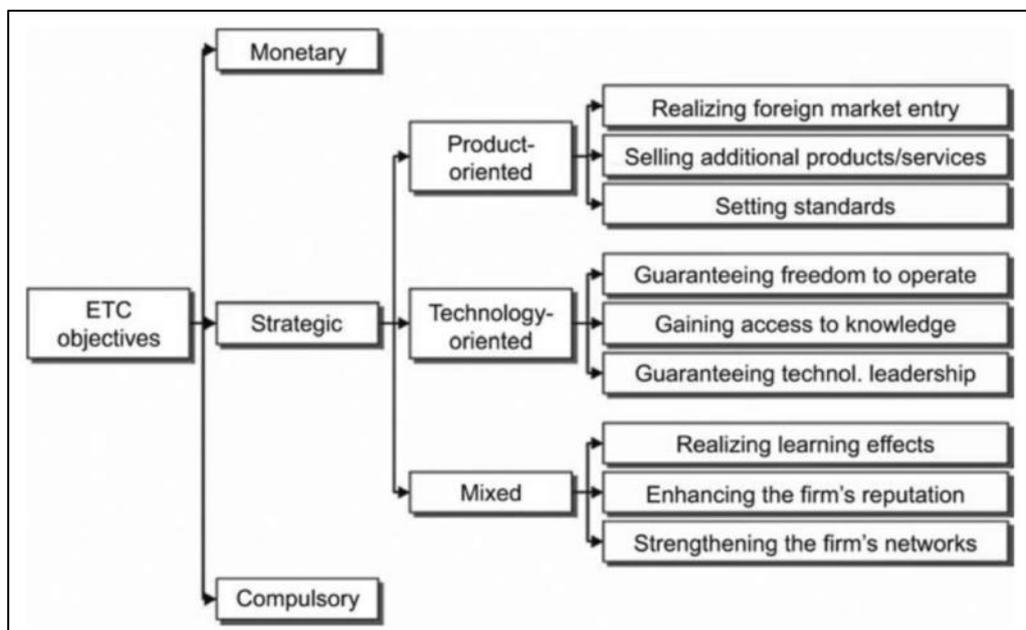


Figure 1. External technology commercialization objectives

Source: Lichtenthaler (2008)

RESEARCH DESIGN

This work is exploratory in nature and involves a qualitative approach through in-depth interviews conducted with a founder and CEO of a SME operating in the draft beer industry: Baladin, located in Piedmont, specifically in Piozzo, a small village close to Cuneo (Italy). The whole F&B industry is typically considered mature and slow growing compared with other industrial sectors (Hou and Mohnen, 2013). However, we think that exploring the objectives of outbound open innovation strategies in the craft beer industry is appropriate for at least three reasons. First, the needs of

consumers have changed over time and this requires an increasing innovation orientation (Bresciani et al., 2016). Second, the literature shows that firms operating in F&B sectors can make use of open innovation strategies in order to differentiate products and gain competitiveness (Sarkar and Costa, 2008), and we think that they might exploit outbound processes too. Third, the whole F&B industry is extremely linked to the culture and heritage of a region (Vrontis et al., 2016), and thus we believe that outbound open innovation strategies can be exploited to achieve some objectives and benefits that are not only monetary. Outbound open innovation as an attempt to reconnect food, cultures and territories is essential to restore value to the identity that is too often lost in a globalized world, also to rebuild social ties and new forms of knowledge in this society of sharing. Particularly, craftsmanship of the products is a very interesting subject, it serves to generate, through community practices, an economy of the territory. Furthermore, F&B has always contained instances that have involved human action in every aspect, both in its formation and in the sphere of identity. Food is not new, it can satisfy the desire to discover and learn about the tradition and culture of a place through the five senses.

The choice of Piedmont is justified primarily by the importance of this industry in this area. In particular, food is one of the main manufacturing sectors in Piedmont. Similarly, beverage production is at the heart of the Piedmont economy and culture. Piedmont is an ambassador of quality wine to the world. Amongst the European countries, Italy is the one with the longest and strongest tradition in wine production i.e. 48.8 million hectoliters in 2016 (ISTAT, 2018). Indeed, in 2017, Italy was the leading world producer of wine (ANSA, 2017). The craft beer industry is one of the few that in an era of crisis has not only experienced a downturn but has been capable of constant growth, specifically scored a +4% in the last year. Production and export numbers reach a peak in the history of Italian beer, with 15,6 million and 2,7 million hectoliters (Assobirra, 2017).

The choice of Baladin as unit of analysis is justified by the awards gained by the firm. In fact in 2017 Baladin has been awarded as “brewery of the year 2017”¹. Furthermore, the firm is continuously growing, expanding more and more abroad. To sum up, Baladin is one of the main players operating in this industry, at least in a national context.

Of course, firm choice was not randomly picked. Siggelkow (2007) affirms that “it is often desirable to choose a particular organization precisely because it is very special in the sense of allowing one to gain certain insights that other organizations would not be able to provide”. Baladin in fact is unique in the Italian context and maybe in the world, and needs further investigation;

The authors applied the case study methodology to answer the research question “How can firms create shared value through outbound open innovation?”.

¹ <https://www.baladin.it/it/news/baladin-birrificio-dellanno-2017>

The choice of a qualitative method is driven by the scarcity of studies in this particular field of research, which calls for more in-depth methods. To achieve the purpose, the authors structured the research methodology in three phases (Stake, 1995). First, during the explorative phase, information from secondary sources have been collected, such as news from social media or specialist newspapers, databases and websites. By studying newspapers, websites and other secondary sources of information, it was possible to identify a few target firms. Among these, the authors chose Baladin as the main representative and innovative firm in the craft beer industry regarding open innovation processes. Baladin is a company that since the beginning, is constantly looking for innovation through a “sharing Philosophy”. For these reasons, the authors considered Baladin to be a relevant case study that fits perfectly with the aim of this work.

During the second phase, the primary data were collected through semi-structured interviews held directly with the founder (Teo Musso). He invited one author to visit the establishment in Piozzo. The tour lasted over three hours and it is revealed to be particularly stimulating because, in addition to having the opportunity to see up close the operation of technologically advanced machinery, has given way to come in close contact with the incredibly multifaceted and visionary personality of Teo Musso and to know his origins in detail.

The interviewee was asked first to provide general information about the firm and then to describe open innovation practices, with a focus on the outbound strategy.

The answers were transcribed and then analyzed autonomously by the authors, with a comparison of the results. Later missing details and complementary data were collected through e-mails and phone calls.

RESEARCH FINDINGS

The following paragraphs discuss the findings of the empirical work, result of the interviews conducted and the materials provided. The aim is to describe the outbound open innovation strategy adopted and developed by Baladin, identifying the main objectives that pushes the firm to externalize knowledge and the aim of this managerial approach. The big vision of Teo Musso and Baladin can be summarized as follows: Open Baladin, the beer 'open source', whose recipe is published on the web with the exact directions to replicate it at home; a virtual laboratory with free admission, where everyone can contribute to the search for new blends and flavors to share their taste experience with others. As seen in the literature review, there are several motives for establishing an external commercialization strategy through revealing. In the case of Baladin, we found there are five main motives that push toward this strategy: strengthening the firm's network; culture; enhancing the territory; gaining access to knowledge; guaranteeing market competitiveness (fig. 2).

The visionary-fool personality of Teo Musso pushes Baladin in both directions of open innovation processes, namely inbound and outbound. However, the outbound open innovation strategy is at the core of the Baladin's strategy and vision. A lack of knowledge transfer in the craft beer industry drives Baladin to extend this sharing concept. *"Sharing was and still is, in my opinion, the key of our project, in order to being able to completely affect the market"* (Teo Musso). In this case the concept of open innovation comes from the Belgian master of Teo Musso, who opened the doors of his knowledge and his history to transmit his skills and give him his art. In the open innovation processes, owner's character is a key factor, because a weakness is the fear that one's own ideas are stolen by others. Sharing ideas, recipes and knowledge is a method used for strengthening the firm's network and to enhance the other manufacturers that work with Baladin. The final aim is to contribute to the whole industry. This open innovation strategy helps to increase Baladin's reputation by putting it at the forefront of industry development. Competitors see Baladin as an arrival point but also as a player to work with. Teo Musso highlights the importance of beer. His will is to spread and re-shape the culture of craft beer to make people understand that, like wine, it is a product of the earth that comes from ingredients that must be grown, harvested, processed. From an open innovation perspective, re-shaping the culture can be view as a strategic external knowledge transfer objective, in order to strengthen the cultural concept behind the product, in this case the beer. Baladin has changed the way of thinking (and drinking) the beer, placing it at the same level of the wine, underlying the concept of culture behind the product and the experience of tasting it. He says: *"I am a craftsman set for quality, with a cultural revolution in mind"*.

According to Lichtenthaler (2008), an objective of external knowledge commercialization is "Enhancing the firm's reputation", but in the Baladin's case, the aim is also enhancing the territory linked to the product. Baladin's will is to let the world discover the territory, the products, the history, the description, the thousand initiatives that rotate around the planet Baladin. Moreover, as mentioned above, the founder's goal has always been to create a product that can reflect the culture of the territory. Moreover, the growth of this sector and of all complementary services can lead to a creation of shared value for all stakeholders involved and for the whole territory in general.

The link between product and territory is becoming a factor of fundamental importance, as the consumer is increasingly aware and informed about what he buys and perceives an added value when the product he purchases is linked to the territory of origin.

In our context of reference, Piedmont has always been recognized and celebrated as the Land of Wine. Thus, through our case study we can say that Baladin has been able to pay more attention to beer, placing it as an alternative to wine and enhancing the territory from where the product comes. In fact, the engine that has pushed and supported Baladin's growth over the years is certainly the founder's

ambitious mission: “to restore gastronomic dignity to craft beer and make it a valid alternative to wine”.

Another objective of outbound open innovation strategy that sort out in this case study is the capability of the firm to gaining access to knowledge, according to Kutvonen (2011). The aim of Baladin is create a concept of “Open Philosophy”, wherein all the actors can share knowledge. This philosophy allows Baladin to gain access to knowledge from the environment, and more the other manufacturers grow, more Baladin grows. The problem with this phenomenon is that many actors in this industry have not yet embraced this philosophy, adopting a closed approach to innovation.

Being open to other players allows you to open up the dialogue and then have others share information with Baladin, thus changing their cultural approach in an open direction. By doing so, Baladin not only transfers knowledge but also acquires it.

Baladin has been awarded as “brewery of the year 2017”, it has 6.500 direct clients in Italy and in the Italian “panorama” is the one of the most knows brand. Furthermore, Musso already export in 41 countries (Corriere, 2018). Firm’s will is to continuously grow in order to guaranteeing the market competitiveness, due to high level of competitors. “We want to double the export quota on sales from 17% to 35% in three years” (Teo Musso). In this regard, the outbound open innovation can be seen as a marketing strategy used by the firm to gain competitiveness and to reinforce the brand all over the world. Despite sharing knowledge can bring some problems related to appropriability (because competitors can see and replicate for free the recipes of Baladin), the firm is not scared about this problem, because the strong brand acts as barrier to prevent the issue.

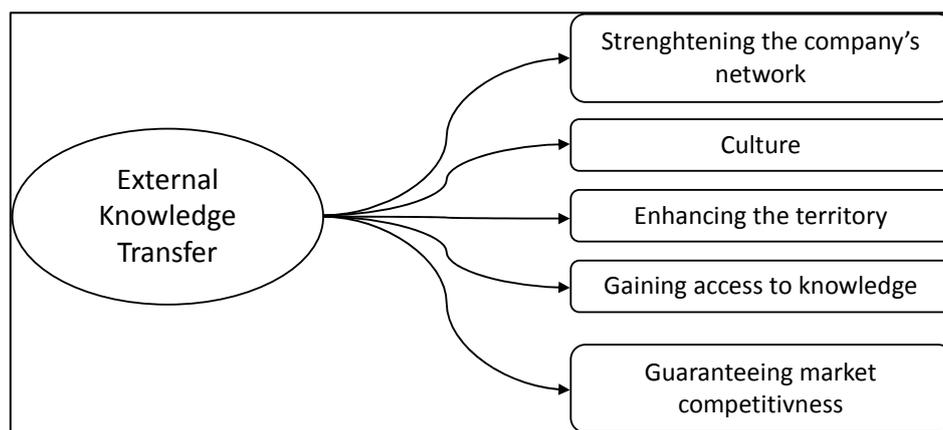


Figure 2. Main findings

CONCLUSIONS

This paper focused on understanding the main objectives of the external knowledge transfer. Results show that firms may externalize knowledge for different reasons: strengthening the firm’s network;

culture; enhancing the territory; gaining access to knowledge; guaranteeing market competitiveness. These findings provide the following theoretical implications. First, the study adds to the literature on open innovation with particular regard to the outbound perspective, often neglected by the literature. Second, the study provides an empirical research to explore the objectives of the external knowledge transfer since the few previous studies were conceptual (Lichtenthaler, 2008; Kutvonen, 2011). Third, this paper offers a specific contribution regarding the craft beer industry, suggesting that external knowledge transfer can be viewed as a meaning of contributing to the whole industry.

Taken together, the findings of our research offer some interesting managerial and policy implications. First of all, due to the high level of competition that affect the F&B industry, including the continuous changes in the consumer behavior and because of the low level of R&D investment in industry, companies need to open up the boundaries of innovation in order to develop and commercialize new product more quickly, effectively and with less risk of failure. Strategically, transferring external knowledge could be a vital strategy to create shared value. Our case study confirm that big and small breweries can benefit from external knowledge transfer, because sharing knowledge can have a big impact on the brewer industry at large.

Second, the study suggests that, to some extent, stakeholders should foster collaborations between the F&B industry and tourism. External knowledge transfer could be a tool to enhance tourism attractivity, in fact creating shared value enhance the territory and tourism.

Moreover, we can look at the F&B industry in a "heritage" perspective, which means that food is a mix of tangible and intangible factors that contribute to the culture and heritage of a place (Timothy & Ron, 2013). Thus, F&B as a heritage can be included with rich culture value belongs to the science, agriculture products, ingredient, dishes, technique and food traditional (Ramli, 2015). Moreover, the role of F&B heritage in the marketing of destination can help to promote this issue and marketing strategies can rely on food.

Fundamental importance should be placed on the breweries, so that firms focus on using as much as possible raw materials of the territory of origin. It is necessary to bring the consumer into the perspective of the link between culture and product. The objective for managers is to enhance the quality of the products, enhancing the nature of the raw material linked to the territory, but trying to make the product sustainable in the market. By doing so, companies will have a multiple role: enhancing their products, culture and territory, thus also encouraging the increase of tourism. Governments could work as a filter between firms and territory, and firms should overpass direct competition, looking with a more open perspective, in order to strengthen the environment. Of course, this study presents some limitations that pave the way for some very interesting future lines of research. First, the research considers just one case study, which does not help to generalize the

findings. Therefore, more case studies are suggested to address the issue of why firms should externalize knowledge. Second, the analysis focused on the specific context of the craft beer industry, which is affected by specific normative and competitive features. The authors acknowledge that these findings cannot be generalized fully to all sectors and challenge researchers to explore this topic in other contexts of analysis.

REFERENCES

- ANSA, (2017). Vendemmia 2018: l'Italia conquista il primato mondiale di produzione. Last access 19/03/2019. <http://giovanimpresa.coldiretti.it/pubblicazioni/attualita/pub/vendemmia-2018-litalia-conquista-il-primato-mondiale-di-produzione/>
- AssoBirra, A. D. I. D. B. e del Malto (Industrial Association of Beer and Malt), Annual Report 2017.
- Baladin, (2019). Il progetto Open. Last access 19/03/2019 <https://www.baladin.it/progetto-open>
- Baladin, (2019). Ricerca e sviluppo, il pensiero Baladin. Last access 19/03/2019 <http://www.baladin.it/innovazione/ricerca-e-sviluppo-il-pensiero-baladin>.
- Bellantuono, N., Pontrandolfo, P., & Scozzi, B. (2013). Different practices for open innovation: a context-based approach. *Journal of Knowledge Management*, 17(4), 558-568.
- Bresciani, S., Ferraris, A., Santoro, G., & Nilsen, H. R. (2016). Wine sector: companies' performance and green economy as a means of societal marketing. *Journal of Promotion Management*, 22(2), 251-267.
- Calantone, R. J., & Stanko, M. A. (2007). Drivers of outsourced innovation: an exploratory study. *Journal of Product Innovation Management*, 24(3), 230-241.
- Chesbrough, H. W. (2006). The era of Open Innovation. *Managing innovation and change*, 127(3), 34-41.
- Chesbrough, H., Rosenbloom, R.S., 2002. The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off firms. *Industrial and Corporate Change* 11 (3), 529– 555.
- Christensen, J.F., Olesen, M.H., Kjær, J.S., 2005. The industrial dynamics of open innovation: evidence from the transformation of consumer electronics. *Research Policy* 34 (10), 1533–1549.
- Corriere, (2018). Teo Musso, il signore della birra. Baladin vuole andare in Borsa. Last access 19/03/2019. https://www.corriere.it/economia/leconomia/18_maggio_15/teo-musso-signore-birra-baladin-vuole-andare-borsa-0923847a-5829-11e8-9f2b-7afb418fb0c0.shtml?refresh_ce-cp
- Dahlander, L., & Gann, D. M. (2010). How open is innovation? *Research policy*, 39(6), 699-709.
- Davis, J.L. and Harrison, S.S. (2001), *Edison in the Boardroom: How Leading Firms Realize Value from Their Intellectual Assets*, John Wiley & Sons, New York, NY.
- Gambardella, A., Giuri, P., & Luzzi, A. (2007). The market for patents in Europe. *Research Policy*, 36(8), 1163-1183.
- Gassmann, O., & Enkel, E. (2004). Towards a theory of Open Innovation: three core process archetypes.
- Henkel, J., 2006. Selective revealing in Open Innovation processes: the case of embedded Linux. *Research Policy* 35 (7), 953–969.
- Hou, J., & Mohnen, P. (2013). Complementarity between in-house R&D and technology purchasing: evidence from Chinese manufacturing firms. *Oxford Development Studies*, 41(3), 343-371.
- ISTAT, (2018). Il consumo di alcol in Italia. Last access 19/03/2019 <http://www.epicentro.iss.it/alcol/apd2018/Bologna%20APD2018.pdf>
- Kutvonen, A. (2011). Strategic application of outbound Open Innovation. *European Journal of Innovation Management*, 14(4), 460-474.
- Laursen, K., Salter, A.J., (2006). *My Precious Technology: The Role of Legal Appropriability Strategy in Shaping Innovative Performance*. Working Paper. Tanaka Business School, Imperial College London.
- Lichtenthaler, U. (2008). External technology commercialisation projects: objectives, processes and a typology. *Technology Analysis & Strategic Management*, 20(4), 483-501.
- Lichtenthaler, U., & Ernst, H. (2006). Attitudes to externally organising knowledge management tasks: a review, reconsideration and extension of the NIH syndrome. *R&D Management*, 36(4), 367-386.
- Lichtenthaler, U., Ernst, H., (2009). Technology licensing strategies: the interaction of process and content characteristics. *Strategic Organization* 7 (2), 183–221.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, 2(1), 71-87.
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization science*, 2(1), 71-87.

- Martinez-Conesa, I., Soto-Acosta, P., & Carayannis, E. G. (2017). On the path towards open innovation: Assessing the role of knowledge management capability and environmental dynamism in SMEs. *Journal of Knowledge Management*, 21(3), 553-570.
- Ramli, A. M., Zahari, M. S. M., Halim, N. A., & Aris, M. H. M. (2016). The knowledge of food heritage Identity in Klang Valley, Malaysia. *Procedia-Social and Behavioral Sciences*, 222, 518-527.
- Rothaermel, F. T., & Alexandre, M. T. (2009). Ambidexterity in technology sourcing: The moderating role of absorptive capacity. *Organization science*, 20(4), 759-780.
- Santoro, G., Bresciani, S., & Papa, A. (2018). Collaborative modes with Cultural and Creative Industries and innovation performance: The moderating role of heterogeneous sources of knowledge and absorptive capacity. *Technovation*.
- Sarkar, S., & Costa, A. I. (2008). Dynamics of Open Innovation in the food industry. *Trends in Food Science & Technology*, 19(11), 574-580.
- Siggelkow, N. (2007). Persuasion with case studies. *Academy of management journal*, 50(1), 20-24.
- Stake, R. E. (1995). *The art of case study research*. Sage.
- Teece, D. J. (2000). Strategies for managing knowledge assets: the role of firm structure and industrial context. *Long range planning*, 33(1), 35-54.
- Teece, D.J. (2000), *Managing Intellectual Capital: Organizational, Strategic, and Policy Dimensions*, Oxford University Press, Oxford/New York, NY.
- Teece, D.J., 1986. Profiting from technological innovation: implications for integration collaboration, licensing and public policy. *Research Policy* 15, 285–305.
- Timothy, D. J., & Ron, A. S. (2013). Understanding heritage cuisines and tourism: Identity, image, authenticity, and change.
- Tsai, K. H., & Wang, J. C. (2008). External technology acquisition and firm performance: A longitudinal study. *Journal of Business Venturing*, 23(1), 91-112.
- von Hippel, E., (1988). *The Sources of Innovation*. Oxford University Press, New York.
- von Hippel, E., (2005). *Democratizing Innovation*. The MIT Press, Cambridge, MA.
- von Hippel, E., & Von Krogh, G. (2006). Free revealing and the private-collective model for innovation incentives. *R&D Management*, 36(3), 295-306.
- Vrontis, D., Bresciani, S., & Giacosa, E. (2016). Tradition and innovation in Italian wine family businesses. *British Food Journal*, 118(8), 1883-1897.
- West, J., & Bogers, M. (2014). Leveraging external sources of innovation: a review of research on open innovation. *Journal of Product Innovation Management*, 31(4), 814-831.

EDUCATIONAL IMPACT ON OLDER ADULTS' WELL-BEING: A LOCAL CASE FOR GENERAL CONCLUSIONS

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ABSTRACT

Studies have shown that education is connected to other social indicators of well-being, especially among older adults. Thus, this study examined the impact of education on the well-being of older adults in the Tomsk region (Siberia, Russia). Overall, the purpose was two-fold: 1) to use a specially designed questionnaire that assesses the educational background of the older generation, which can be replicated in other regional studies of different countries, and 2) to conduct a regional case study about the correlation between the education level and subjective aspects of older adults' well-being, which can be used in similar studies for international comparisons and generalizations. The authors interviewed 400 individuals who reached (in accordance with Russian legislation) retirement age, i.e., 55 years for women and 60 years for men. The participants provided informed consent for the study. The survey included 78 questions related to demographics, social and economic conditions, and physical and psychological indicators. The results of the regression analysis showed that education level is significantly correlated with subjective aspects of older adults' well-being such as the ability to use a computer, the sense of optimism, involvement in social activities, and financial capacity.

Keywords: older adults, education level, social indicators, impact, well-being, regression analysis

INTRODUCTION

The global trend of increasing life expectancy is often perceived by the public as an impending disaster or at the least an undesirable phenomenon. More specifically, the aging population in general has created additional resource challenges for national health systems, social protection, and pensions. However, the changes that make the process of population aging inevitable create a foundation for solving the problems generated by it. The prolongation of life expectancy has opened unprecedented opportunities for the growth of aggregate resources, accumulation of human capital, and the use of individual human potential. Moreover, as the measure of human responsibility for personal

development throughout life increases (Blair and Schroeder 2000), the importance of education level increases, especially with regard to ensuring the continued social, economic, psychological, and emotional well-being of older adults.

In modern scientific literature, well-being is increasingly associated with the complex concept of achieving success and a full-value life in society. This concept includes both subjective and objective ideas about health, the environment, civil society, work–life balance, home comfort, security, the area of residence, etc., all of which have been widely studied (Charles et al. 2016; Cummins et al. 2014). Due to the expansion of the plurality of well-being, it is possible to study well-being as a multifactorial construct that combines the social, economic, physical, psychological, cultural, and spiritual determinants of an individual's social life (Hill and Lewicki 2007; Ludwig et al. 2012).

This conclusion is consistent with the views of human capital theory proponents, who, for more than half a century, have been consistently defending the idea that private and public well-being is the result of the increased education level and growth of knowledge, skills, and abilities embodied in humans. Previous studies, on the basis of human capital theory (Hallgren et al. 2016; Härdle and Simar 2015; Manuelli and Seshadri 2014), have shown that it is highly effective to invest in education. Other studies have shown that education is not only related to future income but also provides additional benefits for individuals, households, companies, and society as a whole (Nyberg et al. 2014).

In addition to the transformation of individuals into more productive workers, an increase in educational status makes them better managers because they have the ability to shorten the time lag between new innovations, technologies, and their applications (Flavin 2016). In other words, those with high educational levels can quickly respond to changes in science and technology, and they are more prone to introduce innovations in their professional activities (Rauch and Rijdsdijk 2013). Adair et al. (2013) and Fan et al. (2016) showed that individuals with higher levels of education are better oriented in the consumer goods market and make better purchasing decisions in terms of price/quality tradeoffs. Furthermore, education level has also been proved to be positively correlated with a more rational use of leisure time and an improved quality of life (Oster et al. 2013).

Some studies reveal that high education level contributes to the harmonious development of one's personality because it fosters positive qualities such as independence, self-confidence, sociability (Keep and Mayhew 2004; Von Rueden et al. 2015), flexibility, and tolerance in dealing with others (Manuelli and Seshadri 2014; Miller et al. 2015). In this regard, by studying at an educational institution, a person tends to be more socially active, which, in turn, facilitates the selection of friends and life partners (Barnir 2012; Green and Henseke 2016). In addition, it has been shown that the level of a wife's education has a positive effect on the growth of wages and life expectancy of the husband

(Gudmundsdottir 2013). Furthermore, previous studies have indicated that the level of parental education is an important determinant of the future education and social success of children (Dissou et al. 2016). Thus, according to the aforementioned literature, education level is closely related with various objective and subjective aspects of well-being.

The focus on the association between education level and the subjective perception of well-being among older adults is motivated by the fact that this is currently the fastest growing age group in the world. According to United Nations (UN) estimates, every second, one person reaches the age of 60. In addition, the number of senior citizens is more than that of children under five years of age, and by 2050, their number will exceed the number of children and teenagers under the age of 15. Regarding Russia, as for the first quarter of 2018, the number of people past retirement age is 24% of the population. As stated earlier, an aging society requires fundamental changes in socioeconomic policies, especially those that focus on the needs of senior citizens. However, due to significant variations in the living standards across Russia, it is important to consider regional differences. In particular, the Tomsk region has been recognized as one of the country's top producers of university students. In fact, the region exceeds the Russian average by more than one-and-a-half. In addition, one in five citizens is in the older age group while the proportion of those aged 60 years and above is steadily increasing.

PROBLEM STATEMENT, RESEARCH METHODS, AND DESCRIPTION OF VARIABLES

International studies on the well-being of older adults have been generally based on international/national databases or multi-year statistical samples (international/national). For example, the Gallup Institute conducts annual surveys and analyzes the subjective assessments of well-being among citizens in more than 160 countries. In the studies devoted to the well-being of the elderly, statistical and mathematical methods have been widely used. For instance, correlation and regression analyses have been used to study the quality of life among the elderly in different age groups, including those in nursing homes (Vaarama 2009); the factors associated with the risk of hospitalization among the elderly have been investigated by using a multifactorial regression model (Hallgren et al. 2016). Moreover, comparative statistical analyses have been conducted to assess the well-being of older adults in a particular country (Sobieszczyk et al. 2003) and determine the impact of nursing home staff on the quality of care (Kjellström and Sjölander 2014). On the basis of such findings, governments can justify the allocation of resources between their respective healthcare systems and social assistance programs for the elderly.

Finally, it has been shown that the role of education has a direct impact on older adults and their risk of Alzheimer's disease (Letenneur et al. 1999). Subsequently, the study by Huisman et al. (2004) used the statistical model of Poisson to identify the differences in European mortality rates on the basis of the socioeconomic status of certain individuals and their education levels. In addition, Darin-Mattsson et al. (2017) examined education levels in their statistical analysis of older adults' socioeconomic status. The present study continues and develops a similar approach, including a focus on regional specifics.

Taking into account the limited knowledge about the factors that (directly/indirectly) characterize the quality of life of Russian senior citizens, this study aims to identify the association between education level and various aspects of older adults' well-being in the Tomsk region. This study was carried out by a group of researchers from the International Scientific Educational Laboratory for the Improvement of Well-being Technologies of Older Adults, which was established with financial support from the Russian Federation Ministry of Education and Science at Tomsk Polytechnic University.

Primarily, an examination of the following hypotheses about the homogeneity of education on nominal indicators (e.g., gender, the place of residence, the availability of work, and age) was conducted:

H1: The education levels of men and women do not significantly differ; H2: The education levels in different age groups (age) do not significantly differ; H3: The education levels in different places of residence (place of residence) do not significantly differ; H4: The education levels of workers (work, yes), non-workers (work, no), and pensioners do not significantly differ.

Similar hypotheses were also tested for other indicators related to education and various aspects of older adults' well-being. In particular, the research objective focused on the following two questions:

Q1: Does education level correlate with certain aspects of well-being?

Q2: Is education level related to the social activities of older adults?

The sample in this study comprised 400 individuals at retirement age (i.e., 55 years for women and 60 for men) and living in five settlements and three districts in the Tomsk region. The survey included 78 questions reflecting the social, economic, psychological, and physiological characteristics of retired individuals. Some of the questions also included up to nine sub-questions.

In this study, education level (the main variable) was measured by Question No. 68 ("What is your level of education?"), which included the following five options: E1) Scientific degree (1); E2) University (bachelor's or master's) degree (2); E3) Secondary special (3); E4) Secondary education (4); E5) Incomplete secondary education (5).

Further, the data about education levels was sub-divided into 32 variables, all of which characterized certain social and economic aspects of older adults' well-being, including their physical and psychological health.

The social aspects of older adults' well-being were analyzed according to the following questions and respective answers:

No. 7 ("Do you own a computer (7_2) or a smartphone (7_3)?: I own a personal device (1); It belongs to my family (2); No (3)

No. 34 ("Are you a member of any public organization?"): Yes (1); No, I am not, but I would like to in the future (2); No, I am not, and I am not interested (3).

No. 36_3 ("Do you participate in environmental activities?"): All of the time (1); Occasionally (2); Never (3).

No.37_3 ("Do you communicate with a politician or a government official?"): Always (1); Occasionally (2); Never (3).

No. 53 ("Do you have a desire to learn how to use information technology (53_1)?: Yes, and I already attend classes (1); Yes, there is a desire, but I do not attend any classes (2); No, I do not attend any classes and I have no desire to do so (3).

No. 56_3 ("How often do you communicate with relatives and friends?"): Every day (1); Several times a week (2); Once a week (3); Several times a month (4); Once a month (5); Less than once a month (6); Never (7).

No. 61 ("Can you use modern computer devices and technology?"): Yes I can (1); Yes I can, but I do not use such devices (2); I do not know how to use such devices, but I would like to learn (3); I cannot and do not want to use such devices (4).

No. 62 ("How often do you use modern devices (e.g., computers (62_1), smartphones (62_2), mobile phones (62_3), and/or the Internet (62_4)) in your everyday life?"): Always (1); Occasionally (2); Never (3).

No. 63 ("What is your skill level in social networks (63_1), e.g., searching for the necessary information on the Internet (63_2), making purchases or paying bills via the Internet (63_3), downloading movies or music from the Internet (63_4), using email (63_5), communicating with family or friends via Skype (63_6), playing computer games (63_7), and/or sending SMS messages on a mobile phone (63_8)?: I can easily perform such functions (1); I cannot perform such functions, but I want to learn (2); I cannot perform such functions, and I do not want to learn (3); I am hearing about such functions for the first time (4).

The economic aspects of older adults' well-being were analyzed according to the following questions and respective answers:

No. 32 (“Do you use banking services (32_2), cultural-recreational services (32_5), and/or paid household services (32_7)?”): Always (1); Rarely (2); I do not use such services (3).

No. 60 (“Can you afford to travel (60_1), use paid medical services (60_2), buy high-quality products (60_4), and/or change household appliances (60_5)?”): Yes, I can without restrictions (1); Yes, but with restrictions (2); No, I cannot, but I would like to (3); No, I cannot and I do not wish to (4).

No. 71 (“Do you currently work?”): Yes (1); No (0);

No. 74 (“How much is the monthly average income per member in your family?”): More than 26 thousand rubles (1); From 19 to 25 thousand rubles (2); From 13 to 18 thousand rubles (3); From 6 to 12 thousand rubles (4); Below 6 thousand rubles (5).

No. 75 (“How would you rate your financial situation?”): I can buy anything that I want (1); I can buy a lot, but large acquisitions are not available (2); I can buy new clothes and shoes (3); All of my money goes toward food (4); The amount of money is not enough for food (5).

Physical health, as an important aspect of older adults’ well-being, was analyzed according to the following questions and respective answers:

No. 13 (“How do you estimate your health?”): Very good (1); Good (2); Average (3); Bad (4); Very bad (5).

Psychological health, as an important aspect of older adults’ well-being, was analyzed according to the following questions and respective answers:

No. 1 (“With what mood do you look forward in life?”): With hope and optimism (1); With ease, but without much hope (2); With anxiety and uncertainty (3); With fear and despair (4); It is difficult to provide an answer (5).

No. 6 (“Are you satisfied with your housing conditions?”): I am fully satisfied (1); More yes than no (2); More no than yes (3); Completely dissatisfied (4); It is difficult to provide an answer (5).

The level of education of the older adults in this study was analyzed according to the following variables:

No. 66 (gender)—a nominal variable with two values: M-male (1) and W-female (0).

No. 67 (age)—an interval variable with six values: More than 75 years (1); 70–74 years (2); 65–69 years (3); 60–64 years (4); 55–59 years (5); and less than 55 years (6).

No. 78 (place of residence)—a nominal variable with eight values: Tomsk region, Seversk, Asino, Karagasok, Teguldett, Tomsk district, Asino district, and Karagasok district.

To process the sociological survey data, statistical analysis methods (e.g., dispersion, correlation, cluster, factor, and regression) were used. These methods have been widely applied in similar studies (Hanushek 2016; Heitor et al. 2014; Inglehart et al. 2008; Kjellström and Sjölander 2014). As for the nominal (categorical) variables (gender, names of settlements, etc.), the following statistical operations

were used: the calculation of frequencies (specific weights); the defining mode of the studied characteristics; the use of different statistical analysis methods on the basis of operating frequencies (contingency tables); and the χ^2 criterion for analyzing the links between the nominal characteristics. Regarding the most ordinal variables, this study used medians and percentiles as measures of variation, Spearman's rank correlations, the Mann–Whitney U test, and the Kruskal–Wallis test. Finally, for the interval scale variables, this study used arithmetic average, variance, Pearson's linear correlation coefficient, the t-student test, the f-test parametric analysis of variance, and cluster and factor analyses.

STUDY RESULTS

The general distribution of the participants' education levels is shown in Fig.1. According to the figure, the education level of the participants in the Tomsk region is very high, with 69% having higher or secondary/special education.

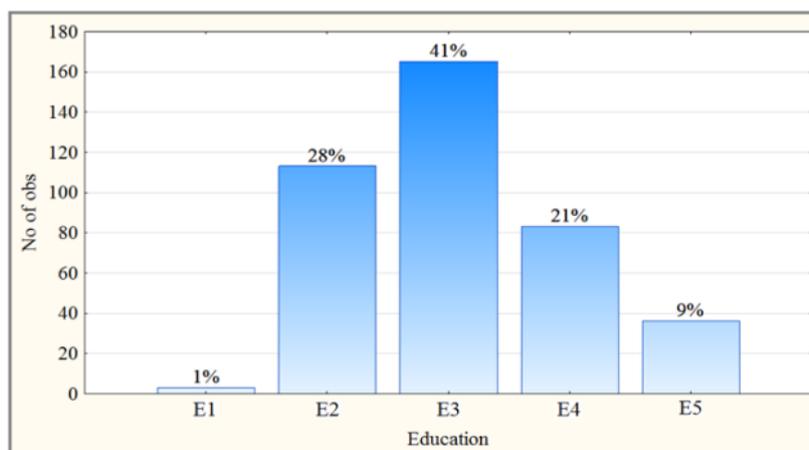


Fig.1. Distribution of the Participants' Education Levels

The researchers had the opportunity to compare these findings (hereafter referred to as "T15") with the results of the "Comprehensive Survey of Living Conditions" for the Tomsk region, which was conducted under the Federal Complex Statistical Observation Program in October 2014 (hereafter referred to as "K14"). The latter study included 354 participants (over 55 years of age) who were asked the question "What level of education do you have?" after which they chose one of the following answers:

Postgraduate education (1); Higher education (specialist or master's degree) (2); Higher education (bachelor's degree) (3); Incomplete higher education (4); Secondary technical school (5); Primary technical school (6); General secondary education (7); Basic general education (8); I do not have basic general education (9).

Because the aforementioned surveys were conducted by different scientific groups with different

goals, ambiguity was expected. Nevertheless, despite the overall differences, an attempt was made to compare the data on the basis of education level. At the same time, the answers for Question I07.01 (K14) were aligned with those for Question No. 68 (T15) by combining the number of responses, i.e., the second and the third; the fourth, fifth, and sixth; and the eighth and ninth.

Note that, according to the theory of measurement scales, the evaluation scale for the level of education refers to the type of ordinal scales that allow the ranking (ordering) of objects and the qualitative evaluation of the results (" $<$," " $>$," and " $=$ "), but not the introduction of a unit for quantitatively measuring the education level. In other words, the rating scale is not a numerical measurement scale. Thus, in the evaluation scale, the use of mathematical averaging (and other specific mathematical formulas) for comparison is incorrect. Moreover, in the evaluation scale, it is reasonable to use the rank (non-parametric) criteria, rather than the average values, in order to compare the samples. However, completely ignoring mathematical averaging is inexpedient due to its habitualness and prevalence. Hence, it is rational to simultaneously use both the methods, i.e., the method of mathematical averaging and the method of median ranking. This recommendation is in agreement with the general scientific concept of sustainability, which recommends the use of different methods to process the same data in order to isolate the conclusions obtained from different methods. In this case, the differences between Question No. 68 and Question I07.01 are considered insignificant by both the Mann–Whitney U test ($p_{M-W} \approx 0.46 > 0.10$) and the t-student test ($p_t \approx 0.29 > 0.10$). In addition, the following assessment scale for the significance levels of the differences was adopted: highly significant ($p < 0.0005$); statistically significant ($0.005 < p < 0.05$); weakly significant ($0.05 < p < 0.10$); and insignificant ($p > 0.10$). Therefore, it was concluded that the estimates of the participants in the Tomsk region, obtained within the framework of the regional (T15) and federal (K14) studies, did not yield contradictory results.

At this point, let us consider the results of the hypotheses tests regarding education homogeneity [No. 68 (T15)] as well as the relationship between the participants' education levels and other rank indicators in this study.

H1: Overall, the education levels of the men and women did not differ. According to the distribution of the education levels (36% male, 64% female), the main difference was found in the levels of E2 (higher education) and E3 (secondary special education). More specifically, among the men, higher education was more common (35% with E2 and 29% with E3), whereas the opposite occurred among the women (25% with E2 and 48% with E3). However, according to the Mann–Whitney U test, these differences were considered insignificant ($p_{M-W} > 0.10$) (see Fig.2).

H2: Overall, the education levels of the different age groups (age) did not differ. According to the non-parametric (rank) criterion of the Kraskel–Wallis test, the education levels in the different age groups

(Age < 65 years, 65 < Age < 75, and 75 < Age) were statistically significant ($0.050 > p_{M-W} \approx 0.009 > 0.005$), weakly significant ($0.10 > p_{M-W} \approx 0.08 > 0.05$), and significantly different ($0.0050 > p_{M-W} \approx 0.0030 > 0.0005$) < Age < 75) (see Fig.2).

H3: Overall, the education levels in different places of residence (place of residence) did not differ. The non-parametric (rank) criterion of the Kraskel–Wallis test distinguished three groups of residences on the basis of education: T {Tomsk, Asino - 56% of the participants}; S {Seversk- 14%}; and R {Karagasok, Teguldett, Tomskrayon, Asinorayon, Karagasokrayon - 30 %}. Moreover, the difference between the education levels in different places of residence was statistically significant (at the level of $0.050 > p_{K-W} \approx 0.007 > 0.005$) due to the significant difference (at the level of $0.0050 > p_{M-W} \approx 0.0009 > 0.0005$) between the education levels of S and R, and the weakly significant difference (at the level of $0.10 > p_{M-W} > 0.05$) between such levels in T, R, and S (see Fig.2).

H4: Overall, the education levels of the employed (work, yes - 33%) and the non-employed (work, no - 67%) did not differ. Based on the ranked Mann–Whitney U test, these differences were statistically significant (at the level of $0.050 > p_{M-W} \approx 0.010 > 0.005$) (see Fig.2).

H5: Overall, the education level had a significant correlation with other rank indicators of the participants' well-being.

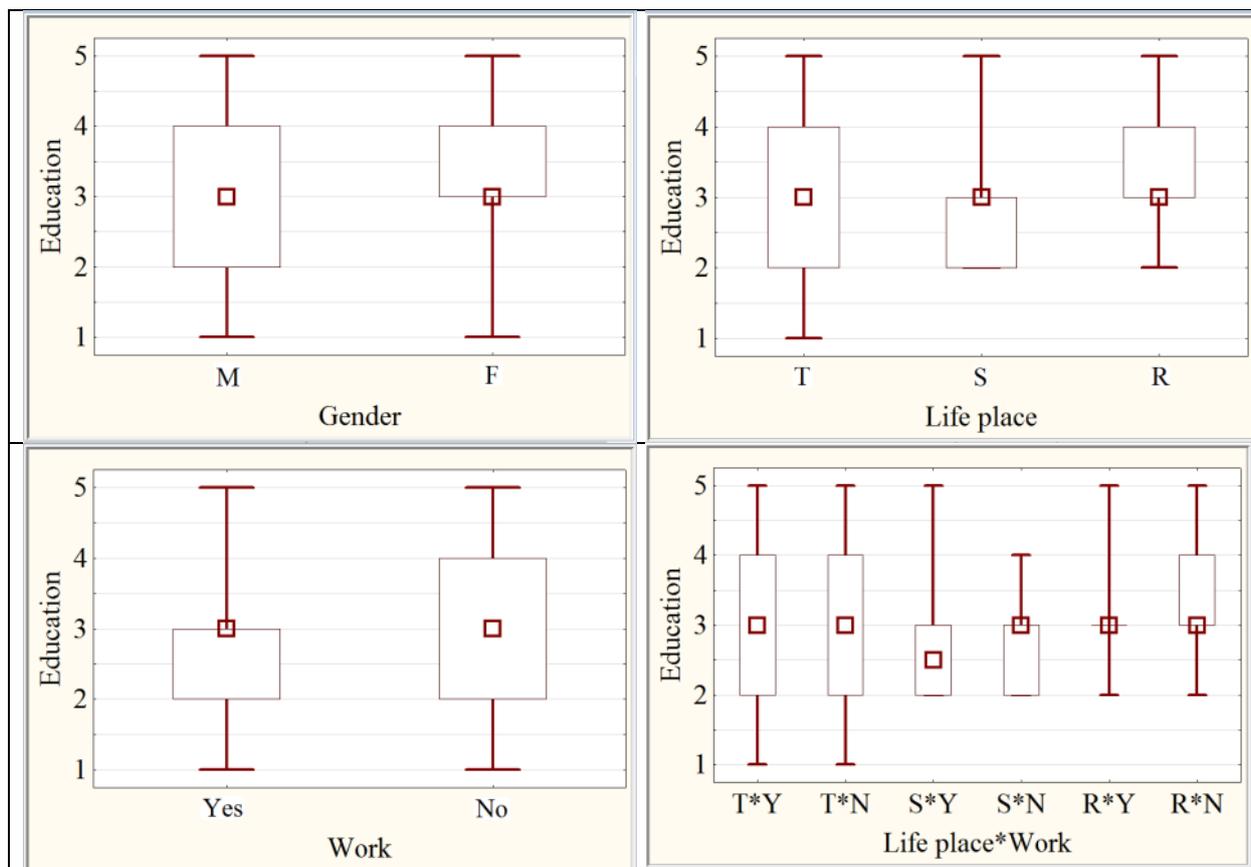


Fig.2. Comparison of the Education Levels on the Basis of Nominal Indicators (gender, life place, work) Note: On the rank scale, the squares and rectangles represent 25%–75% of the quartile range.

For the variables measured in the ordinal scale, there were several types of correlations, which allowed the estimation of the dependencies. Spearman's R -statistics for rank variables can be considered a direct analog of Pearson's r -statistics for variables measured in quantitative scales. Let us consider the basic hypothesis about the correlative connection between the indicator of education level and other indicators that characterize the subjective idea of older adults' well-being. A correlation analysis of these indicators revealed different levels of significance among the different pairs of indicators, one of which was education level (see Table 1).

Table 1. Results of the Factor Analysis

Indicator	F1	F2	F3	F4	F5	F6	F7	R	pR	r	pr
No. 1	-0.062	0.188	0.097	-0.026	0.158	0.169	0.629	0.278	0.000	0.268	0.000
No. 6	-0.143	0.148	-0.086	0.297	0.050	0.041	0.482	0.123	0.014	0.113	0.024
No. 7_2	0.286	-0.054	0.400	0.133	0.036	0.452	0.075	0.207	0.000	0.210	0.000
No. 7_3	0.073	-0.031	0.156	0.681	0.033	0.244	-0.004	0.141	0.005	0.161	0.001
No. 13	0.126	-0.011	0.167	-0.068	-0.047	-0.002	0.708	0.144	0.004	0.117	0.019
No. 32_2	0.140	0.231	0.590	-0.112	0.095	0.050	0.194	0.238	0.000	0.237	0.000
No. 32_5	0.073	0.085	0.649	0.030	0.062	0.077	0.152	0.185	0.000	0.188	0.000
No. 32_7	0.146	0.108	0.556	0.256	0.225	-0.024	-0.042	0.138	0.006	0.138	0.006
No. 34	0.079	-0.046	0.086	0.055	0.703	-0.024	0.179	0.159	0.001	0.143	0.004
No. 36_3	-0.027	-0.134	-0.021	-0.280	0.588	0.246	0.018	0.164	0.001	0.158	0.001
No. 37_3	0.122	0.216	0.113	0.164	0.579	-0.105	-0.183	0.131	0.009	0.115	0.021
No. 53_1	0.140	0.066	0.594	-0.016	-0.110	0.204	0.004	0.127	0.011	0.122	0.015
No. 56_3	0.336	-0.103	0.492	0.256	0.013	0.364	0.023	0.227	0.000	0.208	0.000
No. 60_1	0.299	0.517	0.004	-0.023	0.046	0.267	0.179	0.286	0.000	0.314	0.000
No. 60_2	0.264	0.613	0.117	-0.034	-0.045	0.092	-0.015	0.227	0.000	0.236	0.000
No. 60_4	0.088	0.649	0.119	0.020	0.139	0.046	-0.039	0.195	0.000	0.195	0.000
No. 60_5	0.136	0.629	0.138	-0.156	-0.267	0.131	0.049	0.153	0.002	0.153	0.002
No. 61	0.572	0.109	0.078	0.051	0.039	0.679	0.091	0.405	0.000	0.401	0.000
No. 62_1	0.530	0.081	0.088	0.120	-0.004	0.743	0.058	0.424	0.000	0.412	0.000
No. 62_2	0.232	0.110	0.005	0.571	-0.054	0.420	-0.158	0.203	0.000	0.185	0.000
No. 62_3	0.053	0.259	0.090	-0.261	0.178	0.403	-0.113	0.192	0.000	0.181	0.000
No. 62_4	0.553	0.098	0.077	0.149	-0.017	0.719	0.026	0.407	0.000	0.398	0.000
No. 63_1	0.866	0.075	0.122	0.070	-0.013	0.227	0.009	0.319	0.000	0.319	0.000
No. 63_2	0.837	0.130	0.093	0.005	0.020	0.371	0.005	0.358	0.000	0.345	0.000
No. 63_3	0.872	0.067	0.013	0.027	0.000	-0.002	-0.009	0.240	0.000	0.248	0.000
No. 63_4	0.860	0.063	0.060	0.039	0.031	0.042	0.042	0.249	0.000	0.257	0.000
No. 63_5	0.861	0.048	0.066	0.091	0.026	0.173	-0.005	0.318	0.000	0.317	0.000
No. 63_6	0.824	0.056	0.073	0.054	-0.007	0.297	-0.045	0.317	0.000	0.307	0.000
No. 63_7	0.760	0.052	-0.064	-0.016	0.166	-0.015	0.052	0.206	0.000	0.220	0.000
No. 63_8	0.644	0.128	0.154	-0.134	-0.010	0.154	0.081	0.312	0.000	0.294	0.000
No. 74	0.233	0.477	-0.030	0.455	0.053	-0.019	0.268	0.297	0.000	0.297	0.000
No. 75	0.096	0.658	-0.009	0.268	0.057	0.088	0.122	0.270	0.000	0.241	0.000
λ	6.965	2.569	2.064	1.605	1.529	3.008	1.537				
Δ	0.211	0.078	0.063	0.049	0.046	0.091	0.047				

Note: Columns F1–F7 represent the factor indicators, R and r represent the correlation ratio between education level and the 32 indicators, and p_R and p_r represent the significance levels.

It should be noted that the difference between R and r at maximum 0.03 was insignificant ($p > 0.10$). This makes it possible to apply a parametric cluster analysis of indicators on the basis of the correlation distance ($1 - \text{Pearson } r$). In this case, Ward's method was used as a rule for combining clusters on the basis of the parametric variance analysis. The results of such clustering are presented in the dendrogram in Fig.3. The formation of seven correlatively connected groups of indicators (F1–F7) can be considered stable on the basis of Ward's method of clustering.

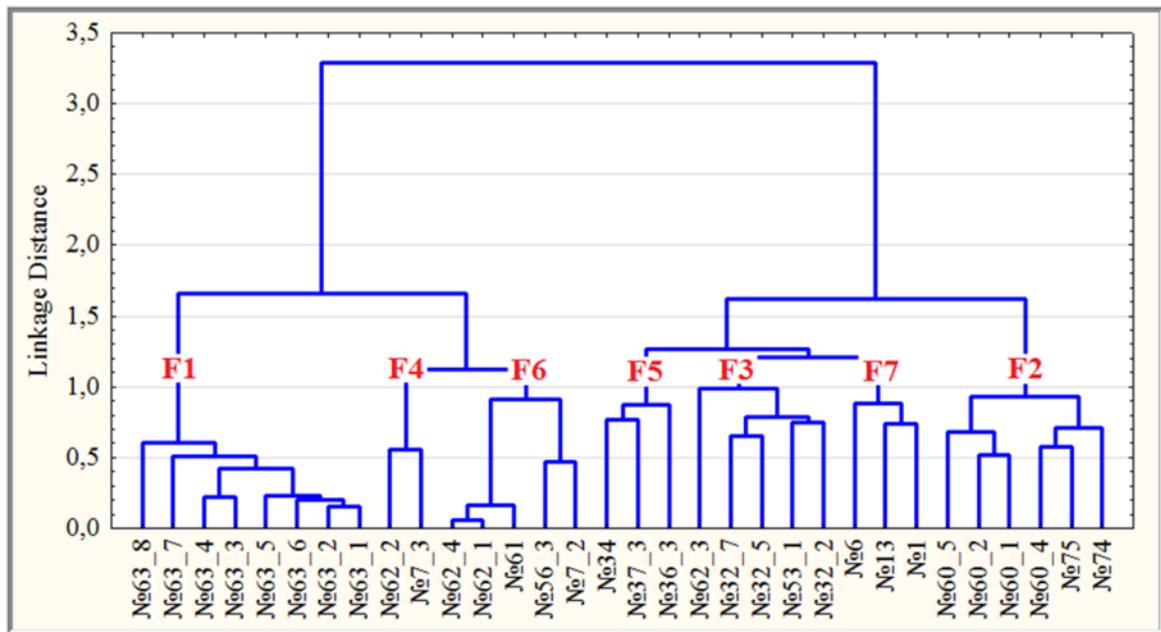


Fig.3. Dendrogram for the Correlation Matrix of the 32 Indicators

The cluster analysis allowed the researchers to identify significant ($1 - r \leq 1 - 0.1 = 0.9$ - critical for a group of 400 respondents with a significance level of 0.05) clusters. In addition, Table 1 was created by conducting a factor analysis of the principal components of the seven-factor model. The most significant factor loadings are shown in bold while the bottom line shows the weighted coefficients of the factors.

As a result of the factor analysis, seven significant factors were singled out from the 32 initial indicators. The factor indicators can be interpreted as follows:

F₁ is the factor in the use of modern computer technologies, which includes the most essential features of the initial indicators No. 63_1–8, No. 61, and No. 62_1, 4.

F₂ is the factor of the availability of financial opportunities, which includes the most significant features of the initial indicators No. 75, No. 60_2, 4, 5, No. 60_1, and No. 74.

F₃ is the factor of the use of financial opportunities, which includes the most significant features of the initial indicators No. 32_2, 5, 7, No. 53_1, No. 56_3, and No. 7_2.

F₄ is the factor of using a personal tablet or smartphone, which includes the most essential features of the original indicator No. 7_3, No. 62_2, and No. 74.

F₅ is the factor of social activity, which includes the most significant features of the initial indicators No. 34, No. 36_3, and No. 37_3.

F₆ is the factor of the ability to use a computer, which includes the most essential features of the original indicators No. 61, No. 62_1, 4, No. 62_2, 3, and No. 7_2.

F₇ is the factor of optimism, which includes the most significant features of the initial indicators No. 1, No. 13, and No. 6.

Analogous to hypotheses H1–H4 discussed above, the homogeneity of the factor indicators among the participants was tested on the basis of the non-parametric (rank) criteria (see Table 2). Because the factor indicators were measured on a standardized scale, the corresponding main source indicators were also added.

Table 2. Comparative Analysis of the Factor Indicators among the Participants

Indicator	Gender		Place of residence			Work		Age		
	M (n = 143, 35.75%)	F (n = 257, 64.25%)	T (n = 225, 56.25%)	S (n = 55, 13.75%)	R (n = 120, 30%)	Yes (n = 133, 33.25%)	No (n = 267, 66.75%)	<65 (n = 203, 50.75%)	65 ÷ 75 (n = 122, 30.5%)	75< (n = 75, 18.75%)
F1 (-1.9 ÷ 2.4)	0.038	-0.021	0.076	-0.403	0.041	-0.244	0.121	-0.232	0.027	0.584
	pM-W = 0.700		pK-W = 0.009			pM-W = 0.0004		pK-W = 0.0000		
No. 63_1 (1 ÷ 4)	2.255	2.108	2.219	1.575	2.275	2.045	2.610	2.044	2.533	3.267
	pM-W = 0.200		pK-W = 0.0005			pM-W = 0.0000		pK-W = 0.0000		
F2 (-3.3 ÷ 2.5)	-0.263	0.146	0.120	-0.649	0.073	-0.254	0.127	-0.072	0.002	0.192
	pM-W = 0.0002		pK-W = 0.0000			pM-W = 0.0006		pK-W = 0.197		
No. 74 (1 ÷ 5)	3.748	4.140	4.071	3.000	4.325	3.752	4.124	3.980	3.959	4.120
	pM-W = 0.001		pK-W = 0.0000			pM-W = 0.0000		pK-W = 0.632		
60_4 (1 ÷ 4)	2.000	2.202	2.107	2.073	2.200	1.992	2.198	2.054	2.188	2.240
	pM-W = 0.011		pK-W = 0.037			pM-W = 0.033		pK-W = 0.217		
F3 (-3.2 ÷ 2.3)	0.1768	-0.098	0.020	-0.355	0.126	-0.116	0.058	-0.106	0.078	0.160
	pM-W = 0.011		pK-W = 0.016			pM-W = 0.021		pK-W = 0.020		
No. 32_2 (1 ÷ 3)	1.720	1.681	1.693	1.418	1.825	1.564	1.760	1.556	1.754	1.973
	pM-W = 0.700		pK-W = 0.004			pM-W = 0.017		pK-W = 0.0002		
No. 32_5 (1 ÷ 3)	2.713	2.502	2.631	2.418	2.550	2.526	2.603	2.537	2.606	2.640
	pM-W = 0.001		pK-W = 0.029			pM-W = 0.138		pK-W = 0.189		
No. 32_7 (1 ÷ 3)	2.727	2.693	2.631	2.600	2.892	2.616	2.749	2.660	2.738	2.773
	pM-W = 0.674		pK-W = 0.0000			pM-W = 0.012		pK-W = 0.203		
F4 (-3.8 ÷ 0.5)	-0.132	0.073	0.011	-0.196	0.160	-0.191	0.095	-0.208	0.143	0.329
	pM-W = 0.048		pK-W = 0.007			pM-W = 0.008		pK-W = 0.0000		
No. 7_3 (1 ÷ 3)	2.720	2.782	2.769	2.564	2.833	2.662	2.809	2.689	2.803	2.880
	pM-W = 0.374		pK-W = 0.026			pM-W = 0.007		pK-W = 0.016		
No. 62_2 (1 ÷ 3)	2.720	2.856	2.809	2.636	2.883	2.729	2.846	2.680	2.901	3.000
	pM-W = 0.028		pK-W = 0.036			pM-W = 0.026		pK-W = 0.0000		

F5 (-4.9 1.4)	-0.019	0.011	-0.172	0.423	0.129	-0.071	0.035	-0.003	0.054	-0.080
	pM-W = 0.971		pK-W = 0.001			pM-W = 0.312		pK-W = 0.542		
No. 34 (1 ÷ 3)	2.727	2.763	2.680	2.836	2.842	2.729	2.760	2.773	2.729	2.720
	pM-W = 0.814		pK-W = 0.014			pM-W = 0.435		pK-W = 0.650		
F6 (-2.8 2.9)	0.006	-0.003	-0.075	-0.055	0.166	-0.315	0.157	-0.297	0.139	0.577
	pM-W = 0.788		pK-W = 0.040			pM-W = 0.0000		pK-W = 0.0000		
No. 62_1 (1 ÷ 3)	2.231	2.253	2.222	1.964	2.417	1.917	2.408	1.946	2.377	2.840
	pM-W = 0.934		pK-W = 0.009			pM-W = 0.0000		pK-W = 0.0000		
No. 62_ 4 (1 ÷ 3)	2.280	2.276	2.262	1.945	2.458	1.917	2.457	1.970	2.409	2.893
	pM-W = 0.934		pK-W = 0.002			pM-W = 0.0000		pK-W = 0.0000		
No. 61 (1 ÷ 4)	2.580	2.553	2.511	2.200	2.825	2.000	2.843	2.103	2.705	3.573
	pM-W = 0.780		pK-W = 0.013			pM-W = 0.0000		pK-W = 0.0000		
F7 (-2.4 4.7)	-0.130	0.072	0.016	-0.152	0.038	-0.193	0.096	90.070	-0.193	0.124
	pM-W = 0.041		pK-W = 0.131			pM-W = 0.006		pK-W = 0.048		
No. 1 (1 ÷ 5)	1.923	2.191	2.067	2.055	2.167	1.970	2.157	2.088	2.016	2.240
	pM-W = 0.004		pK-W = 0.354			pM-W = 0.033		pK-W = 0.076		
No. 13 (1 ÷ 5)	3.084	3.206	3.200	3.018	3.158	3.022	3.232	3.133	3.049	3.426
	pM-W = 0.139		pK-W = 0.052			pM-W = 0.003		pK-W = 0.002		

According to Table 2, regarding the differences in the factor indicators of the participants' well-being, the following can be concluded:

- 1) The skill level of using modern computer technologies (F_1) was the same for the men and women, but it was highly significant for those in Seversk, for working pensioners compared to non-working pensioners, and for the younger group ($\text{Age} < 65$) compared to the average age group ($65 < \text{Age} < 75$) and the oldest age group ($75 < \text{Age}$).
- 2) The availability of financial opportunities (F_2) did not depend on the age of the retired individuals in terms of the income level of 9 thousand rubles. However, it was highly significant for the men with an income of 10.5 thousand rubles compared to the women with an income of 8 thousand rubles; for retired individuals in Seversk with an income of 15 thousand rubles compared to those in other places of residence; and for working retired individuals with an income of 10.5 thousand rubles compared with non-working retired individuals with an income of 8 thousand rubles.
- 3) The use of financial opportunities (F_3) was statistically significant and higher for the women than the men in Seversk; for the working retired individuals compared to the non-working individuals; and for the younger age group ($\text{Age} < 65$) compared to the other age groups. It is important to note that, if the retired individuals used banking services either "always" or "rarely," the cultural and paid household services were (on an average) used "rarely" or "never." Moreover, the use of cultural and recreational services among the women was significantly higher than that among the men while the use of banking services among the younger age group ($\text{Age} < 65$) was significantly higher compared to that among the older age group ($75 < \text{Age}$).

4) The use of a personal tablet or smartphone (F_4) was statistically significant and higher for men than for women; for retired individuals in Seversk than for those in other places of residence; for working retired individuals than for non-working individuals; and for the younger age group ($\text{Age} < 65$) than all of the other age groups. Moreover, the use of a personal tablet or smartphone was almost zero among the oldest age group ($75 < \text{Age}$).

5) Involvement in social activities (F_5) was extremely low for all the retirees, regardless of gender, type of work, and age. However, a relative increase in social activities was observed among the pensioners in Tomsk.

6) The ability to use a computer (F_6) was insignificantly different between men and women, whereas it was statistically significant and higher for the Seversk pensioners compared to that for people in rural places of residence; for working retired individuals than for non-working individuals; and for the younger age group ($\text{Age} < 65$) than for the older group ($75 < \text{Age}$).

7) The sense of optimism (F_7) among all the age groups was roughly characterized by item "With ease, but without much hope." At the same time, the sense of optimism insignificantly differed among those in different places of residence, whereas it was statistically significant and higher for men compared to women; for working retired individuals compared to non-working individuals; and for the average age group ($65 < \text{Age} < 75$) compared to the older age group ($75 < \text{Age}$).

To assess the relationship between the standardized values of the education indicator No. 68ct and the factor indicators, a multiple regression model was constructed as follows:

$$\text{No. 68}_{\text{cr}} = \sum_{k=1}^7 \cdot$$

The estimates of the partial correlation coefficients (b_k) between No. 68ct and the factor indicators as well as the significance levels (p_k) of their difference from zero are presented in Table 3.

Table 3. Multiple Regression Results No. 68ct and F_k ($k = 1, 2, \dots, 7$)

No. 68cr	b_k	Std.Err. b_k	$t_k(392)$	p_k -value
F1	0.235	0.038	6.247	0.000
F2	0.265	0.038	7.047	0.000
F3	0.010	0.038	0.257	0.797
F4	0.038	0.038	1.018	0.309
F5	0.282	0.038	7.476	0.000
F6	0.388	0.038	10.302	0.000
F7	0.294	0.038	7.808	0.000

According to Table 3, No. 68ct was highly significant ($p < 0.00050$) in five out of the seven factor indicators (F1, F2, F5, F6, and F7) and insignificant ($p > 0.10$) in two factor indicators (F3 and F4). Moreover, the consideration of the regression in a standardized scale allowed the researchers to rank

the factors according to the strength of their connection with the education level: $F_6 > F_7 > F_5 > F_2 > F_1$.null.

CONCLUSION

This study examined the impact of education level on the well-being of older adults in the Tomsk region (Siberia, Russia). In addition, a comparative analysis of the distribution of older adults in the Tomsk region was conducted by comparing the findings of this regional study with those of the "Comprehensive Survey of Living Conditions" for the Tomsk region, which was conducted under the Federal Complex Statistical Observation Program in October 2014. An estimate of their insignificant difference (at the level of $p > 0.10$) was obtained by using the ranked Mann–Whitney U test and the parametric *t*-criterion. Based on the variance analysis, the difference in the education levels by gender was insignificant, whereas the difference according to the place of residence and work was statistically significant. The correlation analysis also revealed significant interrelations between the participants' education levels and the 32 rank indicators of their well-being. Moreover, by conducting a factor analysis of the main components, a seven-factor model of the indicators was created, after which a significant correlation with the education level was found. Differences in the factor indicators of the older adults' well-being were also revealed by nominal criteria and age, while a regression analysis revealed significant links between education level and five out of the seven factor indicators. Their ranking, based on the strength of their connection with the education level, was as follows: F_6 (Computer Skills) $> F_7$ (Sense of Optimism) $> F_5$ (Involvement in Social Activities) $> F_2$ (Financial Capabilities) $> F_1$ (Skill Level in Using Computer Technologies). Finally, it is important that future studies plan to use the generated database to statistically analyze the specific characteristics of working pensioners, to determine the level of trust between the elderly and the government, and to conduct a ternary variance analysis that compares the statistical data regarding the well-being of older adults on the basis of different databases (e.g., federal and regional).

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REFERENCES

- Adair, L. S., Fall, C. H. D., Osmond, C., Stein, A. D., Martorell, R., Ramirez-Zea, M., et al. (2013). Associations of linear growth and relative weight gain during early life with adult health and human capital in countries of low and middle income: findings from five birth cohort studies. *The Lancet*, 382(9891), 525–534.
- Blair, T., & Schroeder, G. (2000). *The Third Way / Due Neue Mitte: A Manifesto*. Dissent (Spring 2000), 51–65.
- Charles, S. T., Piazza, J. R., Mogle, J. A., Urban, E. J., Sliwinski, M. J., & Almeida, D. M. (2016). Age Differences in Emotional Well-Being Vary by Temporal Recall. *Journals of Gerontology Series B-Psychological Sciences and Social Sciences*, 71(5), 798–807.
- Cummins, R. A., Li, N., Wooden, M., & Stokes, M. (2014). A Demonstration of Set-Points for Subjective Wellbeing. *Journal of Happiness Studies*, 15(1), 183–206.
- Darin-Mattsson, A., Fors, S., & Kareholt, I. (2017). Different Indicators of Socioeconomic Status and Their Relative Importance as Determinants of Health in Old Age. *International Journal for Equity in Health*, 16(1), 173.
- Dissou, Y., Didic, S., & Yakautsava, T. (2016). Government spending on education, human capital accumulation, and growth. *Economic Modelling*, 58, 9–21.
- Fan, Q., Goetz, S. J., & Liang, J. C. (2016). The interactive effects of human capital and quality of life on economic growth. *Applied Economics*, 48(53), 5186–5200.
- Flavin, M. (2016). Technology-enhanced learning and higher education. *Oxford Review of Economic Policy*, 32(4), 632–645.
- Green, F., & Henseke, G. (2016). Should governments of OECD countries worry about graduate underemployment? *Oxford Review of Economic Policy*, 32(4), 514–537.
- Gudmundsdottir, D. G. (2013). The Impact of Economic Crisis on Happiness. *Social Indicators Research*, 110(3), 1083–1101.
- Hallgren J., Fransson, E. I., Kåreholt, I., Reynolds, C. A., Pedersen, N. L., & Aslan, A. K. D. (2016). Factors associated with hospitalization risk among community living middle aged and older persons: Results from the Swedish Adoption/ Twin Study of Aging (SATSA). *Archives of Gerontology and Geriatrics*, 66, 102–108.
- Hanushek, E. A. (2016). Will more higher education improve economic growth? *Oxford Review of Economic Policy*, 32(4), 538–552.
- Härdle, W. K., & Simar, L. (2015). *Applied Multivariate Statistical Analysis*. New York: Springer.
- Heitor, M., Horta, H., & Mendonca, J. (2014). Developing human capital and research capacity: Science policies promoting brain gain. *Technological Forecasting and Social Change*, 82, 6–22.
- Hill, T., & Lewicki, P. (2007). *Statistics: Methods and Applications*. Tulsa, OK: StatSoft.
- Huisman, M., Kurst, A., Andersen, O., Bopp, M., Borgan, J., Borrel, C., et al. (2004). Socioeconomic Inequalities in Mortality Among Elderly People in 11 European Populations. *Journal of Epidemiology & Community Health*, 58(6), 468–475.
- Inglehart, R., Foa, R., Peterson, C., & Weizel, C. (2008). Development, freedom, and rising happiness: A global perspective (1981–2007). *Perspectives on Psychological Science*, 3(4), 264–285.
- Keep, E., & Mayhew, K. (2004). The economic and distributional implications of current policies on higher education. *Oxford Review of Economic Policy*, 20(2), 298–314.
- Kjellström, S., & Sjölander, P. (2014). The level of development of nursing assistants' value system predicts their views on paternalistic care and personal autonomy. *International Journal of Ageing and Later Life*, 9(1), 35–68.
- Letenneur, L., Gilleron, V., Commenges, D., Helmer, C., Orgogozo, J., & Dartigues, J. G. (1999). Are Sex and Educational Level Independent Predictors of Dementia and Alzheimer's Disease? Incidence data from the PAQUID project. *Journal of Neurology, Neurosurgery & Psychiatry*, 66(2), 177–183.
- Ludwig, A., Schelkle, T., & Vogel, E. (2012). Demographic change, human capital and welfare. *Review of Economic Dynamics*, 15(1), 94–107.
- Manuelli, R. E., & Seshadri, A. (2014). Human Capital and the Wealth of Nations. *American Economic Review*, 104(9), 2736–2762.
- Nyberg, A. J., Moliterno, T. P., Hale, D., & Lepak, D. P. (2014). Resource-Based Perspectives on Unit-Level Human Capital: A Review and Integration. *Journal of Management*, 40(1), 316–346.
- Oster, E., Shoulson, I., & Dorsey, E. R. (2013). Limited Life Expectancy, Human Capital and Health Investments. *American Economic Review*, 103(5), 1977–2002.
- Rauch, A., & Rijdsdijk, S. A. (2013). The Effects of General and Specific Human Capital on Long-Term Growth and Failure of Newly Founded Businesses. *Entrepreneurship Theory and Practice*, 37(4), 923–941.
- Sobieszczyk, T., Knodel, J., & Chayovan, N. (2003). Gender and Wellbeing among Older People: Evidence from Thailand. *Ageing & Society*, 23(6), 701–735.
- Vaarama, M. (2009). Care-Related Quality of Life in Old Age. *European journal of ageing*, 6(2), 113–125.
- Von Rueden, C. R., Lukaszewski, A. W., & Gurven, M. (2015). Adaptive personality calibration in a human society: effects of embodied capital on prosocial traits. *Behavioral Ecology*, 26(4), 1071–1082.

THE LINK BETWEEN INSTITUTIONAL FACILITATORS AND GLOCALISATION: THE MEDIATING ROLE OF INNOVATION IN TRANSITIONAL ECONOMIES

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ABSTRACT

Six comparable EU member states are undergoing a transition process from socialist towards a capitalist market system. National innovation systems' perspective portrays a model connecting institutions, firms' innovation and glocalisation. This paper proposes that institutions act as facilitators of firms' value creation process thereby inciting firms' glocal performance. Aggregate national indicators available from the European Innovation Scoreboard database (2018) for six transitional EU member states for the period 2010-2017 determine the effect of institutional-level support on innovation and glocalization, based on three glocalization indicators: glocal sales performance, a 5-year percentage change in export performance, and the real effective exchange rate. After 2012 six transitional EU member states are progressively recovering from the 2008 global recession. The conducted panel analysis showed that: (1) institutional-level support influenced a 5-year percentage change in market share, but its affect was negative in conjunction with innovation; and (2) in the period after 2012 institutional-level support had a positive but insignificant effect on the 5-year percentage change in market share. The results are in line with counter-cyclical institutional-level support and show a long response time necessary for the effect of institutional policies; hence, the necessity of a long-term policy orientation and planning.

Keywords: glocalisation; innovation; institutional facilitators; transitional economies; European Innovation Scoreboard; competitiveness.

INTRODUCTION

Firms face information asymmetries when entering international markets. Information asymmetries are connected with unknown consumer behaviour or regulatory policies and practices. Government export- and innovation-related assistances is channeled through the trade diplomatic networks, export-financing procedures and market research. With only a third of the European Union's small and medium size enterprises that exported to another country within the last three years, it can be stated

that a majority of firms are not aware of export- or innovation- related government policies or choose to disregard them as inappropriate to tackle the challenges of international markets (Kalinic and Clegg, 2017). Hence, the aim of this paper is to examine the link between institutional support, innovation and glocalisation of six comparable transition economies.

Nowadays economies are affected by hypercompetition and mass customization on domestic and international level. Governments assist firms to achieve better international competitiveness not only through policies directed at firms' international performance, but also domestically, through innovation policies, that aim to assist firms in new products and services for the global market. The concept of glocalization depicts global actions, which do not override the local ones, but produce different effects in different locations (Robertson, 1995; Giddens, 1991), relating to the adaptation of goods or services for local needs through networks of potential customers, suppliers and complementors (Carayannis and von Zedwitz, 2005). In order to examine the success of various institutional competitiveness facilitators this paper analysed the link between institutional facilitators and innovation on one side, and innovation and glocalisation of six comparable transition economies on the other side. Three comparable variables represent glocalisation: (1) glocal sales performance, (2) 5-year percentage change in export performance, and (3) the real effective exchange rate. By analyzing the link between institutional facilitators and innovation, and innovation and glocalisation, of the six selected comparable post-socialist EU member states (Czech Republic, Croatia, Hungary, Poland, Slovakia and Slovenia), this paper studies the institutional paths taken by transitional economic systems and examines their effectiveness.

This paper is divided into five sections. The second section explains the appropriateness of national innovation system for this analysis of institutions, innovation and glocalisation. The third section illustrates institutional-level support, innovation and glocalisation indicators in the context of the selected comparable post-socialist EU member states. The fourth section portrays the results of the panel analysis of the six comparable transition EU economies based on three glocal competitiveness indicators: (1) glocal sales performance, (2) a 5 year percentage change of export market share, and (3) real effective exchange rate. The last section concludes the study, provides policy recommendations and research limitations.

THEORETICAL FOUNDATION OF INSTITUTIONAL-INNOVATION-GLOCALISATION NEXUS

Institutions incite or dampen the highly disruptive innovation processes (Freeman 1982, Edquist, 1997; Nelson & Nelson 2002). National innovation system approach explains the role of institutional policies in identifying actors in national innovation processes (Lundvall, 1992; Edquist, 1997; Morgan, 2007). A

central role in the innovation system is given to firms as actors, which transcends innovation inputs, namely R&D expenditure, into outputs, i.e., new products and services (Nelson, 1993; Lundvall, 2007). In line with the growing glocal competitiveness, firms position itself as hubs of innovation processes comprising and using a variety of networks to achieve economic success (Carayannis and Meissner, 2017).

Figure 1 illustrates a conceptual model of the paper, which places firm's innovation capability at the center of an economic system to examine the role of institutional support on its competitiveness, i.e., glocal performance.

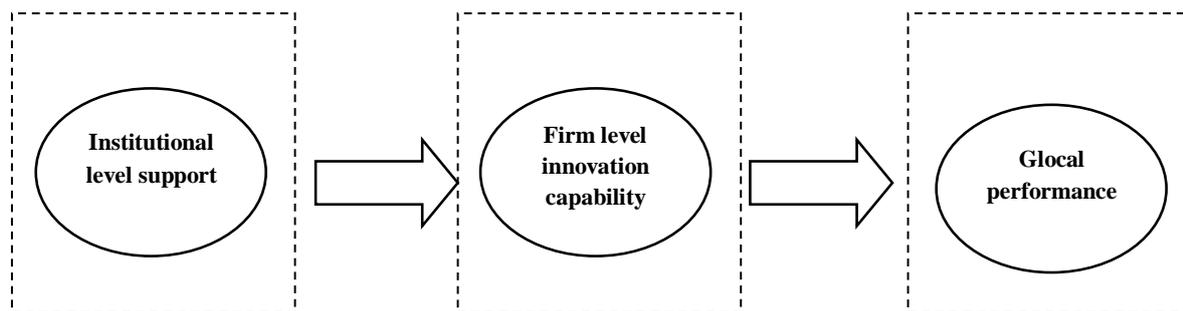


Figure 1. *A conceptual framework*

Institutional Support and Firm Innovation Link

Firms from transitional economies need to achieve a level of absorptive capacity comparable with their developed economies' counterparts in order to produce and deliver quality products and services (Nguyen et al., 2013; Wu et al., 2016). Absorptive capacity may be hindered by slow and complex processes stemming from lagging historical socialist processes, inability to adapt to modern diversified internationalization processes or complexity of various geographical markets (North, 1990; Nguyen et al., 2013). Transitional economies' institutions aid in bridging the gap between socialist and capitalist market structures, thereby assisting firms to effectively compete in domestic and international markets. Industrial relations, scientific institutions and government policies form a set of formal and informal structures that assists firm's performance (Freeman, 1995; Marano et al., 2016), which form a foundation for Hypothesis 1.

Hypothesis 1: Institutional-level support has a positive effect on firms' innovation.

Firm Innovation and Glocalisation Link

Absorptive capacity enables firms to successfully transfer market inputs into outputs. Successful absorptive capacity results in innovation processes with products and services, which satisfy customer demands and seize available market opportunities (Soet, 1987; O'Cass & Weerawardena, 2009;

Marques et al., 2017). Customisation of global preferences allows local attributes to form competitive features of the global market, whereby a concept of glocalization depicts firms' international competitiveness on a local level based on which firms develop products and services locally for a global market (Robertson, 1995; Carayannis and Meissner, 2017). This paper uses a concept of glocalization to identify whether competitiveness of 6 transitional economies is influenced by their innovation performance. Glocalisation is represented by three variables that depict their competitive success: (1) glocal sales performance, (2) the percentage change in export performance, and (3) the real effective exchange rate.

Hypothesis 2: Firm's innovation leads to its better glocal performance.

Hypothesis 3: Firm's innovation is supported by institutions to achieve better glocal performance.

INSTITUTIONAL FACILITATORS, INNOVATION AND GLOCALISATION IN THE CONTEXT OF THE SELECTED TRANSITIONAL EU MEMBER STATES

The two-tier Europe discussion stems from the poorer economic performance of the European Union (EU) member states that joined the EU after 2002. This analysis focuses on Croatia, Czech Republic, Hungary, Poland, Slovakia and Slovenia (in alphabetical order) as a list of comparable member states that entered the EU and underwent the transition process from a formerly socialist toward a market system after the fall of the Berlin wall in 1991. This paper's topic spans across institutions, innovation and glocalisation based on the premise that the transitional progress can be measured (EBRD, 1994; Edquist, 1997).

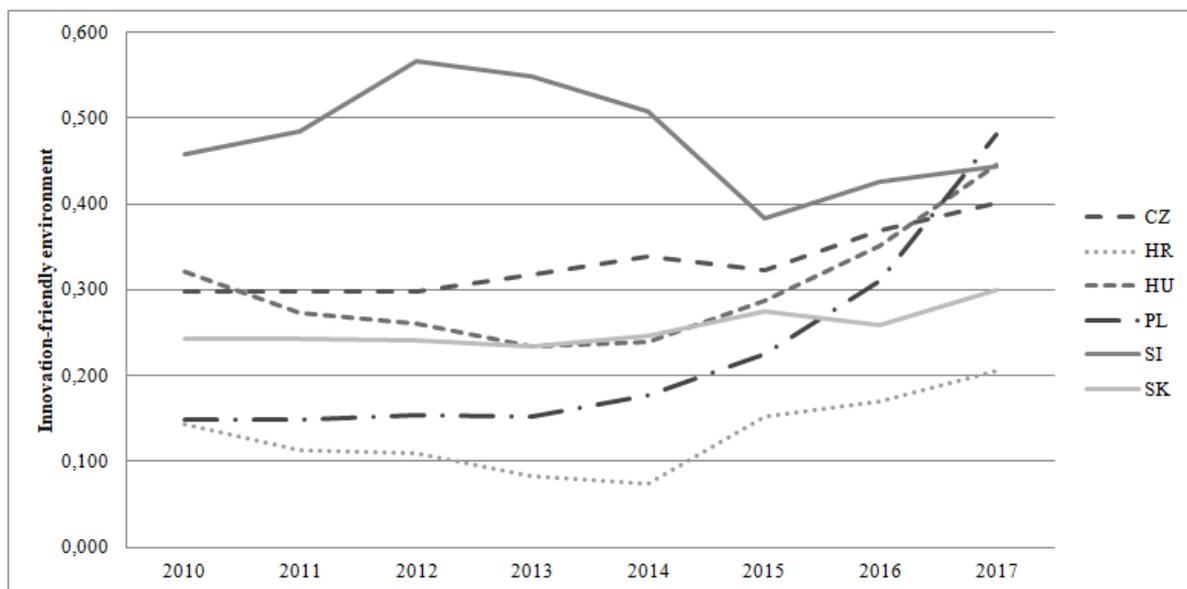
European Innovation Scoreboard (2018) measures innovation performance of the EU member states and differentiates between the EU member states that are: innovation leaders (Denmark, Sweden, the Netherlands, Finland, Luxemburg and the UK), strong innovators (Germany, Belgium, Ireland, Austria, France and Slovenia), moderate innovators (Czech Republic, Poland, Malta, Spain, Cyprus, Italy, Estonia, Lithuania, Greece, Hungary, Latvia, Slovakia and Croatia) and modest innovators (Romania and Bulgaria). This paper compares the institutional, innovation and glocal performance of the six EU comparable member states that are undergoing a transition from a socialist towards a capitalist market system based on the European Innovation Scoreboard data (2018) for the periods between 2010 and 2018.

Institutional-level support of the six transitional EU member states

European Innovation Scoreboard (2018) presents a list of innovation-friendly environment indicators used in this paper as indicators of institutional-level support. Innovation-friendly environment includes two items: broadband penetration and opportunity-driven entrepreneurship. Broadband penetration shows the number of enterprises with a maximum contracted download speed of the

fastest fixed internet connection of at least 100 Mb/s. Broadband penetration is employed as an institutional-level support indicator because faster and higher-quality internet service increases competitiveness. Based on the premise that broadband penetration aids in job creation and economic growth (Katz, 2009; Ericsson, 2013), the EU has made policy and regulatory measures including 15 billion Euro available to the EU member states for that purpose (European Union, 2018).

Opportunity-driven entrepreneurship is an index calculated as the ratio between the share of persons involved in improvement-driven entrepreneurship and the share of persons involved in necessity-driven entrepreneurship based on Global Entrepreneurship Monitor's three-year average data. As opposed to necessity-driven entrepreneurship, opportunity-driven entrepreneurship is pro-cyclical and growth-oriented business (Fairlie & Fossen, 2017), which stems from cultural orientation (Ferrante & Ruiu, 2014). As opportunity-driven entrepreneurship encompasses culturally enabled institutional differences in risk aversion, this paper uses it as institutional-level innovation facilitator indicator together with a broadband penetration indicator. The two indicators are summarized under Innovation-friendly environment index (Figure 2).



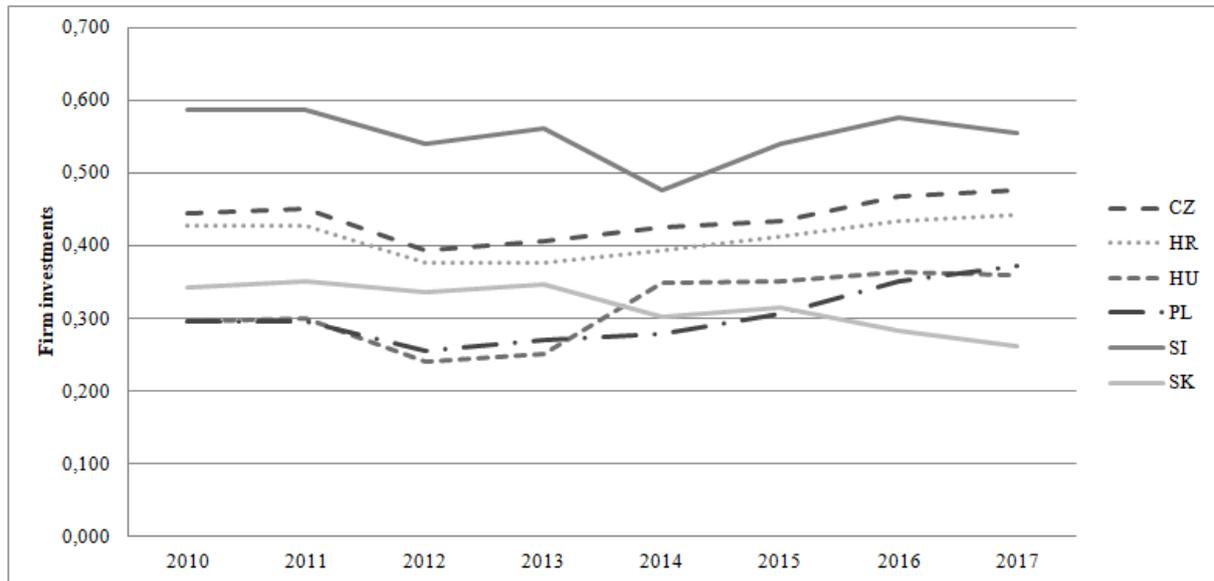
Source: European Innovation Scoreboard (2018)

Figure 2. Institutional-level support

Figure 2 shows that for the period 2010-2017 institutional-level support is the highest in Slovenia, then in Czech Republic, while Croatia exhibits the worst institutionally enabled innovation environment.

Innovation activities of the six transitional EU member states

Firms innovation indicators are: (1) innovation input, and (2) innovation output indicators. Innovation input measures firm investment into innovation processes with three items: (1) R&D expenditure in the business sector (% of GDP), (2) non-R&D innovation expenditures (% of turnover), and (3) enterprises providing training to develop or upgrade ICT skills of their personnel (Figure 3).

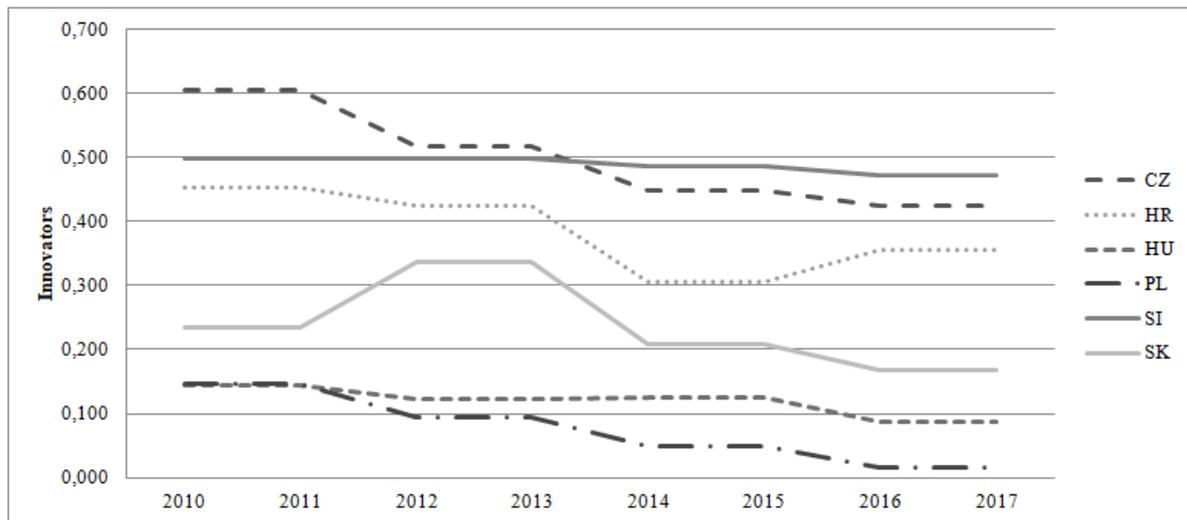


Source: European Innovation Scoreboard (2018)

Figure 3. Innovation input

Slovenia has the highest innovation input indicator as Slovenian firms spend the largest portion of its GDP on innovation-related activities. These activities were the lowest in 2014, a year that preceded the institutional-level support slump. The Czech Republic ranks second and Croatia third, both of which firms experienced a fall in innovation inputs in 2012 and are on the recovery path since then.

Three items measure innovation output: (1) SMEs with product or process innovations refer to SMEs introducing product or process innovations as % of SMEs, (2) SMEs with marketing or organisational innovations implies SMEs introducing marketing or organisational innovations as % of SMEs, and (3) SMEs innovating in-house, depict SMEs innovating in-house as % of SMEs jointly depicting the Innovation output (Figure 4).



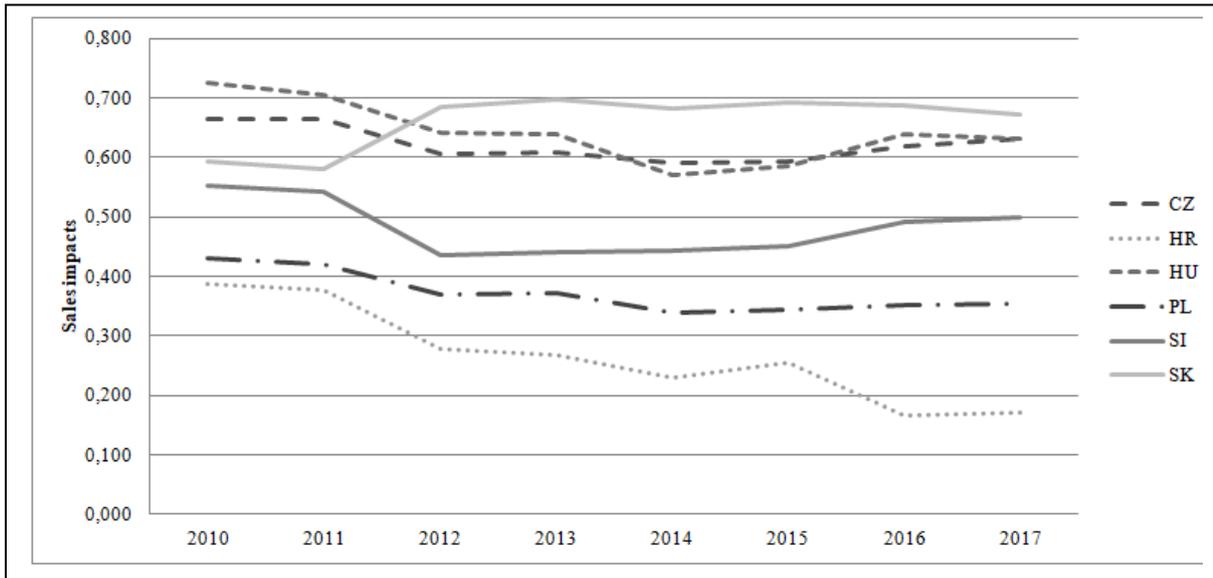
Source: *European Innovation Scoreboard (2018)*

Figure 4. *Innovation output*

Figure 4 shows innovation output activities of firms in the selected transitional EU member states. Innovation output throughout the 2010-2017 period had been fairly constant in Slovenia, does not exhibit large fluctuations, and is the highest among the six comparable member states. Innovation output is the lowest in Poland.

Glocalisation of the six transitional EU member states

Glocalisation measures domestic and international competitiveness of six comparable transitional EU member states. Glocalisation is represented by three comparable variables: (1) glocal sales performance, (2) the percentage change in export performance, and (3) the real effective exchange rate. Glocal sales performance is composed of three indicators: (1) exports of medium and high technology products, (2) knowledge-intensive services exports and sales of new-to-market, and (3) new-to-firm innovations (European Innovation Scoreboard, 2018). Exports of medium and high technology products as a share of total product export include value of medium and high-tech exports, in national currency and current prices. Knowledge-intensive services exports as percentage of total services exports encompass exports of knowledge-intensive services as the sum of credits in Extended Balance of Payments Services 2010. Sales of new-to-market and new-to-firm innovations are measured as percentage of turnover (Figure 5). Glocal sales performance index is a good indicator of competitiveness as it provides data on high value added on domestic and foreign sales.

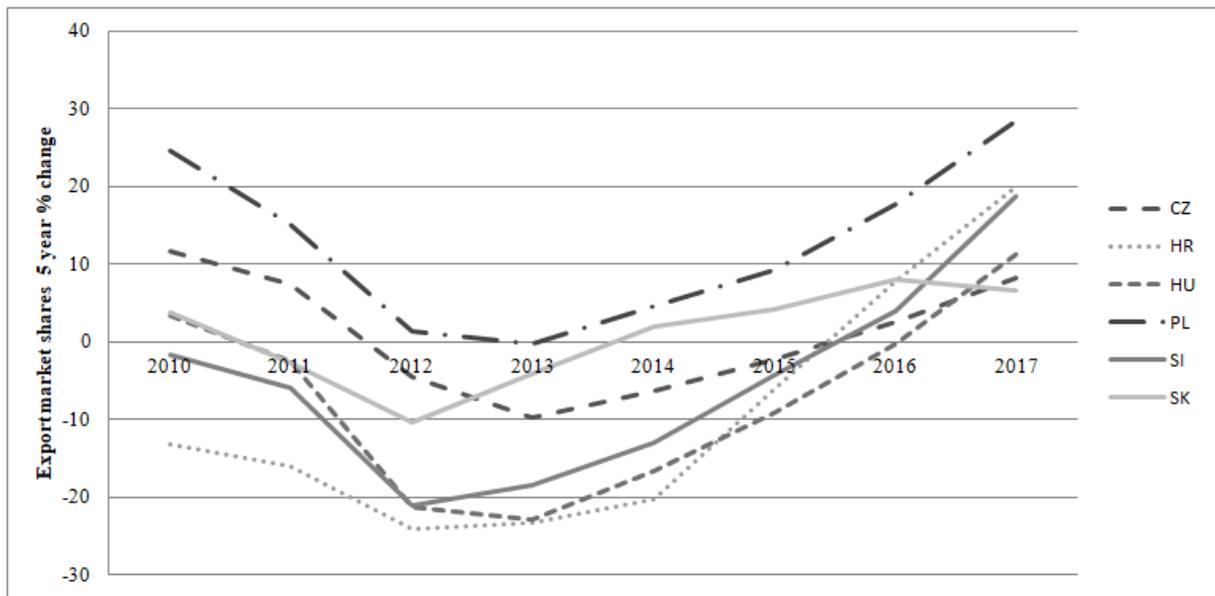


Source: European Innovation Scoreboard (2018)

Figure 5. *Glocal sales performance*

Figure 5 shows that throughout the period 2012-2017 Slovakia's firms have the greatest glocal sales impact among the examined EU member states. Slovenia shows modest glocal sales impact from its innovation activities regardless of its highest institutional-level support and innovation, behind both Hungary and Czech Republic, while Croatian firms have consistently performed the worst in the period. Croatian firms also exhibit the lowest institutional-level support and modest innovation performance compared to the other six EU member states.

Innovation is often used to increase value of products and services, firms' profits, and ultimately, national competitiveness. National competitiveness is measured by indicators such as real effective exchange rate and export market share. The trend shown in Figure 6 is a five-year percentage change in export market share.

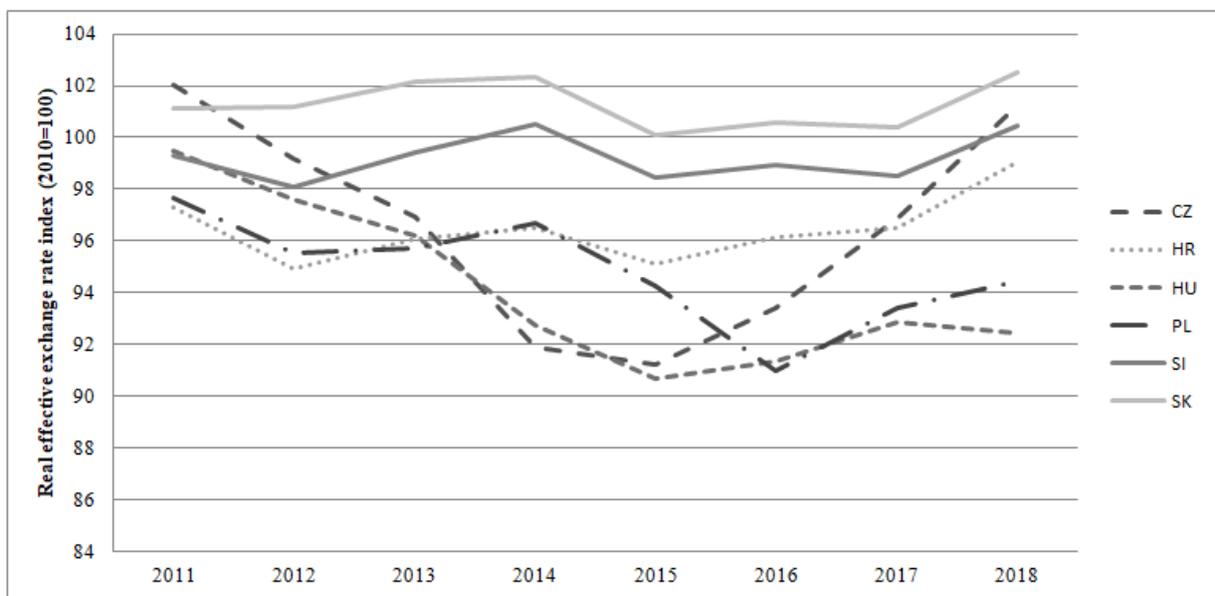


Source: Eurostat(2018a)

Figure 6. Export market shares- 5 year percentage change

The most global competitive transitional economy according to the five-year percentage change in export market share is Poland, which also has the lowest innovation output, followed by Slovakia, which has the best global sales performance, and only after 2016 taken over by Croatia and Slovenia.

Real effective exchange rate (REER) shows the country’s price or cost competitiveness relative to a country’s main competitors on the global market. It is deflated by consumer price indices and expressed as index with base year 2010 (Figure 7).



Source: Eurostat (2018b)

Figure 7. Real effective exchange rate (2010=100)

Similarly, as glocal sales performance, REER shows that Slovakia is the most competitive transitional economy, followed by Slovenia, Czech Republic and Croatia. Hungary is the worst glocal competitiveness performer based on REER.

RESULTS OF HYPOTHESES TESTING OF INSTITUTIONAL-INNOVATION-INTERNATIONALISATION NEXUS IN THE CONTEXT OF THE SIX TRANSITIONAL EU MEMBER STATES

Table 1 shows the descriptive statistics of the six variables used in the analysis of a 48-cross-country data of the six transitional economies for the period between 2010 and 2017, which have been described the previous section.

	N	Mean	Min	Max	Standard deviation	Skewness	Kurtosis	Jarque-Bera	Sum	Sum of square deviations
Institutional facilitators	48	0.29	0.07	0.57	0.12	0.40	2.48	1.85	13.76	0.73
Innovation input	48	0.39	0.24	0.59	0.10	0.50	2.38	2.82	18.68	0.44
Innovation output	48	0.30	0.02	0.60	0.18	-0.03	1.57	4.11	14.44	1.47
Glocal sales performance	48	0.51	0.17	0.72	0.16	-0.51	2.11	3.67	24.39	1.17
5-year % change in market share	48	-1.23	-24.08	28.44	13.05	0.08	2.48	0.60	-59.07	8007.31
REER	48	97.25	90.52	102.35	3.27	-0.49	2.26	3.03	4667.92	501.93

Source: Eurostat (2018), Worldwide Governance Indicators (2018). Authors' calculations

Table 1. Descriptive statistics

Table 2 illustrates the correlation coefficients between the given set of indicators.

	1	2	3	4	5	6
Institutional-level support	1					
Innovation input	0.60	1				
Innovation output	0.28	0.79	1			
Glocal sales performance	0.35	-0.16	0.00	1		
5-year % change in market share	0.12	-0.08	-0.29	0.00	1	
REER	0.03	0.07	0.33	0.30	-0.00	1

Source: Eurostat (2018), Worldwide Governance Indicators (2018). Authors' calculations.

Table 2. Correlation coefficients

Correlation coefficients for the given European Innovation Scoreboard (2018) indicators of the six selected EU member states show moderate correlation between institutional-level support and innovation input (0.60), and very small correlation between both institutional-level support and

innovation output (0.28). It is interesting to note that the correlation between innovation input and innovation output is the highest of the examined correlations (0.79), while there is neither correlation between global sales performance and innovation input, nor between global sales performance and innovation output.

The results of unit root tests are given in Table 3.

Method	Institutional-level support	Innovation input	Innovation output	Glocal sales performance	5-year change market share	% in REER
Levin, Lin & Chu t	1.00	0.14	0.01	0.04	0.00	0.19
ADF - Fisher Chi-square	1.00	0.53	0.00	0.05	0.00	0.73
PP - Fisher Chi-square	1.00	0.74	0.00	0.12	0.16	0.06
	$\Delta(\text{Institutional-level support})$	$\Delta(\text{Innovation input})$	$\Delta(\text{Innovation output})$	$\Delta(\text{Glocal sales performance})$	$\Delta(\text{5-year change export market share})$	$\Delta(\text{REER})$
Levin, Lin & Chu t	0.66	0.00		0.00	0.00	0.00
ADF - Fisher Chi-square	0.48	0.00		0.00	0.00	0.00
PP - Fisher Chi-square	0.02	0.00		0.00	0.17	0.00
Levin, Lin & Chu t	0.10					
ADF - Fisher Chi-square	0.01					
PP - Fisher Chi-square	0.00					

Source: Eurostat (2018), Worldwide Governance Indicators (2018). Authors' calculations.

Table 3 Unit root tests

Table 3 shows existence of serial correlation and heteroskedasticity at level in institutional-level support, innovation input, global sales performance, 5-year percentage change in export market share and REER, and their absence in the first difference (I(1)). Panel analysis used the lag of dependent variable to eliminate the effect of serial correlation at level with cross-section weights and coefficient covariance method (PCSE) estimator:

$$Y_{it} = \beta_0 + \beta_1 \times X_{it} + \beta_2 \times Y_{i(t-1)} + \mu_{it}$$

where y_{it} in Hypothesis 1 is: (a) innovation input, (b) innovation output, and in Hypothesis 2 and 3: (c) global sales performance, (d) 5-year percentage change in market share, and e) REER, of each of the six transitional European union member state i at time t ; and x_{it} is institutional-level support in each of the six transitional European union member states i at time t for Hypothesis 1, and innovation input and innovation output for Hypothesis 2; μ_{it} is the error term.

	Innovation input	Innovation output	Glocal sales performance	5-year change market share	% in REER
	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
β_0	0.18* (0.06)	0.06 (0.04)	0.22** (0.06)	-20.55* (3.76)	39.00* (12.97)
Institutional-level support it	0.23* (0.07)	-0.01 (0.04)	0.00 (0.05)	71.31* (12.29)	1.52 (4.06)
$Y_i(t-1)$	0.37* (0.18)	0.76** (0.11)	0.55** (0.11)	0.60* (0.11)	0.59** (0.13)
Effects specification					
Cross-section fixed (dummy variables)					
Weighted statistics					
R2	0.91	0.99	0.97	0.78	0.84
Adjusted R2	0.89	0.99	0.96	0.74	0.80
S.E. of regression	0.03	0.04	0.03	7.70	1.70
F-Statistic	49.33	654.58	159.97	17.71	24.76
Probability (F-statistic)	0.00	0.00	0.00	0.00	0.00
Durbin-Watson statistic	2.00	2.73	2.60	1.23	1.93
Unweighted statistics					
R2	0.91	0.96	0.97	0.66	0.78
Sum of squared residuals	0.04	0.05	0.04	2340.38	100.72
Durbin-Watson statistic	2.05	2.51	2.53	0.92	1.56

Note: S.E. = standard error. N = 6. T = 7. Linear estimation after one-step weighting matrix.

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001.

Table 4 Panel analysis: The effect of institutional-level support on innovation and glocalization (H1)

Table 4 shows the results of panel analysis of the effect of institutional-level support on innovation input and output indicators for the six transitional EU member states, i.e., the results of Hypothesis 1 testing. Institutional-level support effects innovation input but not output indicators of the six transitional EU member states. Additionally, it institutional-level support does not affect neither glocal sales performance nor REER, but affects a 5-year percentage change in market share.

	Glocal sales performance	5-year % change in market share	REER	Glocal sales performance	5-year % change in market share	REER	Glocal sales performance	5-year % change in market share	REER
	β	β	β	β	β	β	β	β	β
	(S.E.)	(S.E.)	(S.E.)	(S.E.)	(S.E.)	(S.E.)	(S.E.)	(S.E.)	(S.E.)
β_0	0.07 (0.08)	- 64.56** (7.12)	47.56* * (12.48)	0.21** (0.05)	25.49* * (5.99)	48.50* * (11.29)	0.23** (0.05)	27.22* * (7.38)	51.23* * (11.68)
Innovation input _{it}	0.26* (0.12)	166.79** (18.18)	-3.64 (6.42)						
Innovation output _{it}				0.15 (0.09)	- 82.61* * (19.70)	5.81 (4.18)			
Innovation output _{it} /Innovation input _{it}							0.03 (0.03)	- 36.45* * (4.92)	2.40 (1.60)
$Y_i(t-1)$	0.64** (0.10)	0.61** (0.08)	0.52** (0.12)	0.48*** (0.11)	0.90** (0.13)	0.48** (0.12)	0.50*** (0.12)	0.88** (0.10)	0.45** * (0.12)
Effects specification									
Cross-section fixed (dummy variables)									
Weighted statistics									
R2	0.98	0.86	0.84	0.97	0.75	0.85	0.97	0.85	0.85
Adjusted R2	0.97	0.83	0.81	0.97	0.70	0.81	0.97	0.82	0.82
S.E. of regression	0.03	6.79	1.69	0.03	7.54	1.65	0.03	6.52	1.68
F-Statistic	193.72	28.75	25.48	182.85	14.45	26.61	170.03	27.81	27.33
Probability (F-statistic)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Durbin-Watson statistic	2.80	0.99	1.90	2.32	1.44	1.99	2.45	1.70	2.01
R2	0.97	0.72	0.77	0.97	0.72	0.78	0.97	0.79	0.78
Sum of squared residuals	0.04	1948.87	102.96	0.04	1939.68	98.30	0.04	1468.28	100.12
Durbin-Watson statistic	2.70	0.77	1.50	2.31	1.29	1.48	2.40	1.40	1.47

Note: S.E. = standard error. N = 6. T = 7. Linear estimation after one-step weighting matrix.

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001.

Table 5 Panel analysis: The effect of innovation on glocalization (H2)

Table 5 shows the results of panel analysis of the effect of innovation input and output indicators on glocalization indicators for the six transitional EU member states for the period 2010-2017, i.e., the results of Hypothesis 2 testing. Innovation input affects glocal sales performance and a 5-year percentage change in market share of the six transitional economies but not REER. Moreover, a 5-year

percentage change in market share is the only glocalization indicator affected by innovation output and the share of innovation output in innovation input. The share of innovation output in innovation input has been used to analyze the effect of absorption capacity on glocalization.

	5-year change market share	% in						
	β (S.E.)		β (S.E.)		β (S.E.)		β (S.E.)	
β_0	-58.78** (6.87)		-92.95** (16.77)		13.51 (8.64)		14.75 (9.02)	
Innovation inputit	127.66** (22.97)		235.42** (52.53)					
Innovation outputit /Innovation inputit					-28.54** (6.65)		-21.65* (9.95)	
Institutional-level support	31.94* (11.89)		175.57* (60.93)		26.83† (15.04)		31.56† (16.32)	
Institutional-level support x Innovation inputit			-411.24* (168.02)					
Institutional-level support x (Innovation outputit /Innovation inputit)							-36.51 (42.61)	
$Y_i(t-1)$	0.57*** (0.07)		0.60*** (0.09)				0.78*** (0.11)	
Effects specification								
Cross-section fixed (dummy variables)								
Weighted statistics								
R2	0.89		0.87		0.87		0.86	
Adjusted R2	0.86		0.83		0.84		0.82	
S.E. of regression	6.66		6.10		6.46		6.48	
F-Statistic	32.58		24.00		27.28		22.45	
Probability (F-statistic)	0.00		0.00		0.00		0.00	
Durbin-Watson statistic	1.08		1.09		1.68		1.66	
R2	0.73		0.80		0.78		0.80	
Sum of squared residuals	1866.08		1371.05		1500.31		1404.31	
Durbin-Watson statistic	0.73		0.85		1.26		1.26	

Note: S.E. = standard error. N =6. T = 7. Linear estimation after one-step weighting matrix.

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001.

Table 6 Panel analysis: Moderation effects (H3)

Finally, Table 6 shows the results of the panel analysis of moderation effects depicted in Hypothesis 3: Firm's innovation is supported by institutions to achieve better glocal performance. The results have been displayed for two indicators that affect a 5-year percentage change in market share: (1) innovation input, and (2) the share of innovation output in innovation input. The results show that in the period

2010-2017 for the six transitional EU member states institutional support affects a 5-year percentage change in market share, but its affect is negative in conjunction with either innovation input (significant effect) or the share of innovation output in innovation input (insignificant effect).

Furthermore, this paper examined the effect of the institutional facilitators in the two periods, before and after 2012, when the noted increase in all indicators is visible (Tables 6a and 6b).

5-year % change in market share	2010-2012		2013-2017	
	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
β_0	-50.33* (8.80)	-31.31† (8.45)	-25.64*** (3.77)	-39.72*** (9.39)
Innovation inputit	150.44** (17.77)	92.57 (34.60)	78.88*** (6.56)	120.47*** (24.84)
Institutional-level support	-58.03** (8.09)	-170.28 (113.89)	4.45 (10.53)	70.07† (40.55)
Institutional-level support x Innovation inputit		296.77 (341.37)		-177.88† (102.94)
$Y_i(t-1)$	0.81*** (0.04)	0.80* (0.12)	1.13*** (0.10)	1.12*** (0.08)
Effects specification				
Cross-section fixed (dummy variables)				
Weighted statistics				
R2	0.99	0.99	0.99	0.99
Adjusted R2	0.99	0.99	0.99	0.99
S.E. of regression	1.43	1.62	3.17	2.99
F-Statistic	527.69	502.68	244.98	228.25
Probability (F-statistic)	0.00	0.00	0.00	0.00
Durbin-Watson statistic	3.43	3.43	2.62	2.48
R2	0.99	0.99	0.95	0.96
Sum of squared residuals	19.51	15.28	230.04	198.57
Durbin-Watson statistic	3.43	3.43	2.45	2.34

Note: S.E. = standard error. N =6. T = 2 for the period 2010-2012, and T=5 for the period 2013-2017.

Linear estimation after one-step weighting matrix.

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001.

Table 6a Panel analysis: Moderation effects (H3a)

Table 6a show the results of the panel analysis in the two periods, before and after the increase in indicators of 2012 took place. The results show that institution-level support had a negative effect on the glocal competitiveness of the six transitional economies before 2012, and positive, although insignificant effect after 2012. Innovation input is positive.

5-year % change in market share	2010-2012		2013-2017	
	β (S.E.)	β (S.E.)	β (S.E.)	β (S.E.)
β_0	4.69 (17.51)	113.21 (85.98)	22.04*** (4.77)	22.19*** (4.75)
Innovation outputit /Innovation inputit	8.96 (15.91)	-83.88 (71.04)	-25.24*** (4.90)	-22.95** (6.38)
Institutional-level support	-87.98* (23.57)	-552.84 (342.80)	4.01 (7.39)	6.15 (8.02)
Institutional-level support x (Innovation outputit /Innovation inputit)		404.69 (285.58)		-11.78 (21.55)
Yi(t-1)	2.01* (0.60)	2.07† (0.51)	1.12*** (0.10)	1.11*** (0.10)
Effects specification				
Cross-section fixed (dummy variables)				
Weighted statistics				
R2	0.98	0.99	0.98	0.98
Adjusted R2	0.93	0.93	0.97	0.97
S.E. of regression	4.53	4.49	3.46	3.55
F-Statistic	18.38	16.64	105.35	91.43
Probability (F-statistic)	0.02	0.06	0.00	0.00
Durbin-Watson statistic	3.43	3.43	1.99	2.01
R2	0.95	0.94	0.93	0.93
Sum of squared residuals	77.13	92.06	335.35	332.31
Durbin-Watson statistic	3.43	3.43	1.47	1.50

Note: S.E. = standard error. N =6. T = 2 for the period 2010-2012, and T=5 for the period 2013-2017.

Linear estimation after one-step weighting matrix.

† p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001.

Table 6a Panel analysis: Moderation effects (H3a)

When examining the effect of institutional-level support based on the share of innovation output in innovation input, the results similarly show that before 2012 increase in all indicators, institutional-level support had a negative effect on the 5-year percentage change in market share and positive but insignificant effect thenafter. The interesting fact emerges from the results, and includes a negative significant effect of the share of innovation output in input indicator on the 5-year percentage change in market share.

DISCUSSION AND CONCLUSION

Although it is important for firms to innovate, time and budget often constrain them to do so. Firms are often not acquainted with expansion possibilities on differing global markets nor with threats coming from those markets. This paper uses an analogy of glocalisation to depict the importance of local economy's international competitiveness whereby internationalization influences the internal structure of the economy and is observed in the firms' glocal performance (Murray et al., 2017; Venables, 2018).

This paper examined the effect of institutional-level support on innovation and glocal performance of six member states of the European Union that underwent transition from the socialist to market systems. Descriptive analysis of institutional-level support, innovation and glocalization shows that the six transitional EU member states are recovering after being hit by the 2008 global recession, progressively after 2012. In the period between 2010-2017 institutional-level support for firms was the highest in Slovenia and the Czech Republic, and the lowest level in Croatia. It increased after 2012 in the majority of six transitional member states. Innovation input had also increased after 2012 in all economies apart from Slovakia and the Czech Republic, while innovation output has been lower in all examined transitional member states after 2012 compared with the previous period. Slovenia and the Czech Republic spent the largest portion of their GDP on innovation-related activities, and have the highest innovation output. Glocalisation indicators that, among others, depicted exports of medium and high technology products as a share of total product export and real effective exchange rate, show that Slovakia has the best position among the six examined EU member states, followed by Hungary and the Czech Republic. Glocal sales performance decreased in all examined EU member states after 2012 apart from Slovakia, while the 5-year percentage change in market share and the real effective exchange rate have consistently increased after 2012.

Correlations between institutional-level support and firms' innovation input, and innovation input and innovation output were further examined in panel analysis. Hypothesis 1 examined whether institutional-level support affects firm innovation. The results of the panel analysis show that institutional-level support affects innovation input, but not output indicators of the six transitional EU member states. Hypothesis 2 examined whether firm innovation affects glocal performance. Innovation input affects glocal sales performance and a 5-year percentage change in market share of the six transitional economies, but not REER. Moreover, a 5-year percentage change in market share is the only glocalization indicator affected by innovation input and the share of innovation output in innovation input. Lastly, Hypothesis 3 examined whether firm's innovation is supported by institutions to achieve better glocal performance. The results of the panel analysis show that institutional support affects a 5-year percentage change in market share, but its effect is negative in conjunction with either innovation

input (significant effect) or the share of innovation output in innovation input (insignificant effect). Lastly, the analysis has shown that in the context of the six transitional EU member states institutional-level support's effect on the 5-year percentage change in market share differs in the periods before and after 2012, when an increase in all indicators was noted. Innovation input has a positive effect on the 5-year percentage change in market share in both periods. However, before 2012 institutional-level support had a negative effect on the 5-year percentage change in market share and positive but insignificant effect thereafter.

Policy implications

Underestimation of market failures that occurs due to firms' adverse selection issues (Cimoli et al. 2009; Maloney, 2017) or information asymmetries that occur due to poor governance or low effectiveness of innovation systems (Watkins et al., 2015) can be minimized by institutions in transitional economies. This analysis has shown that affecting spending on innovation in transitional economies will result in greater innovation input. Carvahlo et al. (2015) therefore suggest that the EU should continue to promote policies to support innovation with increasing both private investment incentives and public spending. The rate at which firms' absorptive capacity allows them to transfer innovation inputs into outputs will however be unaffected in the short run. The effects of institutional-level support in the periods 2010-2012 and 2013-2017 show that the effect of institutional-level support was negative in the period 2010-2012, and positive in the period 2013-2017. The lagging effect of institutional-level support is visible only in the long run, whereby a growing market share is the result of both domestic and international circumstances that were impeded by the global recession after 2008. After global economy started to pick up its momentum, and consequently the examined transitional economies as well, it took time for the transitional economies to pick up the pace. Moreover, a negative effect of institutional-level support in the period prior 2012 can be a result of counter-cyclical government policies, which were beneficial in the period after 2012. Nonetheless, the policy response have been too slow, and it is especially meaningful to observe the highest glocal competitiveness of Slovakia, among the observed transitional member states, and which does not portray neither the highest institutional-level support nor innovation input. However, the policy responses seem to be countercyclical when observing the rise in institutional-level support and glocal sales performance, both of which had to be the results of the government policies in the previous periods. Although, a short period of this study needs to be taken into account when making policy recommendation, there is a necessity of a long-term policy orientation and planning.

Recommendations for future research

The presented analysis needs to be taken with caution due to short time period examined. Future analysis should examine longer time periods and particularities of each transitional EU member state.

Moreover, it would be interesting to observe sectoral changes in high-technology sectors to make sector-specific conclusions concerning the institutional facilitators and glocalisation based on firms' innovation activities, as well as cycles of government policies in line with market share expansion of the longer time periods.

REFERENCES

- Carayannis, E. and Meissner, D. (2017), "Glocal targeted open innovation: challenges, opportunities and implications for theory, policy and practice", *The Journal of Technology Transfer*, Vol. 42, No. 2, pp. 236-252.
- Carayannis, E. and von Zedwitz, M. (2005), "Architecting gloCal (global-local), real-virtual incubator networks (G-RVINS) as catalysts and accelerators of entrepreneurship in transitioning and developing economies: lessons learned and best practices from current development and business incubation practices", *Technovation*, Vol. 25, No. 2, pp. 95-110.
- Carvalho, N., Carvalho, L. and Nunes, S. (2015), "A methodology to measure innovation in European Union through the national innovation system", *International Journal of Innovation and Regional Development*, Vol. 6, No. 2, pp. 159-180.
- Cimoli, M., G. Dosi, R. Nelson, and J. Stiglitz (2009), "Institutions and Policies in Developing Countries", *Handbook of Innovation Systems and Developing Countries: Building Domestic Capabilities in a Global Setting*, pp. 337-359.
- Edquist, C. (1997), *Systems of Innovation: Technologies, Institutions and Organizations*, Routledge, London.
- Ericsson (2013), "Socioeconomic Effects of Broadband Speed", <http://www.ericsson.com/res/thecompany/docs/corporateresponsibility/2013/ericsson-broadband-final-071013.pdf> (accessed on 5 July 2019).
- European Innovation Scoreboard (2018), Publications Office of the European Union, Luxemburg, available at: <https://ec.europa.eu/docsroom/documents/33147>. (accessed on 5 January 2019).
- European Union (2018) Special Report: Broadband in the EU Member States: Despite progress, not all the Europe 2020 targets will be met, available at: https://www.eca.europa.eu/Lists/ECADocuments/SR18_12/SR_BROADBAND_EN.pdf (accessed on 1 July 2019)
- Eurostat (2018a). Export market shares - 5 years % change, available at: <https://ec.europa.eu/eurostat/web/products-datasets/product?code=tipsex10> (accessed on 1 February 2019)
- Eurostat (2018b). Real effective exchange rate index (2010=100), available at: <https://ec.europa.eu/eurostat/web/products-datasets/-/tipser13> (accessed on 1 February 2019)
- Fairlie, R. W. and Fossen, F. M. (2017), "Opportunity versus Necessity Entrepreneurship: Two Components of Business Creation", *Stanford Institute for Economic Policy Research Discussion Paper No. 17-014*, available online at: https://www.researchgate.net/publication/319585045_Opportunity_versus_Necessity_Entrepreneurship_Two_Components_of_Business_Creation (accessed on 7 July 2019)
- Ferrante, F. and Ruij, G. (2014), "Entrepreneurship. How important are institutions and culturally-based prior beliefs?", *MPRA Paper No. 41915*, available online at: <http://mpra.ub.uni-muenchen.de/41915/> (accessed on 7 July 2019)
- Freeman, C. (1982), *The Economics of Industrial Innovation*, Pinter, London.
- Freeman, C. (1995), "The 'National System of Innovation' in historical perspective", *Cambridge Journal of Economics*, Vol. 19, No. 1, pp. 5-24.
- Giddens, A. (1991), "Modernity and Self-identity", Oxford: Polity.
- Kalinic, I. and Clegg, J. (2017), "SME Internationalization, Public Policy and Growth Agency", *Growth Frontiers in International Business*, Springer International Publishing, pp. 33-46.
- Katz, R. (2009), "Estimating Broadband Demand and its economic impact in Latin America". presented at the III Conference Acorn-Redecom, Mexico City, September 4. <http://www.acornredec.com/presentation/acornredec2009presentationKatz.pdf> (accessed on 5 July 2019).
- Lundvall, B. (2007), "National Innovation Systems—Analytical Concept and Development Tool", *Industry and Innovation*, Vol. 14, No. 1, pp. 95-119.
- Lundvall, B.A. (1992), (ed) *National systems of innovation: Towards a Theory of innovation and interactive learning*, Pinter, London.

- Maloney, W. F. (2017), Revisiting the national innovation system in developing countries, The World Bank.
- Marano, V., Arregle, J.L., Hitt, M.A., Spadafora, E. and van Essen, M. (2016), "Home Country Institutions and the Internationalization-Performance Relationship: A Meta-Analytic Review", *Journal of Management*, Vol. 42, No. 5, pp. 1075-1110.
- Marques, C. S., Marques, C. P., Leal, C. T. and Cardoso, A. R. (2017), "Knowledge, innovation, internationalisation and performance: insights from the Portuguese footwear industry", *International Journal of Entrepreneurship and Small Business*, Vol. 32, No.3, pp. 299-313.
- Morgan, K. (2007), "The Learning Region: Institutions, Innovation and Regional Renewal", *Regional Studies*, Vol. 31, No. 1, pp. 147-159.
- Murray, A., Nixon, C. and Yeabsley, J. (2017), "Is peak globalisation upon us? Globalisation is much more than trade in goods."
- Nelson, R. R. and Rosenberg, N. (1993), Technical innovation and national systems, *National innovation systems: A comparative analysis*, 322.
- Nelson, R.R. and Nelson, K. (2002), "Technology, institutions, and innovation systems", *Research Policy*, Vol. 31, pp. 265-272.
- Nguyen, T.V., Ngoc, T.B.L. and Bryant, S.E. (2013), "Sub-National Institutions, Firm Strategies, and Firm Performance: A Multilevel Study of Private Manufacturing Firms in Vietnam", *Journal of World Business*, Vol. 48, No. 1, pp. 68-76.
- North, D.C. (1990), *Institutions, Institutional Change and Economic Performance*, Cambridge: Cambridge University Press.
- O'Cass, A. and Weerawardena, J. (2009), "Examining the role of international entrepreneurship, innovation and international market performance in SME internationalisation", *European Journal of Marketing*, Vol. 43, No. 11/12, pp. 1325-1348.
- Robertson, R. (1995), "Glocalization: Time-space and homogeneity-heterogeneity." *Global modernities* Vol. 2, No.1, pp. 25-44.
- Venables, A. J. (2018), "Globalisation and Urban Polarisation". Centre for Economic Policy Research Papers. Available at: cepr.org/active/publications/discussion_papers/dp.php?dpno=12877 (accessed 1 February 2019).
- Watkins, A., Papaioannou, T., Mugwagwa, J. and Kale, D. (2015), "National innovation systems and the intermediary role of industry associations in building institutional capacities for innovation in developing countries: A critical review of the literature", *Research Policy*, Vol. 44, No. 8, pp. 1407-1418.
- Wu, J, Wang, C, Hong, J., Piperopoulos, P. and Zhuo, H. (2016), "Internationalization and innovation performance of emerging market enterprises: The role of host-country institutional development", *Journal of World Business*, Vol. 51, No. 2. pp. 251-263.

AN ANALYSIS OF UK ANDERSEN CLIENTS PRE- AND POST ANDERSEN DEMISE: WHERE HAVE THEY GONE AND DID THEY PAY MORE?

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ABSTRACT

The indictment of Arthur Andersen (AA) by the US Department of Justice in March 2002 was a major shock to the audit industry. AA's listed clients, representing about one-eleventh of the UK audit market, needed new auditors quickly. In this paper we examine the new auditor selection of former AA audit clients and whether former AA clients went on to pay significantly more or less to their new auditors in audit and non-audit fees in 2002 relative to year 2001. Predictably, all but two former AA clients in this study went to one of the remaining Big 4 audit firms. Although Deloitte captured about 79% of former AA clients, it was Ernst & Young that gained the bigger former AA clients (based on 2001 mean client sales) and the biggest increase in audit fee rate (35.8%) from former AA clients. The results also indicate a significant average growth in both audit (10%) and non-audit fees (25%) but this is not pervasive across the Big 4 firms. Further, all audit firms increased their audit fees (as a percentage of total fees) by about 6%, and decreased non-audit fees (as a percentage of total fees) by about 7% in 2002 relative to 2001. In addition, despite the absolute increase in audit fees, further econometric analysis reveals that the UK audit market experienced no changes in inflation adjusted audit fees between 2001 and 2002. The results suggest that the audit industry adopted a pricing strategy of auditor fees that should reduce future negative political attention and enhance the perception of auditor independence.

Keywords: Arthur Andersen, audit pricing, inflation adjusted audit fees, auditor independence

1. INTRODUCTION

Since 2001 the market for audit services has changed dramatically. Scandals involving large public companies (mainly in the US) such as Enron and WorldCom emphasised the need for more intensive and thorough audits. The indictment of Arthur Andersen by the US Department of Justice on March 15, 2002 resulted in a major shock to the audit industry. Soon after the verdict was given, Andersen announced it would cease auditing public companies. This decision affected the whole network of Andersen offices around the world, and the Andersen partnership was quickly dissolved.

Within a matter of few weeks, the number of audit firms capable of auditing large multinational companies reduced from five to four. Every Andersen client was forced to switch auditors on short notice.

The demise of Arthur Andersen leaves only four large international accounting firms in the world. This causes significant problems for large international companies, because they are required to use separate accounting firms for their audit work and most non-audit services. Therefore, the loss of the fifth big accounting firm has considerably reduced the competition among the accounting firms, limited choice, and has increased accounting costs for many clients. At about the same time, the Sarbanes Oxley Act was passed in the US, and the additional work required by the Act increased the costs of the auditor. In addition, possible increased liability and financial risk, and the purchase of higher insurance cover for auditors may have the potential to increase audit fees.

In this paper we investigate the effect of the confluence of events such as the Enron debacle, the Andersen demise, and the passage of the Sarbanes Oxley Act on the market for audit services in the UK. In particular we examine the effect of these events on the fees paid by former Andersen clients for their audits, and on the movement of those clients from Andersen to another auditor.

Our results are consistent with the view that auditors in 2002 needed to adopt a pricing strategy for their audit and non-audit services to avoid further political attention and future regulatory interest. The results show no audit fee premiums were paid by the former Andersen clients in 2002 and that the inflation-adjusted non-audit fees declined in the same period.

The paper is organised as follows. The next section provides a brief history of the events surrounding Arthur Andersen's collapse. We develop our hypothesis in section 3, and section 4 contains an analysis of our data. Section 5 discusses the research methodology and section 6 presents the empirical results. The paper concludes in section 7 with a discussion of our results.

2. BACKGROUND – THE ARTHUR ANDERSEN CHRONICLE

Arthur Andersen was founded in 1913 by Arthur Andersen and Clarence DeLany as Andersen, DeLany & Co. The firm changed its name to Arthur Andersen & Co. five years later and its first major client was the Schlitz beer company of Milwaukee. Mr Andersen passed away in 1947, but the firm continued under Leonard Spacek, a reformist who proposed the establishment of a standard 'accounting court' in the 1950's and 60's and which bore fruit in the establishment of today's FASB. By the 80's, Arthur Andersen & Co had become one of the world's biggest professional services firm. Andersen is alleged to have been over the years involved in the fraudulent accounting and auditing of Sunbeam, Waste Management, Asia Pulp and Paper, and the Baptist Foundation of Arizona, among

others in the US.¹ Similarly, in the UK, Andersen was found to have allowed questionable accounting at SSL and MyTravel among others (Nisse 2002).

In 2001, Arthur Andersen LLP, based in Chicago, Illinois, was one of the Big-5 accounting firms, offering auditing, tax services, and consulting, and employing 85,000 professionals in 84 countries, with its U.S. division reporting revenues of \$9.3 billion. The UK division was smaller with about 380 partners and 5,000 staff and revenue of about UK£800 million². One of its largest clients was Enron, the seventh largest corporation in the United States, based on its reported revenues. Arthur Andersen's indictment and ultimate collapse began with Enron's accounting manipulations. At the time that Enron's accounting problems were discovered, Andersen had been Enron's auditor for several decades. Allegedly, Enron had misrepresented their financial performance and condition for a number of years, and Andersen's Houston office had either failed to discover the manipulations or failed to report them.

On October 16, 2001, Enron publicly announced a \$618 million net loss for the third quarter of 2001 and privately informed analysts that it would reduce shareholder equity by approximately \$1.2 billion. Additionally, it reported a \$1.01 billion charge in its earnings to correct accounting errors. The market reacted immediately and the stock price of Enron shares plummeted (Chaney and Philipich 2002). This called the independence of Arthur Andersen into question because the firm had provided significant non-audit services to Enron in addition to its fees associated with the Enron audit. In 2001, Arthur Andersen received from Enron \$47.5 million in fees, \$34.2 million of which was for audit and tax related work and \$13.3 million of which constituted fees for other services. As a result, the Houston office responsible for providing audit services to Enron was severely criticised.

Subsequently, on October 19, the U.S. Security and Exchange Commission (SEC) began an inquiry (an informal originally which quickly became a formal one) regarding Enron's "special purpose entities" and, seeking information about Enron's financial statements that Andersen had audited, and the services it had provided to Enron in 2001. On October 23, Arthur Andersen's Houston office began extensive shredding of Enron-related documents. On November 8, Enron reported that its debt had been significantly understated and that it needed to reduce and restate earnings from 1997 to 2000. On the same date, the SEC issued Andersen with a subpoena on Enron-related documents and stopped the shredding at the Houston office. By then, David Duncan, then senior partner in charge of the Enron account, and his colleagues had already had a significant but

¹ http://en.wikipedia.org/wiki/Arthur_Andersen#Founding

² About 230 partners and 3,300 staff of Andersen UK joined Deloitte in April 2002 as the Andersen partnership came to an end in the UK. Deloitte gained some high-profile UK audit clients from Andersen, such as Cadbury Schweppes, WPP, BSkyB, British Land, Canary Wharf, and Shire Pharma.

undetermined number of electronic and paper documents at Andersen's offices in Houston, Portland, Oregon, Chicago and London in the UK destroyed (Chaney and Philipich, 2002).

On December 2, Enron filed for Chapter 11 bankruptcy protection. On January 11, 2002, Enron shares suspended on the NYSE, and five days later Andersen fired David Duncan, lead audit partner in charge of Enron, three other partners were put on leave, and new management put in place at the Houston office. On March 15, 2002, and in spite of Andersen's attempts to institute internal reform and to negotiate with the U.S. Justice Department, the latter unsealed a criminal indictment against Arthur Andersen. On May 2, a federal jury trial began, and on June 15, Andersen was convicted on one count of obstructing justice¹. From August of that year Andersen was no longer allowed to provide audit services to its clients.

There are several elements of Andersen's demise that are important to our study. First, Andersen's conviction of criminal violation of law was unanticipated and occurred fairly quickly. Within only 7-8 months, Enron's initial report of a problem led to Andersen's indictment. Second, once the criminal indictment occurred, Arthur Andersen went out of business without much delay, and reduced the already small number of large accounting firms capable of auditing complex multinational companies from five to four. Third, Andersen's dissolution led to a massive (at least in the US), involuntary exodus of client firms from Andersen. All of Andersen's approximately 2,000 US clients needed new auditors quickly. This turnover involved roughly one-sixth of all US audit clients. Andersen had a much smaller share of the audit market in the UK. Andersen audited only 63 listed manufacturing and industrial UK companies and, as a result, the indictment of Andersen by the US Department of Justice was not as a major shock to the UK audit industry as in the US. Nonetheless, Andersen's listed clients, representing about one-eleventh of the UK audit market, needed new auditors quickly. Fourth, the Sarbanes-Oxley Act introduced on July 30, 2002 in the US and affected all countries and companies, increased substantially the costs of an auditor due to additional audit work required by the new Act. Further, due to its enlarged requirements, the Act may have caused a number of smaller accounting firms to exit the market, decreasing competition for small audits.

To summarise, with the sudden and quite remarkable disappearance of Andersen's firm, the landscape at the top end of the accounting profession changed dramatically. The disappearance of Arthur Andersen left only four large international accounting firms in the world. This caused significant problems for large international companies, because they are required to use separate accounting firms for their audit work and most non-audit services. Therefore, the loss of the fifth big

¹ Few years later, on May 31, 2005, Andersen's conviction for obstruction of justice was overturned by the U.S. Supreme Court unanimously, largely on technical grounds. By then, however, Andersen had already effectively ceased to exist as an entity and it had disintegrated with its various arms around the world sold off or merged into other Big 4 firms.

accounting firm had considerably increased the amount of work required of auditors, reduced the competition among the accounting firms in the audit market and increased accounting costs for many clients. The effect of all these changes has the potential to increase audit fees.

3. MOTIVATION AND HYPOTHESIS DEVELOPMENT

As we note in the previous section, in a very rapid fashion the market for audit services of listed companies changed from late 2001 to mid 2002. It was mid-October 2001 when Enron reported initially a problem with its financial statements, and it was mid-June 2002 when Arthur Andersen was convicted of obstructing justice in the US. Andersen's collapse in the US was followed by an involuntary departure of audit clients from Andersen around the world, which they were forced to switch auditors. This came as both a surprise and a shock to the audit industry.

The cascading events that led to the Andersen indictment and the subsequent passage of the Sarbanes-Oxley Act had several potential consequences. The rapid demise of Andersen may have alerted other accounting firms to the huge risks that accompany an audit, and may have prompted them to potentially reconsider the rewards for servicing these risks (Nyberg, 2002). In addition, the audits of many Andersen clients that were in progress at the time of the indictment were disrupted by the unanticipated need to replace Andersen, potentially contributing to an increase in their complexity and a reduction in the time available for their completion by successor auditors¹.

Further, many inside and outside of the accounting profession were requesting audits to be more exhaustive with less reliance on management and more testing (McNamee and Weber, 2002), and as a consequence, audits may have cost more because of increased hours put in by audit personnel. For example, Dennis Nally, PricewaterhouseCoopers' U.S. chairman and senior partner, noted that "audit committees are asking us to do more work, visit more locations, and get involved with different types of issues" (PwC, 2002).

Additionally, in the climate of those days and the disarray in the accounting profession and the exodus of clients from Andersen, clients seemed to be desperate to rebuild market confidence in their financial statements and thus may have been more willing to comply with their auditors' changing fee demands. Chaney and Philipich (2002) find that the shredding of documents by Arthur Andersen negatively affected the market perception of Andersen's other audit clients. This negative market perception of Andersen's former audit clients may have influenced the pricing of their 2002

¹ The growth in the successor auditors' audit staff some of which was achieved through the absorption of former Andersen personnel and partners may have alleviated somewhat the lack of resources available to successor auditors to perform adequately the unexpectedly gains of the ex-Andersen audits. To the extent that this was the case, we expect a conservative bias towards the null hypothesis proposed later in the paper. On the other hand, the new staff would have had to be trained and acclimatised in the procedures and processes of the new firm.

audit fees. Likewise, in a further attempt to illustrate that their accounts were robust, clients were requesting that the scope of their audit be extended. For example, some company board panels were even instituting quarterly meetings with their auditors, adding billable hours (McNamee and Weber, 2002).

Another factor that may have contributed towards increased audit fees was a raft of new projects that the Sarbanes-Oxley Act of 2002 along with the stock exchange rules handed to auditors. For example, internal control certifications is an additional audit work mandated by Section 404 of the Sarbanes-Oxley Act. Furthermore, accounting firms became aware that fees from non-audit services – which had driven their growth for a decade or more – looked to be on a downward spiral which was another impact of the Sarbanes-Oxley Act. If auditing was used as a “loss leader” in the past to offset any audit losses against the profits from consulting (Ciesielski and Weirich, 2006), limiting consulting would in equilibrium cause accounting firms to raise the price of their audit services to make up what they would lose on consulting from the same client.

Finally, after the demise of Andersen and the passage of the Sarbanes-Oxley Act, accounting firms started worrying about increased litigation and practice-protection costs, and they were therefore putting a contingency into their prices to cover additional costs for sturdier audits or to pay for litigation expenses when a sturdier audit wasn't enough. Beatty ((1993, p. 296), Simunic and Stein (1996, p. 126) and Willenborg (1999, p. 226) conclude that the evidence is generally consistent with a positive relation between audit fees and litigation risk. Seetharaman et al (2002) examine audit fees paid by U.K. companies that sell their securities in U.S. equity markets. They report evidence consistent with the “litigation risk - audit fee hypothesis”, in that audit fees are adjusted upward to reflect the increase in litigation liability present in the U.S. for auditors of these U.K.-based companies. In a more recent study, Venkataraman et al (2005) note that audit fees are higher in a higher litigation regimes, and audit fees reflect both the amount of audit evidence collected and an additional premium to cover litigation risk.

Individually and jointly, the events described above should increase the fees charged for auditing services. The above arguments lead to the following hypothesis (in the alternative form):

H1: Audit fees increased post Enron, Andersen and Sarbanes-Oxley

On the other hand, a theoretical model of audit pricing developed by DeAngelo (1981) indicates that non-incumbent auditors may “low-ball” or discount the initial audit engagement in order to earn the right to future quasi-rents of auditor fees. Although theoretical audit-pricing models assume that an incumbent auditor is in place, in this study we do not have one, as Andersen's indictment forced Andersen's clients to find a new auditor on short notice. Furthermore, low-balling is unlikely to exist due to collapse of Andersen, which eliminated one major competitor. Reducing the

number of accounting firms, in conjunction with the inundation of former Andersen's audit clients into the market seeking to replace Andersen, limits choice, further mitigates competition among the accounting firms in the audit market and increases the power of the remaining accounting firms *vis-à-vis* their clients. Hence, it is not anticipated that successor auditors low-balled the initial audit engagements for the former Andersen's audit clients.

In addition, the loss of the fifth big accounting firm had increased accounting costs for many clients. The perceived quality of the earnings reports of Andersen's audit clients may be tainted and therefore scrutinised to a greater degree than prior to Andersen's disintegration. As a result, a greater uncertainty by successor auditors and investors may surround the credibility of prior year financial statements of former Andersen's clients. This uncertainty and increased scrutiny is likely to increase the successor auditors' risk assessment and audit effort and, in turn, reflect higher audit prices than the prior year. It also indicates that successor auditors were unlikely to low-ball to gain the audit engagements for the former Andersen clients.

4. SAMPLE AND DESCRIPTIVE STATISTICS

In this section, we discuss the sample and descriptive statistics for our analysis of companies that were forced to change auditors after the demise of Andersen.

4.1. Sample Selection

The sample selection began with all UK publicly held companies and was narrowed down to those companies that were audited by Arthur Andersen LLP at the time the indictment was unsealed in 2002. The initial set of companies comprises all 2,125 active companies listed in the London Stock Exchange and is largely collected on-line from the FAME database, which provides financial and other data for all UK listed companies for the financial years 2001 and 2002. Additionally, a small number of annual reports on the companies included in the sample was downloaded from the Thompson Research on-line library. This is the first UK study using data surrounding the collapse of Arthur Andersen. Table 1 lists the sample selection process.

TABLE 1: Sample Selection

Procedure	Number of Firms	
	Deleted	Left
Companies listed in London Stock Exchange		2125
All Primary UK (SIC) except financial, services and property industries	(1165)	960
Companies with available data on Fame Database for both 2001 and 2002	(185)	775
Companies that were not audited by Arthur Andersen in 2002	(2)	773

The audit fee model used in the current study includes the two consecutive financial periods from 2001 to 2002; therefore, it is essential to obtain adequate data for both years. Financial, service and property industries have fundamentally different operating characteristics and they are normally

excluded from this type of analysis. We also omit observations with incomplete FAME data. Next, we delete two companies that were still audited by Arthur Andersen at the end of 2002. The final usable sample includes 773 companies from which 63 companies had used Arthur Andersen as an external auditor in 2001. The final sample of this study therefore, consists of 63 former clients of Andersen that were forced to switch auditors in 2002.

4.2. Data Analysis

In this section we provide some descriptive evidence of the distribution of former Andersen clients.

Where did former Arthur Andersen's clients go?

In 2001 and prior to the demise of Arthur Andersen, Andersen audited 8% of the usable sample of this study (i.e., the 773 companies listed in the London Stock Exchange), while PricewaterhouseCoopers audited 24%, KPMG 20%, Ernst & Young 12% and Deloitte Touche 11% of the sample. The mean net turnover reported by Andersen's clients in 2001 averaged UK£477.2 million while the average non-Andersen clients' turnover for the Big-4 firms ranged from £876 million for KPMG to £2 billion for EY.

TABLE 2: Year 2001 and 2002 Mean Sales of 773 Audit Clients by accounting firm prior and after the collapse of Arthur Andersen (in thousands)

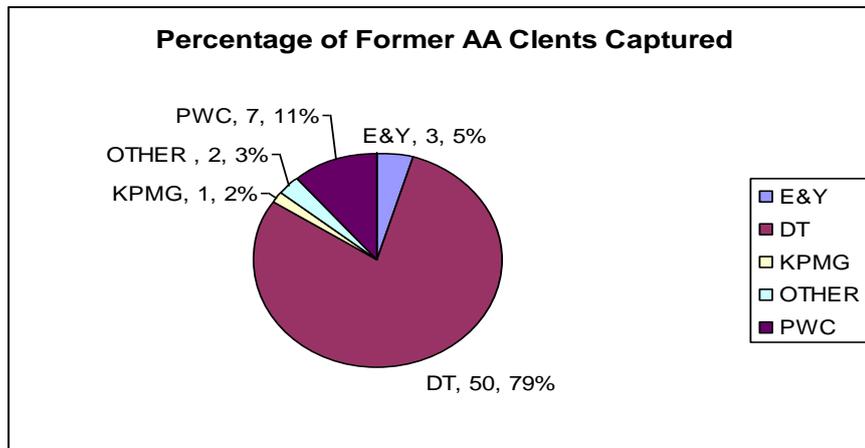
Σφάλμα! Λανθασμένη σύνδεση.

Accounting Firms: AA= Arthur Andersen; E&Y= Ernst & Young; DT= Deloitte & Touché; KPMG= KPMG Peat Marwick; and PWC= PricewaterhouseCoopers

Predictably, all but two former Andersen's clients in this study switched to one of the remaining Big 4 audit firms. Although Deloitte captured about 79% ($n=50$) of former Andersen clients, it was Ernst & Young that gained the bigger former Andersen's clients (UK£624 million, based on 2001 mean client sales) in spite of absorbing only three of the 63 former Arthur Andersen clients. Table 3 shows the distribution of the 63 former Andersen clients among the remaining audit firms and mean turnover for 2001.

TABLE 3

Percentage and Number of Former Arthur Andersen Audit Clients Captured by the Big Four and non-Big Four accounting firms and the Respective 2001 Sales Amounts



	# of Firms	% of Firms	Mean 2001 Sales (in thousand)	% of Sales
KPMG	1	2%	7,800	0.4%
PWC	7	11%	477,838.1	29%
DT	50	79%	495,859.3	31%
EY	3	5%	623,562.7	39%
OTHER	2	3%	22,278.5	1%
TOTAL	63	100%	1,627,338.57	100%

Accounting Firms: AA= Arthur Andersen; E&Y= Ernst & Young; DT= Deloitte & Touché; KPMG= KPMG Peat Marwick; and PWC = PricewaterhouseCoopers

Based on Tables 2 and 3, we can also conclude that the Andersen client companies have followed their then existing auditors who most of them joined Deloitte & Touché, after the collapse of Arthur Andersen. However, the number of companies absorbed by Deloitte & Touché was more than expected according to its mean sales in 2001. Similarly, it becomes evident that the former Andersen's clients were not absorbed by the dominant audit firm in the market, based on mean sales for 2001, which was PwC.

How much did former Arthur Andersen's clients pay?

Table 4 presents descriptive statistics for the audit fees, non-audit fees and total auditor remuneration paid to the new successor auditors in year 2002 by the 63 former Andersen clients. In column (a) of Panel A, the mean audit fees for the 63 companies equals to £292,000 ranging from £20,000 to £3 million. It can be seen that although most of former Andersen clients switched to its

'natural successor in the UK' Deloitte (79%), the mean audit fees gained was much lower than Ernst & Young. Ernst & Young has the highest mean (£674,000) and median (£234,000) audit fees than the other audit firms, although Ernst & Young captured only three of the 63 former Arthur Andersen clients. It is important to note here that the mean audit fees paid to Ernst & Young are remarkably higher than the mean audit fees paid by all other former Arthur Andersen clients to other audit firms. Deloitte & Touché received on average £282,660 in audit fees from each former Andersen client, considerably lower than that of Ernst and Young and slightly lower than the mean audit fees of PwC (£292,710). Amongst the Big 4 firms, KPMG received the lowest average audit fee per client.

In column (b), the mean for total non-audit fees equals to £506,302. Deloitte & Touché has the highest mean (£599,280) and median (£155,000) non-audit fees among the Big Four audit firms. In column (c), the mean total auditor remuneration paid by the former Arthur Andersen clients in 2002 is £798,269 ranging from £21,000 to £12.2 million. Deloitte & Touché, which captured the largest quantity of former Arthur Andersen clients, has the highest overall mean (£881,940) and median (£315,500) total auditor remuneration, and together with E&Y their mean total auditor remuneration exceeded the mean total auditor remuneration to all other audit firms.

Next, in Panel B, we test the mean audit fees, non-audit fees and total auditor remuneration to see if they are proportionally equal across auditors for the 63 former Arthur Andersen clients. To do this, the ANOVA analysis, Kruskal-Wallis test and the Median test procedures are used. All tests indicate that the 2002 mean audit fees across auditors do not significantly differ from one to the other. Moreover, the analysis of variance F-statistic for non-audit fees of 0.201 with probability 93.7% indicates that the mean non-audit fees are not significantly different across the accounting firms. The alternative measures using the Kruskal-Wallis and Median test provide similar results. Finally, the analysis of variance F-statistic, the Kruskal-Wallis and Median test for total auditor remuneration point to there being no significance difference across the accounting firms.

TABLE 4

Panel A: Descriptive Statistics of former Andersen's clients audited by other Auditors in Year 2002
(in thousands)

Ernst & Young	Mean	£	674	189.67	863.67
	Median		234	46	257
	Std. Deviation		802.27	269	1070.76
	Minimum		188	23	234
	Maximum		1600	500	2100
	N		3	3	3
Deloitte & Touché	Mean	£	282.66	599.28	881.94
	Median		136	155	315.5
	Std. Deviation		479.83	1765.36	2028.34
	Minimum		25	0	36
	Maximum		3000	11500	12200
	N		50	50	50
KPMG Peat Marwick	Mean	£	100	100	200
	N		1	1	1
Other	Mean	£	45	45	90
	Median		45	45	90
	Std. Deviation		35.36	60.81	96.17
	Minimum		20	2	22
	Maximum		70	88	158
	N		2	2	2
PricewaterhouseCoopers	Mean	£	292.71	167.71	460.43
	Median		100	100	277
	Std. Deviation		313.41	246.96	526.63
	Minimum		21	0	21
	Maximum		800	700	1500
	N		7	7	7
Total	Mean	£	291.968	506.302	798.269
	Median		134	129	277
	Std. Deviation		471.1055	1582.919	1831.993
	Minimum		20	0	21
	Maximum		3000	11500	12200
	N		63	63	63

Panel B: Tests whether fees differ across auditors

	Audit fees	Non-Audit Fees	Total Fees
ANOVA ANALYSIS			
F-Statistic	0.662	0.201	0.178
Level of Significance	0.621	0.937	0.949
Kruskal-Wallis Test			
Chi-Square Statistic	5.468	3.693	3.666
Level of Significance	0.243	0.449	0.453
Median Test			
Chi-Square Statistic	6.129	3.781	3.781
Level of Significance	0.190	0.436	0.436

Did the new auditors charge more or less for audit and non-audit services?

In this section we test whether the differences between audit fees, non-audit fees and total auditor remuneration charged in year 2001 by Andersen were significantly different from the fees charged in year 2002 by the successor auditors. In order to test the change in auditor fees on a firm-by-firm basis, the changes per audit fee, non-audit fee, and total auditor remuneration are calculated. The year 2001 fees is subtracted from the year 2002 fees for firm i and this is then divided by the year 2001 fees for firm i . A positive result indicates a growth in fees in 2002 relative to those of 2001. In contrast, a negative result indicates a decline in fees in 2002 relative to those in 2001.

Panel A of Table 5 presents the change in fees by fee category and by auditor. Panel A shows an overall slight mean growth in audit fees of 10% for the former Arthur Andersen audit clients. Ernst & Young has the greatest absolute growth in audit fees of 38.5% from former Andersen's clients whereas PwC appeared to have charged 2% less to those former Andersen's clients that it audited after the demise of Andersen. In addition, Panel A shows a greater overall mean increase for the non-audit fees of 25% for the former Andersen clients. With the exception of PwC and Deloitte & Touché, who have shown a significant increase in non-audit fees from the former Andersen clients, the other audit firms charged less non-audit fees in 2002 relative to year 2001. Non-audit firms charged the two former Andersen clients that they gained 76% less in non-audit fees. The increase in non-audit fees in 2002 seems to be inconsistent with the Sarbanes Oxley Act prohibition on many non-audit services. It also shows that the Act did not have an immediate effect in the UK. KPMG charged the same amount in 2002 with the one that Andersen was paid in 2001.

As far as total auditor remuneration is concerned, we can see from column (c) of Panel A, that for the former Arthur Andersen clients the mean total auditor remuneration has increased by 9% from year 2001 to year 2002. All Big-4 audit firms increased their total auditor remuneration, apart from KPMG. Notice that the mean change of total auditor remuneration paid to PwC (16%) and Deloitte (12%) is greater than the mean change of total auditor remuneration paid in 2002 by all the other former Arthur Andersen clients. In addition, former Andersen clients of non-Big 4 firms showed an overall decline in total remuneration of 66%.

Panel B of Table 5 presents T-tests that are performed to determine whether the mean total change in auditor fees per category is significantly different from zero. The t-statistic of 1.989 for audit fees indicates that the mean growth in audit fees of 10% is significantly greater than zero with a probability of 5%. In contrast, the mean growth or decline in non-audit fees and total remuneration appears to be insignificant indicating that they are not significantly greater than zero. In Panel C of Table 5, we test whether the mean change in fees is proportionally equal across auditors. The analysis of variance shows that there are no significant differences in the mean change of fees between 2001

and 2002. In other words, the growth in audit fees, non-audit fees and total auditor remuneration is proportional across audit firms.

TABLE 5**Panel A: Change in Auditor Fees**

Change is calculated as [(Year 2002 fees- Year 2001 fees)/ Year 2001 fees]

Ernst & Young	Mean	£	38.52%	-34.13%	4.74%
	Median		6.67%	41.77%	10.53%
	Std. Deviation		0.61	0.56	0.37
	N		3	3	3
Deloitte & Touché	Mean	£	10.61%	31.49%	11.99%
	Median		0.00%	12.91%	4.64%
	Std. Deviation		0.42	1.67	0.86
	N		50	50	50
KPMG Peat Marwick	Mean	£	0%	0%	0%
	N		1	1	1
Other	Mean	£	2.24%	-76.36%	-66.49%
	Median		2.24%	-76.35%	-66.49%
	Std. Deviation		0.31	0.33%	0.402%
	N		2	2	2
PricewaterhouseCoopers	Mean	£	-2.06%	39.71%	16.21%
	Median		0.00%	46.98%	7.41%
	Std. Deviation		0.25	1.64	0.74
	N		7	7	7
Total	Mean	£	10.09%	25.36%	9.43%
	Median		0.00%	-17.11%	-6.62%
	Std. Deviation		0.41	1.59	0.82
	N		63	63	63

PANEL B: T-Test if mean change in fees equals zero

	Audit fees	Non-audit Fees	Total Auditor Fees
T-statistic	1.989	1.267	0.919
Significance	0.051	0.210	0.362

PANEL C: ANOVA test if mean fees across auditors are equal

	0.553	0.334	0.447
ANOVA F-statistic			
Significance	0.698	0.854	0.774

Did the audit and non-audit percentages change?

This test shows whether the means of audit fees and non-audit fees as a percentage of total auditor remuneration are equal between the years 2001 and 2002. In results not tabulated, the mean audit fee as a percentage of total auditor remuneration increased from 49% in 2001 to 56% in 2002, a rise of 7%. On the other hand, the mean for non-audit services as a percentage of total auditor

remuneration decreased by the same percentage, from 51% in 2001 to 44% in year 2002. However, an F-test does indicate there is no significant change in these fee percentages between the years 2001 and 2002¹. Furthermore, the same pattern of increased audit fees and declined non-audit fees (as a percentage of total auditor remuneration) between the years 2001 and 2002 is pervasive across auditors and industry membership but the results remain insignificant using the F-test. We conclude from the results so far that in the UK the impact of Andersen's demise and the new Sarbanes Oxley Act that came into force in July 2002 did not influence much the pricing strategies of the audit firms in the UK.

4.3. Summary Descriptive Statistics

During the period 2001-2002, the mean inflation-adjusted audit fee for the former Andersen clients rose by a mere 0.2% from £279,319 to £279,887. On the other hand, the mean inflation-adjusted non-audit fee for the former Andersen clients declined by 16.3% from £582,695 to £487,718. The above decline of raw non-audit fee (as a percentage of total auditor remuneration) as well as the decrease in the inflation-adjusted non-audit fee between the years 2001 and 2002 may indicate that the accounting profession and audit firms in the UK were taking self-correcting actions to enhance the perception of auditor independence by imposing a downward adjustment in the pricing structure of non-audit service fees in 2002.

The total mean turnover of Andersen clients grew by 7.1 percent, or 4.4 percent when adjusted for inflation between 2001 and 2002. The average size of Andersen clients, as measured by inflation-adjusted total assets, declined by 7.9 percent from 567 million to 522 million. Andersen had qualified its audit report for five companies in 2001, on the other hand the successor auditors of Andersen qualified only one former Andersen client. The remaining variables have similar characteristics for both years 2001 and 2002.

5. METHODS AND AUDIT FEE MODEL

General monthly retail price indices are used to correct reported audit fees for inflation during the years from 2001 to 2002. In this way, we are able to account for changes in audit fees in addition to those attributable to general inflation². Audit fees, and non-audit fees paid by a company and the company's turnover were adjusted to the January 2001 general price index according to the month of the company's accounting year-end.

¹ The F-test for the audit fee as a percentage of total auditor remuneration is $F\text{-ratio}=0.010$, $p=.921$, and the corresponding F-test for the non-audit fee as a percentage of total auditor remuneration is $F\text{-ratio}=0.066$, $p=.797$. The non-parametric Mann-Whitney tests provide similar results.

² The average inflation rate in 2001 was 2.13%, whilst the average level rose in 2002 by 0.08 of a percentage point to 2.21%.

Following prior research, the cross-sectional audit fee regression model in equation (1) is used to estimate audit fee premia (Francis 1984; Craswell et al. 1995; Ferguson and Stokes 2002; Basioudis and Francis 2007). Audit fee regression models use a set of variables to control for cross-sectional differences in factors that affect fees such as client size, audit complexity and auditor–client risk sharing (Simunic 1980). These models have good explanatory power (adjusted r-squares of 0.70 and higher) and have been robust across different samples, time periods, countries, and sensitivity analyses for model misspecification (Francis and Simon 1987; Chan et al. 1993).

We begin with a pooled analysis of audit fees for the years 2001 and 2002 to examine whether Andersen clients paid a premium when they were forced to switch to new auditors in 2002. Fees are expected to exhibit general inflationary characteristics. These effects are modelled by including a dummy variable for year 2002 to control for time-specific factors occurring across the sample period. Year 2001 is omitted so that the subsequent year represents the relevant increase or decrease in fees relative to year 2001 level. In other words, the research design in equation (1) tests for any percentage changes in audit fees after controlling for other factors affecting fees. Formally, the test determines if there is a significant positive or negative intercept shift (higher or lower audit fees respectively) in the fitted regression model for the former Andersen clients audited in year 2002. The experimental indicator variable included in equation (1) is denoted YEAR2002 and represents the financial year the audit took place.

The OLS regression model is formally specified as follows:

$$\begin{aligned} \text{L-INF-AF} = & b_0 + b_1\text{L-INF-TA} + b_2\text{SQRTSUBS} + b_3\text{CATA} + b_4\text{QUICK} + b_5\text{GEAR} + \\ & b_6\text{ROCE} + b_7\text{FOREIGN} + b_8\text{OPINION} + b_9\text{BUSY} + b_{10}\text{LOSS} + b_{11}\text{L-INF-NAF} + b_{12}\text{LONDON} + \\ & b_{13}\text{YEAR2002} + e \end{aligned} \quad (1)$$

where:

L-INF-AF	= natural log of inflation-adjusted audit fees in GB pounds
L-INF-TA	= natural log of inflation-adjusted total assets
SQRTSUBS	= square root of total subsidiaries
FOREIGN	= foreign sales as a proportion of total sales
ROCE	= return on capital employed
GEAR	= gearing ratio
CATA	= ratio of current assets to total assets
QUICK	= ratio of current assets (less inventories) to current liabilities
OPINION	= indicator variable, 1 = qualified audit report
LOSS	= indicator variable, 1 = loss in any of the past three years
BUSY	= indicator variable, 1 = December 31st or March 31st year end,
L-INF-NAF	= natural log of inflation-adjusted fee paid for non-audit services (in GP Pounds)
LONDON	= indicator variable if observation is a London-based company
YEAR2002	= indicator variable if observation is audited in year 2002
E	= error term

With respect to the 12 control variables in the model, higher fees are expected (positive signs) for larger clients (L-INF-TA), for greater audit complexity (SQRTSUBS and FOREIGN), for greater audit risk (CATA, GEAR and LOSS), and for London-based companies (LONDON) due to higher salaries and other costs. A positive sign is expected for OPINION as prior studies document higher fees associated with modified opinions, possibly due to more investigative efforts in such circumstances. Given prior research, a positive association is also expected between audit fees and non-audit fees (L-INF-NAF). Negative signs are expected for the variables QUICK and ROCE. QUICK is an audit risk variable and clients with a smaller quick ratio are riskier (less liquid) and therefore are expected to have higher audit fees. Prior studies find that clients with higher ROCE have lower fees, which is consistent with auditor–client risk sharing, i.e., more profitable clients pose less risk to the auditor resulting in lower fees. Finally, clients with December 31st or March 31st fiscal year ends (BUSY) are expected to have higher fees as these are the predominant busy seasons in the UK.

6. RESULTS

As in prior audit fee research, the model in Table 7 is significant (F-ratios are significant at $p < .001$) and the models have a high level of explanatory power with adjusted r-squares of around 77%. Looking at the coefficient of interest we see that the coefficient on YEAR2002 is positive indicating a change in audit fees of 0.3 percent. However, the coefficient is not statistically significant. This result is hardly surprising given the little increase of 0.2 percent in the mean inflation-adjusted audit fee for the former Andersen clients. Our results do not provide support for our hypothesis

Briefly looking at the control variables, we find, as expected, audit fees increase with the size, complexity and risk of the clients, i.e., L-INF-TA, FOREIGN, and LOSS are all positive and significant. One risk variable, GEAR, is negative and significant, contrary to expectations, indicating probably that the financial risk bore by the Andersen clients and their level of borrowing was not regarded as high by the successor auditors in order to charge a premium. The LONDON and L-INF-NAF variables are positive and significant indicating higher audit fees for those companies based in London and for the provision of the joint provision of audit and non-audit services to clients. The QUICK variable is negative and significant, as expected. The remaining variables, i.e., SQRTSUBS, ROCE, CATA, OPINION and BUSY, are insignificantly different from zero.

TABLE 6: The effect on year on audit fee premia

	B	t	Sig	Tolerance	VIF
Control Variables:					
(Constant)	-1.398	-2.78	0.006		
L-INF-TA	0.524	14.02	0.000	0.565	1.769
SQRTSUBS	0.010	0.47	0.638	0.854	1.170
FOREIGN	0.560	3.61	0.000	0.887	1.128
ROCE	0.008	0.13	0.899	0.764	1.310
GEAR	-0.050	-1.67	0.098	0.888	1.126
CATA	-0.350	-1.51	0.134	0.928	1.078
QUICK	-0.075	-2.50	0.014	0.845	1.184
OPINION	-0.110	-0.46	0.648	0.856	1.169
LOSS	0.209	1.83	0.069	0.693	1.443
BUSY	-0.049	-0.44	0.661	0.909	1.100
L-INF-NAFEE	0.021	1.72	0.088	0.674	1.483
LONDON	0.417	3.48	0.001	0.857	1.168
Experimental variable:					
YEAR2002	-0.002	-0.02	0.984	0.942	1.061

F statistic (p-value)	33.97 (<.0001)
Adjusted R2	0.774
Sample size	126

All significance values are two-tail. Industry fixed-effects variables not reported for brevity, and *t*-statistics and significance levels are calculated using White (1980) corrected standard errors.

Control and experimental variables: L-INF-AF = natural log of inflation-adjusted audit fees in GB pounds, L-INF-TA = natural log of inflation-adjusted total assets, SQRTSUBS = square root of total subsidiaries, FOREIGN = foreign sales as a proportion of total sales, ROCE = return on capital employed, GEAR = gearing ratio, CATA = ratio of current assets to total assets, QUICK = ratio of current assets (less inventories) to current liabilities, OPINION, = indicator variable, 1 = qualified audit report, LOSS = indicator variable, 1 = loss in any of the past three years, BUSY = indicator variable, 1 = December 31st or March 31st year end, L-INF-NAF = natural log of inflation-adjusted fee paid for non-audit services (in GP Pounds), LONDON = indicator variable if observation is a London-based company, YEAR2002 = indicator variable if observation is audited in year 2002

7. DISCUSSION AND CONCLUSION

This study examines the effect of changes in audit environment and audit and non-audit service fees in the UK after the collapse of high profile companies, the demise of Arthur Andersen, the passage of Sarbanes Oxley Act and other proposals to strengthen the regulation of audit and non-

audit services. The study presents an analysis of UK Andersen clients pre- and post Andersen demise. It attempts to examine where former Andersen's clients have gone and whether they paid more after Andersen's demise. The evidence is, therefore, based on Andersen clients and on financial and audit data for the period 2001-2002. The results indicate that the former Andersen clients experience no inflation-adjusted audit fee premiums or discounts.

These findings provide further evidence on audit pricing behaviour in the UK following the Andersen acquisition by Deloitte in 2002. Anecdotal evidence of that period (see, for example, Anderson 2003) was anticipating higher fees due to Enron debacle, the demise of Andersen, and the passage of Sarbanes Oxley Act in the US. The fact that there was no real increase in inflation-adjusted audit fees between 2001 and 2002 does appear to be inconsistent with the idea of increased liability and financial risk or purchase of higher insurance cover and, hence, higher audit fees. It seems that the risks (or lack of insurance cover) were exaggerated at that period in the UK. On the other hand, the finding of flat inflation-adjusted audit fees between 2001 and 2002 is consistent with the existence of a price competitive market. Big-4 auditors face the discipline of competitive tenders (or the threat of one), and have to fight off low competing bids aimed at dislodging the incumbent. The incumbent audit firm therefore keeps audit prices low or flat in order to retain the client.

In addition, the collapse of Andersen and the subsequent damage in the reputation of the accounting profession may have forced audit firms to adopt a strategy that influenced the pricing of audit fees. In this way, audit firms and the accounting profession may have made an effort to reduce future negative wealth transfers of control to politicians as well as to ease unwanted negative political attention and future regulatory interest. After all, audit firms have incurred the political costs of negative publicity from the Andersen misconduct, witnessed the number of large suppliers in the market for audit services reduced from five to four, and seen the prohibition of providing certain non-audit services for their audit clients.

There is some evidence provided in this study that the level of non-audit fees (either inflated-adjusted or as a percentage of total auditor remuneration) decreased markedly following the Andersen demise. This change in non-audit fees either as a result of the Sarbanes Oxley Act or the audit committees approving fewer non-audit services can support the assertion that the demise of Andersen has impelled the accounting profession and audit firms to take self-correcting measures to potentially enhance the appearance of auditor independence and minimise future political intervention in the pricing of auditor services. On balance, it seems there was a desire by all participants in the UK audit market to instil confidence about audit quality in the financial markets after this was damaged by Andersen's misconduct.

The findings of this study support the idea of the UK audit market adopting a discriminating response to the events in the US rather than perceiving a general increase in litigation and financial and audit risks which would have been manifested in an across-the-board premium in audit fees. This type of response may provide some comfort to the UK regulators in the sense that the UK audit market internalised the implications of the events in the US without substantial changes to the regulatory framework at least in an immediate fashion.

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REFERENCES

- Anderson, N. (2003) "Virtue in standing alone", *Financial Times*, October 16, p.11
- Basioudis, I. G. and J. R. Francis (2007) "Big 4 Audit Fee Premiums for National and Office-Level Industry Leadership in the United Kingdom", *Auditing: A Journal of Practice & Theory*, 26, 2, pp. 143-166.
- Beatty, R. (1993) "The economic determinants of auditor compensation in the initial public offerings market", *Journal of Accounting Research*, 31, Autumn, pp. 294-302.
- Chan, P., M. Ezzamel, and D. Gwilliam (1993), "Determinants of audit fees for quoted UK companies", *Journal of Business Finance and Accounting* 20, pp. 765-786.
- Chaney, P., K. and K., L. Philipich (2002) "Shredded reputation: the cost of audit failure", *Journal of Accounting Research* 40, 4, September, pp. 1221-1245.
- Ciesielski, J. T. and T. R. Weirich (2006) "Ups and Downs of Audit Fees Since the Sarbanes-Oxley Act", *CPA Journal*, 76, 10, October, pp. 28-35.
- Craswell, A., J. Francis, and S. Taylor (1995) "Auditor brand name reputations and industry specializations", *Journal of Accounting and Economics* 20, pp. 297-322.
- DeAngelo, L. E. (1981) "Auditor independence, low-balling, and disclosure regulation", *Journal of Accounting and Economics*, 3, 113-127.
- Ferguson, A., and D. Stokes (2002) "Brand name audit pricing, industry specialization and leadership premiums post Big 8 and Big 6 mergers", *Contemporary Accounting Research* 19, pp. 49-66.
- Francis, J. (1984) "The effect of audit firm size on audit prices: a study of the Australian market", *Journal of Accounting and Economics* 6, pp. 133-151.
- , and D. Simon (1987) "A test of audit pricing in the small-client segment of the U.S. audit market", *The Accounting Review* 62, pp. 145-157.
- McNamee, M. and J. Weber (2002) "Bloodied but rich", *Business Week*, 3 June, Issue 3785, pp. 74-75.
- Nisse, J. (2002) "Enron - A year on...", *The Independent on Sunday*, December 1, p 6
- Nyberg, A. (2002) "Audit Fees on the Rise", *CFO Magazine* http://www.cfo.com/article.cfm/3006606/c_3036064
- Pong, C. (2004) "A descriptive analysis of audit price changes in the UK 1991-95", *European Accounting Review*, 13, 1, pp. 161-178.
- PwC (2002) "Financial services audit committee forum", PricewaterhouseCoopers, <http://www.pwc.com/images/gx/eng/fs/bcm/062303aaconf.pdf>
- Seetharaman, A., F. Gul and S. Lynn (2002) "Litigation risk and audit fees: Evidence from UK firms cross-listed on US markets" *Journal of Accounting and Economics*, 33, February, pp. 91-115.
- Simunic, D. A. (1980) "The pricing of audit services: theory and evidence", *Journal of Accounting Research* 18, 1, pp. 161-190.
- , and M. Stein (1996) "The impact of litigation risk on audit pricing: a review of the economics and the evidence", *Auditing: A Journal of Practice & Theory*, 15 (Supplement), pp. 119-134.
- Venkataraman, R. V., J. Weber, and M. Willenborg (2005) "Litigation risk, audit fees, and audit quality: initial public offerings as a natural experiment", working paper, University of Minnesota
- Willenborg, M. (1999) "Empirical analysis of the economic demand for auditing in the Initial Public Offerings market", *Journal of Accounting Research*, 37, Spring, pp. 225-238.

ANALYZING BASIC COMPONENTS AND CONTEMPORARY FEATURES OF DEPOSIT INSURANCE: EVIDENCE FROM UKRAINE

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ABSTRACT

Purpose The purpose of this paper is to study the basic components and modern features of the deposit insurance system in Ukraine.

Design/methodology/approach The following methods were used: logical, historical, statistical, analysis, synthesis, grouping; economic and mathematical, in particular exponential smoothing and linear Brown model; induction and deduction, analogy, etc.

Findings Context specific macro-factors were found to influence the emotional state of strategists, leading them to adopt a rational approach, rather than use intuitive judgment, to making all five decisions.

Research limitations / implications The study was limited to situation in the banking deposit sector from 2013 m Ukraine in order to maintain these variables relatively constant to make the forecast with proposals for extending studies to improve the situation in the deposit insurance system of Ukraine.

Practical implications The paper provides evidence for the functioning of deposit market in Ukraine and authors' forecast for its development till 2021, which should lead to increased recognition for government, strategists, banks, insurance companies and other market agents of the challenges for deposit insurance development.

Social implications A social implication is that individuals' deposits will be more determined and protected.

Originality/value The paper examines the development and main trends of deposit insurance in Ukraine with forecasting of this process. An explanatory framework is developed which is consistent with an identification of proposals for improving the deposit insurance system in Ukraine. A generalized research framework is proposed to aid future studies of deposit insurance processes.

Keywords: Deposit Insurance, Deposit Guarantee Fund (DGF), Banking System Deposit Market, Financial Resources, Financial Stability, Forecast.

OBJECTIVES

The main purpose of this paper is to study the basic components and modern features of the deposit insurance system in Ukraine. To achieve this goal the following tasks are defined: to find out the basic principles of insurance in the insurance of deposits in Ukraine; to determine the specifics of the functioning of the domestic deposit insurance system, namely the legal and institutional aspects; to analyze the effectiveness of the deposit insurance system in Ukraine; to predict the main indicators for the deposits of individuals and the volume of financial resources of the DGF for 2019-2021; to determine the key areas of improvement of the deposit insurance system in Ukraine.

INTRODUCTION

The modern banking system accumulates a significant share of financial resources of the population, which is a powerful resource for the further development of the economy, in particular its subjects, especially in terms of lending. Therefore, nowadays the state and society face the task of providing an effective mechanism for the protection of temporarily free funds of economic entities. This mechanism is insurance. Given that Ukraine is a state with a socially oriented market economy with a European integration vector of development, there is a need to improve the existing system of deposit insurance of individuals and legal entities in accordance with European standards. In addition, the domestic banking system does not enjoy a sufficient level of trust among citizens, which is caused by shadow schemes in the market of banking services, delaying the procedure for reimbursement of deposits in case of liquidation of banks.

LITERATURE

The problem of deposit insurance of the banking system is relevant, which is represented by a number of scientific papers. The fundamental basis of the study of the national deposit insurance system formation is given in the works of such scientists as Bazylevych, Filonyuk & Bazylevich (2008), Brophy (2013), Mykhailovskaya & Besvukh (2013), Govorushko (2008), Osadets (2002), Plysa (2010), Vovchak (2006), et al. The key principles of functioning and reforming of national and world deposit insurance systems are revealed in the scientific works of such foreign scientists as Akinin (2007), Altuntas & Rauch (2017), Bland (1999), Cecchetti (2007, 2015), Hannafin, McKillop, (2007), Levine (1997), Bikker &

Prast (2001), Senbet, Cull, Sorge (2002, 2005), Masters & Dupont (2002), Golembe (1960), Calomiris (1990), Schich (2008) et al.

Research on cooperation between banks and insurance companies on a mutually beneficial basis in terms of joint implementation of products and services in the market (bancassurance) is becoming particularly popular among domestic scientists Berezina & Goncharenko (2016, 2017), Savluk (1998), Stelmakh (2001), Vasyurenko (2000), Yuri & Fedosov (2006) et al. In world practice most scientists use the concept "deposit insurance". For example, foreign scientists Masloboieva and Fridman (2008) note the following: "the system of deposit insurance is a set of measures aimed at protecting deposits and ensuring their guaranteed return in full (or in part) in the event of bankruptcy of a credit institution".

However, the Ukrainian legislation uses the concept of "guarantee" of deposits. Thus, the Law of Ukraine "On the Deposit guarantee system of individuals" dated 23.02.2012, No. 4452-VI, states that: "the deposit guarantee system of individuals – a set of relations that are regulated by this Law, the subjects of which are the Deposit Guarantee Fund (DGF), the Cabinet of Ministers of Ukraine, the National Bank of Ukraine, banks and depositors".

However, taking into account foreign experience, the concept of "deposit insurance" is increasingly used in domestic scientific works of recent years, excluding the term "guarantee". For example, in the dissertation of Bukhtiarova (2015) "Development of the national deposit insurance system" the author's approach to explaining the essence of the concept "deposit insurance" is presented, according to the author, these are economic relations arising between the Bank and its depositors, the body which is entrusted with the functions of the deposit insurer, and other participants of the financial market in order to ensure the effective operation of the Bank and the provision of guarantees for the return of deposits of individuals in the legally established amount in the case the Bank is recognized as insolvent (Bank). In addition, Bukhtiarova (2015) formulated a new concept of the Deposit insurance system, namely: "an ordered set of elements aimed at preventing financial problems of the Bank, protection of depositors' rights and guarantees for the return of deposits of individuals in the amount established by law in the case of recognition of the Bank as insolvent (bankrupt).

Despite the significant research on this issue, the theoretical and practical areas of the deposit insurance system have accumulated a lot of problems: an effective mechanism of deposit insurance has not been finalized; the best foreign experience in terms of interest rate policy on deposits has not been considered; low rates of economic growth and the like. Given the above, it is advisable to continue scientific research to address the issues outlined.

METHODS

In the course of the work the following methods were used: logical, historical – in the study of the development of deposit insurance system, etymological essence of individual terms and concepts; statistical, analysis, synthesis, grouping – in the analysis of the volume of financial resources of the DGF; economic and mathematical in forecasting the main indicators on deposits of individuals and the volume of financial resources of the DGF for 2019-2021 years by exponential smoothing using the linear brown model; induction and deduction, analogy – in determining the areas of improvement of the deposit insurance system in Ukraine.

FINDINGS AND DISCUSSION

Deposits form the basic component of banks' liabilities and play a determining role in the formation of financial resources of the banking system. Therefore, the state and banks face the task to form a reliable system of protection of deposits of citizens through the improvement of the existing national deposit insurance system, which is represented by the deposit guarantee fund of individuals.

The analysis of the balance sheet structure of commercial banks of Ukraine, conducted on the basis of official data of the National Bank of Ukraine (NBU) showed that the largest share in the Bank's assets is occupied by such articles as loans to individuals and legal entities 40%, and liabilities of deposits of individuals and legal entities 50 %. However, the structure of the balance sheet of the State Bank is slightly different from the commercial joint stock company (Bank), in particular, the share of loans in the Bank's assets is 15 % and the share of deposits in the Bank's liabilities significantly exceeds compared to commercial banks and is 78-80 %.

The stability of the banking system is the protection of the population's funds which is the main resource in the formation of investments in the economy and the like. Funds of the population, attracted to the banking system, are deposits. Consequently, the performance of the deposit market of Ukraine for the period from 2013 to 2018 is presented in table 1.

Indicators	2013	2014	2015	2016	2017	2018
Number of operating banks	180	163	117	96	82	77
of them: with foreign capital	49	51	41	38	38	37
including with 100% foreign capital	19	19	17	17	18	22
GDP, mln. dollars USA	183310	131805	90615	93270	112154	113794
Individuals' funds/GDP, %	25.07%	28.71%	26.24%	20.22%	18.33%	16.02%
Funds of business entities/GDP, %	13.88%	15.43%	16.47%	17.55%	17.30%	14.31%

Table 1. *Key performance indicators of the deposit market of Ukraine in 2013-2018 years*

Source: built by the authors on the basis of official NBU data <https://bank.gov.ua>

Thus, during the study period, the number of operating banks in Ukraine decreased from 180 in 2013 to 77 in 2018. A significant reduction in the number of banking institutions is observed in 2014 –

2016 years from 163 to 96. This is due to the economic and political crisis of these years as well as the policy of the NBU to withdraw from the market unreliable banks. The number of banks with foreign capital also tends to decrease from 51-49 in the years 2013/2014 to 37 in 2017/2018 – this is due to the withdrawal from the market of banks with foreign capital. Analysis of the deposits' level of penetration (%) in the domestic economy showed that the share of deposits of individuals in GDP decreased from 29% in 2012/2013 to 16% in 2017/2018 which is due to the interest rate policy of the NBU. Thus, the interest on deposits in 2012/2013 (in UAH equivalent for 12 months) was 22-24 %, in 2017/2018 14-16%.

The share of deposits of economic entities in the GDP during the analyzed period accounted for 13.88 % in 2012/2013, 17.55 % in 2015/2016 and 14.31 in 2017/2018. The volume of deposits of individuals and businesses tended to increase, namely from 365.8 billion UAH up to 478.1 billion UAH (30.7 %) – for individuals and from 202.6 billion UAH up to 426.9 billion UAH (110.7 %) – for business entities. However, in the dynamics of the volume of deposits of individuals there is a decrease in 2014-2016 which is caused by the crisis in the economy and the banking system, in particular, it affected the confidence of the population in the banking system. The structure of the deposit portfolio of individuals is shown in Fig. 1.

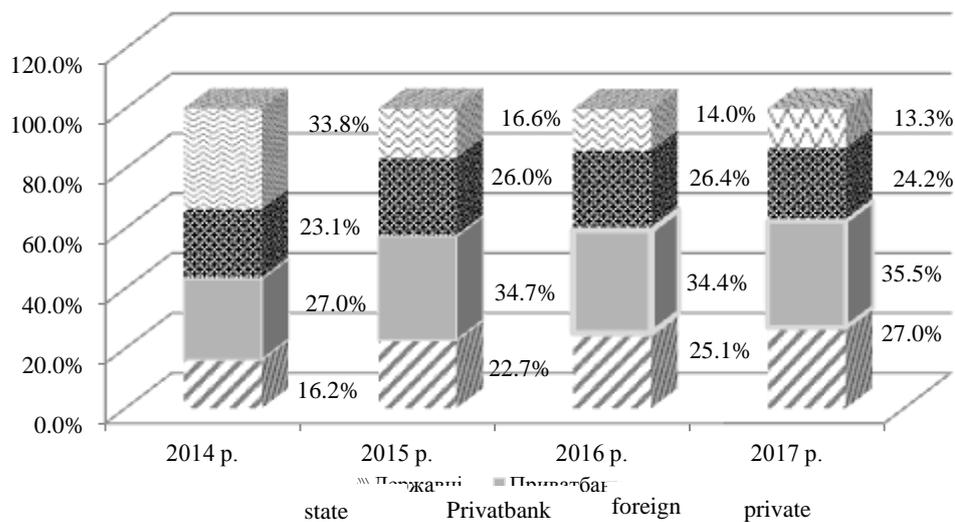


Figure 1. Distribution of deposits of individuals by groups of banks, %

Source: built by the authors on the basis of official NBU data <https://bank.gov.ua>

The analysis of the structure of the deposit portfolio showed that the greatest demands among the population are the deposits for up to 1 year (preferably a period of 3-6 months). Since 2016 the most trusted among the population are state-owned banks because about 60% of deposits are placed in such banks, 25% of depositors trust their savings to banks with foreign capital and 13-15% to private banks. As for the dollarization of deposits, the results are as follows: 50% of deposits of

individuals, as well as 38-40% of deposits of business entities, are placed in dollar equivalent. The number of banks participating in the DGF during 2013 – 2018 decreased from 174 to 78 participants. A serious decrease in the number of banks is due to the liquidation of a significant number of banks. Data on individuals' deposits in the participants for 2013 – 2018 is given in table 2.

Date	The amount of deposits of individuals, billion UAH	Number of depositors, million persons	Average deposit amount, UAH	Percentage of coverage of the number of depositors, %
01.01.2013	338,5	44,4	7619,0	x
01.01.2014	402,6	47,4	8486,0	99,4
01.01.2015	382,1	46,5	8123,0	98,7
01.01.2016	362,3	44,7	8104,0	98,8
01.01.2017	382,1	41,1	9298,0	98,6
01.01.2018	413,8	41,0	10104,0	98,5
01.10.2018	437,0	40,6	10765,0	98,4

Table 2. *Deposits of individuals in the participants of the DGF in 2013-2018*

Source: compiled by the authors according to the official data of the Deposit Guarantee Fund of individuals of Ukraine, <http://www.fg.gov.ua/>

The analysis of the volume of individuals' deposits in the participants of the DGF during 2013-2018 showed that the amount of deposits increased by 98.5 billion UAH or 29.1 %, however, the mass outflow of deposits was observed in 2013-2015 by -40.3 billion UAH or -10 %, then the banking sector of Ukraine faced complex of general economic problems. In total, the increase in the amount of deposits for the study period is associated with an increase in the income of citizens, while the number of depositors decreased by 5-7 million UAH. The average deposit size of individuals in 2013 – 2018 increased from 7.6 to 10.8 thousand UAH. The percentage of coverage of the number of depositors tends to slightly decrease from 99.4 % to 98.4% which is sufficient to cover the risks. Hence, the analysis of the volume of deposits showed that there is a reduction in the number of depositors and a tendency to reduce the percentage of coverage of their number. The dynamics and structure of financial resources of the DGF during 2013 – 2018 were represented in table 3.

Date	Financial resources, million USD	Deviation	
		Abs., million USD.	Relative %
01.01.2013	762.2	150.2	19.7
01.01.2014	912.4		
01.01.2015	1069.9	-483.1	-45,2
01.01.2016	586.8		
01.01.2017	563.3	-51.9	-9.2
01.01.2018	511.4		

Table 3. *Dynamics of financial resources of the DGF in 2013-2018*

Source: calculated by the authors according to the official data of the Deposit Guarantee Fund of Ukraine, <http://www.fg.gov.ua/>

There is a positive dynamics of increasing financial resources of the DGF during 2013-2018 from 6092.1 million UAH up to 14354.4 million UAH – by 8262.3 million UAH or 135.6 %. A significant

increase in the fund's financial resources at the beginning of 2015 is explained by the attraction of external sources of financing in the form of loans from the National Bank of Ukraine and the Cabinet of Ministers of Ukraine in the form of bonds of the internal state loan in the amount of 10.2 billion UAH. However, in 2016/2015 there was a significant reduction in the volume of financial resources of the DGF by -2788.2 million UAH or -16.53 %. At the end of 2016, the total financial resources of the Fund amounted to 15.32 billion UAH. In order to avoid a possible liquidity deficit in 2017 at the end of 2016 the DGF attracted additional sources of financing – a loan from the Cabinet of Ministers of Ukraine at the expense of the state budget of Ukraine in 2016 in the form of bonds of the internal state loan in the amount of 7.94 billion UAH with maturity in 2031. The negative trend in the reduction of financial resources continued in the period 2018/2017, the reduction was -961.5 million UAH or -6.28%.

The analyzing of the sources of formation and structure of the DGF funds for the period 2013-2017 demonstrates, that in 2013 year 78% of the Fund's revenues consisted of a regular collection of about 20% of the net income from investing in government securities. In 2014 the structure of sources of funds changed, in particular 41.6% – loans from the NBU and 41.3% loans from OISL, 13% is a regular collection. During 2016-2017, the structure of sources of funds of the DGF was as follows: about 25-30% of funds were formed through regular collection, 47-57% were fines, penalties from the participants of the DGF, 6-8% is a net income from investing in government securities. That is, the analysis showed that in 2013, the sources of the formation of funds of the DGF consisted in the vast majority of permanent sources, from 2014 to 2017, including variable resources such as credit resources and penalties, fines, etc. DGF resources for the study period were spent in the areas provided for in Article 20 of the Law "On the system of guaranteeing deposits of individuals". Thus, during 2013-2014, 55 % of the Fund's resources were directed to cover the costs associated with the procedure of withdrawal of an insolvent Bank from the market, ensuring the current activities of the DGF; 40% for a target loan to advance payments to the Bank's depositors during the interim administration; 3% for payment of interest on NBU loans; 2% other. In 2015 – 2017, the greater part of funds 65-55 % is directed to payments of the guaranteed amount of compensation to depositors of banks; the share of funds to repay part of the NBU loans increased significantly to 20 %; 7-10% of the funds were spent on payment of interest by the Fund's promissory notes. The assessed financial stability of the DGF shows in Fig. 2.

During 2013-2014 the DGF had sufficient resources to meet its obligations to depositors, at the end of 2014 the financial situation strengthened, as evidenced by the increase in financial stability to 2.54% in December and growth to 3.37% at the end of the year, taking into account borrowed resources, as provided by the Law.

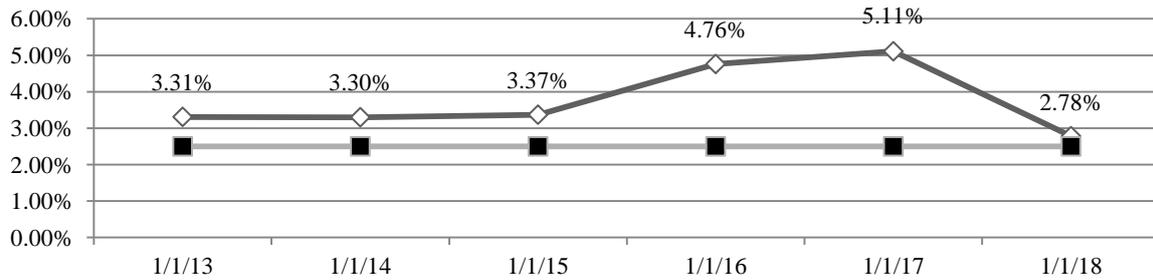


Figure 2. Dynamics of changes in financial stability in relation to the amount of funds of the DGF in 2013-2018, %

Source: built by the authors on the basis of annual reports of the Deposit guarantee Fund for 2013-2017, http://www.fg.gov.ua/images/docs/reports/Annual_report_FGVFO_zvit_2017_ukr.pdf, http://www.fg.gov.ua/images/%D0%97%D0%B2%D1%96%D1%82_2016_.pdf, http://www.fg.gov.ua/images/docs/reports/zvit_2014_ukr.pdf, http://www.fg.gov.ua/files/docs/reports/Zvit_FGVFO_ukr_2013.pdf.

As of 01.01.2017 the financial stability of the Fund amounted to 5.11% which is sufficient according to the requirements of the legislation. The assessment of the Fund's forecast financial stability until the end of 2017 showed a possible significant decrease in the Fund's financial stability to 2.78 % which indicates a potential shortfall.

The forecast of the amount of deposits of individuals is feasible using the exponential smoothing method based on the linear Brown model, described by Berezhnaya & Snytyuk (2016). The function (trend), which approximates the actual data, shown in Fig. 3.

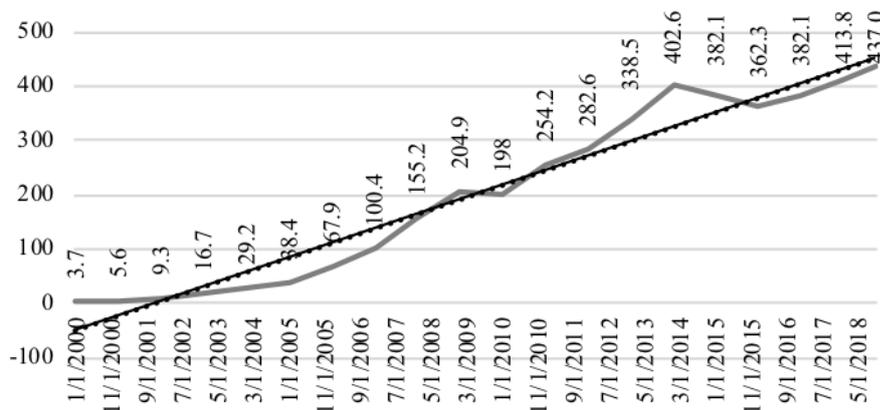


Figure 3. Amount of deposits of individuals, million UAH

Graphical analysis of data, Fig. 3 and the method of least squares determine the analytical function which reflects the trend of change in the studied indicator over time: $y = -76,13 +$

26,70t. The main error is 33.29 billion UAH. The smoothing parameter is $\alpha = 0.4$. The calculated initial conditions (approximation) to define the exponential average: $S_0^{[1]} = -116.18$; $S_0^{[2]} = -156.2$. The predicted values of the amounts of contributions of physical persons bring to table 4.

Year	The amount of deposits of individuals, billion UAH.	The error of the forecast, billion UAH	Deviations (up to 01.01.2018 year.)	
			absol., billion UAH	relative, %
01.01.2018	413,8	-	-	-
01.01.2019	431,23	28,98	17,43	4,21
01.01.2020	449,84	34,44	36,04	8,71
01.01.2021	468,46	40,03	54,66	13,21

Table 4. The dynamics of the expected values of the deposit sum of physical persons in 2019-2021

Source: calculated by the authors

According to the results of the forecast, it is expected a gradual increase in the amount of deposits of individuals by 17.43 billion UAH (4.21 %) on 01.01.2019; by 36.04 billion UAH or 36,04 % on 01.01.2020. As of the beginning of 2021, it is expected that the amount of deposits will increase to the level of 468.46 billion UAH or by 13.21 % compared to the beginning of 2018, which is estimated as a positive dynamics in the functioning of the DGF in the medium term, provided that economic stability is maintained.

The same method of exponential smoothing by the linear Brown models we will forecast the average size of the deposit for 2019-2021 years. The function (trend), which approximates the actual data, set out in Fig. 4.

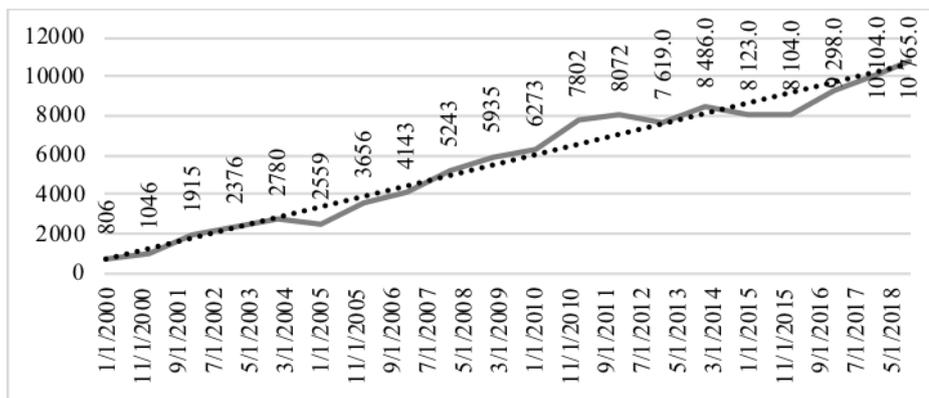


Figure 4. Average deposit amount, UAH

Source: calculated by the authors

Graphical analysis of data, fig. 4 and the method of least squares find the analytical function which reflects the trend of change in the studied indicator over time: $y = 261,04 + 523,26t$. The main error is 541.44 UAH. The smoothing parameter $\alpha = 0.4$. The initial conditions for defining the exponential average are: $S_0^{[1]} = -523,85$; $S_0^{[2]} = -1308,73$. The forecast values of the average size of the

deposit are summarized in table 5. According to obtained prediction results the expected increase in the average amount of the deposit from 8814.44 UAH in 2018 to 10325.23 UAH in 2021 or 1510.79 UAH (17.14 %), which is estimated as a positive trend in the functioning of the DGF and indicates a gradual increase in income of citizens.

Year	Average deposit amount, UAH	Error of forecast, UAH	Deviations (up to 01.01.2018 year.)	
			absolute, UAH	relative, %
01.01.2018	8814,44	-	-	-
01.01.2019	8609,61	471,34	-204,83	-2,32
01.01.2020	9410,17	560,16	595,73	6,76
01.01.2021	10325,23	650,93	1510,79	17,14

Table 5. Dynamics of forecast values of the average deposit amount for 2019-2021 years

Source: calculated by the authors

Next step is the forecast of the depositors' quantity for 2019-2021 according to the linear Brown model. The function (trend), which approximates the actual data, set out in Fig. 5.

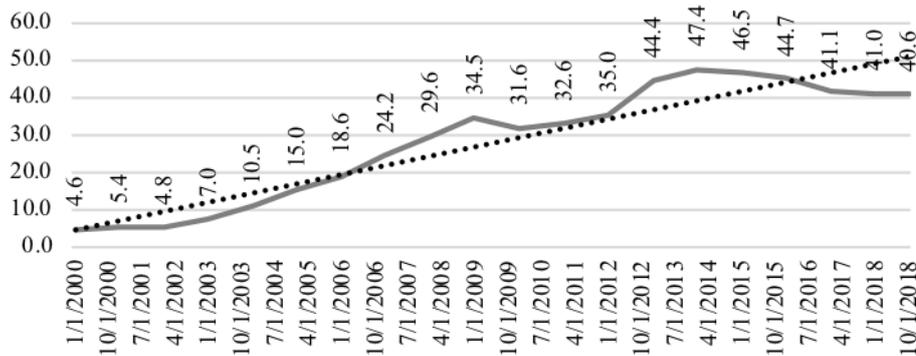


Figure 5. Number of depositors, million persons

Source: calculated by the authors

Graphical analysis of data, Fig. 5 and the method of least squares determine the analytical function showing the trend of change in the studied indicator over time: $y = 2,27 + 2,45t$. The main error is 5.3 billion persons. The smoothing parameter is $\alpha = 0.4$. The initial conditions (approximation) to determine the exponential averages: $S_0^{[1]} = -1.39$; $S_0^{[2]} = -5.06$. Forecast values of the number of depositors are summarized in table 6.

Year	Number of depositors, million persons	The error of the forecast, million persons	Deviations (up to 01.01.2018 year.)	
			absolute, million persons	relative, %
01.01.2018	44.69	-	-	-
01.01.2019	42.51	4.61	-2.18	-4.89
01.01.2020	42.68	5.48	-2.01	-4.49
01.01.2021	42.86	6.37	-1.83	-4.09

Table 6. Dynamics of forecast values of the number of depositors for 2019-2021

Source: calculated by the authors

Forecast of the depositors' number of the DGF for the period of 2019-2021 is a negative trend. Thus, the number of depositors is expected to decrease from 44.69 million to 42.86 million persons. That is, according to the pessimistic scenario annually the number of depositors will systematically decrease by 4.5-5 %. This is a negative trend in the functioning of the Deposit Guarantee Fund. This trend confirms the thesis of the need to apply a number of measures to improve the guarantee of deposits of individuals, improvement of the current deposit insurance system.

Feasible forecast of the volumes of financial resources of the DGF to 2019-2021 were done by the method of exponential smoothing for linear Brown models. The function (trend), which approximates the actual data, set out in Fig. 6.

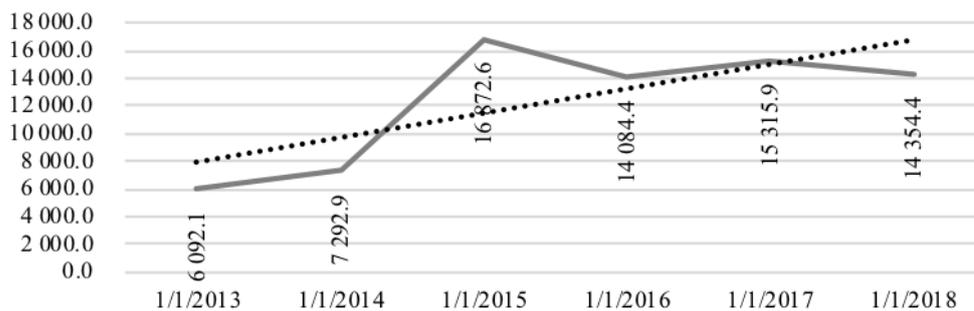


Figure 6. Financial resources of the DGF, billion UAH

Source: calculated by the authors

The feasible forecast of the volumes of financial resources of the DGF to 2019 –2021 by the method of exponential smoothing for linear Brown models helped to determine the function (trend), which approximates the actual data. The graphical analysis of these data and the method of least squares determine the analytical function showing the trend of change in the studied indicator over time: $y = 6076,15 + 1788,35t$. The main error is 33.29 billion UAH. The smoothing parameter $\alpha = 0.4$. The initial conditions (approximation) to determine the exponential averages: $S_0^{[1]} = 3393,63$; $S_0^{[2]} = 711.1$. The forecast amounts of financial resources are summarized in table 7.

Year	The financial resources of the DGF, billion UAH	The error of the forecast, billion UAH	Deviations (up to 01.01.2018)	
			absolute,, billion UAH	relative, %
01.01.2018	14354,40	-	-	-
01.01.2019	16965,61	1340,33	2611,21	18,19
01.01.2020	18300,09	1592,90	3945,69	27,49
01.01.2021	19634,57	1851,03	5280,17	36,78

Table 7. Dynamics of forecast values of the number of depositors for 2019-2021 years

Source: calculated by the authors

Forecasting the volume of financial resources of the DGF has a positive trend, it is expected that the volume of financial resources at the beginning of 2021 will increase by 5280.17 million UAH or

36.78 % compared to the beginning of 2018. In general, the forecast showed that during next 3 years there will be a systematic increase in the volume of financial resources of the Fund. However, given that according to the forecast, the number of depositors for 2019-2021 will be reduced, it can be assumed that the increase in financial resources will be carried out in the vast majority at the expense of the State budget, the NBU, operations with government securities. Such factors will have a negative impact on the financial sustainability of the Deposit Guarantee Fund.

CONCLUSIONS

The study revealed the following: the number of operating banks in Ukraine decreased from 180 in 2013 to 77 in 2018. The significant reduction in the number of banking institutions was observed in 2014–2016 from 163 to 96 due to the economic and political crisis of these years.

Analysis of the deposits' penetration level (%) in the national economy showed that the share of deposits of individuals in GDP decreased from 29% in 2012/2013 to 16% in 2017/2018, this is caused by the NBU's interest rate policy. The analysis of the structure of the deposit portfolio showed that deposits with a term of up to 1 year are in the greatest demand among the population.

The number of banks participating in the Deposit Guarantee Fund during 2013–2018 decreased from 174 to 77 participants. A significant decrease in the number of banks was caused with the liquidation of a significant number of banks. The average size of the contribution of individuals in 2013-2018 increased from 7.6 to 10.8 thousand UAH. The percentage of investors' coverage tends to decrease insignificantly from 99.4% to 98.4%, which is sufficient to cover risks.

The Financial Stability Index of the DGF for 01.01.2017 was 5.11%, which is complying with the requirements of the legislation. The assessment of the financial sustainability of the DGF until the end of 2017 determined the possible significant decline in the financial sustainability of the Fund to the level of 2.78%. It indicates a potential shortage of funds. The forecast of the DFG financial resources has a positive trend. It is expected that the volume of financial resources at the beginning of 2021 will increase by 5280.17 million UAH (or 36.78% compared with the beginning of 2018). The systematic increase in the financial resources of the Deposit Guarantee Fund is estimated for next three years (2019-2021).

The forecast number of DGF's contributors for 2019-2021 has a negative trend. Thus, the decreasing in the number of depositors from 44.69 million to 42.86 million people is expected. That is, while maintaining the pessimistic scenario, the number of depositors will systematically decrease by 4.5-5% each year during 2019-2021. This is the negative trend in the functioning of the Deposit Guarantee Fund. The results of the study indicate the necessity of providing the number of measures

for improving the guarantee for individuals' deposits, as well as for improving the current deposit insurance system.

Taking into account the above, we consider it appropriate to identify proposals to improve the deposit insurance system in Ukraine. First of all, the proposals will relate directly to the activities of the DGF as an insurer in the current deposit insurance system. The plan of gradually increase the guaranteed amount of deposit reimbursement to 500 thousand UAH in the medium term have to be developed. The increase in the guaranteed amount of compensation to depositors of insolvent banks is possible due to the sale of assets of bankrupt banks. The 100 percent guarantee of both national and foreign currency deposits have to be implemented. This will attract more funds from the population and increase the level of trust.

Since the number of banks annually decreases, it is offered to replace the initial fee of the DGF with 1% of the authorized capital of the Bank by an absolute amount of 5 million UAH. The proposed amount will fully comply with the chosen strategy of the National Bank of Ukraine in terms of increasing the authorized capital of banks of Ukraine to the amount of 500 million UAH until 2024. It is necessary to use the possibility of applying a special fee from the banks-participants of the guarantee system, in particular, it is proposed to introduce legal regulation of the procedure for calculating, charging and paying a special fee in case of violation of the financial stability of the Fund.

IMPLICATIONS FOR ORGANIZATIONS

The paper provides evidence for the functioning of deposit market in Ukraine and authors' forecast for its development till 2021, which should lead to increased recognition for government, strategists, banks, insurance companies and other market agents of the challenges for deposit insurance development. A social implication is that individuals' deposits will be more determined and protected.

For insurance companies it is necessary to develop additional Deposit insurance programs in the amount that exceeds the guaranteed DGF 200 thousand UAH, as well as those positions that are not guaranteed by the DGF, in particular, reimbursement of depositors raised in the form of Bank metals. This step will improve the protection of material interests of the population, as well as increase the level of insurance culture, to attract additional financial resources to the insurance market of Ukraine. At the same time banks have to use marketing strategy aimed at increasing the motivation of customers to place their savings on deposit accounts of banks.

REFERENCES

- Akinin, P. A. (2007), "Deposit insurance system in Russia and abroad", *Economic Bulletin of Rostov State University*, Vol. 5, № 1, pp. 10-14.
- Altuntas, M., Rauch, J. (2017), "Concentration and financial stability in the property-liability insurance sector: global evidence", *The Journal of Risk Finance*, Vol. 18 Issue: 3, pp.284-302, available at: <https://doi.org/10.1108/JRF-10-2016-0128> (accessed 2 May 2019).
- Annual Report of the Deposit guarantee Fund for 2013 (2013), available at: http://www.fg.gov.ua/files/docs/reports/Zvit_FGVFO_ukr_2013.pdf (accessed 10 November 2018).
- Annual Report of the Deposit Guarantee Fund for 2014 (2014), available at: http://www.fg.gov.ua/images/docs/reports/zvit_2014_ukr.pdf (accessed 10 November 2018).
- Annual Report of the Deposit Guarantee Fund for 2016 (2016), available at: http://www.fg.gov.ua/images/%D0%97%D0%B2%D1%96%D1%82_2016_.pdf (accessed 5 October 2018).
- Annual Report of the Deposit guarantee Fund for 2017 (2017), available at: http://www.fg.gov.ua/images/docs/reports/Annual_report_FGVFO_zvit_2017_ukr.pdf (accessed 10 November 2018).
- Bazylevych, V. D., Filonyuk O. F., Bazylevich, K. S. (2008), *Insurance, Znannia, Kyiv*, available at: <http://westudents.com.ua/knigi/584-strahuvannya-bazilevich-vd-.html> (accessed 14 November 2018).
- Berezhnaya, L. V., Snytyuk, O. I. (2016), *Economic and mathematical models in foreign economic activity: a textbook for students of economic areas of training*, Condor-Publisher, Kyiv.
- Berezina, O., Goncharenko, I. (2017), "Challenges and strategic priorities for the development of investment insurance in Ukraine economy", *Baltic Journal of Economic Studies*, Vol. 3, no. 5, December, pp. 84-90.
- Bikker, J.A. & Prast, H.M. (2001), "Efficiency and justice of deposit insurance", *Research Paper Supervision No. 40*, De Nederlandsche Bank, December 2001.
- Bland, D. (1999), "Risk management in insurance", *Journal of Financial Regulation and Compliance*, Vol. 7 Issue: 1, pp.13-16, available at: <https://doi.org/10.1108/eb024991> (accessed 2 May 2019).
- Brophy, R. (2013), "Bancassurance: an insurance concept from a Irish perspective", *Journal of Financial Regulation and Compliance*, Vol. 21 Issue: 4, pp.319-333, available at: <https://doi.org/10.1108/JFRC-12-2012-0052> (accessed 2 May 2019).
- Bukhtiarova, A. G. (2008), *Development of the national deposit insurance system: thesis for obtain the degree of candidate in econ. sciences, speciality: 08.00.08 – Money, Finance and Credit*.
- Calomiris, Ch.s W. (1990), "Is Deposit Insurance Necessary? A Historical Perspective" *The Journal of Economic History*. No. 50 (2), pp. 283–295. available at: http://web.mit.edu/14.71/www/Calomiris_deposit_insurance.pdf doi:10.1017/s0022050700036433 (accessed 4 October 2018).
- Cecchetti, S. (2007), *Deposit Insurance*, New Palgrave Encyclopedia of Economics, 2nd edition., 2007.
- Cecchetti, S. (2015), "The Road to Financial Stability: Capital Regulation, Liquidity Regulation, and Resolution", *International Journal of Central Banking*, Vol. 1, 2, pp. 127-139. (accessed 2 October 2018).
- Golembe, C. (1960), "The Deposit Insurance Legislation of 1933: An Examination of Its Antecedents and its Purposes", *Political Science Quarterly*, Vol. 75 (2), pp. 181–200.
- Govorushko, T. A. (2008), *Insurance services: the manual*, 2nd edition, revised, TSUL, Kyiv.
- Gross domestic product. Official website of the State Statistics Service of Ukraine available at: <http://www.ukrstat.gov.ua> (accessed 14 November 2018).
- Hannafin, K., McKillop, D. (2007), "Deposit insurance and credit unions: an international perspective", *Journal of Financial Regulation and Compliance*, Vol. 15 Issue: 1, pp.42-62, available at: <https://doi.org/10.1108/13581980710726787> (accessed 2 May 2019).
- Honcharenko I., Berezina O. (2016), "Cooperation of the bank and insurance business as an effective model: history and present day", in *Bezpartochnyi, M. (Ed.) Organizational and economic mechanisms of development of the financial system*, Landmark SIA, Riga, pp. 83-92.
- Indicators of the banking system of Ukraine, Official website of the National Bank of Ukraine, available at: <https://bank.gov.ua> (accessed 15 November 2018).
- Law of Ukraine "On banks and banking activities", dated 07.12.2000 № 2121-III (2000), available at: <http://zakon.rada.gov.ua/laws/show/2121-14> (accessed 22 October 2018).
- Law of Ukraine "On insurance", dated 07.03.1996 № 85/96-BP (1996), available at: <https://zakon.rada.gov.ua/laws/show/85/96-%D0%B2%D1%80> (accessed 22 October 2018).
- Law of Ukraine "On the Deposit guarantee system of individuals", dated 23.02.2012 № 4452-VI (2012), available at: <https://zakon.rada.gov.ua/laws/show/4452-17> (accessed 23 October 2018).

- Levine, R. (1997), "Financial Development and Economic Growth: Views and Agenda", *Journal of Economic Literature*, June 1997, Vol. 35, no. 2, pp. 688-726.
- Masloboieva, D., Friedman, A. (2008), "Deposit insurance in Ukraine", *Archive of scientific publications*, available at: http://www.rusnauka.com/33_NIEK_2008/Economics/37215.doc. (accessed 7 October 2018).
- Masters, N., Dupont, E. (2002), "Insurance companies: waking up to international standards", *Balance Sheet*, Vol. 10 Issue: 3, pp.35-38, available at: <https://doi.org/10.1108/09657960210440818> (accessed 2 May 2019).
- Mykhailovskaya, I. M., Besvukh, S. V. (2013), *Formation of the system of protection of bank deposits of individuals and business entities in Ukraine*, KhNU, Khmelnytsky.
- Official website of banking statistics of Ukraine, available at: <http://bankografo.com> (accessed 14 November 2018).
- Official website of the Deposit Guarantee Fund, available at: <http://www.fg.gov.ua/> (accessed 12 November 2018).
- Osadets, S. S. (2002), *Insurance*, 2nd edition, revise, KNEU, Kyiv.
- Performance indicators of banks. Information website of Finance Ministry of Ukraine, available at: www.minfin.com.ua (accessed 17 November 2018).
- Plysa, V. I. (2010), *Insurance: textbook*, Karavella, Kyiv.
- Savluk, M. I. (1998), *Introduction to banking*, Libra, Kyiv.
- Schich, S. (2008), "Financial turbulence: some lessons regarding deposit insurance", *Financial Market Trends*, OECD, available at: <http://www.oecd.org/dataoecd/32/54/41420525.pdf> (accessed 23 November 2018).
- Senbet, L., Cull R., Sorge M. (2002), "The Effect of Deposit Insurance on Financial Depth: 'A Cross-Country Analysis'", *Quarterly Review of Economics and Finance*. Special issue, North-Holland; ed., Ed Kane, Vol. 42, pp. 673-694.
- Senbet, L, Cull, R., Sorge, M. (2005), "Deposit Insurance and Financial Development", *Journal of Money, Credit and Banking*, Vol. 37, pp. 43-82.
- Stelmakh, V. S. (2001), *Encyclopedia of banking in Ukraine*, Molod', Kyiv.
- Vasyurenko, O. V. (2000), *Banking operations*, Society "Znannia", Kyiv.
- Vovchak, O. D. (2006), *Insurance: textbook*. 3rd edition, stereotypical, "New World-2000", Lviv.
- Voznosymenko, V. V. (2008), "Deposit insurance system", *Archive of scientific publications*, available at: http://www.rusnauka.com/35_PWMN_2008/Economics/38565.doc.htm. (accessed 7 October 2018).
- Yuri, S. I., Fedosov, V. M. (2006), *Finance: textbook*, available at: <http://westudents.com.ua/knigi/664-fnansi-yury-s-fedosov-vm.html>. (accessed 4 October 2018).

SMART ENERGY COMMUNITY AND COLLECTIVE AWARENESS: A SYSTEMATIC SCIENTIFIC AND NORMATIVE REVIEW

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ABSTRACT

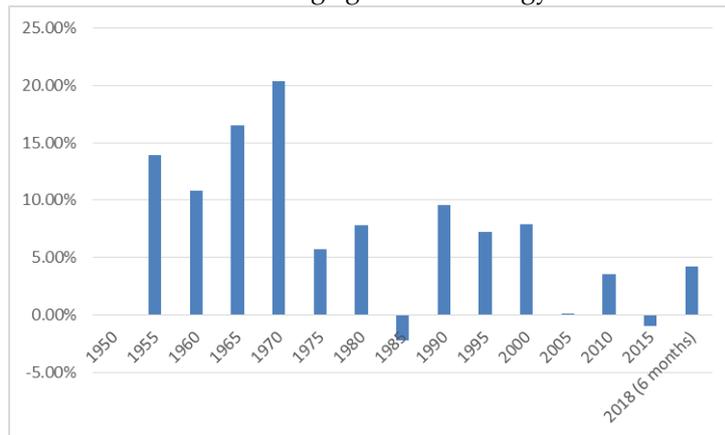
This article analyzes the world energy context and its difficult in the renewable energy management. The scientific obviousness is that a new energy planning is needed. The theme of energy conditioning of local community is taking off and the diffusion of energy sharing represents the path to the management of intelligent energy systems. Following a description of the intelligent community energy systems through the analysis of some examples, the study will focus on the legislative panorama. The context of the regulations regarding the Smart Energy Community will be analyzed at European and then Italian level, underlining the Italian initiatives that approach the birth of the Smart Energy Municipality.

Keywords: Energy Sharing, Collective Awareness, Smart Municipality, Build sharing, Energy law.

1. INTRODUCTION

Energy is the subject of particular attention in the last years and its planning needed precise redefinition in order to solve the problems linked to multidisciplinary conditions about the environmental aspect as their common element from different points of view, such as excessive energy consumption, health of the population, flora and fauna protection, climate alteration (Dincer and Acar, 2017). Through numerous activities, the strong interest in the issue of sustainability it was evident in the past few years (UNEP, 2014) and the need for collective actions to improve environmental conditions (European Energy Union, 2018), developing low-carbon models (European Commission, 2011). If it is considered the value of energy consumption in the world panorama an analysis from IEA, International Energy Agency (Annual Energy Review, 2018), it is possible

observe that the annual average growth of energy world consumption is 3.6% from 1955 to 2018. In



the

Figure it is showed the perceptual variation of energy world consumptions in a step of five years. This condition is different during 2008-2009 when there was a negative variation caused by serious economic crisis. The analysis shows that from 1950 to 2017 the energy world total consumption increases of 180% moreover because the renewable is more of 11% of total the smart system take hold in every country.

Always from the analysis in the figure it is possible to note that the average increase is reduced in recent decades, this in reality does not depend simply on the reduction of industrial consumption but above all on the improvement of the available energetic technologies. In fact, the higher yields of conversion devices and the introduction of renewables have reduced primary energy demands. In this panorama, the development of technology has enabled us to obtain analytical data on energy, in terms of production and consumption, often provided by the user. This would significantly improve efficiency and reduce congestion in smart grids, thus contributing to the reliability of the power supply system of the future scenario of 100% renewable energy production in all sectors (Reka and Dragicevic, 2018). In detail since 1990, the total renewable energy sources in the world have grown at an average annual rate of 2%, which is slightly higher than the world primary energy growth rate (TPES), 1.7% (IEA, RI 2018). The growth is particularly high for solar photovoltaic and wind energy, which has grown on annual average percentages of 37.3% and 23.6%, respectively, for a long time low bases in 1990. Biogas are in third place for the growth rate at 12.3%, followed by solar thermal (11.5%) and liquid biofuels (10%), like showed in Figure 2.

The pervasion in the energy networks of renewable sources make the system becomes smart and it passed through from passive to active conduct, this in accorded with consumption growth introduces a necessary innovative system to manage energy to go beyond the technologies and the intelligent network but organize and optimize the energy resource. In this article, following a brief introduction on energy consumption and the need to reorganize the energy landscape, an innovative method of

managing the energy will be analyzed based on sharing and the emergence of energy communities. Finally, it will evaluate the existing ones and the possibilities for future development.

2. SMART ENERGY COMMUNITY

The development of renewable energy causes the born of a new figure of consumer the *prosumers*. The prosumer represents a typology of user that can produce energy and also change some part of this with energy common network or stoke this. This new management of energy sector determines the risks that need to be identified and organized (Parag and Sovacool, 2016) with integration of all sectors and infrastructures (Lund et al., 2017). The use of smart grids cannot be looked upon as an isolated dilemma, but should be seen as one out of various means and challenges of approaching sustainable energy systems in general (Lund et al., 2012). The optimum and cheap results are to be devise when the electricity sector is combined with the heating and cooling sectors and/or the transportation sector (Lund et al., 2014). The definition of an energy territorial planning strategy with the aim of optimise the local resources and to satisfy the energy load of particular territory determine the born of a new kind of energy organization, Smart Energy Community (SEC). The SEC means a fusion of energy services (private, public or mixed), based in a particular geographic zone of reference, in which end users (residential, commercial, tertiary and industrial users) decide to share energy loads by preferring high-performance technologies and energy production plants from renewable sources. All this can occur through the exploitation of intelligent technologies and the latest generation computerization systems that allow energy networks to communicate. The consequence of this initially technological approach is the possibility of being able to extend the sharing outside the energy landscape, referring to spaces, mobility, food and more in services. The value of sharing includes all services (energy, scholarship, vehicle, market, cooking, common space), showed in **Σφάλμα! Το αρχείο προέλευσης της αναφοράς δεν βρέθηκε..**

A key point for the birth of the SEC is to understand how energy is perceived by consumers and how to involve them in actively participating in the functioning of the network. This fear has been tackled through the now common aid of the "Internet of Things" and data analysis in the cloud (Mital et al., 2015), by finding information on energy consumers we come to the elaboration of the strategy to determine such communities (Akshay Uttam Nambi and Venkatesha, 2016). This analytical approach is comparable to the concepts of systems theory, in fact it is expected to act on a local system and then contribute to the improvement of the global environment (Mendes et al., 2011).

2.1. *Smart Energy Community themes*

SECs are easily free-standing local systems or communities with aim of optimization of energy consumption. The relevant items in energy context that the SECs take on can be summarized as follows:

- balancing of energy flows;
- reduced peak load during peak hours;
- territorial energy planning;
- limits of the proper functioning of the electricity network;
- interconnection of different energy carriers;
- mitigation of environmental impacts.

The energy independence is interesting for an island or an island or for a system without an external cable connection. In this way, however, a usual dilemma occurs when the self-production of energy is less than its request, which puts in crisis the planners on the best management of the isolated area to be managed with disconnected systems or through traditional network connections, (Osti, 2018). The positive introduction of the SECs concerns the priority of the exploitation of available local resources. Moreover, for about a billion people without access to electricity, it is interesting to analyse the possibility of using decentralized energy conversion systems (REN21, 2017). Since the urban energy planning is a key theme for defining SECs and cities are considered responsible for around 69% of all greenhouse gas emissions can be useful consider the convenience of creating energy community using the local energy resource of a district. Many study in Italy are concentrated on resource of geothermal and solar poly-generative plants to serve energy districts (Calise et al., 2017) (Calise et al., 2015). These objectives have been really implemented in the Danish island of Samsø promises to rid the island of fossil fuels by the year 2030, twenty years ahead of Denmark as a pilot case for the rest of the country. The island started to produce electricity from biomass in the year 2001, and a few years later the electricity production was up to three times greater than the electricity consumption (Jantzen et al., 2018).

2.2. Smart Energy Community targets

Energy Community is defined to include energy conversion, transmission, and consumption on a community scale and all energy systems, such as decentralised, centralised, and islanding unattached energy utilisation systems in a community (Huang et al., 2017).

SEC is a developing topic, but could be important focus some targets:

- massive use of renewable energy technologies (RET): SEC uses the renewable sources of his territory to satisfy the loads of community reducing energy dependence from external sources. In many cases the availability of local renewable energy sources is the most important factor to found the community, like the case of Waita in Japan a Geothermal energy community (Suwa and Sando, 2018) or in electrical energy community (Shinkawa, 2018).
- massive use of ICT: becoming an intelligent community implies that the individual devices of the user are resources that can be dispatched and integrated into the energy networks, so the SEC is a typical energy executive guidance system (Tian et al., 2018). The smart grid Internet of Things (IoT) allow the reaching of smart cities mission worldwide like parking and traffic monitoring by wireless connections are made possible (Morton, 2015);
- energy vector connection and storage: creation of univocal energy system that can include electricity, heating and cooling carriers with aim of reduction of purchase costs from external grid (Xing et al., 2019) and incentive of energy accumulator (Cao et al., 2018);
- sharing: plants that can use energy resources from renewable sources with rewarding management techniques for the community (Cooperatives, Municipal Bonds) also to limit the criticality of social acceptability. The start way can be the cooperative energy (Gao et al., 2016).
- Diffusion of nearly Zero Energy Building (nZEB): energy saving techniques for both the casing and the plant would limit the impact of residential and commercial buildings consumption that cost in the 60% of electricity consumption and 29% of total primary energy (Report BP, 2018).

3. REGULATION PANORAMA

The 2015 was a key year for all the countries of the United Nations General Assembly where the development plans for sustainability were defined with objectives to 2030, in this case also the national research bodies are moving to achieve goals by defining good practices for sustainable cities or even through standards. The decree and the European directive (Directive (EU) 2018/2001) define for the first time the legislation of the energy communities. In particular the Article 22 of this norm raises the pivotal point of the legislation on the energy community plan. In fact, it is clear that the end customers have (even domestic customers) to participate in renewable energy communities by maintaining their rights or duties as end customers. the energy communities will therefore have the possibility to produce, consume, store and sell exchange energy within the same community and access all the appropriate electricity markets, directly or by aggregation, in a non-discriminatory way. It also clarifies the essence of economic support tools for the birth of these same. The renewable energy communities are subject to fair, proportionate and transparent procedures, in particular

registration and authorization procedures and network charges that take into account costs, charges, levies and relevant taxes, ensuring that they contribute appropriately, fair and balanced the general breakdown system costs system in line with a transparent cost-benefit analysis of the distributed energy resources carried out by the competent national authorities.

4. ITALIAN SEC NORM

In Italy, up until a few months ago, there was no type of regulation of the energy communities, in particular the management of the independent prosumers' systems is regulated by the market for on-site exchange. Precisely this determines criticalities in the networks (in particular in the electricity sector), therefore the birth of energy communities able to exchange energy produced from renewable sources is an excellent model for resolving critical issues. However, with data updated to 2017, Italy has exceeded the share of total energy actually produced from renewable sources with respect to that expected there is only one region to date that has moved in the definition of a law dedicated to the SEC (GSE, 2019).

4.1. Regional SEC law Piemonte

The regional decree number 12 of 2018 has defined only for the Piemonte Regione the possibility of creating territorial energy communities with limits on the minimum share of electricity to be consumed equal to 0.5 GWh and the minimum of energy produced from renewable sources to be self-consumed equal to 70% (Regione Piemonte BU11S1 14/03/2019). The main objectives are to increase the self-consumption of energy in order to limit the criticalities of the network caused for example by the Italian mechanism of on-site exchange and also the increase in production from renewable energy sources. The legislation is consistent with European and national standards of environmental sustainability, the Region has approved a fitting provision that provides for the establishment of "energy communities". It is defined as a non-profit bodies established to overcome the use of oil and of its derivatives and to facilitate the production and exchange of energy generated mainly from renewable sources, as well as forms of streamlining and reducing energy consumption. The fundamental points of the regional reference legislation are the definition of the criteria for the adoption of a memorandum of understanding by the municipalities that intend to propose the establishment of an energy community, or to join an existing energy community. The case management requires same actions to fulfil the procedures for the energy balance of the energy communities, which the communities are required to draw up within six months from their establishment. The criteria and characteristics of the strategic document of the energy communities, which the energy communities must draw up within twelve months of their establishment, must

contain the identification of the actions they intend to take to reduce energy consumption or through non-renewable sources and or through efficiency of energy conversion devices. It will also be necessary to draw up a precise classification of the parameters for the regional evaluation of the results deriving from the implementation of the strategic document. Instead, the criteria and methods for regional financial support, first implemented for the year 2019, at the stage of establishment of the energy communities, indulge particular regard to the preparation of projects and documentation related to the constitution of the communities.

5. AN ITALIAN INITIATIVE

The climatic emergency imposes, in all the sectors of development, serious and important reflections of change and push towards the adoption of more sustainable systems capable of profoundly modifying the way of producing and consuming resources. In this scenario, the construction sector can play a central role both from the environmental point of view and from economic development, a key point of the economic revolution and in the fight against climate change. But it also plays a key role in terms of inequalities and quality of life. This sector, in fact, is strongly implicated in the crisis environmental due to its production and disposal processes (energy consumption, polluting factors, waste production) and land use, but also in terms of quality of housing. Not surprisingly, most of the buildings we live and work are been implemented before any legislation on energy efficiency. And the absence of controls, compared to the regulatory obligations on the new building, it has certainly not contributed to improving the real estate assets. For all these reasons the initiative of Lega Ambiente CIVICO 5.0 (Open Condominius Lega Ambiente, 2019), seems to be a new way of living in a condominium where the theme of sharing is put into practice. A new opportunity not only to revive the themes of efficiency, climate and air pollution, and to emphasize the role that administrations, builders, designers and citizens in rethinking ever more sustainable solutions both for new buildings and existing, but also to make families protagonists of change. The project includes around 22 bottom-up good practices ranging from energy efficiency measures, using state incentives such as Eco-bonus and Credit Transfer, to putting the sharing economy into practice: sharing ideas, spaces, services, objects and wishes to increase widespread well-being. Without having a dedicated regulation available, the 22 condominium projects are for the rebuilding of the plants in some cases (preferring the shared conversion devices and plants powered by renewable sources) or rebuilding of the building shells for the building envelope of the condominium. In some cases, such as the case of Padua (Buzz in the Attic), no intervention is foreseen from the point of view of the energetic background plant but only other sharing initiatives are envisaged such as: collaboration for journeys in the city, water dispenser, group of purchase fruit and vegetables from local distributors and

monthly cultural meetings open to the city, shared Wi-Fi. The concept of community is thus fully expressed, moving from a smart energy community to a smart energy municipality or a multidisciplinary organization that collects the life needs of the citizen such as mobility, health, food, energy, the work.

6. CONCLUSION

The panorama, and internationally, includes numerous regulated initiatives that have given rise to the birth of multiple communities as Japan (Kim et al., 2018) or North of Europe (Jantzen et al., 2018). While the Italian contribution makes it possible to identify a multidisciplinary reality that has not been analyzed, which would allow local communities to be obtained that are able to exploit local resources not only from energy or technological point of view but also identifying initiatives that improve the quality of the citizen's life. The analysis of the regulatory context is essential to encourage and regulate this type of reality and will allow in the future the possibility of studies and applications in specific areas that characterize its resources and needs. Subsequent studies will focus on the possibility of simulating with an implementation approach the presence of some energy communities in order to identify the advantages or problems when compared with a traditional management of the energy system.

TABLES AND FIGURES

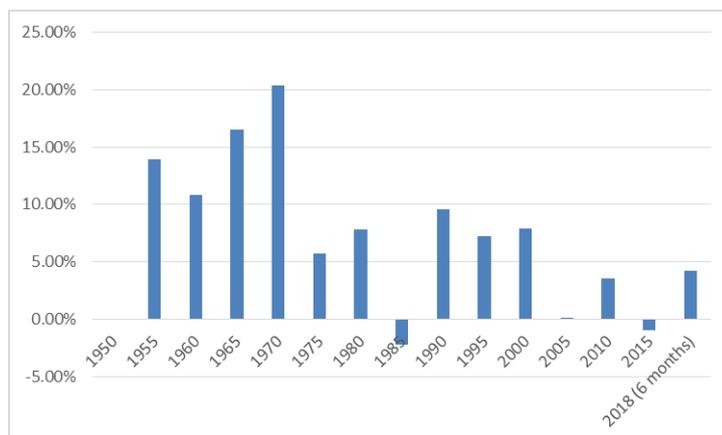


Figure 1 Energy World consumption average (source: Authors elaboration).

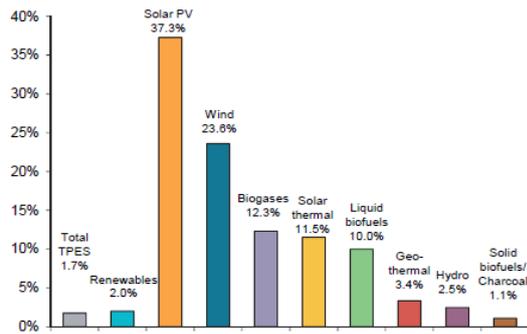


Figure 2 Average annual growth rates of world (IEA, Renewables Information 2018).



Figure 3 SEC representation (source: Authors elaboration).

NOMENCLATURE

ICT	Information and Communication Technology
IEA	International Energy Agency
IoT	Internet of Things
nZEB	nearly Zero Energy Building
RET	Renewable Energy Technologies
SEC	Smart Energy Community
SEM	Smart Energy Municipality

TPES Total Primary Energy Supply

REFERENCES

- Akshay Uttama Nambi, S. N., Venkatesha, R., 2016. Prasad Toward the Development of a Techno-Social Smart Grid. *IEEE* 54, 202-209.
- Annual Energy Review, www.iea.org (accessed 28 November 2018).
- Calise, F., Dentice d'Accadia, M., Macaluso, A., Piacentino, A., Vanoli L., 2016. A novel solar-geothermal trigeneration system integrating water desalination: Design, dynamic simulation and economic assessment. *Energy*. 115,1533-1547.
- Calise, F., Macaluso, A., Piacentino, A., Vanoli L., 2017. A novel hybrid polygeneration system supplying energy and desalinated water by renewable sources in Pantelleria Island. *Energy*.137,1086-1106.
- Cao, Y., Zhang, G., Li, D., Wang, L., Li, Z., 2018. Online Energy Management and Heterogeneous Task Scheduling for Smart Communities with Residential Cogeneration and Renewable Energy. *Energies* 11, 2104.
- Dincer, I., Acar, C., 2017. Smart energy systems for a sustainable future *Appl. Eng.* 194, 225–235.
- Gao, W., Fan, L., Ushifusa, Y., Gu, Q., Ren, J.,2016. Urban Planning and Architecture Design for Sustainable Development, UPADSD Possibility and Challenge of Smart Community in Japan *Procedia – Soc. Behav. Sci.* 216, 109 – 118.
- European Energy Union, 2018. Energy Union and Climate. https://ec.europa.eu/commission/priorities/energy-union-and-climate_en, (accessed 1 May 2019).
- European Commission, 2011. Roadmap for Moving to a Competitive Low Carbon Economy in 2050. https://ec.europa.eu/clima/sites/clima/files/strategies/2050/docs/roadmap_2050_ppt_en.pdf, (accessed 1 May 2019).
- Huang, Z., Yu, H., Penga, Z., Feng, Y., 2017. Planning community energy system in the industry 4.0 era: Achievements, challenges and a potential solution. *Renew. Sustain. Energy Rev.*78, 710–721
- IEA, Renewables Information 2018. www.iea.org (accessed July 2019)
- Jantzen, J., Kristensen, M., Haunstrup Christensen, T., 2018. Sociotechnical transition to smart energy: The case of Samsø 1997-2030. *Energy* 162, 20-34.
- Kim, J., Brouwer, R., Kearney, J., NEXT 21: A Prototype Multi-Family Housing Complex College of Architecture and Urban Planning. University of Michigan Ann Arbor, Michigan 48109 U.S.A, <http://www.umich.edu/~nppcpub/resources/compendia/ARCHpdfs/NEXT21> (accessed 12 December 2018).
- Uosawa, T., Ikegami, T., Kurita, K., Akisawa, A., 2018. Evaluation of residential community energy system installing PV and EV, Grand Renewable Energy, Pacific Yokohama.
- Lund, H., Anders N. Andersen, Østergaard, P.A., Vad Mathiesen, B., Connolly, D., 2012. From electricity smart grids to smart energy systems - A market operation based approach and understanding. *Rev. Energy*. 42, 96-102.
- Lund, H., Duic, N., Østergaard, P.A., Vad Mathiesen, B., 2018. Future district heating systems and technologies: On the role of smart energy systems and 4th generation district heating. *Energy*. 165, 614-619.
- Lund, H., Østergaard, P.A., Connolly, D., Vad Mathiesen, B., 2017. Smart energy and smart energy. *Energy*. 1-10 (in press).
- Lund, H., Vad Mathiesen, B., Connolly, D., Østergaard, P.A., 2014. Renewable Energy Systems - A Smart Energy Systems Approach to the Choice and Modelling of 100 % Renewable Solutions. *Chem. Eng. Trans.* 39, 1-6.
- Mendes, G., Ioakimidis, C., Ferrao, P., 2011. On the planning and analysis of Integrated Community Energy Systems: A review and survey of available tools. *Renew. Sustain. Energy Rev.* 15, 4836– 4854.
- Mital, M., Pani, A.K., Damodaran, S., Ramesh, R., 2015. Cloud based management and control system for smart communities: A practical case study. *Comput. Ind.* 74, 162–172.
- Morton, A., 2015. AT&T Developer Program, Internet of Things Drives Growth for Smart Grid Innovation, <https://developer.att.com/blog/internet-of-things-drives-growth-for-smart-gridinnovation> (accessed 11 December 2018).
- Open Condominiums Projects, Experiences and Ideas of energy redevelopment and condominium sharing, Lega Ambiente www.civicocinquepuntozero.it (accessed July 2019).
- Osti G., 2018. The uncertain games of energy transition in the island of Sardinia (Italy). *J. Clean. Prod.* 205, 681-689.
- Parag, Y., Sovacool, B.K., 2016. Electricity market design for the prosumer era. *Nat. Energy*. 32, 1–6.

- Regione Piemonte BU11S1 14/03/2019, Deliberation of the Regional Council 8 March 2019, n. 18-8520. Regional law 3 August 2018, n. 12 "Promotion of the institution of energy communities". Implementation provisions and approval, for 2019, of the criteria for financial support.
- Reka, S., Dragicevic T., 2018. Future effectual role of energy delivery: A comprehensive review of Internet of Things and smart grid. *Renew. Sustain. Energy Rev.* 91, 90–108.
- REN21, Renewables, Global status report, Renewables 2017 Global Status Report ISBN 978-3-9818107-6-9.
- Report: BP Energy Outlook, 2018. BP energy economics <<https://www.bp.com/en/global/corporate/energy-economics/energy-outlook.html>>, (accessed 24 January 2019).
- Shinkawa, T., Smart Grid and beyond, Chief Representative, Representative Office in Washington, DC. New Energy and Industrial Technology Development Organization (NEDO), <http://www.nedo.go.jp> (accessed 11 December 2018).
- Singh, A., Strating, A.T, Herrera, N.A.R., Mahato, D., Keyson, D.V., van Dijk, H.W., 2018. Exploring peer-to-peer returns in off-grid renewable energy systems in rural India: An anthropological perspective on local energy sharing and trading. *Energy Res. Soc. Sci.* 46, 194-213.
- Suwa, A., Sando, A., 2018. Geothermal energy and community sustainability. Grand Renewable Energy, Pacific Yokohama.
- Tian, N., Ding, T., Yang, Y., Guo, Q., Sun, H., Blaabjerg, F., 2018. Confidentiality preservation in user-side integrated energy system management for cloud computing. *Appl. Energy.* 231, 1230–1245.
- UNEP, 2014. Sustainable Innovation Forum 2015. <http://www.cop21paris.org/>, (accessed 1 May 2019).
- Xing, X., Xie, L., Meng, H., 2019. Cooperative energy management optimization based on distributed MPC in grid-connected microgrids community. *Electr. Power and Energy Syst.* 107, 186–199.
- Directive (EU) 2018/2001 of The European Parliament and of The Council of 11 December 2018 on the promotion of the use of energy from renewable sources. L 328/82 Official Journal of the European Union 21.12.2018.

CROSS CULTURAL INFLUENCES UPON PURCHASE INTENTIONS: THE INFLUENCE OF THE COUNTRY OF ORIGIN (COO)

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ABSTRACT

The paper investigates one aspect of the cross-cultural influence upon consumer purchase intentions, namely the relevance and importance of the perceived country of origin (COO). It examines COO effects to explore whether a product or brand's origin country has an influence on consumers' purchase intention, taking the case of Chinese consumers' purchasing preferences for mobile telephones. It uses the Keller brand equity (CBBE) model to examine the relationship between its different components. The study uses a quantitative online survey of 826 effective respondents as well as 25 qualitative in-depth interviews. The results of the study show that: (1) Chinese consumers attached more importance to the 'functional' dimensions of the CBBE model rather than the more 'emotional' aspects. (2) The COO effect does appear to have an influence on purchasing preference, however this effect appears to be declining. Finally, the paper delivers managerial implications for global and domestic brands dealing with cross-cultural decisions, using the international mobile phone market as an example.

Keywords: Cross-cultural management; Country of Origin (COO) effects; international purchasing preference; China

INTRODUCTION

This study aims to investigate cross-cultural purchasing decisions, specifically the role of the perceived country of origin (COO), using Keller's CBBE brand equity model, (Keller, 2001). It examines COO effects for global versus local brands, using the Chinese mobile telephone market as the example.

China represents a tremendous opportunity for both global and domestic brands. Traditionally, Chinese consumers preferred imported goods from developed countries, such as the USA and Europe, and were willing to pay higher prices for them. In contrast, domestic brands were regarded as cheap and low quality. However now many local brands are catching up in quality

with global brands and who also enjoy some special advantages, such as extensive distribution networks and more accurate marketing insights. For example, in China, P&G accounts for 19% of the personal hygiene industry while its global rival Unilever has only 9% with over 70% of the market dominated by Shanghai Jiahua United Company, Nice Group and other domestic companies. Similarly, in the mobile phone industry Oppo has overtaken the iPhone as the most popular mobile phone in China. Hence this paper aims to investigate whether the country of origin still has influence on consumers' purchasing preference.

LITERATURE REVIEW

COO effects and consumer ethnocentrism

Consumer ethnocentrism is defined as a "trait-like property of an individual's personality" and encompasses "the beliefs held by the consumers about appropriateness, indeed morality, of purchasing foreign-made products" (Shimp and Sharma, 1987)

There are many factors which could affect the degree of consumer ethnocentrism, one of them is product category. Sharma et al. (1995, in Piron, 2000), indicated that the less important a product category, the greater the ethnocentric tendencies and behaviour exhibited by consumers. Additionally, the impact of consumer ethnocentrism is also influenced by the development level of consumers' home country. Wang and Chen (2004) pointed out that consumers from a developed country tend to appreciate more favorably domestic products over imported ones. The reverse has been observed in developing countries, where consumers spontaneously perceive products from developed countries as superior. However, the development gap between these countries is decreasing. China could serve as an example with the increasing emergence of Chinese entrepreneurial brands and more and more Chinese manufacturers positioning themselves as high-end providers with upgraded production systems and stricter quality control. Chinese product quality is improving and customer are seeing this change. Although there is still a gap between the new reality of Chinese product and consumer perception, the gap is narrowing, given that the changing perception of China itself. According to Millward Brown's 2018 BrandZ report, the perception is changing fastest for internet-driven brands, but also for traditional categories, such as fashion or food.

Lastly, to some extent, patriotism fosters consumer ethnocentrism, in recent years, the political conflicts between China and neighboring countries, such as Japan and South Korea, may have had an influence on purchasing behaviour of Chinese consumers. On the one hand, radical consumers spontaneously called for boycott of foreign good and disseminate inflammatory comments

through social media platforms, including Sina Weibo, WeChat, and QQ etc. The worst conflict happened in 2012 when China had large anti-Japanese demonstrations across the whole country, the demonstrations turned into violence, and certain protestors smashed Japanese cars and vandalised shops selling Japanese goods. On the other hand, more moderate Chinese customers, especially consumers from the older generation, regard “purchasing domestic goods” as patriotic behaviour and would take “supporting domestic industry” into their purchasing consideration.

The definition of Country of Origin (COO) effect is that consumers’ perceptions about imported products and their attributes are affected by the country of origin, (Andéhn & L'espoir Decosta, 2018; Semaan et.al., 2019; Zeugner-Roth et.al, 2015).

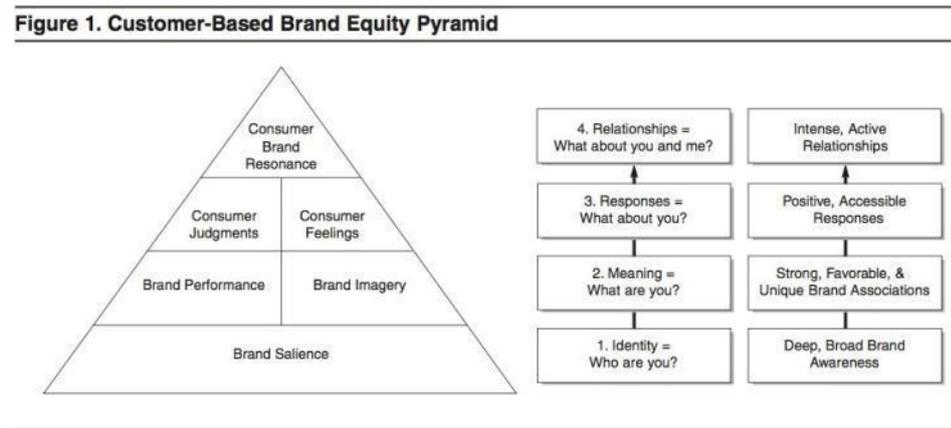
According to the research of Roth and Romeo (1992), the COO effect is attribute-specific. In evaluating the product, people will relate the product attributes to characteristics of the country. For example, France is well-known for its wine and luxury fashion goods whereas French cars could be compared less favourably to German or Japanese cars. Similarly, when brands of clothes, art and jewelry are endorsed by the word “Italian”, they are more likely to be perceived as premium, high quality and stylish, (Aiello, Halliburton et.al. 2015). Additionally, the similarities between two countries, in terms of economic development level, culture and politics can influence the magnitude of COO effect (Watson and Wright 2000). Consumers prefer the product from similar countries or economic superior countries, given that they assume the product quality would be better from those countries.

Brand equity (CBBE model)

The paper uses the CBBE model proposed by Keller, (see Figure 1, Keller, 2001). According to Keller, the basic premise of the model is that the power of a brand lies in what customers have learned, felt, seen and heard about the brand over time. The different elements of CBBE model could help to explore what factors could affect consumers’ behaviour in emerging markets.

The fundamental ‘building block’ is brand salience, which refers to the top of mind awareness when the product category is recalled. Brand performance concerns functional issues such as product attributes or quality. Various studies have shown that consumers from emerging markets are more concerned about fulfilling basic needs, which are more closely related to functional attributes. Brand imagery deals with the intangible and psychological properties of the product. Thirdly, brand equity is also defined by how customers respond to the brand in terms of how they think and feel about the brand, (rational “judgment” versus emotional “feeling”). Finally, brand resonance represents the outcome in terms of behavioural loyalty, attachment, affiliation and engagement.

Fig 1. CBBE model



Global brands

In his seminal 1983 article Levitt argued that companies should exploit the “economies of simplicity” and grow by selling standardised products all over the world. (Levitt, T. 1983). Holt et.al found that consumers associate global brands with three characteristics: as a quality signal, “global myth” and social responsibility. These three dimensions together explained 64% of the reason why consumers choose global brands, (Holt, D. B., Quelch, J. A., & Taylor, E. L. 2004). China has a relatively high number of “global citizens” as well as “Global Agnostics”.

The mobile phone industry in China

China has long been viewed as critical to global mobile phone manufacturers such as Apple and Samsung. China is now the world’s largest mobile phone market, with over 1.4 Bn. Mobile phone subscriptions (Statista, 2018). The iPhone enjoyed great success in China since the launch of iPhone 4, the numbers of iPhones currently in-use in China exceeded even those in the US but in recent years, due to fierce competition from domestic brands and more discerning consumers, iPhone was threatened to some degree in the Chinese market with five consecutive quarters of decline. (Dou, E, the Wall Street Journal, 2018) At present, its iOS operating system accounts for 23% market share versus Android at 73% 86.4% (Statista, 2018), indicating that Chinese market is still dominated by local brands. Samsung’s mobile phone sales also declined in the last two years, mainly due to the deteriorating brand reputation and fierce competition from Chinese manufacturers. As the third largest smartphone manufacturer in the world, Huawei undoubtedly ranks No.1 among domestic brands, holding a 17.8% volume share (Statista, 2018). The brand is perceived as high quality and innovative upgrading its product line mainly focusing on mid-range smartphone segment. Vivo and Oppo are wholly owned by Guangdong BBE Electronics Corporation. In recent years, despite

the overall slowdown, they are the rising stars in the Chinese mobile phone market and continue to see significant growth. Just five years ago, Oppo and Vivo together held a mere 3% of the Chinese smartphone market now accounting for more than 20%. Vivo and Oppo enjoy competitive advantages in terms of distribution network, especially in China's low-tier cities and rural areas. The smartphone market in China's first tier cities is already quite mature, but in smaller markets, there are still many first-time buyers – and thus, more growth opportunities. Additionally, their relatively low prices are favored by the mass of price-sensitive consumers.

HYPOTHESIS STATEMENT

H1: Chinese consumers attach more importance to the functional side of the CBBE model.

As described earlier, from the literature the study assumes that in the purchasing decision-making process, Chinese consumers pay more attention to the functional elements, which refer to Brand Performance and Brand Judgment in the CBBE model.

H2: COO effects do have an influence on Chinese customers' purchasing behaviour, with a preference for global brands over domestic brands.

This hypothesis is derived from the previous review of the COO literature.

RESEARCH METHOD

The study uses the CBBE framework in the Chinese market using an online survey and in-depth interviews. Five mobile phone brands were selected: two global brands, Apple (USA) and Samsung (Korea), and the three main domestic brands: Huawei, Vivo and Oppo.

The research included a quantitative online survey and a qualitative component of in-depth interviews. The target respondents were individual customers who have used at least one of the chosen smartphone brands. A total of 826 effective questionnaires were returned. In addition, 25 respondents spread across the 5 selected brands received a 20-30 minute in-depth interview.

Survey Data collection

The questionnaire was divided into three parts: firstly, demographic information of age and gender, a filter question was included to ensure that respondents are using the smartphone of the chosen brands; secondly, questions regarding COO effects and thirdly, questions to test the influence of different components of the CBBE model. The survey was distributed through the researchers' social networks in China, such as WeChat and Sina Weibo. The survey population is not entirely representative therefore of all Chinese mobile phone users.

Demographic data

Out of a total of 862 effective respondents, 38% are male and 62% are female. In terms of age distribution, 21% of respondents are aged under 22 years, 40% between 22-35, 35% of them between 35-55 and 4% over 55 years.

In the survey, 57% of respondents are using iPhone. Compared to Vivo (5.5%) and Oppo (5.5%), Huawei, used by 17% of respondents, is the most popular domestic mobile phone brand (Fig 2).

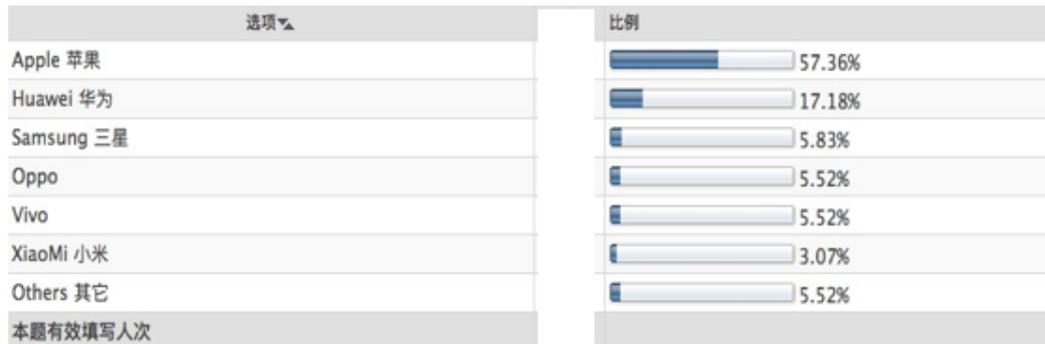


Fig 2: respondents current brand users

SURVEY FINDINGS

The first layer of the CBBE model is brand salience, which refers to top-of-mind awareness. 63% of respondents answered iPhone as their most familiar brand, a slightly higher percentage than iPhone users in the survey (57%), indicating that iPhone enjoy the highest brand salience in our sample (Fig3). This was an interesting finding, since traditionally, global brands had weaker brand salience, largely due to their limited access to distribution systems. The product launch of Apple was communicated every year via all kinds of media to consumers in China, almost in real time.

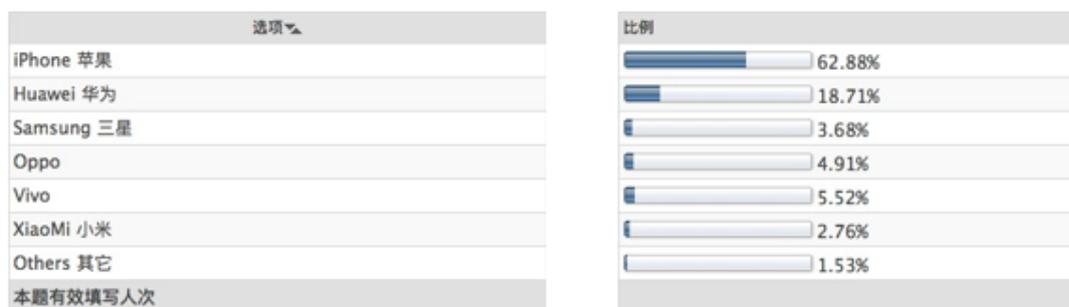


Fig 3: the survey result of the most salient brand

Brand meaning includes functional-related brand performance and brand imagery. Strong brands typically have strong, favorable and unique brand associations with consumers. A previous study

argued that consumers from emerging countries are more concerned about fulfilling basic needs, which are closely related to functional aspects of the brand. (Zarantello et al, 2017). In the survey, this consumer preference is confirmed. The top five choices, appearance/shape (45.4%), performance of the operating system (46.6%), Price (30.6%), Battery life (27.6%) and Screen Size (25.2%) all belong to brand functional performance. In contrast, the brand affinity or emotional attachment only accounts for 14.7% in purchasing consideration, and the percentage for brand loyalty is even lower.

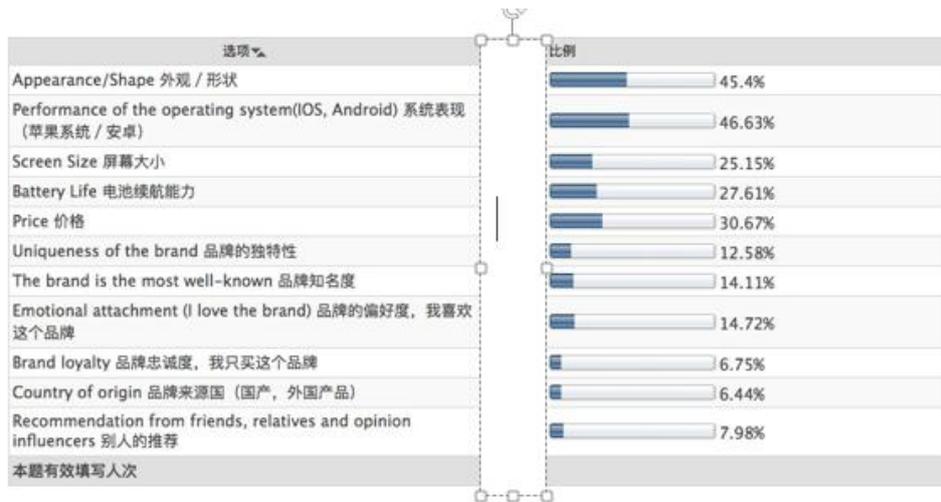


Fig 4: the survey result of most important factor in purchasing consideration

At the top of CBBE pyramid is brand resonance. Cross analysis was used to see whether there was a difference between consumers' relationship with global brands and domestic brands. The result showed that 66.1% of Huawei users identified themselves as loyal customers of this brand and will continue to buy Huawei products. The percentage is significantly higher than Oppo (27.8%), Vivo (27.8%) and Samsung (21.1%), (Fig 5). iPhone users are also loyal, with 42.8% of them expressing their willingness to continue to buy. From the current result, the study could not draw any conclusion on the brand relationship difference between global and domestic brands. Thus, in the qualitative interviews, the study tried to investigate deeper reasons for behavioural loyalty and to explore other categories of brand resonance: attitudinal attachment, sense of community and active engagement.

	Brand loyal	Not loyal	Not sure
Apple 苹果	43	17	40
Huawei 华为	66	7	27
Samsung 三星	21	32	47
Oppo	28	17	56
Vivo	28	11	61
XiaoMi 小米	20	10	70
Others 其它	38	28	33
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Fig 5: Survey result of brand loyalty (%'s)

Finally, four questions were designed to test consumers' perceptions and attitudes towards the origin country. For the first question, "Are you willing to pay a higher price for global brands?", only 43.6% of respondents gave a positive answer, hence rejecting hypothesis 2. In the product category of mobile phones, respondents did not show a strong preference for global brands. When the survey asked "Does the origin country of mobile phone affect your purchasing decision, if yes, which origin country will have a positive influence on your purchase decision?" Surprisingly, 42% of respondents chose the domestic brand, and 34.4% respondents noted that they are indifferent to the origin country. Only a small number of respondents prefer imported products from economically superior countries: 18.4% for USA, 1.8% for Europe and 0.9% for Korea. This might be explained by the improved "Made in China" product quality, since 52.3% of respondent answered "I think Chinese product has already caught up in product quality as well as brand credibility, and global brand mobile phones do not have better quality than Chinese brands", (Fig 6).

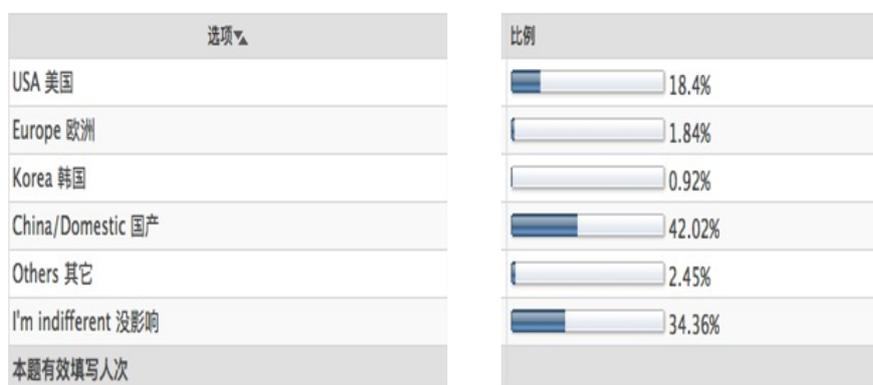


Fig 6: the survey result of COO effect

DISCUSSION AND INTERVIEW INTERPRETATION

In the initial online survey, hypothesis 1: Chinese consumers attach more importance to the functional side of CBBE model has been confirmed. However, for hypothesis 2, COO effects, the survey showed contradictory results. Therefore, qualitative interviews were designed to try to get a deeper analysis of these hypotheses. Since the brand positioning and target customer of Xiaomi are very similar to those of Oppo and Vivo, coupled with the fact that only 3.1% of respondents in the survey are using Xiaomi, the study did not interview Xiaomi users. The interview questions include their understanding of the brand, what it means to them, and how they feel about the brand going forward to measure the strength, favorability, and uniqueness of their mobile phone brand.

IPhone and Samsung

IPhone and Samsung are well-known global mobile phone manufacturers, who enjoy a high reputation in the industry. They both target Chinese high-end consumers who are willing to pay a price premium. Despite the recent decreasing market share in China, iPhone remains the most popular mobile phone brand in China. When interviewees think of this product category, iPhone easily comes top of mind. Meanwhile, Samsung face a much more serious brand challenge because of its battery explosion crisis. Ten interviewees mentioned their concern about the quality of Samsung. The main point of uniqueness is Apple's proprietary operating system, which is also a part of functional brand performance. One interviewee responded, "I am used to the iOS system, so it would drive me crazy if I use an Android phone". This point of view is very interesting, because Samsung users noted that "I think Samsung is user-friendly mainly because it's non-proprietary". Although favorable brand images, such as Apple's classic white colour and former CEO Steve Jobs some of the interviewees expressed their strong dependency on iPhone, ranking handset performance as the most important consideration in the purchase.

Additionally, interviewees expressed their willingness to pay a price premium for iPhone, largely due to Apple's operating system and niche applications on App stores. Active engagement of iPhone also showed some decrease – "I no longer follow their news unless I need a new iPhone." The Samsung user is even more function-oriented. "I think Samsung is reliable and its quality is acceptable, but I do not have any emotional attachment with the brand, and I haven't participated in any brand activities".

This response further verified hypothesis 1: Chinese consumers attach more importance to functionalities of a product.

Huawei

Consumers look for high quality, reliability and durability in mobile phones. Huawei traditionally values quality and technology, proving to be superior in offering Chinese consumers with high performance products at reasonable price. However, the consumer preference remains more at the functional level. Long battery life ranked first in consumers' reasons to buy Huawei handsets - "The brand image of Huawei is reliable but ordinary", one interviewee claimed. The lack of strong emotional ties to the brand makes consumers more likely to become frustrated when their needs are not sufficiently met. In the online survey, the result showed that Huawei enjoy highest behavioural loyalty among all the brands, with 66.1% of consumers choosing continue to buy Huawei product. One interviewee gave the answer, "All the mobile phones in the market are quite similar, I would continue to buy Huawei, just because their quality is not bad" In comparison, Huawei failed to build attitudinal loyalty, sense of community or active brand engagement, given that the brand satisfaction is largely based on its functional performance and interviewees never followed the news or social media account of Huawei.

Oppo and Vivo

High salience of these two brands was built on massive distribution network and heavy advertising investment. BBK observe that consumers from rural areas tend to avoid online-shopping of electronic devices. Therefore, the company decided to expand direct stores aggressively across the country, mainly in low-tier cities. Interviewees of Vivo noted that "I can find Vivo everywhere, even in the supermarket in front of our university." Furthermore, Both Oppo and Vivo sponsored popular TV programs, used subtle product placement in movies and invited superstars as brand spokesman. As a result, Oppo increased 157% in millennial loyalty between 2014 and 2017 (Millwardbrown Brand Z report, 2017). The right celebrity can help communicate the attributes consumers seek in brands and the power of celebrity is especially appealing in Asian countries. One of the interviewees answered "My friends and I are quite familiar with Vivo, because Han LU (brand spokesman) appears on TV, holding the Vivo mobile phone everyday".

In the CBBE pyramid, the interviewees of these two brands are quite price-sensitive. They care mostly about basic functions of a mobile phone, such as product appearance, durable battery life and high pixel. There is a lack of strong emotional ties to the brand. In the interview, they are asked to openly describe their feelings about the brand. "It's just a commodity in my life and I only use it to call my friends, send messages and take photos, that's all. I do not have any feelings." The low level of brand affinity and attitudinal loyalty makes the brand very vulnerable in the market, since consumers would shift to other brands quite easily. For instance, interviewees of Oppo users

mentioned that they previously used the mobile phones of Xiaomi and Vivo and that they might continue to change the mobile phone brand in the future, since from their perspective, all the mobile phones are quite similar.

Regarding the COO effect, all the interviewees reached the consensus that Chinese products improved a lot in both product quality as well as brand credibility. For this reason, none of the interviewees perceived domestic brand as less trustworthy and desirable. One of the interviewees noted that "I will not consider the mobile phones from underdeveloped countries, for instance, India or Malaysia but, for me, there is no difference between Chinese brands, Korean brands and American brands". This point of view is aligned with a previously cited study: the similarities between two countries, in terms of economic development level and culture influence the magnitude of the COO effect (Watson and Wright 2000). To some extent, COO effect still exist, but with the developing Chinese economy, the perception gap between domestic brands and global brands is narrowing.

Furthermore, the interviews reflected a tendency of consumer ethnocentrism among Chinese consumers, especially the middle-aged generation. Younger generations in China are arguably less likely to be involved in political topics. For example, one Huawei user, in her 40s, indicated that "one of the important reasons why my friends and I chose Huawei is because we want to support our national brand".

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The first hypothesis that Chinese consumers attach more importance to the functional side of the CBBE model was confirmed. The study assumes that in the purchasing decision-making process, Chinese consumers pay more attention to the functional elements, which refer to Brand Performance and Brand Judgment. From the online survey, the hypothesis was confirmed given that the top five most important factors when Chinese consumers purchase a mobile handset all belong to brand functional performance. Similarly, in the interviews, interviewees regarded functional performance rather than positive emotional attachment as more important considerations in the purchase.

However, differently from the second hypothesis, the study found out that Chinese consumers' perception of global brands and domestic brands turned out to be very close. In fact, more than half of the respondents believe that Chinese product quality has improved and are not inferior to imported products. At present, COO effects still have an influence on Chinese customers'

purchasing behaviour, but the perception gap between Chinese products and global brand is narrowing.

In summary, the study supported previous studies on CBBE model and COO effects. At the same time, the current study added new insights into the comparison between functional-related and emotional related brand perceptions on Chinese consumers' purchasing behaviour. In addition, the study indirectly confirmed that the magnitude of COO effect would be influenced by similarities of two countries as well as consumer ethnocentrism.

Managerial implications

Becoming more locally responsive

For global brands, the fundamental issue to gain competitive advantages in emerging countries is to balance the pressures for global standardisation versus those for local responsiveness. At present, the local adaptation Apple or Samsung have made is minor, especially when a customer perception shift is observed in emerging countries. For global brands, being foreign is no longer an adequate differentiator, given that the consumer perceived quality gap between global brands and domestic brands are narrowing.

However, customer preference, regulation, economics and values differ across countries. Chinese brands have tried to leverage their core strength: insight about the needs and wants of local consumers, and the capability to act quickly on these insights. For example, Vivo launched special selfie mobile phone, given that the young female, core consumer segment of Vivo, has high requirements for taking selfie photos.

Conversely, Apple partnered with the RED to launch a red iPhone but Chinese consumers called for a boycott of the new product on the Internet because the organisation RED had some relationship with the Dalai Lama, who is seen as an extreme separatist in mainland China.

Therefore, being more locally responsive and understanding local customers' specific needs and preference become crucial in the competition with arising domestic brands.

Strengthening the emotional dimension

For domestic brands, improving top layers in the CBBE pyramid, which refers to favourable and unique brand responses as well as intense and active brand relationship, becomes more crucial in the future. When all the mobile phone brands satisfy the basic standards of quality, the lack of uniqueness and superiority could put the brand into a more 'passive' position. In order to stand out, establishing differentiated brand identity and building emotional attachment with consumers is

crucial. Achieving this objective involves delivering a better consumer experience that helps the brand build deeper loyalty and engagement with selected consumers.

Furthermore, Chinese brands that have established strong presence and consumer acceptance in China still confront challenges when expanding abroad. Although these brands could rival Apple or Samsung in terms of quality or product design, consumers view these brands as inferior. It is important to create more positive brand images and communicate the brand story to global consumers, as evidenced for example by Oppo's sponsorship of Indian cricket.

LIMITATIONS AND FUTURE RESEARCH

Firstly, the online survey was mainly distributed through researchers' social networks in China with 57% of the resulting respondents using iPhone, a much higher percentage than Apple's market share in China. The sample sizes for Samsung, Oppo, Vivo and Xiaomi were relatively smaller, although greater than 50 respondents in each case. The sample had a higher representation of younger and middle-aged females, (females 62%) Thus other consumer groups should be included in a more comprehensive research.

Secondly, only 25 in-depth interviews were conducted, with five interviewees for each chosen brand. The interview results were obviously influenced by the interviewee's personal opinions and user experience for their own brand(s).

Future studies could use larger sample sizes with a more representative coverage across brands and consumer profiles.

REFERENCES

- Aiello, G., Halliburton, C. et al, (2015), An International Comparison of 'Made In Italy' in the Fashion, Furniture and Food sectors, *Journal of Global Fashion Marketing*, 6(2), 136-149.
- Andéhn, M., L'espoir Decosta, J-N., (2018), Re-imagining the country-of-origin effect: a promulgation approach, *Journal of Product & Brand Management*, 27 (7), 884-896.
- China: mobile users (2018). December 07, 2018, Statista <https://www.statista.com/statistics/278204/china-mobile-users-by-month/>
- Dou, E. (2018). Apple Loses Ground Again in China. Retrieved November 06, 2018, from <https://www.wsj.com/articles/apple-loses-ground-in-china-again-1493772483>
- Holt, D. B., Quelch, J. A., & Taylor, E. L. (2004). How global brands compete. *Harvard Business Review*, Sept. 2004, 68-76.
- Kantar Worldpanel ComTech. (n.d.). , (2017), Retrieved September 10, 2018, from <https://www.kantarworldpanel.com/smartphone-os-market-share/>
- Keller, L. (2001). Building customer-based brand equity, *Marketing Management, AMA*, July-August, 2001, 15-20.
- Levitt, T. (1983), The globalization of markets, *Harvard Business Review*, May-June, 92-102. .MillwardBrown, BrandZ, Top 100 Most Valuable Global Brands, 2018
- Piron, F. (2000), International outshopping and ethnocentrism, *European Journal of Marketing*, Vol. 36 Nos 1/2, 189-210.
- Roth, M. and Romeo, J. (1992), Matching product category and country image perceptions: a framework for managing country-of-origin effects, *Journal of International Business Studies*, Vol. 23 No. 3, 477-97.

- Roth, D., Schept, K., & Stergren, C. (2017). *Brand China: BrandZ top 100 most valuable Chinese brands*. London: WPP Group.
- Semaan, R., Gould, S., Chao, M. & Grein, A., (2019), We don't all see it the same way: The biasing effects of country-of-origin and preference reversals on product evaluation. *European Journal of Marketing*, 53 (5), 989-1014.
- Shimp, T. and Sharma, S. (1987), Consumer ethnocentrism: construction and validation of the CETSCALE, *Journal of Marketing Research*, Vol. 24, August, 280-9.
- Wang, C and Chen, Z. (2004), Consumer ethnocentrism and willingness to buy domestic products in a developing country setting: testing moderating effects, *Journal of Consumer Marketing*, Vol. 21 No. 6, 391-400.
- Watson, J. and Wright, K. (2000), Consumer ethnocentrism and attitudes towards domestic and foreign products, *European Journal of Marketing*, 34(9/10), 1149-66.
- Zarantonello, L., Grappi S. & Brakus J.J. (2017), How brand equity affects market share in developed and in emerging markets: the moderating role of global vs. local brand, *EMAC Conference Proceedings*, May, 2017, Groningen
- Zeugner-Roth, K.P., Zabkar, V. & Diamantopoulos, A., (2015), Consumer Ethnocentrism, National Identity, and Consumer Cosmopolitanism as Drivers of Consumer Behavior: A Social Identity Theory Perspective, *Journal of International Marketing*, Vol. 23, 2, 25-54.

ENTREPRENEURIAL CREATIVITY IN SOCIO-ECONOMIC CONTEXT

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ABSTRACT

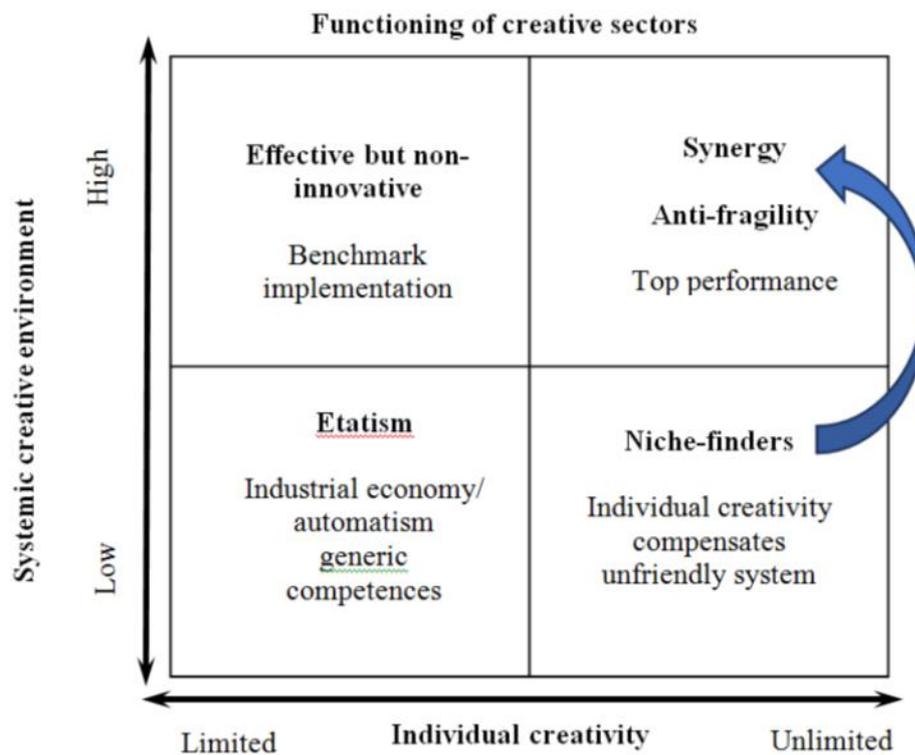
Creativity is taken as a requirement for a personal anti-fragile career path in the context of regional competitive advantage in the terms of socio-economics creative environment. At the personal level, the competence and value-based approach to creativity are proposed, is an elaboration of the resource-based view of the group of individuals selected from given country. Entrepreneurial creativity competence [measured by the Schein anchor questionnaire] is based on an independent way of thinking and empowerment presents one aspect of creative capability, however quickly verified by the market, that's why we treat this as a basic exemplification of average creative attitude combine with the entrepreneurial attitude. This introductory instrument enables further scientific research based on the same group in the context of multi-cultural external creative or the non-creative environment.

Keywords: creativity, entrepreneurship, value-based approach, regional culture

INTRODUCTION - WHY DO WE NEED CREATIVITY?

Creativity is human phenomena, crucial for all type of activity in the XXI century. As a part of nature, society and economy we need to know how to use our limited resources to fulfil planet/social/our needs in a better way. Up to the end of the previous century, economic growth was based mostly on natural resources and constantly expanding economic world due to globalization. Now we are at the moment of almost ending simple methods of growth. Current "game" is based on creative use/reuse of limited resources, and 'how' become much more important than 'how much'. By purpose we do not talk only about the creativity in terms of innovation and commercialization of R&D research – this is economic part [however very important because we all have our basic needs and we need money to meet them]. But we want to concentrate on a broader aspect of creativity so important for the functioning of civil society and sustainable development management. We expect synergy between all these creativity dimensions and appearance of spillover effect boosting local development.

Graph no1 Creativity in the socio-economic environment matrix



Source: Anna Czarczyńska

Anti-fragile niche-finders are able to adapt in a creative way to the general uncertainty of global environment/policy/economy. Their anti-fragility, i.e. existent resistance to crises and shocks, results from the fact that they are able to adjust and growth as a result of unexpected changes [Taleb, 2012]. The modern global economy based on open resources of knowledge and growing collective intelligence creates solutions unpredictable even a decade ago. As an individual person, we can take a part in this new accelerating revolution or stand beside. Creativity is based on a collective action so we need the group of people to create with them or for them [and this, unfortunately, can be dispersed like it happens quite often in the IT sector, or concentrated like in major artistic creative activity]. Anyway all the companies profit/or non-profit in the nowadays challenging environment have to act as a startup despite the time of their existence.

THEORETICAL BACKGROUND

More and more chaotic and unregulated world needs new technologies, new knowledge, and solutions for old as well as for new problems. At the individual/ organizational/social level, we have new opportunities for creativity and we invest more and more resources at the personal and at the community level in becoming more innovative and efficient, or just more happy. This is the basic requirement of the modern economy, but are we aware of that? Do we have the potential for

creativity? Or if so do we need any incentives or special socio-economic environment to disclose that? It's quite possible that we repeat old patterns in our organizations and the business model we explore does not fit anymore to the reality [Zott and Amit 2008, Santos and Eisenhardt 2009].

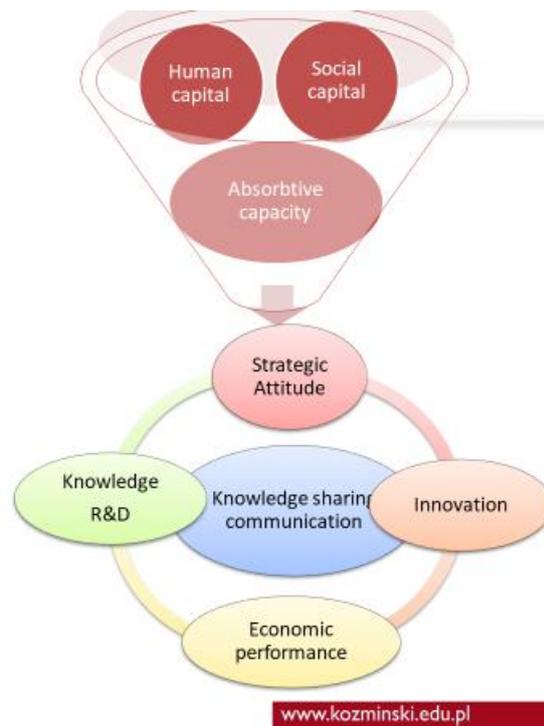
Main organizational science trends would put the creativity in the ecological niche [Baum1996], or as a new construct based on neo-institutional field [Scott 2001], or finally as a product of adaptation to the new equilibrium [Romanelli and Tushman 1994]. From our perspective taking under consideration two different regions, the approach of Krugman is very alluring, because leads to the agglomeration models of industry clusters [Krugman 1995], however the most interesting is how to measure "the connection between the ongoing creative ferment in human societies and the particular realizations of it in organizations" [Aldrich 1999, p. 1], and how the creation of new organizational collectives generates new value by "economic and social transformation of whole societies" [Schoonhoven and Romanelli 2001, pp. 2, 7].

Pro-creative knowledge environment has three main components: social capital in the sense of network quality and diversity, human capital as a sense-making resource, and absorptive capacity in the meaning of systems, structures, and routines. With such a background, the society is able to create the potential for an effective economic performance based on R&D knowledge and innovation. However a high level of innovation and strong research system is not enough when there is a lack of strategic attitudes and effective knowledge sharing communication channels based on competencies [the combined skills acquired during the course of training which condition the efficient performance of tasks in a job, based on the knowledge, experience and predisposition of an individual, and displayed in a sequence of behavior] [Czarczyńska, A., 2017 p.368].

An inclusive and innovated global society is under construction, but the entire process is based on the new evolution of creative potential with three pillars:

- *Human Capital*: ability to communicate ideas to a range of people, both internal and external, in a language they understand;
- *Social Capital*: ability to access learning and knowledge from others through the number and quality of relationships in both formalized networks and informal contacts;
- *Absorptive Capacity*: the ability to embed routines for knowledge exploration, reshaping, and retention of knowledge.

Graph no 2 Pro-creative knowledge environment scheme



Source: Czarczyńska, A., 2017 p.368

We adapt our business activity to evolving environment by implementing the innovations introduced by companies or acquiring the innovative startups [Markides and Gerosky 2005], directly or indirectly “buying” creative people. At the personal level as well as at the organizational level our success depends on the ability to create. The ideal Schumpeterian market assumes that dynamic distribution mechanism push economies towards the state of the best allocation of resources for societal welfare [Schumpeter 1934], but now to achieve that we need responsible government; does it also valid for the creativity phenomena? Do we need any governance or incentive to release our natural capability of creativity?

Perfect competition assumptions such as perfect information, multiple buyers and sellers and no increasing return to scale and no transaction costs we can find in many activities based on ICT tools, but not in terms of externalities. We need regulatory to secure the rule of law and property rights, at the local and national level dominant position or anti-competitive tactics are controllable, but negative for the society externalities, particularly at the global level, are very problematic [sic!]. Creativity is the phenomena without protection but is worth to protect and support because creativity creates positive externalities not only for the organization [hopefully also for the creative people in the company] but also for the society form their collective nature.

Creativity constitutes the dynamic and strong spillover effect on the whole community and causes positive externalities. Externalities occur when organization activity implies an impact for the society that lies beyond the main activity of the agents in the economy and it should be internalized by

taxation, regulation or market incentives. While in the case of the negative externalities we do not have any doubts that are necessary to regulate it, so why we underestimated the role of the regulatory for enhancing the creativity by positive measures [e.g. education scholarships; R&D incentives; subsidy for creative projects].

The government can support also the social connectivity and knowledge sharing network creation. Cross-organizational networks develop boundaries bringing new opportunities thanks to knowledge exchange and directly influence a firm's strategic direction [Gulati 1999].

COMPLEXITY THEORY

The learning process is taking part in two dimensions – firstly at the individual level [and this level of “readiness” we would like to estimate and compare], and the social contextual level. So learning is the non-linear process that occurs within the collective interactions framework [Chiles et al., 2004]. Therefore we can stimulate it at the personal level and at the community level improving knowledge sharing and finally get better allocation of economic activity thanks to cross-community cooperation. Complexity theory's put attention on “process rather than state”, is a science of “becoming rather than being” [Gleick 1987, p. 5] and the adaptivity of the system consists of semi-autonomous agents interacting inside that complex network. Unfortunately, we cannot use *ceteris paribus* assumption anymore and predict the outcome because the whole system is evolving all the time [only the game theory can be useful to some extent]. But this is what we are looking for – constantly creating better solutions “complex adaptive systems” able to react in any circumstances in an anti-fragile way.

The complexity theory describes the permanent state of emergency, means a self-organizing process [McKelvey 1999], dispersed in four dynamics: fluctuation, positive feedback, stabilization, and recombination. A new order is created spontaneously by interactions among the actors, not by the central planning unit [this is a specific case of the power diffusion from the political governors so there is an internal contradiction for the governments who wants to control the interactions when they supposed to support such economic model]. So thanks to the micro-processes we get macro-order. In the systems, fluctuations means changing in energy as a result of new activities or resources that move the existing order into a new order [Lichtenstein 2000]. Processes of positive feedback intensify the initial fluctuations, facilitating new sub-equilibrium “take hold and gain momentum” [Smith and Gemmill 1991, p. 711]. Stabilization is the mechanism of natural regulation, getting back to the framework of internal structure, based on the core beliefs, values that facilitate collective mind [Smith 1986]. Recombination rearranged system's existing elements by self-evolution [Anderson 1999] and a new wave of creativity [Hodgson 1997].

LOCAL CULTURE

Local culture determinants collective mind with their core beliefs, values and reaction mechanism depended on sharing knowledge and communication patterns. Like in the company where adaptation ability strongly depends on organizational culture, the community/group/local society system is embedded in the common culture determining collective action. Also, regulations reflect the local culture, attitude towards the business and the so-called “entrepreneurial spirit” [AGER 2016]. All this combined with religions, habits, even cuisine have an impact on the system’s complexity. For the simplicity we can assume that all selected groups operate in the framework of the European Union, so the basic cultural pattern and creative industry environment should be generally similar [we are very aware of that simplification, however, we would like to investigate those differences in the further investigation].

Local culture determines also creative industries, especially in peripheral regions. While the creative city model mostly replicate the production practices and business strategies of urban creatives in other globalized universal culture, in non-metropolitan peripheral regions strongly connected with the local culture and tradition settings creativity by adaptations to context [Innerhofer 2018]. Local culture strongly determines the expressions of creativity because the social cohesion is very important, so we can find examples of successful individual artistry business, self-reliance and adaptability, and small companies based on local resources. Creative sectors in regions strongly connected with the culture empower exchange of knowledge and cooperation power, but also spillover creativity.

EMPOWERMENT

Profit organizations focus on value creation through industry value chain according to the five forces strategy framework [Porter 1990]. Most of the economic theories concentrate on the better allocation of resources and profit maximization. It is an optimum from the perspective of the particular organization but is necessary so from the perspective of the local/global community, or from the perspective of the employees. The first abbreviation to the social equilibrium broader than the interest of the single company, we can find in the theory of Nash equilibrium [but in that moment the world was not so complex yet].

Creative ability in the complex world is based on value creation thanks to the higher effectiveness of the whole system. The background for such approach is fundamental within the philosophy of empowerment, which is the opposite of control and ‘*homo sovieticus*’ mentality. Empowerment, according to the World Bank [2009], is the “process of increasing the assets and capabilities of individuals or groups to make purposive choices and to transform those choices into desired actions and outcomes.” So that’s why we need stakeholders’ strategic thinking for new economic model

building a good community of prosperity in a stakeholder society where members of a society are empowered. The key concept is to create interaction between all agents: research, education, and innovation as the key drivers of a creative-based society [Czarczyńska, 2017]. Stakeholders for creativity in a complex system means that perpetual novelty can be created on a participatory base of creation process facilitated by state or other micro institutional solution [sometimes the community is very well structured due to religion or values even without the formal structure] that enables people to deploy these resources and skills.

Empowerment implies also the effect of positive externalities through creation practical and innovative solutions dedicated to the current social needs “creating something from nothing” [Baker and Nelson 2005]. This art of invention by Thomas Edison was described as a process needed “a good imagination and a pile of junk.” So the creativity based on empowerment can be developed in any circumstances and without any barriers of the entrance – in that sense this is one of the most democratic processes.

METHODOLOGY

Many organizations manage their employees' careers according to organization optimum, not the individual. That's why it's so important for individuals to be self-reliant when it comes to career management. A “Career Anchor” is a combination of perceived areas of competence, motives, and values relating to professional work choices. E. Schein, one of the founders of the field of modern organizational psychology, suggests that every one of us has a particular orientation towards work and that we all approach our work with a certain set of priority and values [Schein 1990&1996]. The form of activity compliant with individual true values gives a gain in productivity. We would like to investigate the background for creativity in the context of collective mind allowing to trigger the creative potential. The 40-item questionnaire is not a standardized test. The questions were developed by the legendary Edgar Schein, a leader in the field of career and professional studies. E. Schein at MIT identified eight career anchor themes [see table below].

Career anchor category	Traits
Technical/functional competence	This kind of person likes being good at something and will work to become a guru or expert. They like to be challenged and then use their skills to meet the challenge, doing the job properly and better than almost anyone else
Managerial competence	These people want to be managers. They like problem-solving and dealing with other people. They thrive on responsibility To be successful, they also need emotional competence
Autonomy/independence	These people have a primary need to work under their own rules and ‘steam’. They avoid standards and prefer to work alone
Security/stability	These people seek stability and continuity as a primary factor of their lives. They avoid risk and are generally ‘lifers’ in their job

Entrepreneurial creativity	These people like to invent things, be creative and most of all to run their own businesses. They differ from those who seek autonomy in that they will share the workload. They find ownership very important. They get easily bored. Wealth, for them, is a sign of success.
Service/dedication to a cause	Service-orientated people are driven more by how they can help other people than by using their talents. They may work in public services or in areas such as human resources.
Pure challenge	People driven by challenge seek constant stimulation and difficult problems that they can tackle. Such people will change jobs when the current one gets boring, and their career can be varied.
Lifestyle	Those who are focused first on lifestyle look at their whole pattern of living rather than balance work and life, they are more likely to integrate the two. They may even take long periods of time off work in which to indulge in passions such as travelling.

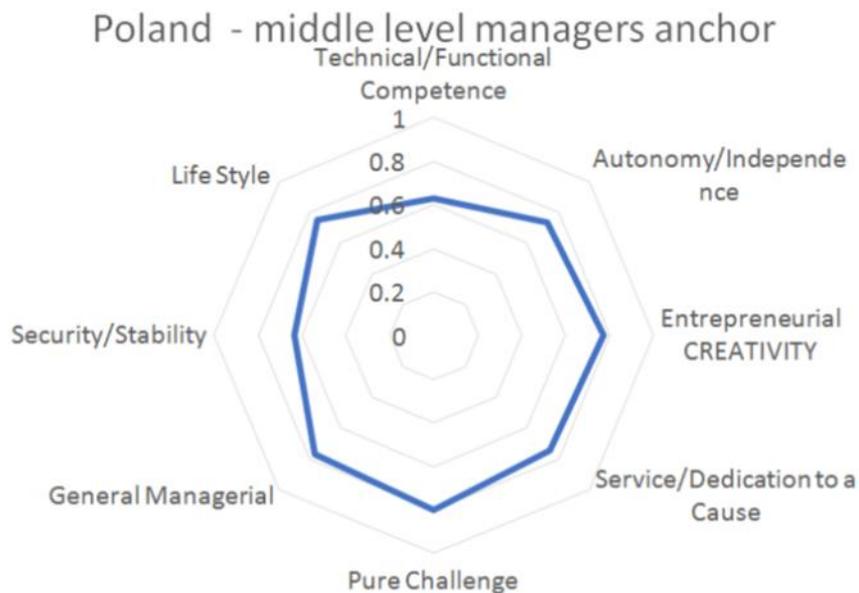
Source: Schein, Edgar H, [1990 & 1996]. *Career Anchors [discovering your real values]*, Jossey-Bass Pfeiffer

We assumed that for random estimation at the personal level we can evaluate 'similarity' of the non-representative group of medium-level managers based on Schein anchors questionnaire measuring motivation for career and development, which is based upon an eight-dimensional conceptualization, in which occupational competencies is complemented with values.

DISCUSSION

In case of Poland, we examined the group of managers to investigate the level of their entrepreneurial creativity in the context of their basic values such as lifestyle, service-orientation or autonomy/independence attitude. The group counted 44 persons in the age of from 22 up to 52 years old – all proactive and looking for personal and corporate development possibilities, from small and medium entrepreneurship [however this was the quite wide range because we have self-employed people and managers working in relatively big companies up to 250 employees]. All of them have uprising career path and are responsible for part of segmented value creation in the company. Male represent 45% of the group and female 55% from the whole group. The observation was made during the first half of the year 2017.

Graph no 3



Source: own estimation

The whole group shows the relatively low level of technical competences [partly it is the low level of self-esteem but still it is a barrier to career development]. Lifestyle is based strongly on traditional values – they are quite important and determine the attitude towards business motivators. We can observe the low level of perceived security/stability - the highest in EU fraction of undeclared work in legal companies. Also the limited ability for independence, pro-service approach, pure challenge and managerial competencies.

In this limited scale we can observe the creation of collective mind which determine the potential for creative ability release. Further investigation is necessary to describe the dynamic of the whole process and the influence of the network connections and local culture catalyst role for entrepreneurial creativity phenomena.

REFERENCES

1. Aldrich, H. E. 1999 "Organizations Evolving". Sage Publications, Thousand Oaks, CA. Schoonhoven and Romanelli 2001, pp. 2, 7
2. Anderson, P. 1999 "Complexity theory and organization science". Organ. Sci. 10 216–232
3. Baker, T., & Nelson, R. E. 2005 "Creating something from Nothing: Resource Construction through Entrepreneurial Bricolage". Administrative Science Quarterly 50[3], 329-366.
4. Baum, J. A. C. 1996 "Organizational ecology". S. R. Clegg, C. Hardy, W. R. Nord, eds. Handbook of Organization Studies. Sage Publications, London, U.K., 77–114.
5. Chiles, Meyer, and Hench: Organizational Emergence Organization Science 15[5], pp. 499–519, ©2004 INFORMS 503 <http://www.informs.org/Pubs/Supplements/ORSC>
6. Czarczyńska, A. 2017 "Stakeholders' Strategic Thinking for Sustainable Development" in L.W. Zacher [ed.], Technology, Society and Sustainability, Springer International Publishing AG 2017
7. Gleick, J. 1987 "Chaos". Penguin, New York., p. 5

8. Gulati, R.[1999 “Network location and learning: The influence of network resources and firm capabilities on alliance formation,” *Strategic Management Journal*, ISSN 0143-2095, 20[5]: 397-420
9. Hodgson, G. M. 1997 “Economics and the return to Mecca: The recognition of novelty and emergence”. *Structural Change Econom. Dynam.* 8 399–412
10. AGER 2016
11. Innerhofer, E. et al. [eds.], 2018 “Entrepreneurship in Culture and Creative Industries”, FGF Studies in Small Business and Entrepreneurship, Springer International Publishing AG
12. Markides C. and Gerosky P. 2005; “Fast second: how smart companies bypass radical innovation to enter and dominate new markets”. San Francisco, California: Jossey-Bass
13. McKelvey, B. 1999 “Complexity theory in organization science: Seizing the promise or becoming a fad?” *Emergence* 1[1] 5–32. Lichtenstein, B. M. 2000. Self-organized transitions: A pattern amid the chaos of transformative change. *Acad. Management Executive* 14 128–141. Smith and Gemmill 1991, p. 711
14. Porter, M. E. 1990. “The Competitive Advantage of Nations”. Free Press, New York.
15. Romanelli, E., M. L. Tushman. 1994 “Organizational transformation as punctuated equilibrium: An empirical test”. *Acad. Management J.* 37 1141–1166.
16. Krugman, P. 1995. *Development, Geography, and Economic Theory*. Cambridge, MA: MIT Press.
17. Santos, F., & Eisenhardt, K. 2009. “Constructing markets and organizing boundaries: Entrepreneurial power in nascent fields”. *Academy of Management Journal*, 52[4], 643
18. Schein, Edgar H, 1990 & 1996. “Career Anchors [discovering your real values]”, Jossey-Bass Pfeiffer
19. Scott, W. R. 2001 “Institutions and Organizations”, 2nd ed. Sage Publications, Newbury Park, CA.
20. Smith, C. 1986 “Transformation and regeneration in social systems: A dissipative structure perspective”. *Systems Res.* 3 203–213.
21. Taleb, N. N. 2012. “Antifragile: things that gain from disorder”, Random House LLC.
22. UNCTAD 2008 The creative economy report. http://www.unctad.org/en/docs/ditc20082cer_en.pdf
23. World Bank 2009 Empowerment.
24. Zott, C., & Amit, R. 2008 “The fit between product market strategy and business model: Implications for firm performance”. *Strategic Management Journal*, 29[1]

TO FORBEAR OR NOT TO FORBEAR: THIS IS THE QUESTION!

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ABSTRACT

After the subprime crisis, with the worsening of asset quality all around Europe, a lack of harmonization emerged concerning credit classification, monitoring, provisioning and writing-off in the banking industry. A wave of analysis and new regulations by the Supervising Authorities aimed at highlighting best practices and creating a common standard, in order to enhance transparency and accounting data comparability across the European Union. A point of particular attention concerned the usage of forbearance measures and the classification and provisioning of forborne positions. This paper deep-dives into this issue leveraging on the public dataset disclosed by the European Banking Authority (EBA), following the 2018 EU-wide Transparency Exercise. The purpose of this paper is twofold. On one side, we want to gauge the extension of the forbearance measures' usage among a sample of major European banks. On the other side, we want to analyze which main factors impact on the loan loss provisioning of forborne positions compared to performing and non-performing exposures.

Keywords: forbearance measures, loan loss provisions, non-performing loans, transparency, asset quality, collateral, credit risk, banking portfolio, accounting data comparability

INTRODUCTION

Banks often approve concessions or modifications to previous loan conditions. Some of these modifications are just motivated by commercial reasons and aim to retain clients who would otherwise move to competitors. Other concessions are related to financial difficulties of the borrowers and are technically called forbearance measures. Their objective should be either to prevent or help resolving problematic loans, safeguarding the bank's exposure. A misuse of forbearance measures may be related to disguising non-performing positions, thus avoiding to burden the profit and loss statement with loan loss provisions.

Forbearance measures are the core topic of this research paper. The purpose of our analysis is twofold. On one side, we want to gauge the extension of the forbearance measures' usage among a sample of major European banks that took part to the EU-wide Transparency Exercise undertaken by the European Banking Authority in 2018. We will compare different types of banks and different countries in order to understand the drivers that lead to a wider or lesser weight of the forborne

exposures as a percentage of the total loan portfolio. On the other side, we want to analyze which main factors impact on the loan loss provisioning of forborne positions compared to performing and non-performing exposures. The final goal of the two analysis is to understand if the forbearance measures are used properly by banks across Europe and if the higher credit risk that is inevitably inherent to forborne positions is well reflected in the level of loan loss provisions. A side purpose is also to gauge if the harmonization effort exerted by European Supervising Authorities reached the goal of smoothing the differences across countries, even though the full effect shall be visible in a few years.

CONTEXT AND LITERATURE REVIEW

The topic of forbearance measures is important and has been studied in literature from two different points of view: micro and macro.

From a microeconomics perspective, the main questions addressed are: how do banks classify forborne positions and provision them to cover for the expected credit losses? Are forbearance measures used in a proper way by banks, i.e. as an instrument to prevent or cure problematic credit exposures?

From a macroeconomics perspective, the issues analyzed are: what are the potential consequences of an extensive usage of forbearance measure on growth and optimal allocation of financial resource? Which are the exogenous factors that may push banks to use forbearance measures more?

The main starting point of the first wave of studies was the subprime crisis which began in 2007 in the United States and had many long lasting effects on the financial and economic environment all over the world. One of these effects was the tremendous worsening of the credit quality of banks' lending portfolios and the consequent increase in the stock of non-performing exposures across Europe. The phenomenon clearly worried the Supervisory Authorities and pushed them to analyze the issue attentively, in order to better evaluate the dimension of the problem and devise potential solutions. In particular, a comprehensive survey was carried out by the Basel Committee for Banking Supervision (2016). What the Supervisors found out during this deep diving exercise scared them even more. They found out a sort of jungle characterized by a wide range of practices in credit evaluation, classification, monitoring, provisioning and writing-off across different banks and national banking systems. The differences were so huge to prevent the possibility to compare different credit institutions, especially if located in different countries. The Basel Committee for Banking Supervision (2016) described the problem in caustic terms: *"One of the lessons learnt from the financial crisis is that supervisors and investors could not always understand and compare information about credit categorization presented in banks financial*

statements. Banks used different (and often undisclosed or insufficiently disclosed) methodologies and assumptions for valuations, provisioning and risk weightings, increasing opacity and reducing comparability for end users”.

Among many other aspects, one crucial issue was the different use and treatment of forbearance measures. The general understanding is that forbearance is a change of the contractual terms of a loan motivated by the financial difficulties of the borrower. Given this general definition, there are many details, which can make a dramatic difference on how the operation is granted, valued and represented in the books: which kind of measures qualify as forbearance? A change in the contractual terms of a loan, negotiated with a client who is not in financial difficulty, is to be considered as a forbearance? How shall a forborne exposure be classified: performing, non-performing or should a special different category be used? May a non-performing position be reclassified to performing status as a consequence of the approval of a forbearance measure? How does the approval of a forbearance measure affect the loan loss provisioning of the exposure?

The consequences of different approaches to the above-mentioned questions may deeply affect the representation of credit risk exposure. The European Banking Authority (2016) well remarked: *“In the current recessionary economic environment, asset quality has been a concern lately through; a) the potential misuse of forbearance to avoid the recognition of some losses; b) the lack of harmonized definition of forbearance and non-performing exposures which prevents meaningful comparisons of asset quality between institutions. [...] This issue also creates uncertainty for the markets: there is no standard against which to compare the soundness of banks’ exposures to enable identification of more robust institutions. As a result, the lack of harmonized definitions contributes to the general feeling of distrust regarding the asset quality of European Banks as a whole.”*

Based on the described findings, the Supervising Authority started a structured harmonization process that gave rise to the issuance, in 2017 and 2018, of various Guidelines, Regulations and Technical Standards, published by the Basel Committee for Banking Supervision (2015), the European Banking Authority (2016) and the European Central Bank (2017). In particular, the forbearance measures were a focus of great interest and much effort was devoted to create a clear normative framework for this tool. The features and the classification of forborne positions were described in extreme details, in order to foster a common understanding and to force banks to use this instrument properly.

The specific empirical literature on the drivers of forbearance and provisioning of forborne positions is very limited. To our knowledge, the most exhaustive contribution on the topic is Homar et al. (2015). This papers analyses the usage of forbearance measure and the coverage of these positions as a

function of various elements: macroeconomic variables, quality of banking supervisions, collateral valuation and bank's financial strength.

Moving to the macroeconomic perspective, the activity of loan restructuring and forbearance is a core focus in the literature stream concerning the so called "zombie firms", i.e. firms that should be dead, but are kept alive by banks that extend, modify and restructure their exposures beyond any reasonable expectation of recovery. There is quite substantial evidence that – during the last two decades – a relevant surge in the phenomenon of zombie firms took place in Europe and in other advanced economies. According to Banerjee, R., Hofmann (2016), the increase amounted approximately to 10 percentage points (from 2 to 12%) from the late 1980s across 14 developed countries.

The most frequent life-supporting machines for these zombie firms are forbearance measures that are approved by financing banks without duly taking into consideration the viability of the new repayment plan and the realistic possibility for the borrower to continue operating as a going concern. Deep-diving into the specific literature on the topic, the first contributions focus on the Japanese market where the zombie firms phenomenon was identified as one of the main root causes of the so called "lost decade".

Moving to the European context, Andrews and Petroulakis (2019) show that zombie firms are more likely to be connected to weak banks that are more reluctant to recognize non-performing positions, thus burdening their already fragile income statements. They also find, similarly to Adalet McGowan et al. (2017) that the phenomenon is stronger in countries where insolvency regimes and creditors' protection are weaker. Banks, in these context, would have less incentive to adopt hard work-out strategies due to the low expected cash flows from recovery.

Storz et al. (2017) claim that zombie firms, when associated to weak banks, tend to increase their debt exposure even further. Any policy intervention shall consequently address the deleveraging of both banks and firms.

Our work belongs to the first described stream of literature, adopting a micro perspective, and builds on the paper of Homar et al. (2015). What we add is a specific focus on how the forborne positions are classified and the drivers of this classification. The new harmonized rules clarify that a forborne position may classified either performing or non-performing and specify the criteria which should be followed to make this decision. We want to verify if the national context and the bank's financial strength matter not only for the extent of forbearance usage – as already emerged in previous literature – but also on the specific classification of these exposures.

Table 1: Sample distribution by country and total loan portfolio (31 December 2017)

Countries	Banks in the sample		Total Loans		Loans to non-financial corporations	
	#	%	Mln Eur	%	Mln Eur	%
Germany	20	15,38%	2.571.584	13,02%	744.672	28,96%
Spain	12	9,23%	2.346.998	11,88%	696.405	29,67%
France	11	8,46%	4.322.327	21,89%	1.352.937	31,30%
Italy	11	8,46%	1.677.558	8,49%	747.119	44,54%
Sweden	7	5,38%	1.017.531	5,15%	381.168	37,46%
Austria	6	4,62%	372.941	1,89%	153.725	41,22%
Belgium	6	4,62%	452.117	2,29%	111.191	24,59%
Netherlands	6	4,62%	1.639.899	8,30%	563.359	34,35%
UK	6	4,62%	3.647.401	18,47%	870.403	23,86%
Luxembourg	5	3,85%	21.529	0,11%	529	2,46%
Portugal	5	3,85%	178.760	0,91%	67.009	37,49%
Denmark	4	3,08%	550.790	2,79%	171.129	31,07%
Greece	4	3,08%	224.435	1,14%	105.683	47,09%
Ireland	4	3,08%	197.356	1,00%	63.898	32,38%
Ciprus	3	2,31%	29.151	0,15%	12.752	43,74%
Iceland	3	2,31%	22.513	0,11%	10.674	47,41%
Malta	3	2,31%	9.927	0,05%	2.734	27,54%
Norway	3	2,31%	198.047	1,00%	77.635	39,20%
Slovenia	3	2,31%	15.095	0,08%	5.517	36,55%
Finland	2	1,54%	122.555	0,62%	41.393	33,78%
Poland	2	1,54%	85.672	0,43%	25.686	29,98%
Bulgaria	1	0,77%	3.631	0,02%	2.106	58,00%
Estonia	1	0,77%	1.705	0,01%	470	27,55%
Hungary	1	0,77%	29.292	0,15%	9.077	30,99%
Romania	1	0,77%	9.195	0,05%	3.095	33,66%
Total EU	130	100%	19.748.011	100%	6.220.366	31%

SAMPLE DESCRIPTION

The data used throughout the paper belong to the EU-wide Transparency Exercise undertaken by the European Banking Authority (EBA) in 2018. The Exercise comprised 130 major banking institutions from 25 countries and collected data from the consolidated accounts at the 31st December 2017 and the

30th June 2018. Along with a Risk Assessment Report, EBA disclosed the entire database of bank-to-bank information on capital positions, risk exposure amounts and asset quality.

Table 1 presents the structure of the dataset by country and total amount of the loan portfolio. First, we can notice a concentration of the sample in four major countries (Germany, Spain, France and Italy) where over 40 percent of the banks are located and approximately 56 percent of total loan portfolio. Confronting the number of banks and their weight on total loans, it is evident that the United Kingdom – even though represented with a limited number of institutions – covers a relevant quota of lending activity. By adding the share of loans granted by British banks, we reach a coverage of 75 percent. The credit exposure towards non-financial companies (last two columns in Table 1) is quite extensive in most countries: 34 percent on average, with peaks above 40 percent in Italy, Austria and Greece. To our goals, this part of the loan portfolio is particularly interesting because the frequency and potential impact of forbearance measures are more relevant.

Table 2 analyses the lending portfolio quality, the weight of positions with approved forbearance measures and the coverage of loan loss provisions over total carrying amount both for non-performing and forborne positions. First, we can notice that the share of positions with a forbearance measure varies sensibly among the different countries taken into consideration. However, at the first sight, the phenomenon seems strictly related to the amount of non-performing loans. Apparently, a change in contractual terms is quite a standard tool to face transitory or structural financial difficulties of the borrowers. The correlation between the NPL and forborne ratio, on a bank-by-bank basis, is very high and amounts to 0,88.

On the contrary, what is quite varied is the share of forborne positions that is classified as non-performing. It is worth to remind here that, even according to the new harmonized framework, banks can maintain a position performing, after approving a forbearance measure, if there are good chances that the borrower will be able to comply regularly, according to the new contractual arrangement. However, it is not possible to upgrade a position to performing status as a mere consequence of the forbearance measure, because a probing period has to pass and some conditions need to be fulfilled before doing so. The data shown in Table 2 seem to indicate that either the compliance to the new harmonized rules is still incomplete or the prevailing interpretation is quite varied on a national basis. The proportion of forborne exposures classified as non-performing goes from levels above the 80 percent in Greece, Poland, Hungary and Bulgaria to levels below 40 per cent in Norway and Finland. Finally, Table 2 shows that the coverage of forborne positions is quite substantial and close to that of the non-performing portfolio. Such an evidence is fully coherent to the fact that the approval of a forbearance measure ultimately indicates a situation of financial difficulty and the need to find a solution either to overcome a non-performing status or to prevent it. Even with this general evidence,

the last column of Table 2 shows that the gap of coverage between non-performing and forbore portfolio varies significantly from country to country. The analysis that follows aims to deepen the understanding of the phenomenon and the drivers underpinning the loan loss provisioning.

Table 2: Loan portfolio's quality, forbearance measures and loan loss provisions (31 December 2017)

Countries	NPL ratio	Forborne ratio	Non performing Forborne	Coverage NPL	Coverage Forborne	Coverage Gap NPL - Forborne
Germany	5,06%	4,53%	74,38%	44,86%	32,85%	12,02%
Spain	7,82%	7,71%	61,86%	50,19%	31,47%	18,73%
France	5,16%	1,80%	69,42%	52,89%	31,95%	20,93%
Italy	18,42%	7,83%	73,71%	51,36%	29,58%	21,77%
Sweden	1,83%	2,33%	51,78%	34,62%	15,86%	18,76%
Austria	5,97%	4,08%	69,79%	50,42%	35,19%	15,23%
Belgium	5,50%	2,92%	68,85%	51,34%	34,01%	17,33%
Netherlands	4,89%	4,18%	62,38%	30,17%	18,44%	11,73%
UK	3,08%	2,16%	68,35%	43,14%	25,01%	18,13%
Luxembourg	1,61%	0,02%	0,00%	43,27%	0,00%	43,27%
Portugal	29,60%	20,17%	76,67%	53,70%	40,33%	13,37%
Denmark	4,03%	3,06%	58,04%	24,84%	17,56%	7,28%
Greece	51,41%	22,81%	82,53%	50,34%	33,45%	16,89%
Ireland	13,72%	10,26%	74,84%	31,64%	25,52%	6,12%
Ciprus	49,33%	36,41%	72,08%	48,96%	28,64%	20,31%
Iceland	3,69%	6,37%	40,11%	44,22%	16,38%	27,84%
Malta	8,73%	7,48%	64,21%	43,59%	25,65%	17,95%
Norway	3,80%	7,14%	33,04%	34,18%	8,18%	26,00%
Slovenia	25,69%	19,03%	84,96%	63,68%	53,71%	9,97%
Finland	1,89%	1,01%	38,08%	42,48%	9,27%	33,21%
Poland	10,49%	4,71%	84,11%	50,39%	36,07%	14,32%
Bulgaria	25,29%	18,55%	87,38%	45,56%	42,81%	2,74%
Estonia	3,00%	0,00%	NA	20,61%	NA	NA
Hungary	14,79%	7,64%	81,73%	55,76%	50,54%	5,22%
Romania	13,23%	10,45%	76,09%	56,80%	45,09%	11,71%
Total EU	7,77%	4,75%	69,04%	48,14%	29,29%	18,85%

METHODOLOGY

After the qualitative description of the phenomenon presented so far, we want to explore more in depth the usage of forbearance measures and the loan loss provisioning associated to these concessions. In particular, we want to address three main research questions.

First question: Which are the drivers that lead to a wider or lesser usage of forbearance measures by different banks?

The dependent variable in this analysis is the $FORB_RATIO$, which is the proportion of positions with an approved forbearance measure over the total carrying amount of loans to non-financial corporations. We assume that a higher weight of non-performing positions may push the bank to try and solve the situation by rescheduling the debt or otherwise modifying the original terms of the contract. Thus, we expect a positive sign for the regressor NPL_RATIO . We then want to check if banks characterized by a larger loan portfolio and/or by a higher exposure to small-medium companies tend to use more frequently the forbearance measures. We expect larger banks to have a richer set of tools to manage the non-performing portfolio, which could reduce the recourse to forbearance. Likewise, we expect a larger share of SME's loans to be related to a lower frequency of forbearance, since the smaller dimension of single exposures will discourage the administrative burden of a renegotiation and push towards portfolio solutions, based for instance on the sale of non-performing exposures. Finally, based on the results of the survey carried out by the Bank for International Settlement (2016), we expect a different frequency of forborne positions on a country basis, based also on the local normative framework that may make the tools more or less attractive for the banks. In particular, we control through specific dummies the effect of the bank being located in Italy, France, Germany, Spain and Great Britain. We do not consider individually other countries because of the too restricted number of banks in the sample. In line with Homar et al. (2015) we expect to find a higher percentage of forborne positions in countries characterized by worse macroeconomic conditions or lax bank supervision.

$$FORB_{RATIO} = \beta_0 + \beta_1 \times NPL_{RATIO} + \beta_2 \times LOG_{LOANS} + \beta_3 \times SME_{LOANS} + \beta_4 \times D_{COUNTRIES}$$

Second question: Which are the drivers that lead banks to classify forborne positions as non-performing to a wider or lesser extent?

The dependent variable in the second analysis is $FORB_NPL$, which is the percentage of forborne positions classified as non-performing. In this second analysis, the core aspect is the effect of location, i.e. the country dummies. Different national practices and stance by the supervisors could have an

effect on the more or less prudent classification of forbore positions. We control for the FORB_RATIO, the NPL_RATIO and the interaction between the two. We expect a positive sign for the regressor NPL_RATIO, since a lower asset quality of the bank will most probably reflect in a lower asset quality of the forbore portfolio. On the contrary, we expect a negative sign for the regressor FORB_RATIO. In fact, when the forbearance measure are more frequent, they are most probably used both as a strategy to manage non-performing exposures and as a precautionary tool aimed at preventing a borrower from becoming non-performing. In this latter case, the positions may well remain in bonis even after the approval of the concession. Finally, for the interaction between the NPL_RATIO and the FORB_RATIO aims to check if banks burdened by a higher level of non-performing positions tend to use more frequently the forbearance measures as a tool to prevent or delay the recognition of new problematic assets. The expected sign of the interaction is negative, since banks with a lower loan portfolio quality would tend to keep as much as possible the forbore positions into the performing category.

$$FORB_{NPL} = \beta_0 + \beta_1 \times D_{COUNTRIES} + \beta_2 \times FORB_{RATIO} + \beta_3 \times NPL + \beta_4 NPL \\ \times FORBORNE$$

Third question: Which are the drivers that affect the impairment level of forbore positions?

Ultimately, the approval of a forbearance measure points towards an increased riskiness of the borrower. Thus, the loan loss provisions should be substantial on this kind of exposure, which would typically belong to Stage 2 according to IFRS9 accounting standard. In this third analysis, the dependent variable is IMPAIR_FORB that is the percentage impairment on the gross carrying amount of forbore positions. First, we expect the percentage coverage to be positively associated to the FORB_NPL variable. In fact, the amount of loan loss provisions should be higher for forbore exposures classified as non-performing. Second, we expect the impairment level to be negatively correlated to the amount of collateral assisting forbore positions. In fact, the collateral reduces the expected credit loss on the exposures and thus justifies a lower level of provisions. Finally, we control for the effect of LOAN_SME variable. Since the exposures towards small and medium enterprises present in general higher credit risk, we expect a positive sign for the regressor. The usual country dummies are added as controls, even though in this case we do not expect any peculiar local effect.

$$IMPAIR_{FORB} \\ = \beta_0 + \beta_1 \times FORB_{NPL} + \beta_2 \times COLL_{FORB} + \beta_3 \times LOANS_{SME} + \beta_4 \\ \times D_{COUNTRIES}$$

Table 3: Independent variables: definition and expected signs

Name	Definition	Expected sign		
		Regression 1	Regression 2	Regression 3
NPL	Percentage non-performing loans on total carrying amount of the portfolio of loans to non-financial corporations	+	+	
LOG_ASSET	Natural logarithm of bank's total asset	-		
LOANS_SME	Percentage of loans to SMEs on total portfolio of loans to non-financial corporations	+		+
LOANS_ON_ASSET	Percentage of loans on total asset			?
FORB_RATIO	Percentage of exposures with an approved forbearance measure on the total carrying amount of the portfolio of loans to non-financial corporations		-	
FORB_NPL	Percentage of exposures with an approved forbearance measure that are classified as non-performing			+
COLL_FORB	Collateral available in percentage of total carrying amount for forborne exposures			-

RESULTS

Table 4 reports the results concerning the first research question. Both regressions show a strong correlation between the non-performing ratio and the forborne ratio. Thus, it is clear that the forbearance measures are quite a standard strategy to manage the financial difficulty of borrowers, before dismissing or writing-off the position. On the contrary, the usage of this strategy as a preventive tool is less common. A prevailing precautionary nature would in fact lead to a negative correlation between the forborne ratio and the Npl ratio.

The analysis shows a weak positive correlation between the forborne ratio and the dimension of the bank, measured by the logarithm of total asset, in contrast with what we were expecting. Apparently, larger banks make an intensive use of forbearance measures, even though they could in principle access to a richer set of strategies and tools to manage their non-performing portfolio. No significant link emerges between the retail dimension of the loan portfolio and the forborne ratio.

Table 4: Determinants of the forbore positions' weight over total loans to non-financial corporations

C	0,07* (2,32)	0,07** (2,408)
NPL	0,50*** (17,39)	0,53*** (19,08)
LOG_ASSET	-0,012* (-2,12)	-0,012* (-2,07)
LOANS_SME	0,017 (1,18)	0,006 (0,46)
ITALY		-0,04*** (-3,07)
GERMANY		0,005 (0,55)
FRANCE		-0,02 (-0,96)
SPAIN		0,04*** (3,31)
GREAT BRITAIN		0,007 (0,44)
R-SQUARED	0,795	0,837
ADJUSTED R-SQUARED	0,790	0,825
OBSERVATIONS	117	117

This table shows the results of estimating the following OLS regression:

$$FORB_{RATIO} = \beta_0 + \beta_1 \times NPL_{RATIO} + \beta_2 \times LOG_{LOANS} + \beta_3 \times SME_{LOANS} + \beta_4 \times D_{COUNTRIES} + \varepsilon$$

Where the variables are defined as follows: **FORB_RATIO**: percentage of exposures with an approved forbearance measure over the total carrying amount of loans to non-financial corporations, for each individual bank in the sample; **NPL**: percentage of exposures classified non-performing over the total carrying amount of loans to non-financial corporations, for each individual bank in the sample; **LOG_ASSET**: natural logarithm of total asset for each individual bank in the sample; **LOANS_SME**: percentage of loans to small and medium companies over the total carrying amount of loans to non-financial corporation, for each individual bank in the sample; **D_COUNTRIES** (Italy, Germany, France, Spain and Great Britain): dummy variables whose value is equal to 1 if the individual bank is

located in the country and 0 otherwise; ε : assumed normally distributed error term with zero mean and constant variance.

The T-statistics are in brackets under the estimated coefficients. *: two-tailed probability < 0.1; **: two-tailed probability < 0,05; ***: two-tailed probability < 0,01

The R-squared of the first regression, in Table 4, is already very high, reaching the level of 79 per cent. Nonetheless, the explicative power of the regression increases further – to 83 percent – when we add the country dummies. Among these dummies, the two significant ones are Italy and Spain, with different signs. Italian banks use forbearance measures less than the other banks in the sample, whereas Spanish banks use them more. In both cases, the effect is around 4 percent and is highly significant. The explanation brought forward by Homar et al (2015) that links a higher recourse to forbearance to weak macroeconomic conditions is not relevant in this case, because Spain and Italy are quite similar under this profile. The other potential explanation brought forward in the same paper, which refers to lax bank supervision, could apply more. A stricter attitude of the Bank of Italy as opposed to a more flexible treatment of forbore positions by the Bank of Spain could explain why Italian banks refrain from negotiating concessions with borrowers in difficulties while Spanish banks make frequent use of this strategy. To support this hypothesis, Barth, Caprio and Levine (2013) periodical survey on banking supervision around the world shows that, in the period 1999-2011, Italy increased largely both the index of supervisory powers and the index of external governance, whereas Spain remained unvaried on the first and tightened the second index, but to a lower extent than Italy.

Table 5: Determinants of the forbore positions' classification in the non-performing category

This table shows the results of estimating the following OLS regression:

$$FORB_NPL = \beta_0 + \beta_1 \times NPL + \beta_2 \times LOG_ASSET + \beta_3 \times LOAN_SME + \beta_4 \times LOANS_ON_ASSET + \beta_5 \times NPL_RATIO \\ \times FORB_RATIO + \beta_6 \times D_COUNTRIES + \varepsilon$$

Where the variables are defined as follows: **FORB_NPL**: percentage of forbore positions classified as non-performing; **NPL**: percentage of exposures classified non-performing over the total carrying amount of loans to non-financial corporations, for each individual bank in the sample; **LOG_ASSET**: natural logarithm of total asset for each individual bank in the sample; **LOANS_SME**: percentage of loans to small and medium companies over the total carrying amount of loans to non-financial corporation, for each individual bank in the sample; **LOANS_ON_ASSET**: ratio between total loan portfolio and total asset for each individual bank in the sample; **NPL*FORBORNE**: interaction term between NPL Ratio and Forborne ratio; **D_COUNTRIES** (Italy, Germany, France, Spain and Great Britain): dummy variables whose value is equal to 1 if the individual bank is located in the country and 0 otherwise; ε : assumed normally distributed error term with zero mean and constant variance.

The T-statistics are in brackets under the estimated coefficients. *: two-tailed probability < 0.1; **: two-tailed probability < 0,05; ***: two-tailed probability < 0,01

C	0,28 (1,07)	0,44*** (9,03)
NPL	0,83*** (5,54)	2,27*** (4,42)
LOG_ASSET	0,04 (0,91)	
LOANS_SME	-0,05 (-0,41)	
LOANS_ON_ASSET	0,19 (0,91)	
NPL*FORB_RATIO		-5,45*** (-3,42)
ITALY	0,05 (0,96)	-0,04 (-0,61)
GERMANY	0,20*** (3,31)	0,25*** (4,12)
FRANCE	0,07 (0,68)	0,11 (1,97)
SPAIN	0,06 (1,37)	0,03 (0,82)
GREAT BRITAIN	0,07 (0,96)	0,12 (1,62)
R-SQUARED	0,273	0,327
ADJUSTED R-SQUARED	0,208	0,282
OBSERVATIONS	111	111

Table 5 reports the results concerning the second research question. Once again, the variable NPL has strong explicative power and the expected sign. Banks with a higher burden of problematic assets not only tend to use more forbearance measures, but also classify the resulting positions more frequently into the non-performing category. Other variables controlling for the dimension of the bank, the weight of exposures towards small and medium companies, the nature of the business, more or less tilted towards commercial banking, are all not significant under a statistical point of view. Looking at the country dummies, in this case the only significant one is Germany where, apparently, the

percentage of forborne positions classified as non-performing is significantly higher than elsewhere. The explicative power of the regression, as measured by the R-squared, is quite high and reaches the level of 27 per cent.

The R-squared increases quite substantially when, in the second column, the equation includes an interaction term between NPL ratio and forborne ratio. The variable is strongly significant and has a negative sign. This means that, when the burden of problematic loans is higher and the bank uses intensively forbearance measures, a lower percentage of forborne positions is classified as non-performing. The interpretation of this evidence suggests an opportunistic usage of the instrument of forbearance aimed at disguising the poor asset quality of the bank. This opportunistic behavior would intensify when the problem is more severe and the situation of the loan portfolio more deteriorated

Table 6: Determinants of the impairment level of forborne positions

This table shows the results of estimating the following OLS regression:

$$IMPAIR_FORB = \beta_0 + \beta_1 \times FORB_NPL + \beta_2 \times COLL_FORB + \beta_3 \times LOANS_SME + \beta_4 \times D_COUNTRIES$$

Where the variables are defined as follows: **IMPAIR_FORB**: percentage impairment over the total carrying amount of loans to non-financial corporations with approved forbearance measures, for each individual bank in the sample; **FORB_NPL**: percentage of forborne positions classified as non-performing; **COLL_FORB**: collateral assisting forborne positions in percentage of their total carrying amount; **LOANS_SME**: percentage of loans to small and medium companies over the total carrying amount of loans to non-financial corporation, for each individual bank in the sample; **D_COUNTRIES** (Italy, Germany, France, Spain and Great Britain): dummy variables whose value is equal to 1 if the individual bank is located in the country and 0 otherwise; ε : assumed normally distributed error term with zero mean and constant variance.

The T-statistics are in brackets under the estimated coefficients. *: two-tailed probability < 0.1; **: two-tailed probability < 0,05; ***: two-tailed probability < 0,01

C	0,05 (1,27)
FORB_NPL	0,41*** (8,53)
COLL_FORB	-0,23*** (-4,21)
LOANS_SME	0,12*** (2,72)
ITALY	-0,01

	(-0,29)
GERMANY	-0,05
	(-1,61)
FRANCE	0,07
	(1,50)
SPAIN	0,04*
	(2,10)
GREAT BRITAIN	-0,002
	(-0,05)
R-SQUARED	0,616
ADJUSTED R-SQUARED	0,586
OBSERVATIONS	111

CONCLUSIONS

The paper focuses on the usage of forbearance measures, on the classification of the resulting forborne positions and on their loan loss provisioning, based on the dataset of the EU-wide Transparency Exercise carried out by the European Banking Authority on a sample of 130 major banking institutions.

The analysis confirms that forbearance measures are a tool frequently used by European banks. More than a precautionary instrument to prevent default, these measures represent a strategy to manage the non-performing portfolio. In fact, a strong statistical correlation emerges between the NPL ratio and the weight of forborne exposures. In terms of localization, Italian banks tend to use forbearance less and Spanish banks more than the rest of the sample. A potential explanation could lay in the different severity of local Supervisory Authorities.

The analysis concerning the credit classification of forborne positions suggests an opportunistic usage of the instrument of forbearance aimed at disguising the poor asset quality of the bank. In particular, this opportunistic behavior tend to intensify when the problem is more severe and the situation of the loan portfolio more deteriorated.

In terms of provisioning, no particular criticalities emerge. The impairment level is higher when a larger share of forborne exposures is classified non-performing, whereas it is lower when these positions are well collateralized.

REFERENCES

- Adalet McGowan, M., D. Andrews and V. Millot, 2017. *The Walking Dead?: Zombie Firms and Productivity Performance in OECD Countries*, OECD Economics Department Working Papers, No. 1372, OECD Publishing.
- Ahearne A.G, Shinada N., 2005. *Zombie firms and economic stagnation in Japan*, in *International economics and Economic policy*, Vol. 2, Issue 4, pp. 363-381.
- Andrews, D., Petroulakis, F. 2019. *Breaking the Shackles: Zombie Firms, Weak Banks and Depressed Restructuring in Europe*, ECB Working Paper No. 2240
- Banerjee, R., Hofmann, B., (2018). *The Rise of Zombie Firms: Causes and Consequences*, BIS Quarterly Review.
- Barth J.R., Caprio G., Levine R., (2013). *Bank Regulation and Supervision in 180 Countries from 1999 to 2011*, NBER Working Paper n. 18733.
- Basel Committee on Banking Supervision, *Guidance on credit risk and accounting for expected credit losses*, December 2015.
- Basel Committee on Banking Supervision, *Prudential treatment of problem assets – definitions of non-performing exposures and forbearance*, July 2016.
- Bruche M., Llobet G., 2014. *Preventing zombie lending*, in *Review of financial studies*, n.27, pp. 923-956.
- Caballero R.J., Hoshi T., Kashyap K., 2008. *Zombie lending and depressed restructuring in Japan*, in *American Economic Review*, n. 98, pp. 1943-1977.
- European Banking Authority, *Draft guidelines on credit institutions' credit risk management practices and accounting for expected credit losses*, July 2016.
- European Banking Authority, *Draft regulatory technical standards on the materiality threshold for credit obligations past due under Article 178 of Regulation EU n. 575/2013*, September 2016.
- European Banking Authority, *Final draft Implementing Technical Standards. On supervisory reporting on forbearance and non-performing exposures under Article 99(4) of Regulation EU n. 575/2013*, September 2016.
- European Banking Authority, *Guidelines on the application of the definition of default under Article 178 of Regulation EU n. 575/2013*, September 2016.
- European Banking Authority, *Report on the dynamics and drivers on non-performing exposures in the EU banking sector*, July 2016.
- European Banking Authority, *Results from data collection exercise on the proposed regulatory changes for a common EU approach to the definition of default*, September 2016.
- European Central Bank, *Addendum to the ECB Guidance to banks on non-performing loans: Supervisor expectations for prudential provision for non-performing exposures*, March 2018.
- European Central Bank, *Guidance to banks on non-performing loans*, March 2017.
- European Central Bank, *Stocktake of national supervisory practices and legal frameworks related to NPLs*, September 2016.
- Homar T., Kick H., Salleo C., 2015. *What drives forbearance: evidence from ECB Comprehensive Assessment*, ECB Working Papers n. 1860.
- Nkusu M., 2011. *Non-performing loans and macrofinancial vulnerabilities in advanced economies*, IMF Working Paper 11/161.
- Pagano, M., 2014 *Lessons from the European Financial Crisis*, CFS Working Paper No. 486.
- Storz, M., Koetter, M., Setzer, R., Westphal, A., 2017. *Do We Want These Two to Tango? On Zombie Firms and Stressed Banks in Europe*, ECB Working Paper No. 2104.

COMPETITIVE ADVANTAGE THROUGH THE USE OF HEALTHY SOLUTIONS IN ROMANIA

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ABSTRACT

We present here the results of a pilot study that develops on the influence of the life style factors on the health of the rural population from Romanian villages. We use the research to identify the life style economic effects at society and economy level. A keen attention was given to specific unhealthy behaviours related to a specific degree of education in the field of health, prevention, individual safety and specific diseases.

We found that people living in villages enjoy spending life and work in open air have, eat more ecological food than people living in the cities and have healthier life style as compared to people from other regions, allowing them to better counteracts the influence of wrong habits that cause health problems. There is also a direct influence of lifestyle education, movement, healthy eating on diseases level of the respondents from our study. Overall, a better lifestyle implies better health, less expenditure on medical care and generates savings to be used for family, social activities and life's improvements.

Keywords: life style, healthy solutions, economic effects

INTRODUCTION

The influences on lifestyle are complex (Dibsadall *et al*, 2003). Looking at life as a whole, every aspect of building a way of living, affects health, economy and happiness of any person (Hicks *et al*, 2009). The goal of this study is towards an overall picture of what an optimal lifestyle means, is to bring about a healthy investment solution.

Health investment solutions are linked to an optimal diet program (Rashad and Grossman, 2004). In order to avoid complications and then diseases, nutrition tangential to health must be considered. We will see how poor nutrition economically affects people in rural areas. These people, besides having more advantages than those in the city, have problems with food (Contoyannis and Jones, 2004). The fact that they have different skills in the production of zoo technic products, people being households, especially in meat production and its derivatives, it is likely that the food left out of sales it is a

problem with the management of the waste, then takes and eats a large amount of food with high fat content.

Also, besides the fact that people's diet in the country is high in fat, due to overproduction, there are other causal probes, namely tobacco, alcohol and coffee consumption (Topiwala, 2017). People in villages, due to excessive alcohol consumption, have created problems both in the family and in society, causing both moral, material, relational damage and the creation of aggressive behavioural illnesses. This can, however, be prevented from getting accustomed by simple support and prevention mechanisms (Schreck *et al*, 2007). In addition to having an unhealthy lifestyle in terms of dietary food preferences, there is also a high level among those who do not read and are not informed about a healthy diet lifestyle (Sparling *et al*, 2007).

STATE OF ART

It is intended to prepare people cognitively for them to become aware of the health problems that will arise due to a poor lifestyle in terms of harmful dietary intake, the vices of smoking, alcohol, mainly speaking (Plassmann, 2007). The perspectives of a lifestyle change monitoring program would be ideal to be taken into account (Cockerham, 2005). Campaigns to promote economic and healthy solutions could be a lever for implementing an economical and healthy lifestyle (Woolf *et al*, 2015). Also, it could be a showcase program, to improve health in terms of eating habits, inexpensive and healthy cooking, temperance, and other, all in such an event as Expo Health.

RESEARCH METHODS

In order to achieve the above mentioned objectives, we designed and applied a questionnaire, on a number of 108 people from villages from Giurgiu county, Romania. The method used was purposive sampling. Data obtained from the survey-based questionnaire was processed by quantitative, statistical and mathematical analysis. The applied questionnaire was formed by multiple choice questions. The structure of the questionnaire can be easily deduced from the analysis of the answers that is provided in the next section.

FINDINGS

The influence of smoking on the health of people from rural areas in Romania

The first category of questions was related to the influence of smoking on the health of the respondents. People with heart diseases and smoking habits represent 37% from the total number of respondents, while non-smoking holds 63%. Respondents with high blood sugar and smoking are

56% while non-smoking represents 44%. With depression and smoking there is 50% while non-smoking is 50%. As we can see from the percentages above, smoking does not seem to influence too much the general health of the respondents. This can be caused by the fact that the lifestyle of the people from rural areas encompasses by itself more good lifestyle good ingredients than people living into the cities (such as more exposure to nature, more movement, less stress, etc.) which makes the influence of this factor to not be strong on the general health of the people.

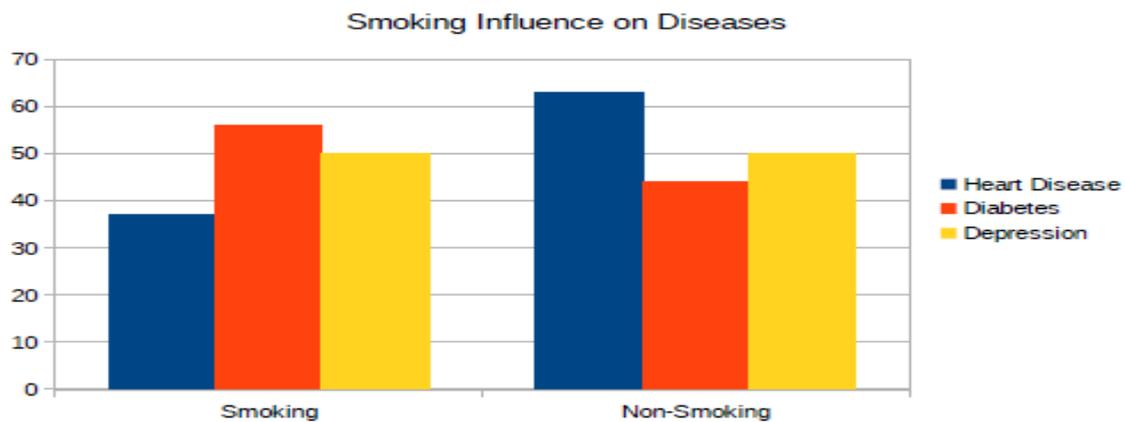


Figure 1. Smoking Influence on Diseases

Source: Personal contribution

The influence of drinking on the health of people from rural areas in Romania

The second category of questions was related to the influence of drinking on the health of the respondents. Similar conclusion as for smoking is observed for this category of questions. People with heart diseases and drinking represent 47% while non-drinking have 53%. Respondents with high blood sugar and drinking are in proportion of 64 % while non-drinking represents 36%. With depression and drinking there is a 52% per cent while for non-drinking there is a 48%. The only more notable difference for both drinking and smoking is for the case of high blood sugar, where is a direct influence of those factors on this specific disease. This can be due to the fact that both smoking and drinking seems to have a higher influence on this specific disease, even if the lifestyle of this people are in general more tailored towards a good one as compared to the people living in other areas of the country.

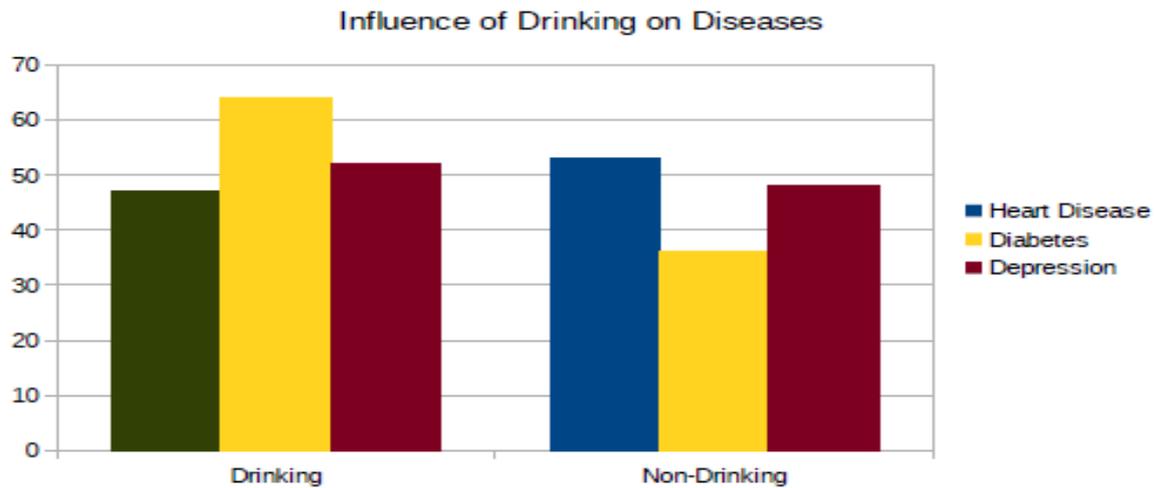


Figure 2. Influence of drinking on diseases

Source: Personal contribution

The influence of coffee on the health of people from rural areas in Romania

The third category of questions was related to the use of coffee and its influence on the health of the respondents. A similar pattern as for the first two categories we see for coffee. People recognised as having heart problems and using to drink coffee represent 48%, while non-coffee users amount 52%. Respondents with high blood sugar and coffee consumers are in proportion of 66 % while non-consumers of coffee represent 34%. People suffering from depression and drink lot of coffee amount 34% while the non-consumers represent 66%. As noted above, the same pattern is repeated: while the number of people using coffee and with heart problems or depression is smaller as the number of people with non-using coffee usage. For the diabetes the situation is vice-versa.

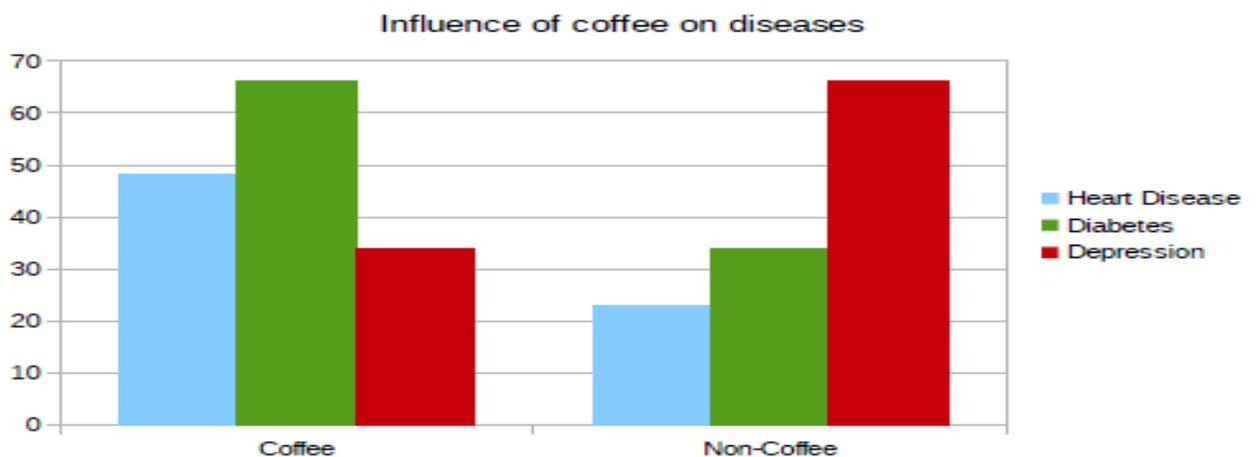


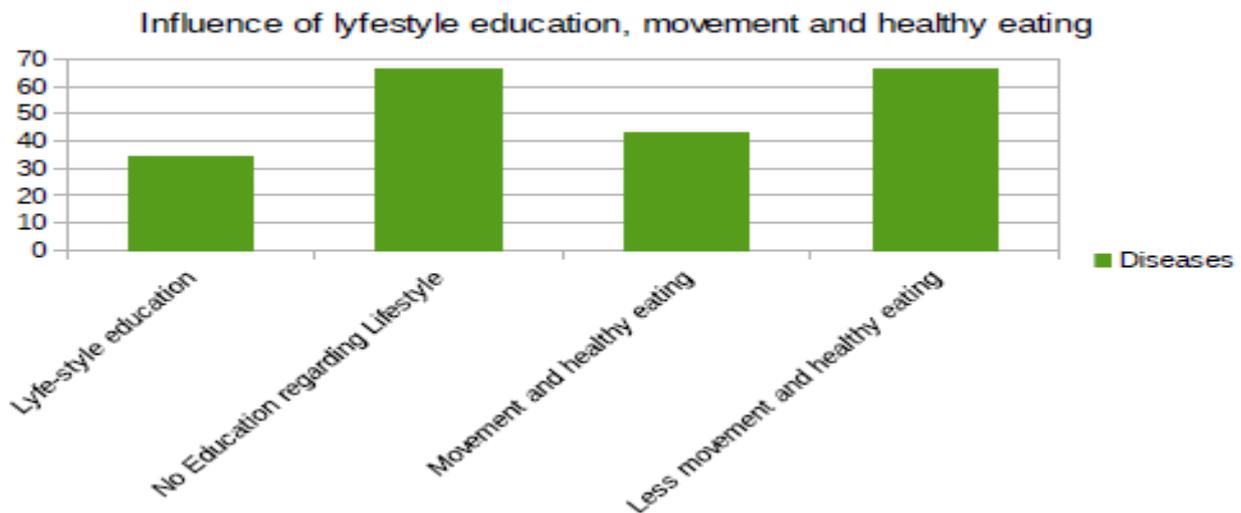
Figure 3. Influence of coffee on diseases

Source: Personal contribution

The influence of lifestyle education, movement, healthy eating on diseases' growth

The last category of questions relate to the influence of lifestyle education, movement, healthy eating on the health of the respondents. As a general conclusion, there seems to be a direct influence of those factors on the health status of the respondents. For example having lifestyle education – reading books or other materials related to healthy life style - and having any of the disease mentioned before (heart related disease, diabetes, or depression), only 34% of the respondents falls in this category, while with non-education and disease we have 66%. Similar pattern can be observed for movement and healthy eating as related to those diseases. Individuals with one or more of the above mentioned diseases, eating healthy and doing sports, accounts for 43% while those who eat unhealthy food or do not practice exercises amount 57% of the respondents. As we can see, there seems to be a direct correlation between those factors and being healthier as opposed to the first three categories.

Figure 4. Influence of lyfestyle education, movement and healthy eating



Source: Personal contribution

CONCLUSIONS

In this paper we did an initial study related to the impact of health style factors to the diseases for the people living in rural areas in Romania. As limitations, we restricted ourselves to few, frequently met diseases in people, respectively heart problems, diabetes and depression. As lifestyle factors we studied the influence of smoking, drinking alcohol, using coffee, education regarding healthy lifestyle, movement and healthy eating on those diseases. Here are some general conclusions of our research. First we noticed that in general, people living in villages in Romania enjoy more than the urban citizens, working and spending time outside in the sun and nature. This lead to a larger exposure to healthier life-style factors than people in the cities and explain why some lifestyle factors with direct

impact on disease levels does not seem to have a direct influence on different diseases, as we find out in our study.

A similar pattern is observed for smoking, drinking and using coffee habits for people in rural areas in Romania. While having heart disease, depression it seems that it is not influenced by those habits, diabetes is directly influenced by them. This can be explained, as noted earlier, by the fact that people from rural areas have healthier life style as compared to people from other regions, and this counteracts the influence of those wrong habits that cause health problems in people.

As opposed to the first categories of factors, there is a direct influence of lifestyle education, movement, healthy eating on diseases level of the respondents from our study.

As regarding economic outlook, although there seems to be not a direct influence for smoking, drinking, using coffee on the general health of the people from rural areas (except diabetes), other factors such as movement, education regarding healthy lifestyle seems to have a direct influence on the health level. Overall, as noted also in the literature (Bloom *et al*, 2003) a better lifestyle will imply better health, with less expenditure on medical care and general savings for the health care system of a country- in our case Romania.

We can state that this is an initial research from this line. We want to extend this pilot research with more types of health problems, economic categories and health lifestyles factors in a future research.

REFERENCES

- Bloom, David E., David Canning and Bryan Graham, (2003) Longevity and Life-cycle Savings, *Scandinavian Journal of Economics* 105(3), pp: 319-338, <https://doi.org/10.1111/1467-9442.t01-1-00001>.
- Cockerham W.C., (2005), Health Lifestyle Theory and the Convergence of Agency and Structure, *Journal of Health and Social Behaviour*, Mar., 46(1), pp:51-67.
- Contoyannis P., Andrew M Jones, (2004) Socio-economic status, health and lifestyle, *Journal of Health Economics*, 23(5), pp:965-995, DOI: 10.1016/j.jhealeco.2004.02.001.
- Dibsdall L.A., Lambert N, Bobbin R.F. and Frewer L.J., (2003), Low-income consumers' attitudes and behaviour towards access, availability and motivation to eat fruit and vegetables, *Public Health Nutrition* 6(2), pp: 159-168.
- Hicks DT., Lori F. Pivarnik, Ryan McDermott, Nicole Richard, Dallas G. Hoover and Kalmia E. Kniel, (2009), Consumer Awareness and Willingness to Pay for High-Pressure Processing of Ready-to-Eat Food, *Journal of Food Science Education*, 8(2), April, pp: 32-38, ISSN 1541-4329.
- Plassmann H., John O'Doherty and Antonio Rangel, (2007), Orbitofrontal Cortex Encodes Willingness to Pay in Everyday Economic Transactions, *The Journal of Neuroscience*, 27(37), pp: 9984-9988, DOI: <https://doi.org/10.1523/JNEUROSCI.2131-07.2007>.
- Rashad I. and Michael Grossman, (2004), The Economics of Obesity, *National Affairs* No.39, Spring, pp: 1-7.
- Sparling C.E., Mike A Fedak and Dave Thompson, (2007), Eat now, pay later? Evidence of deferred food-processing costs in diving seals, *Biol Lett.*, Feb., 3(1), pp: 94-98, Published online 2006 Dec 20. doi: 10.1098/rsbl.2006.0566, PMID: PMC2373816, PMID: 17443975.
- Schreck C.J., Eric A. Stewart, Bonnie S.Fisher, (2006), Self-control, Victimization, and their Influence on Risky Lifestyles: A Longitudinal Analysis Using Panel Data, *J Quant Criminol*, 22(4), pp: 319-340.
- Topiwala A., (2017), Moderate alcohol consumption as risk factor for adverse brain outcomes and cognitive decline: longitudinal cohort study, *British Medical Journal*, 357;j2353, pp: 1-20, <https://doi.org/10.1136/bmj.j2353> (Published 06 June 2017).
- Wolf, Steven H., Corinne G. Husten, Lawrence S. Lewin, James S. Marks, Jonathan E. Fielding and Eduardo J. Sanchez, (2015), The Economic Argument for Disease Prevention: Distinguishing Between Value and Savings, A

Prevention Policy Paper Commissioned by Partnership for Prevention, <https://iogt.org/wp-content/uploads/2015/03/economicargumentfordiseaseprevention.pdf>.

THE VIRTUAL COMMUNITY'S MOTIVATIONAL SYSTEM TO ENGAGE FIRMS INTO SUSTAINABILITY STRATEGY. THE ITALIAN AGRIFOOD SECTOR

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ABSTRACT

Virtual communities are tools able to enhance the firms' know-how, orienting it to a common goal. The paper is based on the idea that there is a relationship between the motivation (engagement) to exchange knowledge in virtual communities and the sustainability shared planning along its three dimensions - social, economic and environmental.

The main research question of the paper is to observe the motivational engagement system of the companies that allows communities of practices to become an innovative strategy to design sustainability. So, we propose a conceptual framework called CDI (*Connection, Discussion and Influence*), along which the motivational dimensions can be formed, as they represent the main elements to join a community which is oriented to the synergistic design of sustainability. The conceptual framework has been tested in the Italian agri-food sector.

To confirm the existence of the proposed framework, a *Survey Method* for data collection was adopted. The 250 questionnaires were revised through a *Confirmatory Factor Analysis* as this technique was found to be suitable for identifying groups of representative variables and the engagement motivations that characterize participation in sustainability-oriented virtual communities.

The pro-social behaviour represented by the exchange of knowledge oriented to sustainability is enhanced through the engagement of the online community members; it happens when the online community is structured in order to activate a virtuous circle between *Connection, Discussion and Influence*.

The hypothesised virtuous circle is, in fact, a driver for managers of virtual communities or for those companies' networks (such as *consortia*) that choose to enhance their relational heritage through the knowledge exchange. In fact, it provides fundamental guidelines to enhance engagement in these virtual environments.

Keywords: Virtual community, engagement, sustainability, Agrifood sector

INTRODUCTION

In the corporate sustainability process, the guiding principle is the systemic integration of the three sustainability's dimensions -economic, environmental and social- (Adams and Frost, 2008; Bansal, 2005; Epstein and Roy, 2001; Hubbard, 2009; Kleine and von Hauff, 2009; Schaltegger and Burritt, 2009; Skouloudis *et al.*, 2009). The key challenge is represented by the need to align the different objectives that emerge from the several perspectives involved in the development issues, so as to make sustainability a key element of the company's value proposition and competitiveness (Porter and Kramer, 2011; Del Giudice *et al.*, 2017; Carayannis *et al.*, 2017). In this sense, the adoption of a participatory and systemic perspective is fundamental, within a relevant role can be assumed by the Knowledge Sharing (Robinson *et al.*, 2006) for its relevant effects in terms of reducing the environmental impact of the management processes and, at the same time, increasing the added value. Ignorance and lack of information (Usai *et al.*, 2018), in particular for what concerns the accountability of environmental and social performance (Spangler *et al.*, 2014), are the main barriers for the organisational change oriented to sustainability (Lozano, 2012).

Today the exchange of knowledge is facilitated by web interactive tools; these have a significant role in virtual community (Madupu and Cooley, 2010; Schau *et al.*, 2009; Arvidsson and Caliandro, 2016; Park and Kim 2014; Tsimonis, and Dimitriadis, 2014), intended as places where individuals interact because they share the same interest (Wirtz *et al.*, 2013; Quinton and Harridge-March, 2010), exchanging information and knowledge (Gabisch and Gwebu, 2011; Brodie *et al.*, 2013).

In the present work, we refer to those communities that can initiate a learning process capable of enhancing the widespread know-how, orienting it to a common goal. In particular, we focus on the communities of practice, informal entities that exist according to the intensity of the relationships that are activated among the members who share a common interest (Lave and Wenger, 1991). In these types of communities, the generation of knowledge is implemented in terms of solving common problems (Wegner, 1998). The key to active participation in these unique sociotechnical environments is the engagement (Ray, Sung, Morris, 2014), assumed as a set of intrinsic motivations that induce people to interact (Baldus *et al.*, 2015; Sukoco and Wu, 2010; McAlexander *et al.*, 2002; Dholakia *et al.*, 2004; Brodie *et al.*, 2013).

In this perspective, the main research question of the paper is to observe the motivational engagement system of companies that allows communities of practice to become an innovative strategy to design sustainability. To this end, we propose a conceptual framework, called CDI (Connection, Discussion and Influence), along which the motivational levers representing the main drivers for participation in a community oriented to the synergistic design of sustainability can be formed. The basic idea is that there must be a relationship between the motivations to exchange knowledge and the shared planning

of sustainability along the three dimensions that characterize it - social, economic and environmental. The model is tested in the agri-food sector, today called to adopt innovative strategies to enhance the offer's quality (Cillo et al., 2019; Fait et al., 2019; Iaia et al., 2019).

The companies involved in the empirical analysis, conducted with the aim to verify the research hypotheses, already joined the *Agri-food Protection Consortia*, which represent a clear example of creation, maintenance and management of organizational networks based on a relational heritage, with the ambition and the desire to increase the awareness of a territory, its products and its values (Maizza, 2010; Maizza, Fait and Scorrano, 2015; Maizza *et al.*, 2019). In fact, they represent a natural meeting place for knowledge, experiences and skills from which exchange can derive a synergistic competitive advantage.

THEORETICAL BACKGROUND

Online community

Nowadays the online community phenomenon is even more discussed in different fields of studies (Li 2004).

The online community or web community are defined as “an aggregation of individuals or business partners who interact based on a shared interest, where the interaction is at least partially supported or mediated by technology and guided by certain protocols and norms” (Porter and Donthu 2008, p. 115).

Web communities are, therefore, digital platforms that encourage collaboration, interaction and knowledge sharing (McAfee, 2006). In this perspective, managerial studies emphasize the communicative dimension defining a social aggregate that emerges from a network of relationships that is activated around a topic of common interest (Rheingold, 1993), a group of individuals who share common norms and policies and interact through the web (Precee, 2000).

In other words, the creation of a community derives from a need of socialization (*relationship community*), access to information of common interest (*community of interest*), or to satisfy both objectives (*learning community*) (Martinez, 2004). In particular, the focus is the communities of practice (CoPs), a «groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis» (Wenger *et al.*, 2002, p. 4). So, in CoPs, members have informal relationships, share common practices (Aggarwal *et al.*, 2006), and help each other solve problems (Pan and Leidner, 2003). In this sense, they create a knowledge domain, with a mutual ground and a mutual intellectual identity (Cortese, 2018), and a proper community's knowledge orientation, made up by theoretical concepts and practical direct

experiences, which consider a mutual engagement (Pan and Leidner, 2003; Scarborough and Swan, 1999).

Engagement in the online community

In the last decade, managers and researchers have shown interest in the way online communities can stimulate users to engage in more collaborations, promotions and purchases (Algesheimer and Dholakia 2006, Ma and Agarwal 2007, Brandtzæg and Heim 2008, Lee *et al.*, 2003). Members of an online community benefit from access to more knowledge and experience than that could be found in traditional social networks (Constant *et al.*, 1996).

In fact, engagement is considered a mental state that stimulates individuals to adopt a pro-social behaviour whose effects are significant for themselves and for the group (Kahn 1990). In the technological perspective of online communities, engagement was considered an abstract concept, instead, it emerged as a relevant theoretical and empirical construct in other fields (Algesheimer *et al.*, 2005, Bakker *et al.*, 2008, Kahn 1990).

CoPs are formed by knowledge, people, organizational processes, and infrastructure (Pan and Leidner, 2003), in which members engage in several initiatives, from problem-solving to knowledge sharing (Hew and Hara 2006). So, engagement permeates each aspect of communities and is the reason why members feel part of the community, the reason they belong to it (Hafeez *et al.*, 2018). Moreover, engagement is one of the elements that sharp the CoPs competences based on three elements (Wenger, 1998): mutual engagement, joint enterprise, and shared repertoire (Wenger, 2000).

Certainly, engagement has a relevant role in the Cop dimensions. It may refer to two activities, as starting a discussion and answering to a message (Hafeez *et al.*, 2018), but is the second to be more recurrent than the first (Anderson 2006). If Lave and Wenger (1991) have coined the three dimensions of a CoP, Diemert (2002) has recognized the main elements which describe the role of the engagement, while Handley *et al.* (2006) focused the connection among the concept of learning in the CoPs through participation, identity and practice. Even if Authors have carried on several research on the topic (Tedjamulia *et al.* 2005; Burnett *et al.* 2003), evolving the existing concept, when the research focus is about the incentives for knowledge sharing in the CoPs, the discussion is on barriers rather than enabling motivators (Homburg and Meijer 2001). Hence, there is not a complete comprehension of the reasons why members choose to share knowledge (Wasko and Faraj 2000; Ridings, Gefen, and Arinze 2002).

Studies have long since shown that intrinsic motivations are much more powerful stimulators of such sharing than are extrinsic stimuli (Osterloh and Frey, 2000).

CONCEPTUAL FRAMEWORK

Objectives of the research and hypothesis

CoPs are formed by knowledge, people, organizational processes, and infrastructure (Pan and Leidner, 2003), in which members engage in several initiatives, from problem-solving to knowledge sharing (Hew and Hara 2006). The key to active participation in these unique sociotechnical environments is the engagement (Ray, Sung, Morris, 2014), a set of intrinsic motivations that induce to interact (Balduš *et al.*, 2015; Sukoco e Wu, 2010; McAlexander *et al.*, 2002; Dholakia *et al.*, 2004; Brodie *et al.*, 2013). In the present study, the interaction regards the companies' willingness to contribute with their knowledge to the online knowledge-sharing communities of practice; in particular, we refer to those communities of practice-oriented to the creation of a sustainability shared planning (Del Giudice *et al.*, 2017; Carayannis *et al.*, 2017).

Therefore, this study was guided by the following research question:

RQ: How is made up the motivational engagement system of the companies that allows to on communities of practice became an innovative strategy to design a sustainability shared planning along its three dimensions - social, economic and environmental?

To this end, the research proposes a conceptual framework, hereinafter referred to as C.D.I - *Connection, Discussion and Influence*-. The basic idea is the existence of a relationship between the motivations to exchange knowledge on the part of companies, and the shared planning of sustainability along its three dimensions - social, economic and environmental. Therefore, a motivational perspective based on three dimensions is proposed (Cfr. fig.1):

- *Connection* is represented as the ability of a community member to understand that knowledge exchange links it to something useful for all members (Balduš *et al.*, 2015), a perspective that implies a relationship and, obviously, the will to expand it. Therefore, the explanatory variables of the Connection have been identified by adopting the relational perspective of social capital concerning: a) the relationships that are created through a continuous system of interactions, such as to generate a specific kind of norms - trust, reciprocity and solidarity; b) the identification process understood as sharing the member's vision within social networks (Krackhardt, 1999; Van Knippenberg, D., and Schippers, 2007; Janowicz-Panjaitan and Noorderhaven, 2009). In this perspective, connection is the driver for working on the social dimension of sustainability, understood as the ability of the subjects to act together, effectively, based on the same conception of the project. The variables that characterize it are: a) avoiding internal conflicts, b) sharing values and traditions, c) assuming a behaviour consistent with the goals of the community; d) attracting and maintaining human

resources with specific skills on the territory; e) reinforcing member's sense of belonging to a community; f) creating a territorial identity.

On this basis, we affirm that:

Hp1: The motivations that characterize the connection dimension are able to influence the decision-making process behind Knowledge Sharing, oriented to a sustainability shared planning.

- *Discussion represents the interest of a community member in talking with similar users about a common topic (Baldus et al., 2015). The explanatory variables have been identified considering the cognitive social theory, according to which the group participation implies the existence of personal or community expectations (Zhang and Hiltz, 2003; Kolekofski and Heminger, 2003; Lesser, 2000), which concern the consequences of a particular behavior (Denler et al., 2014) and the relative perceived advantage (Lin et al., 2009; Chen and Hung, 2010). In the perspective of the economic dimension, these explanatory variables represent the ability to produce and maintain, within the community, the maximum added value, combining resources efficiently, in order to enhance the specificity of local products and services. These variables were, therefore, identified in: a) Strengthening the image of the territory and its productions, b) Generating social innovation, c) Facilitating common strategies aimed at enhancing the territory and its enterprises, d) Maintaining high standard production and supply chain, e) Creating useful services for community members and for the territory, f) Increasing the reputation of the territory and its enterprises.*

Therefore, we consider that:

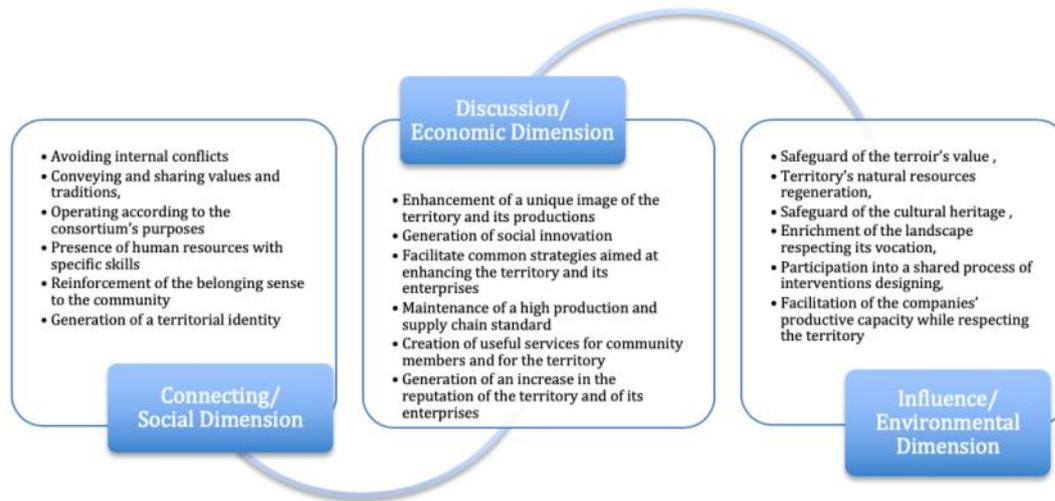
Hp2: The motivations that characterize the discussion leverage are able to influence the decision-making process behind Knowledge Sharing, oriented to a sustainability shared planning.

Influence represents the will degree of a community member to take part and actively influence the path towards sustainability. Recovering a systemic vision of the business-territory relationship (Maizza, 2013; Maizza et al., 2012; Fait et al., 2015), the focus is represented by the ability of companies to safeguard the distinctive elements of a territory through the enhancement of the cultural heritage elements and the protection and renewal of its natural resources and heritage (Peters, 1997; Hall et al., 2000; Telfer, 2001; Siano, 2001; Hall and Mitchell, 2002; Siano et al., 2008; Bresciani et al., 2016; Scorrano et al., 2018). In the environmental perspective, the motivations to exchange knowledge are therefore attributable to: a) Increase the value of the terroir, b) Design and regenerate the natural resources of the territory, c) enrich the cultural heritage, d) enrich the landscape, respecting its vocation, e) participate in the planning of interventions for the territory, f) facilitate production capacity in respect of the territory.

In light of this scenario, we assume that:

Hp3: The motivations that characterize the influence leverage are able to influence the decision-making process behind Knowledge Sharing, oriented to a sustainability shared planning.

Figure 1 C.D.I model



Source: our elaboration

METHODOLOGY

Sample

The conceptual framework described above has been tested in the agri-food sector, which is invested with a growing responsibility concerning the implementation of sustainability paths. In fact, the agri-food sector involves the typically environmental aspects related to terroir and its productions, as well as: i) the *social aspect*, referable to the social capital that traditionally characterizes all companies which operate in it, and to the value of the territorial identity of its productions; ii) the *economic dimension*, inherent to the competitive advantage that it can generate not only for companies but also for the territory on which they operate. Within this sector, the survey focused on the companies belonging to the *Agri-food Protection Consortia* and it was created for the protection of specific agricultural food and production. Not considering the legal motivations that have produced these forms of association, the *Agri-food Protection Consortia* have been formed and consolidated over time through a process of sharing vision, mission and values among entrepreneurs, who feel the ambitious and the desire to let the territory they belong to known, as well as its products and values (Maizza, 2010; Maizza and Iazzi, 2010; Santoro *et al.*, 2019; Caputo *et al.*, 2019). The *Consortia* represent a clear example of the creation, maintenance and management of long-term organizational networks, which are able to pursue the goal of growth and survival through knowledge dissemination and sharing (Maizza *et al.*, 2015; Scutto *et al.*, 2017; Ferreira *et al.*, 2018).

The Survey Method for data collection was adopted (Singleton *et al.*, 1988; de Leeuw, 2008) preparing a questionnaire, sent by e-mail in the period November - December 2018, to companies' directors of appropriately selected consortia. The 11 *Consortia* were identified in the most important agro-food areas in the Italian economic context - wine production, ham production sector, dairy, olive oil and fruit farming - considering the period of activity and the number of consortium's members. As we carried out exploratory research, conducted on a selected sample of companies, the technique of sampling of convenience was applied and a total number of 250 validly completed questionnaires were collected, considered and analyzed. Table 1 shows information on respondents.

Table 1: Demographic information

Years of membership in the consortium	For less than 10 years	15%
	From 10 to 20 years	35%
	From 21 to 30 years	33%
	Over 30 years	17%
Employees	From 10 to 49 employees	85%
	From 50 to 250 employees	12%
	Over 250 employees	3%
Revenue	Up to 2 mio €	83%
	From 2 to 10 mio €	15%
	Over 10 mio €	2%

Source: our elaboration

Methodology

The questionnaire was structured taking into account the three dimensions of the proposed model - *Connection, Discussion, Influence* - and preparing the questions so that the respondent could express their judgment on a Likert scale (Likert, 1932) from 0 (not important) to 7 (very important). The empirical phase verified whether, in the process of joining an online community oriented to a sustainability strategy, the groups of variables identifying the aforementioned dimensions represent the engagement motivations that justify and nurture participation in the community itself. To this end, to confirm the existence of the proposed structure with the model, a *Confirmatory Factor Analysis* was applied, elaborated by SPSS (Stock and Watson, 2007; Bracalente *et al.*, 2009). This technique allows, in fact, to observe whether the decision to participate in a web community oriented to the design of sustainability is structured on all the items identifying the motivations or, rather, companies choose some items as guidelines of their behaviour. The results of the KMO test (0.564) and the Bartlett test are indicative of a correlation between the variables (p value > 0.05), confirming the sufficient acceptability of the factor analysis.

The analysis has extracted six elements that explain 66.56% of the variance (values of 60-70% considered acceptable in terms of information function) (see Table 2)

Table 2 Total variance explained

Componente	Autovalori iniziali			Caricamenti somme dei quadrati di estrazione			Caricamento delle somme dei quadrati rotazione		
	Totale	% di varianza	% cumulativa	Totale	% di varianza	% cumulativa	Totale	% di varianza	% cumulativa
1	4,401	24,451	24,451	4,401	24,451	24,451	2,372	13,175	13,175
2	1,944	10,800	35,251	1,944	10,800	35,251	2,272	12,623	25,798
3	1,697	9,430	44,681	1,697	9,430	44,681	2,008	11,155	36,953
4	1,415	7,863	52,543	1,415	7,863	52,543	1,913	10,628	47,581
5	1,294	7,189	59,733	1,294	7,189	59,733	1,731	9,615	57,196
6	1,230	6,832	66,565	1,230	6,832	66,565	1,686	9,369	66,565

Extraction method: principal component analysis

Rotation method: Varimax rotations with Kaiser normalization

a. Convergence for the rotation performed in 21 iterations

Source: our elaboration

FINDINGS

The interpretation of the factors takes place through the rotated component matrix (see Table 3), which shows the correlations between the original variables and the components identified (factor loading). Each variable is associated with the factor with which it has the highest correlation and the factor is named considering what the variables associated with it have in common.

Table 3 Rotated Component Matrix

Items	Factor loading
Conveying and sharing values and traditions	.642
Presence of human resources with specific skills	.708
Generation of a territorial identity	.606
Avoiding internal conflicts	.730
Operating according to the consortium's purposes	.635
Reinforcement of the belonging sense to the community	.775
Enhancing a unique image of the territory and its productions	.731
Generation of social innovation	.553
Facilitate common strategies	.698

aimed at enhancing the territory
and its enterprises

Safeguard of the terroir's value	.768
Safeguard of the cultural heritage	.796
Facilitation of the companies' productive capacity while respecting the territory	.573
Territory's natural resources regeneration	.776
Enrichment of the landscape respecting its vocation	.725
Participation into a shared process of interventions designing	.567
Maintenance of a high production and supply chain standard	.792
Creation of useful services for community members and for the territory	.567
Generation of an increase in the reputation of the territory and of its enterprises	.683

Source: our elaboration

Extraction method: Analysis of the main components.

Rotation method: Varimax with Kaiser standardization.

a. Convergence for rotation performed in 12 iterations.

The first two components, respectively called *Territorial identity* and *Sense of belonging*, allow us to confirm the first hypothesis that *the motivations that characterize the connection dimension are able to influence the decision-making process behind Knowledge Sharing, oriented to a sustainability shared planning* (Hp1). This is because the presence of human resources with specific skills (.708), able to convey and share values and traditions (.642), makes it possible to generate a territorial identity (.606) that reinforces those relational elements of the social capital of existing ones.

The availability of community members to exchange knowledge - *Discussion* - is activated through topics that are indicative of personal or community expectations (Hp2). The component called *Enhancement strategies* indicates the perceived relative advantage and is linked to the possibility of generating a unique image of the territory and its productions (.731), to stimulate forms of social

innovation (.553) such as to facilitate common strategies aimed at enhancing of the territory and its enterprises (.698).

The fourth and fifth components - *Production assets* and *Vocation of the territory* - are characterized by items that confirm the third hypothesis (Hp3) for which the motivations that characterize the *Influence dimension* act as levers of the process of knowledge exchange oriented towards sustainability.

DISCUSSION

The objective of this study was to observe the relationship between the motivations involved in the knowledge exchanging within an online community as well as the shared planning of the sustainability. According to the literature that considers engagement the key to an efficient and effective participation in these virtual environments (Ray *et al.*, 2014), a model has been built and tested empirically; it has allowed identifying which areas can be considered relevant for a constant and active engagement of the online community's members, when this is created with the purpose of planning the sustainability of both companies and territory they belong to.

The decision to test it within the companies participating in the Agri-Food Protection Consortia is justified by the particular type of network they represent, characterized by the presence of a relational heritage built through the dissemination of productive and cultural knowledge, and the sharing of common vision, mission, organizational, and territorial values (Maizza, 2010; Maizza, Fait and Scorrano; 2015). An area, therefore, suitable to evaluate the motivational structure underlying the exchange of knowledge, oriented to the sustainability planning.

The Confirmatory factor analysis shows that the engagement of the members is linked to the *Connection dimension*, when it is characterized by a pro-social behaviour based on the strengthening of the relational elements of social capital – human resources, values and traditions, territorial identity – and, the identification process with the community – sense of belonging, mutual understanding, resolution of internal conflicts. In this perspective, the development of this dimension (*Connection*) represents the driver to operate on the social dimension of sustainability, understood as the ability of the subjects to act together, effectively, based on the same conception of the project.

Moreover, results confirm that the advantage connected with the knowledge exchange about a common topic - *Discussion* - lies in the possibility of reconciling personal and community expectations, both in terms of companies and their relations with the territory. The perception of the potential advantage derivable from the exchange of knowledge lies, in fact, in the possibility of defining common strategies aimed at enhancing the territory and its enterprises, to create a univocal image of the territory and its productions, and to generate social innovation; without neglecting the objective of maintaining a high standard of production and supply chain, of creating useful services for the

community members and for the territory that will generate an increase in the reputation of the territory and its enterprises. It is through this coordination between personal and community expectations that economic sustainability can be planned as the capacity to produce and maintain within the community - understood as a business-territory relationship - the maximum of the possible added value.

Lastly, the engagement is linked to the *Influence dimension* when it is activated along the entrepreneurial dimension of environmental protection - value of the terroir, cultural heritage, increase in productive capacity of the companies while respecting the territory – territorial identity - regeneration of the territory's natural resources, enrichment of the landscape in respect its vocation, shared process of the planning of the interventions.

The paper, therefore, helps to confirm that the engagement is the key to active participation in this unique sociotechnical environment (Ray *et al.*, 2014), especially when the goal of sharing knowledge is as specific as the sustainability is.

The proposed theoretical model participates in the literature discussion, talking about the importance of engagement in virtual communities. The reflections that arise from its empirical application suggest, in fact, that the communities cannot be activated as discussion forums on professional interests (Chiu *et al.*, 2006, Wasko and Faraj 2005), specific (Ma and Agarwal 2007) or general (Bateman *et al.*, 2011), but as places for sharing a common project. The sharing is activated through the will to stand in relation (*connection*), to discuss for reaching common objectives (*discussion*) and to influence the path of a common growth (*Influence*).

In other words, the pro-social behaviour represented by the exchange of knowledge (Chiu et al 2006, Law and Chang 2008, Wasko and Faraj 2005) is enriched through the engagement of the online community's members, when it is structured to activate a virtuous circle between *Connection*, *Discussion* and *Influence*.

The cycle must present itself not as a random mechanism, but as refined and well defined, to constantly feed the learning derived from the knowledge exchange, orienting it to the strategic objectives of sustainability, appropriately shared. This logic activates a virtuous circle thanks to which the improvement of the systemic performances generates attractiveness and the search for management improvement for the existing companies, as well as for others potentially aggregable and for the territory they belong to.

LIMITATIONS AND CONCLUSION

The decision to set up and design this study in terms of sustainability, naturally presents the limit that the conclusive data on sustainability cannot be generalized to any sector. However, they provide

important reflections for the networks operating in the agri-food context, today called to intervene in the planning of a sustainable path for the territory and its companies. A second limitation is represented by the fact that the interviewees do not participate in a virtual community but have only been asked if they are potentially interested in participating to it, and the importance they give to specific motivations. Therefore, a possible development of work could be to focus on a sample of companies that actually participate in these types of operations.

Although the model was created by identifying specific items in relation to the key concept of sustainability, its underlying assumptions are, however, also applicable to other contexts. The hypothesised virtuous circle is, in fact, a driver for managers of virtual communities or for those networks of companies (such as *consortia*) that choose to enhance their relational heritage through the exchange of knowledge. So, it suggests fundamental guidelines to enhance the engagement in these virtual environments. Firstly, it is necessary to manage the perception of the own identity of each member by working on the enhancement of the social factors of relational factors - trust, identification, sharing of norms etc.-; therefore, correctly identifying the areas of discussion orienting them to a specific and shared purpose, with the aim to to enhance the interest in the knowledge exchange -; lastly, it is essential to understand the type of influence that the member of the community wants to exercise, in order to achieve the goals of sharing knowledge. The logic is to address the knowledge exchange within web tools towards the design and achievement of specific objectives, avoiding that the participation of some members is dispersed on areas of interest far from the specific objective. Designing a virtual community according to this perspective means devising and stimulating the pro-social behaviour of the members, directing them towards the strengthening of the identity with a community and towards the creation of a culture of knowledge exchange oriented to the generation of systemic performances.

REFERENCES

- Adams, C. and Frost, G. (2008), "Integrating sustainability reporting into management practices", *Accounting Forum*, Vol. 32, No. 4, pp. 288-302.
- Aggarwal, N., Dai, Q. and Walden, E.A. (2006), "Do markets prefer open or proprietary standards for XML standardization? An event study", *International Journal of Electronic Commerce*, Vol. 11, No. 1 (Fall 2006), pp. 117-136.
- Algesheimer, R. and Dholakia, P.M. (2006), "Do customer communities pay off?", *Harvard Business Review*, Vol. 84, No. 11, pp. 26-30.
- Algesheimer, R., Dholakia, U.M. and Herrmann, A. (2005), "The social influence of brand community: Evidence from European car clubs", *Journal Marketing*, Vol. 69, No. 3, pp. 19-34.
- Anderson, B. (2006), "Writing Power Into Online Discussion", *Computers and Composition*, Vol. 23, No. 1, pp. 108-124.
- Arvidsson, A. and Caliandro, A. (2016), "Brand Public", *Journal of Consumer Research*, Vol. 42, No. 5, pp. 727-748.
- Bakker, A.B., Schaufeli, W.B., Leiter, M.P. and Taris, T.W. (2008), "Work engagement: An emerging concept in occupational health psychology", *Work Stress*, Vol. 22, No. 3, pp. 87-200.

- Baldus, B. J., Voorhees, C. and Calantone, R. (2015), "Online brand community engagement: Scale development and validation", *Journal of Business Research*, Vol. 68, No. 5, pp. 978-985.
- Bansal, P. (2005), "Evolving sustainably: A longitudinal study of corporate sustainable development", *Strategic management journal*, Vol. 26, No. 3, pp. 197-218.
- Bateman, P.J., Gray, P.H. and Butler, B.S. (2011), "The impact of community commitment on participation in online communities", *Information Systems Research*, Vol. 22, No. 4, pp. 841-854.
- Bracalente, B., Cossignani, M. and Mulas, A. (2009), *Statistica aziendale*. Milan: McGraw-Hill.
- Brandtzæg, P.B. and Heim, J. (2008), "User loyalty and online communities: Why members of online communities are not faithful", *Proceedings 2nd International Conference Intelligent Technologies Interactive Entertainment (ICST, Brussels)*, pp. 10-19.
- Bresciani, S., Giacosa, E., Broccardo, L. and Culasso, F. (2016), "The family variable in the French and Italian wine sector", *EuroMed Journal of Business*, Vol. 11, No. 1, pp. 101-118, <https://doi.org/10.1108/EMJB-03-2015-0012>.
- Brodie, R. J., Ilic, A., Juric, B. and Hollebeek, L. (2013), "Consumer engagement in a virtual brand community: An exploratory analysis", *Journal of Business Research*, Vol. 66, No. 1, pp. 105-114.
- Burnett, G., M. H. Dickey, K. M. Chudoba and M. M. Kazmer (2003), "Inscription and Interpretation of Text: A Cultural Hermeneutic Examination of Virtual Community", *Information Research*, Vol. 9, No. 1, pp. 162-162.
- Caputo, F., Cillo, V., Canelo, E. and Liu, Y. (2019), "Innovating through digital revolution: The role of soft skills and Big Data in increasing firm performance", *Management Decision*, <https://doi.org/10.1108/MD-07-2018-0833>.
- Carayannis, E. G., Grigoroudis, E., Del Giudice, M., Della Peruta, M. R. and Sindakis, S. (2017), "An exploration of contemporary organizationartefactscts and routines in a sustainable excellence context", *Journal of Knowledge Management*, Vol. 21, No. 1, pp. 35-56.
- Chen, S. and Hung, W. (2010), "To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities", *Information Management*, Vol. 47, No. 4, pp. 226-236.
- Chiu C.M., Hsu M.H., Wang, E.T. (2006), "Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories", *Decision support systems*, vol. 42, n. 3, pp. 1872-1888.
- Cillo, V., Rialti, R., Bertoldi, B. and Ciampi, F. (2019), "Knowledge management and open innovation in agri-food crowdfunding", *British Food Journal*, Vol. 121, No. 2, pp. 242-258.
- Clayton, A.M.H.; Radcliffe, N.J. *Sustainability: A Systems Approach*; Earthscan Publication Ltd.: London, UK, 1996.
- Constant D, Sproull L, Kiesler S (1996) The kindness of strangers: The usefulness of electronic weak ties for technical advice. *Organ. Sci.* 7(2):119-135.
- Cortese, C., and Wright, C. (2018), *Developing a Community of Practice: Michael Gaffikin and Critical Accounting Research*, *ABACUS*, Vol. 54, No. 3, 2018, doi: 10.1111/abac.12137
- De Leeuw, E. D. (2008), "Choosing the method of data collection" in De Leeuw, E. D., Hox, J. J. and Dillman D. A. (Eds.), *International handbook of survey methodology*, New York, NY, Taylor & Francis Group/Lawrence Erlbaum Associates, pp. 113-135.
- Del Giudice, M., Khan, Z., De Silva, M., Scuotto, V., Caputo, F. and Carayannis, E. (2017), "The microlevel actions undertaken by owner-managers in improving the sustainability practices of cultural and creative small and medium enterprises: A United Kingdom-Italy comparison", *Journal of Organizational Behavior*, Vol. 38, No. 9, pp. 1396-1414.
- Denler, H., Wolters, C. and Benzon, M. (2014), *Social Cognitive Theory*, Retrieved from <http://www.education.com/reference/article/social-cognitive-theory/>
- Dholakia, U. M., Bagozzi, R. P. and Pearo, L. K. (2004) "A social influence model of consumer participation in network-and small-group-based virtual communities", *International Journal of Research in Marketing*, Vol. 21, No. 3, pp. 241-263.
- Diemert, L. (2002), "Measuring Communities of Practice to Understand Dissemination in Tobacco Control", *OTRU Studentship Award*.
- Epstein, M. J. and Roy, M. J. (2001), "Sustainability in action: Identifying and measuring the key performance drivers", *Long range planning*, Vol. 34, No. 5, pp. 585-604.
- Fait, M., Scorrano, P., Mastroleo, G., Cillo, V. and Scuotto V. (2019), "A novel view on Knowledge Sharing in the Agri-food sector", *Journal of Knowledge Management*, <https://doi.org/10.1108/JKM-09-2018-0572>.
- Ferreira, J., Mueller J., and Papa, A. (2018), "Strategic knowledge management: theory, practice and future challenges", *Journal of Knowledge Management*, <https://doi.org/10.1108/JKM-07-2018-0461>.
- Gabisch, J. A. and Gwebu, K. L. (2011), "Impact of virtual brand experience on purchase intentions: the role of multichannel congruence", *Journal of Electronic Commerce Research*, Vol. 12, No. 4, pp. 302-319.

- Hafeez, K, Foroudi, P., Nguyen, B., Gupta, S. and Alghatas, F. (2018), "How do entrepreneurs learn and engage in an online community-of- practice? A case study approach", *Behaviour & Information Technology*, Vol. 37, No. 7, pp. 714-735, DOI: 10.1080/0144929X.2018.1474255.
- Hall, C.M. and Mitchell, R.D. (2002), "The tourist terroir of New Zealand wine: The importance of region in the wine tourism experience", in Montanari A., *Food and environment: Geographies of taste*, Società Geografica Italiana, Roma.
- Hall, M., Sharples, L., Cambourne, B. and Macionis, N. (Eds.) (2000), *Wine tourism around the world: Development, management and markets*, Butterworth-Heinemann, Oxford.
- Handley, K., A. Sturdy, R. Fincham and T. Clark (2006), "Within and Beyond Communities of Practice: Making Sense of Learning Through Participation, Identity and Practice", *Journal of Management Studies*, Vol. 43, No. 3, pp. 641-653.
- Hew, K. F. and Hara, N. (2006), "Identifying factors that encourage and hinder knowledge sharing in a longstanding online community of practice", *Journal of Interactive Online Learning*, Vol. 5, No. 3, pp. 297-316.
- Homburg, V. and A. Meijer (2001), "Why would anyone like to share his knowledge?", *Proceedings of the 34th Annual Hawaii International Conference on System Sciences*, Maui, HI, USA. DOI: 10.1109/HICSS.2001.926487
- Hubbard, G. (2009), "Measuring Organizational Performance : Beyond the Triple Bottom Line", *Business Strategy and the Environment*, Vol. 19, pp. 177-191. DOI: 10.1002/bse.564
- Iaia, L., Vrontis, D., Maizza, A., Fait, M., Scorrano, P., Cavallo, F., (2019) "Family businesses, corporate social responsibility, and websites: The strategies of Italian wine firms in talking to stakeholders", *British Food Journal*, <https://doi.org/10.1108/BFJ-07-2018-0445>.
- Janowicz-Panjaitan, M. and Noorderhaven, N. G. (2009), "Trust, calculation, and interorganizational learning of tacit knowledge: An organizational roles perspective", *Organization Studies*, Vol. 30, No. 10, pp. 1021-1044.
- Kahn, W.A. (1990), "Psychological conditions of personal engagement and disengagement at work", *The Academy of Management Journal*, Vol. 33, No. 4, pp. 692-724. DOI: 10.2307/256287
- Kleine, A. and Von Hauff, M. (2009), "Sustainability-Driven Implementation of Corporate Social Responsibility: Application of the Integrative Sustainability Triangle", *Journal of Business Ethics*, Vol. 85, No. 3, pp. 517-533. DOI: 10.1007/s10551-009-0212-z.
- Kolekofski, K.E. and Heminger, A.R. (2003), "Beliefs and attitudes affecting intentions to share information in an organizational setting", *Information & Management*, Vol. 40, No. 6, pp. 521-532.
- Krackhardt, D. (1999), "The ties that torture: Simmelian tie analysis in organizations", *Research in the Sociology of Organizations*, Vol. 16, No. 1, pp. 183-210.
- Lave, J. and Wenger, E. (1991), *Situated Learning: Legitimate Peripheral Participation*, London, UK: Cambridge University Press.
- Law SP-M and Chang, M.K. (2008), "Fostering knowledge exchange in online communities: A social capital building approach", *Proceedings International Conference Information Systems*, pp. 1-22.
- Lee, F.S.L., Vogel, D. and Limayem, M. (2003), "Virtual community informatics: A review and research agenda", *Journal of Information Technology Theory Application*, Vol. 5, No. 1, pp. 47-61.
- Lesser, E.L. (2000), "Leveraging social capital in organizations", in: Lesser, E.L. (Ed.), *Knowledge and Social Capital: Foundations and Applications*, Butterworth Heinemann, Woburn, MA.
- Li, H. (2004), "Virtual community studies: a literature review, synthesis and future research". In *Proceedings of the Americas Conference on Information Systems*, August 2004.
- Lozano, R. (2012), "Orchestrating Organisational Changes for Corporate Sustainability", *Greener Management International*, Vol. 57, pp. 43-64.
- Ma, M. and Agarwal, R. (2007), "Through a glass darkly: Information technology design, identity verification, and knowledge contribution in online communities", *Information Systems Research*, Vol. 18, No. 1, pp. 42-67.
- Madupu, V. and Cooley, D.O. (2010). "Antecedents and consequences of online brand community participation: A conceptual framework", *Journal of Internet Commerce*, Vol. 9, No. 2, pp. 127-147.
- Maizza, A. (Eds) (2010), *I distretti agroalimentari nel contesto globale. Un'analisi nel territorio pugliese*, Francoangeli.
- Maizza, A., Fait, M. and Scorrano, P. (2015), "Conditions and Drivers of Competition in a Region: Some Case Histories of Brand-Land Synergism", in Vrontis D., Sakka G., Amir Khanpour M., *Management Innovation and Entrepreneurship: A Global Perspective*, Cambridge Scholars Publishing. ISBN (10): 1-4438-7464-7; ISBN (13): 978-1-4438-7464-9.
- Maizza, A., Fait, M., Scorrano, P. and Iazzi A. (2019), "How knowledge sharing culture can become a facilitator of the sustainable development in the agrifood sector", *Sustainability*, 11, 952; doi:10.3390/su11040952.
- McAfee, A. P. (2006), "Enterprise 2.0: The dawn of emergent collaboration", *MIT Sloan Management Review*, Vol. 47, No. 3, pp. 21-28.

- McAlexander, J. H., Schouten, J. W. and Koenig, H. F. (2002), "Building brand community", *Journal of Marketing*, Vol. 66, No. 1, pp. 38-54.
- Osterloh, M. and Frey, B. S. (2000), "Motivation, knowledge transfer, and organizational forms", *Organization Science*, Vol. 11, No. 5, pp. 538-550.
- Pan, S. and Leidner, D. (2003), "Bridging communities of practice with information technology in pursuit of global knowledge sharing", *Journal of Strategic Information Systems*, Vol. 12, No. 1, pp. 71-88.
- Park, H. and Kim, Y. K. (2014), "The role of social network websites in the consumer-brand Relationship", *Journal of Retailing and Consumer Services*, Vol. 21, No. 4, pp. 460-467.
- Peters G.L. (1997), *American winescapes: The cultural landscapes of America's wine country*, Westview Press, USA.
- Porter, C. E. and Donthu, N. (2008), "Cultivating trust and harvesting value in virtual communities" *Management Science*, Vol. 54, No. 1, pp. 113-128.
- Porter, M. E. and Kramer, M. R. (2011), *The big idea: Creating shared value*. Available at <https://pdfs.semanticscholar.org/53c0/606a0d6f7d01434039bf7039f8e48f95fd06.pdf>
- Quinton, S. and Harridge-March, S. (2010), "Relationships in online communities: the potential for marketers", *Journal of Research in Interactive Marketing*, Vol. 4, No. 1, pp. 59-73.
- Ray, S., Kim S.S. and Morris, J.M. (2014), "The Central Role of Engagement in Online Communities", *Information Systems Research*, pp. 1-19 <http://dx.doi.org/10.1287/isre.2014.0525>
- Ridings, C. M., Gefen, D. and Arinze, B. (2002), "Some antecedents and effects of trust in virtual communities", *The Journal of Strategic Information Systems*, Vol. 11, No. 3-4, pp. 271-295.
- Robinson, H. S., Anumba, C. J., Carrillo, P. M. and Al-Ghassani, A. M. (2006), "STEPS: a knowledge management maturity roadmap for corporate sustainability", *Business Process Management Journal*, Vol. 12, No. 6, pp. 793-808.
- Santoro, G., Ferraris, A. and Winteler, D.J. (2019), "Open innovation practices and related internal dynamics: case studies of Italian ICT SMEs", *EuroMed Journal of Business*, Vol. 14, No. 1, pp. 47-61, <https://doi.org/10.1108/EMJB-05-2018-0031>.
- Scarborough, H., and Swan (1999), *J. Case Studies in Knowledge Management*. London: Institute of Personnel and Development.
- Schaltegger, S. and Burritt, R. L. (2009). Sustainability accounting for companies: Catchphrase or decision support for business leaders?, *Journal of World Business*, Vol. 45, No. 4, pp. 375-384. DOI: 10.1016/j.jwb.2009.08.002
- Schau, H. J., Muñiz Jr, A. M. and Arnould, E. J. (2009), "How brand community practices create value", *Journal of Marketing*, Vol. 73, No. 5, pp. 30-51.
- Scorrano, P., Fait, M., Iaia, L. and Rosato, P. (2018), "The image attributes of a destination: an analysis of the wine tourists' perception", *EuroMed Journal of Business*, Vol. 13, No. 3, pp. 335-350, <https://doi.org/10.1108/EMJB-11-2017-0045>.
- Scuotto, V., Del Giudice, M., Bresciani, S. and Meissner, D. (2017), "Knowledge Driven Preferences in Informal Inbound Open Innovation Modes: An Explorative view on Small to Medium Enterprises", *Journal Of Knowledge Management*, Vol. 21, p. 640-655, ISSN: 1367-3270, doi: DOI 10.1108/JKM-10-2016-0465.
- Siano, A. (2001), "Marketing e comunicazione nelle strategie degli Enti di promozione del territorio", *Sinergie*, Vol. 54, pp. 219-239.
- Siano, A., Confetto, M.G. and Vollero, A. (2008), "Governance-struttura-sistema: un modello di management della comunicazione per il marketing territoriale", VII International Congress Marketing Trends, Università Cà Foscari, Venezia, 17-19 January 2008.
- Singleton, R. Jr., Straits, B.C., Straits, M.M. and Mcallister, R.J. (1988), *Approaches to social research*. New York, NY, US: Oxford University Press.
- Skouloudis, A., Evangelinos, K. and Kourmousis, F. (2009), Development of an evaluation methodology for triple bottom line reports using international standards on reporting", *EnvironmentManagement*, Vol. 44, No. 2, pp. 298-311. DOI: 10.1007/s00267-009-9305-9
- Spangler, W., Sroufe, R., Madia, M. and Singadivakkam, J. (2014), "Sustainability-Focused Knowledge Management in a Global Enterprise", *Journal of Computer Information Systems*, Vol. 55, No. 1, pp. 70-82, DOI:10.1080/08874417.2014.11645742
- Spangler, William, Matthew Madia, and Robert Sroufe. 2014. "Sustainability-Focused Knowledge Management in a Global Enterprise", *Journal of Computer Information Systems*, Vol. 55, No. 1, pp. 70-82. <https://doi.org/10.1080/08874417.2014.11645742>
- Stock, H. J. and Watson, M. W. (2007). *Introduction to Econometrics*. Boston: Pearson Addison.
- Sukoco, B. M. and Wu, W. Y. (2010), "The personal and social motivation of customers' participation in brand community", *African Journal of Business Management*, Vol. 4, No. 5, pp. 614-622.

- Tedjamulia, S.J., Dean D.L., Olsen D.R. and Albrecht C.C. (2005), "Motivating content contributions to online communities: Toward a more comprehensive theory" in Proceedings of the 38th Annual Hawaii International Conference on System Sciences, pp. 193b-193b.
- Telfer, D.J. (2001), "From a wine tourism village to a regional wine route: An investigation of the competitive advantage of embedded clusters in Niagara, Canada", *Tourism Recreation Research*, Vol. 26, No. 2, p. 23-33.
- Tsimonis, G. and Dimitriadis, S. (2014), "Brand strategies in social media", *Marketing Intelligence & Planning*, Vol. 32, No. 3, pp. 328-344.
- Usai, A., Scuotto, V., Murray, A., Fiano, F. and Dezi, L. (2018), "Do entrepreneurial knowledge and innovative attitude overcome "imperfections" in the innovation process? Insights from SMEs in the UK and Italy", *Journal of Knowledge Management*, Vol. 22, No. 8, pp.1637-1654, <https://doi.org/10.1108/JKM-01-2018-0035>.
- Van Knippenberg, D. and Schippers, M. C. (2007), "Work group diversity", *Annual Review of Psychology*, Vol. 58, pp. 515-541.
- Wasko, M.M. and Faraj, S. (2005), "Why should I share? Examining social capital and knowledge contribution in electronic networks of practice", *MIS quarterly*, Vol. 29, No. 1pp. 35-57.
- Wenger, E. (1998), *Communities of practice: learning, meaning, and identity*. Cambridge University Press.
- Wenger, E. (2000), "Communities of practice and social learning systems", *Organization*, Vol. 7, No. 2, pp. 225-246. DOI: 10.1177/135050840072002
- Wenger, E., McDermott, R. and Snyder, W.M. (2002), *Cultivating Communities of Practice*. Boston: Harvard Business School Press.
- Wirtz, J., den Ambtman, A., Bloemer, J., Horváth, C., Ramaseshan, B., van de Klundert, J., Gurhan Canli, Z. and Kandampully, J. (2013), "Managing brands and customer engagement in online brand communities", *Journal of Service Management*, Vol. 24, No. 3, pp. 223-244.
- Zhang, Y. and Hiltz, S. R. (2003), "Factors that influence online relationship development in a knowledge sharing community", *AMCIS 2003 proceedings*, Vol. 53, pp. 410-417.
- Zhao, K., Khan, S.S. and Xia, M. (2011), "Sustainability of Vertical Standards Consortia as Communities of Practice: A Multilevel Framework", *International Journal of Electronic Commerce*, Vol. 16, No. 1, pp. 11-40; DOI 10.2753/JEC1086-4415160101.

WINE TOURISM SERVICES AS COMPETITIVE FACTOR FOR DIRECT SALES DEVELOPMENT - EVIDENCE FROM ITALY

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ABSTRACT

Wine tourism is a relevant success factor for wine business. Its influence affects not only the wineries communication through word-of-mouth, most of all on social networks, but also their image, and most of all their direct sales. Very frequently, in fact, the wine tourism performance can be appreciated by the direct sales performance. In this respect, wine tourism service can express some influence, thus assuming a direct link between the service level intensity in the wine tourism offer and the level intensity of direct sales at the winery. However, in the current investigation, even though with an exploratory nature, evidences do not support this direct link. Main implications of the research concern the prominence of logistic services in a potential link with direct sales, and probably that the level of sales could not be the most correct indicator for evaluating a wine tourism experience with high levels of service.

Keywords: Wine business, wine tourism, direct sales, winery, service, Italy.

INTRODUCTION

In 2018, Italy has regained the high levels of wine production quantities for which a considerable suffering in 2017, due to different climatic difficulties (frosts, droughts, and so forth), was instead recorded. In fact, the 2018 Italian harvest has been registered by all major institutions of the sector at around 50 million hectoliters, and perhaps beyond (ISTAT, Assoenologi, Coldiretti, and so on).

These figures represent certainly a good sign, which in truth must be read also in the market perspective, considering that it is not enough to produce much and well: it is necessary to know how to sell and secondly how to sell even better. From this point of view, however, some timid concern seems to affect the Italian wine industry: domestic consumption is declining or at best stable year on year, and encouraging signals are missing even abroad (OIV).

Brexit yet to be deciphered, China still to be focused, a not always peaceful international situation (insecurities, embargoes, tariffs, and so forth) are not exactly favorable scenarios to foreign trade, especially for who has to export (and nowadays the Italian wine sector exports 50% and potentially

even more of its turnover). However, skills and entrepreneurial abilities of micro, small, medium, and large Italian wineries are undoubted and they do not fear any international comparison, especially when regarding quality and variety (Crescimanno and Galati, 2014).

In this daring market competition a role of extraordinary interest concerns wine tourism, which nowadays it is recognized firmly as one of the most interesting segments of the overall Italian tourist offer (Tommasetti and Festa, 2014). In fact, the widespread concept of 'Italian Beauty' (Airoldi and Lojacono, 2014) is due also – if not above all – to the exceptional quality of wine and food that can be found in every region of the nation (Benini, 2018).

More generally, beyond the strict reference to Italy, wine tourism is a substantial marketing driver for increasing sales and a powerful communication lever for brand visibility, recognition, and awareness, especially in such 'social' times (Freitas Santos and Ribeiro, 2012; Capitello *et al.*, 2014; Bonarou *et al.*, 2019; Canovi and Pucciarelli, 2019; Scorrano *et al.*, 2019). In fact, wine tourism nowadays is not secondary in every winery, because it is an activity to put into account, plan, organization, and implementation like any other business activity that is necessary and opportune for the good functioning of the winery (Festa *et al.*, 2015), also from a territorial marketing point of view (Scorrano *et al.*, 2018).

In the research that follows, wine tourism is under investigation as factor that could affect the direct sales dynamics (Connolly, 2018), with specific reference, of course, to the sales that are undertaken in the cellar as direct selling, although, as above-mentioned, wine tourism image affects also sales in the global sense (Pratt, 2019), a fact that however, is not under analysis in the present research. After the literature review, the results of a field survey are object of presentation, having Italy as study perimeter, about the possible interactions between wine tourism services and direct sales at the winery, with consequent findings discussion and subsequent analysis of scientific and managerial implications.

FOCUSED AND ESSENTIAL LITERATURE REVIEW

Direct selling has always been a more or less alternative sales channel for wineries: 'more' alternative with regard to traditional distribution channels, but 'less' alternative if considering that it is a physiological reality for any winery (of course, with due and significant exceptions). This importance has been heightened even more with the development of wine tourism, an activity that, as above-mentioned, only formally is secondary to production and marketing of grapes and wine, again with due and significant exceptions (Festa *et al.*, 2016), but in recent times has been experiencing an impetuous progress all over the world (Gurau and Duquesnois, 2008; Duarte Alonso and Liu, 2012; Duarte Alonso *et al.*, 2015).

One of the most direct and effective indicators for measuring the success of wine tourism, also in terms of global economic sustainability, is the sales performance in the cellar during the visit of wine hikers and / or wine tourists in the strict sense (Pan *et al.*, 2018). In truth, it is a typical performance indicator especially for the New World of Wine (USA, Chile, Argentina, South Africa, Australia, and New Zealand), which, however, precisely by virtue of its immediacy and 'frankness' in terms of customer profitability (Helgesen *et al.*, 2018), is gaining more and more importance also in the Old World of Wine (Europe in general). and therefore also in Italy (D'Amico *et al.*, 2014), while the Third World of Wine (China, India, Russia, and so on) is probably a context still in its infancy from a wine tourism point of view.

Beyond being a direct measure of value generation in the wine tourism context (Remenova *et al.*, 2019), direct sale at the winery is generally a very interesting commercial activity for the cellar, because it allows to fix a price that normally is lower with respect to other channels (always being careful to avoid the 'cannibalization' effect), to get cash instantaneously (while in other selling situations revenue transformation into cash is almost always late, and often uncertain) contributing somehow also to the financing mix of small-medium enterprises (Giacosa and Mazzoleni, 2016), and to benefit potential up-selling and / or cross-selling proposals, as well as to permit direct contact with customers, which is always fundamental (Fiore, 2016).

Therefore, it seems interesting to investigate if, how, and why it is possible to increase the quantity and quality of global sales through direct sales at the winery. In the current research there is assumption that the wine tourism experience, and especially the combined level of service (Dodd and Gustafson, 1997; O'Neill *et al.*, 2002) can be a factor of considerable importance for this competition.

RESEARCH SCOPE AND METHODOLOGY

The survey that follows moves from the XV National Report on the Wine Tourism in Italy, developed by the National Observatory on Wine Tourism of the National Association of 'Wine Cities'. Specifically, this report has focused on three survey perimeters: municipalities, wineries, and wine tourists; what matters in the case in question is the exploratory survey that has been conducted on wineries (42 responding cellars throughout Italy, including 35 that have been strictly considered in this survey for providing all the answers to the questionnaire), with no value of statistical representativeness, because it provides only an exploratory function, namely to better target subsequent more detailed investigations.

It has been used in this case a convenience sampling: in fact, the contacted and responding wineries are enrolled in the database of the National Association of 'Wine Cities', spreading throughout the national territory. However, the number of respondents, with 35 completed questionnaires on 42

replies, allows to state that the so-obtained data are information of great interest (Barile and Metallo, 2007): with the sole purpose of evidence, 19 out of 42 responding wineries and 15 out of 35 'completely' responding wineries are from Tuscany, thus reflecting the wine tourist success of the region in Italy and abroad (Randelli *et al.*, 2014; Marinelli *et al.*, 2016; Randelli and Martellozzo, 2019).

The questionnaire has been designed by the staff of the Postgraduate Course in "Wine Business" of the University of Salerno (Italy), providing 33 questions ("Special Section - Wineries"). Prior to the survey in the field, the questionnaire has been tested, verified, and validated by the staff persons of the National Association of "Wine Cities".

The questionnaire has been administered in completely 'online' mode, using a computer platform that has generated a) the links to get to the questions, b) the web masks for compilation (accessible from computers, tablets, and smart-phones), and c) the spreadsheets display, thus simplifying the filling of the fields, the accuracy of the answers, and the subsequent setting up of the database. Finally, it is to highlight that, for reasons of mere approximation / rounding percentages, some data do not perfectly add up to 100%, but 99.99% or 100.01%.

Besides descriptive survey, also an inferential study has been conducted, trying to answer, with regard to the exploratory nature of the research, the following research question.

RQ: "Can a direct link exist between the service level intensity of the global wine tourism experience and the direct sales at the winery level intensity?".

EVIDENCE FROM THE SURVEY: DESCRIPTIVE ANALYSIS AND INFERENCE ANALYSIS

To provide a general overview of the context, that concerns Italian wineries, following data represent a first evidence of the overall findings of the investigation. Tables from 1 to 4 propose a descriptive representation of the current practice, in responding wineries, about the various activities concerning the wine tourism experience (cf. Table 1) and in more details, the individual category of service (cf. Table 2 for logistics services, Table 2 for hospitality services, and Table 3 for internet services).

It is to highlight that in Table 1 also the "Other" category has been provided, as per the exploratory nature of the research, although that possibility is not present in the single service category analysis.

This choice has been practiced primarily because the service categories comprise and detail the individual activities, and secondly to prevent excessive statistical dispersion in the many possible answers.

Wine tourism activities (expressed as percentage of the total equal to 100)	Percentage
Direct sales at the winery	26.06%
Visits for tastings	21.69%
Visits in the cellar	17.03%
Overnight stay (if available)	9.03%
Visits in the vineyard	8.71%
Participation to events in the cellar / winery	5.46%
Catering (if available)	5.17%
Participation to the grape harvest	1.94%
Other	4.91%

Table 1 - Wine tourism activities performed in the winery (source: authors' elaboration).

Logistics services (i.e. road accessibility)	Percentage
Corporate signals widespread on the territory	68.57%
Advertising on billboards	34.29%
Positioning on Google Maps	100.00%
Positioning on Street View	54.29%
Private access road in good condition	85.71%
Availability of parking for vehicles	97.14%
Availability of parking for buses	74.29%
Availability of parking for RVs (recreational vehicles)	54.29%

Table 2 - Currently performed services concerning road accessibility (source: authors' elaboration).

Hospitality services	Percentage
Brochures with information about the winery	97.14%
Guided tours of the wine cellar	94.29%
Accessibility for disabled persons in the cellar	80.00%
Organized paths with information about the winery	62.86%
Guided tours of the vineyards	94.29%
Accessibility for disabled persons to the vineyards	48.57%
Organized paths with information about the vineyard	60.00%
Wine tasting in the cellar	97.14%
Accessibility for disabled persons to the tasting rooms	85.71%
Restaurant	37.14%
Accessibility for disabled persons to the restaurant	34.29%
Cuisine with local products	37.14%
Cuisine with seasonal products	40.00%
Cuisine equipped for various allergies / intolerances	34.29%
Cuisine for vegetarians and / or vegans	34.29%
Overnight stay	40.00%
Overnight stay for disabled persons	31.43%
Organizing events in the cellar / winery	54.29%
Multilingual staff	85.71%
Toilets	97.14%
Toilets for disabled persons	60.00%
Wi-Fi (free or password)	100.00%

Table 3 - Currently performed services concerning hospitality (source: authors' elaboration).

Internet services	Percentage
Corporate website	94.29%
App for mobile devices (tablets, smart-phones, and so on)	5.71%
Online reservations (internet, mobile, and so on)	77.14%
Presence on social networks	73.80%

Table 4 - Currently performed services concerning internet (source: authors' elaboration).

Descriptive analysis shows that the winery activity that absorbs most energies and resources, especially as man / hours, is direct selling indeed. More generally, encouraging responses concerning the service level have emerged, so reflecting the development of wine tourism in Italy and especially in terms of 'tourist', and not only 'wine', phenomenon.

Inferential analysis, in response to the specific research question, has investigated about the possible existence of a direct link between the service level intensity of the wine tourism experience - considered as category (logistics, hospitality, internet, and all together) - and the direct sales at the winery level intensity (considered as man / hours of the total wine tourism activity and not as number of sold and / or invoiced bottles, because too varying degrees would exist from cellar to cellar). In the tables that follow, firstly (cf. Table 5) "how many" services that are practiced by respondent cellars individually have been calculated for each category (as proxy values, every "Yes" in response to the practiced service has been calculated as one point) and secondly (cf. Table n. 6) possible correlation (through the R index by Bravais / Pearson) and the subsequent possible strength of the correlation (R^2) between the service level intensity by category and the direct sales at the winery level intensity have been calculated.

Responding wineries in chronological order	Direct sales in percentage	Logistics services	Hospitality services	Internet services	All services
Winery No. 1	80%	8	10	2	21
Winery No. 2	70%	7	16	2	26
Winery No. 3	30%	6	16	2	25
Winery No. 4	10%	7	19	4	31
Winery No. 5	40%	8	13	2	24
Winery No. 6	10%	3	9	3	16
Winery No. 7	0%	5	15	3	24
Winery No. 8	30%	6	14	3	24
Winery No. 9	30%	7	14	2	24
Winery No. 10	42%	6	12	3	22
Winery No. 11	10%	7	20	3	31
Winery No. 12	17%	4	14	3	22
Winery No. 13	10%	4	11	3	19
Winery No. 14	50%	5	12	2	20
Winery No. 15	10%	8	21	3	33
Winery No. 16	30%	6	8	3	18
Winery No. 17	80%	8	14	3	26
Winery No. 18	80%	5	11	3	20
Winery No. 19	10%	7	15	3	26
Winery No. 20	5%	3	11	3	18
Winery No. 21	20%	7	20	3	31
Winery No. 22	0%	6	9	2	18
Winery No. 23	45%	5	12	2	20

Winery No. 24	5%	3	11	3	18
Winery No. 25	18%	4	21	2	28
Winery No. 26	10%	3	10	2	16
Winery No. 27	25%	7	20	3	31
Winery No. 28	0%	4	19	2	26
Winery No. 29	10%	6	13	3	23
Winery No. 30	60%	8	8	3	20
Winery No. 31	10%	3	8	2	14
Winery No. 32	20%	5	14	4	24
Winery No. 33	5%	8	22	3	34
Winery No. 34	30%	6	19	2	28
Winery No. 35	10%	4	11	2	17

Table 5 - Conversion of provided wine tourism services into proxy values (source: authors' elaboration).

Service category	R	R2
Logistics	0.43	0.18%
Hospitality	-0.22	0.05%
Internet	-0.17	0.03%
All	-0.06	0

Table 6 - Correlation between service level intensity (for each category) and direct sales at the winery level intensity (source: authors' elaboration).

The R index by Bravais / Pearson expresses an evident measure: the more the correlation about the observations is negative, the closer it gets to -1 and of course, the more the correlation about the observations is positive, the closer it gets to +1. Thus, from the above calculations there seems to exist a positive correlation (in other words, if the service level intensity increases, also the direct sales at the winery level intensity increases) only in the case of logistics services.

The robustness of the correlation is expressed by the R² index, calculated as R squared, varying from 0 to 1 and naturally, the negative or positive correlation is much more robust the closer it gets to 1. From the above calculations, the greater robustness between those observed, although very low, it is again the one concerning logistics services.

RESULTS DISCUSSION

In general, at least three fundamental evidences seem to emerge from the descriptive analysis:

- wineries that have responded to the survey are widely distributed throughout the Italian territory (North - Center - South - Islands), but the contribution of Tuscany to wine tourism success and reputation in Italy emerges vehemently, being "Tuscan" almost half of the responding wineries in general (19 of 42, i.e. 45.24%) and in particular, considering only the respondents to the whole questionnaire (15 out of 35, i.e. 42.86%);

- beyond the averages, which can be only indicative assuming the exploratory nature of the research, also because most probably the responding wineries are already responsive to wine tourism, three activities above all emerge in the global wine tourism offer: direct selling at the winery, wine tasting, and visiting vineyards / cellars / tasting rooms (which together sum up nearly 65% of the total time reserved in the winery to wine tourism services);
- very interesting service levels are present, as it is clear from the survey about logistics, hospitality, and internet services: unfortunately, there is still some delay in accessibility for disabled persons to the various wine tourism services.

More specifically, i.e. in response to the peculiar research question of this study (“Can a direct link exist between the service level intensity of the global wine tourism experience and the direct sales at the winery level intensity?”), inferential analysis discloses no evidence to that effect, and thus, from a statistical point of view, it should reject such a possibility. On closer inspection, however, considering that this is an exploratory research, inferential analysis results show that the service category with which the existence of a direct link seems more likely to exist is that one related to logistics services: therefore, starting from the current investigation, more extensive quantitative analyses could / should be focused more successfully precisely on the study of the potential direct link between logistics services and direct sales at the winery.

SCIENTIFIC AND MANAGERIAL IMPLICATIONS

From a theoretical point of view, the main outcome of the research in question is that there is no correlation between the service level intensity of the wine tourism experience (considered both at single service category, and at overall level) and the direct sales at the winery level intensity, in some way not confirming previous studies on the subject (O’Neill *et al.*, 2002). In truth, this evidence seems to infer at least two considerations.

First, as highlighted in the results discussion, considering only the statistical evidence of the investigation would alter the sense of the exploration, which instead gives proof of a stronger link between the logistics services and the direct sales at the winery. Second, it seems possible also to deduce that when the level of service is more intense, it is likely that the direct sales at the winery does not represent the most correct indicator for evaluating the wine tourism experience success (in fact, the correlation values for hospitality services and internet services are even negative), requiring more sophisticated techniques and tools of performance accounting (Mohammad, 2016).

From a managerial point of view, it seems clear, for entrepreneurs and / or managers that are responsible in charge of the wine tourism experience, that if they want to increase the direct sales at

the winery level, they will have to wager at least or especially on the improvement of logistics services. This implication seems consistent with previous studies (Festa *et al.*, 2015).

RESEARCH LIMITATIONS AND FUTURE DEVELOPMENTS

The study in question is exploratory and therefore not suitable from a physiological point of view for revealing factual logic; furthermore, the sample is limited and collected through a convenience procedure, and thus not reliable from a statistical point of view. Hence, quantitative survey that could be carried out on higher (and consequently most reliable) numbers would improve undoubtedly the overall reliability of the research, most of all if conserving the focus on logistics services, as emerged from the current survey.

Another limitation is the geographical perimeter, considering that the survey has been conducted only about Italy. A widening of the territorial context of the study, therefore, could automatically remove some limits concerning international comparison.

CONCLUSION

Fortunately, Italian wineries are increasingly recognizing, in their role as suppliers in the wine tourism market, the importance of the overall service in the wine tourism industry. Very encouraging results have emerged in this respect from the current study, which gives evidence, with all the limitations of an exploratory survey, that Italian wineries are constantly providing essential and accessories services for wine tourism. Unfortunately, there remains yet to heal some delay in the accessibility of disabled persons to vineyards, cellars, and tastings rooms.

If considering the specific research focus, it would seem that there is not a statistical link between the service level intensity of the wine tourism experience and the direct sales at the winery level intensity. Nevertheless, being the research in question exploratory, two very interesting findings seem to emerge: 1) a potential direct is more likely for logistic services; and 2) most probably, the more the wine tourism service level increases, the less direct sales at the winery represent a valid and reliable indicator for evaluating the wine tourism experience performance.

These two considerations, as revealed by the research findings, give additional evidence to how much the wine tourism phenomenon in Italy, but clearly not only in Italy, is evolving and becoming complex. A constantly in progress investigation on methods, techniques, and tools in this field, therefore, is an important encouragement to consolidate and develop the success of the overall business of a modern winery.

REFERENCES

- Airoldi, A. and Lojaco, G. (2014), *Italian beauty: Il mercato italiano della bellezza tra sogno e innovazione*, Rizzoli, Milan, Italy.
- Barile, S. and Metallo, G. (2007), *Le ricerche di mercato. Aspetti metodologici e applicativi*, Giappichelli, Turin, Italy.
- Benini, R. (2018), *The Italian Style: Economy, Culture and Society*, Nuova Cultura, Rome, Italy.
- Bonarou, C., Tsartas, P. and Sarantakou, E. (2019), "E-Storytelling and Wine Tourism Branding: Insights from the "Wine Roads of Northern Greece", pp 77-98, in Sigala M. and Robinson R. (Eds.), *Wine Tourism Destination Management and Marketing*, Palgrave Macmillan, Cham, Switzerland.
- Canovi, M. and Pucciarelli, F. (2019), "Social media marketing in wine tourism: winery owners' perceptions", *Journal of Travel & Tourism Marketing*, Vol. 36 No. 6, pp. 653-664.
- Capitello, R., Agnoli, L., Begalli, D. and Codurri, S. (2014), "Social media strategies and corporate brand visibility in the wine industry", *EuroMed Journal of Business*, Vol. 9 No. 2, pp. 129-148.
- Connolly, M. (2019), "Factors Influencing Consumer Wine Choice: The Case of Wine Tourism", pp. 43-61, in Sigala, M. and Robinson, R. (Eds.), *Management and Marketing of Wine Tourism Business*, Palgrave Macmillan, Cham, Switzerland.
- Crescimanno, M. and Galati, A. (2014), "Competitiveness of Italian wines in the international market", *Bulgarian Journal of Agricultural Science*, Vol. 20 No. 1, pp. 12-22.
- D'Amico, M., De Vita, G. and Bracco, S., (2014), "Direct sale of agro-food product: the case of wine in Italy", *Calitatea*, Vol. 15 No. S1, pp. 247-253.
- Dodd, T.H. and Gustafson, A.W. (1997), "Product, Environmental, and Service Attributes That Influence Consumer Attitudes and Purchases at Wineries", *Journal of Food Products Marketing*, Vol. 4 No. 3, pp. 41-59.
- Duarte Alonso, A. and Liu, Y. (2012), "Old wine region, new concept and sustainable development: winery entrepreneurs' perceived benefits from wine tourism on Spain's Canary Islands", *Journal of Sustainable Tourism*, Vol. 20 No. 7, pp. 991-1009.
- Duarte Alonso, A., Bressan, A., O'Shea, M. and Krajsic, V. (2015), "Perceived Benefits and Challenges to Wine Tourism Involvement: An International Perspective", *International Journal of Tourism Research*, Vol. 17 No. 1, pp. 66-81.
- Festa, G., Cuomo, M.T., Metallo, G. and Foroudi, P. (2016), "Building a 'Non-Core Business Theory' - The Case of Wine Tourism for Wine Firms", *Proceedings of the 6th GIKA Conference - Special Track - "Turning Kurt Lewin on his head: Nothing is so theoretical as a good practice"*, Valencia, Spain, 20-23 March, pp. 1-8.
- Festa, G., Vrontis, D., Thrassou, A. and Ciasullo, M.V. (2015), "A value co-creation model for wine tourism", *International Journal of Management Practice*, Vol. 8 No. 3, pp. 247-267.
- Fiore, M. (2016), "Direct selling in the wine sector: lessons from cellars in Italy's Apulia region", *British Food Journal*, Vol. 118 No. 8, pp. 1946-1959.
- Freitas Santos, J. and Cadima Ribeiro, J. (2012), "The Portuguese online wine buying consumer", *EuroMed Journal of Business*, Vol. 7 No. 3, pp. 294-311.
- Giacosa, E. and Mazzoleni, A. (2016), "A decision model for the suitable financing for small and medium enterprises", *International Journal of Managerial and Financial Accounting*, Vol. 8 No. 1, pp. 39-74.
- Gurau, C. and Duquesnois, F. (2008), "Direct marketing channels in the French wine industry", *International Journal of Wine Business Research*, Vol. 20 No. 1, pp. 38-52.
- Helgesen, Ø., Sandanger, H.M. and Sandbekk, J. (2018), "Do customer profitability analyses pay? A survey of large Norwegian companies", *International Journal of Managerial and Financial Accounting*, Vol. 10 No. 4, pp. 352-377.
- Marinelli, N., Fabbrizzi, S. and Alampi Sottini, V. (2016), "Local Resources and Successful Tourism Models in Tuscany", pp. 98-108, in Andreopoulou, Z., Leandros, N., Quaranta, G. and Salvia, R. (Eds.), *Tourism and New Media*, Angeli, Milan, Italy.
- Mohammad, A.A. (2016), "Changing role of accounting and its systems: a new vision of accounting as knowledge processing systems", *International Journal of Managerial and Financial Accounting*, Vol. 8 No. 1, pp. 23-38.
- O'Neill, M., Palmer, A. and Charters, S. (2002), "Wine production as a service experience - the effects of service quality on wine sales", *Journal of Services Marketing*, Vol. 16 No. 4, pp. 342-362.
- Pan, S.Y., Gao, M., Kim, H., Shah, K.J., Pei, S.L. and Chiang, P.C. (2018), "Advances and challenges in sustainable tourism toward a green economy", *Science of The Total Environment*, Vol. 635 No. (2018), pp. 452-469.
- Pratt, M. (2019), "The Image of a Wine Tourist and Impact on Self-Image Congruity", pp. 45-65, in: Sigala, M. and Robinson, R. (Eds.), *Wine Tourism Destination Management and Marketing*, Palgrave Macmillan, Cham, Switzerland.

- Randelli, F., and Martellozzo, F. (2019), "Is rural tourism-induced built-up growth a threat for the sustainability of rural areas? The case study of Tuscany", *Land Use Policy*, Vol. 86 No. (2019), pp. 387-398.
- Randelli, F., Romei, P. and Tortora, M. (2014), "An evolutionary approach to the study of rural tourism: The case of Tuscany", *Land Use Policy*, Vol. 38 No. (2014), pp. 276-281.
- Remeňová, K., Skorková, Z., Jankelová, N. (2019), "Wine tourism as an increasingly valuable revenue stream of a winery's business model", *Economics of Agriculture*, Vol. 66 No. 1, p. 23-34.
- Scorrano, P., Fait, M., Iaia, L. and Rosato, P. (2018), "The image attributes of a destination: an analysis of the wine tourists' perception", *EuroMed Journal of Business*, Vol. 13 No. 3, pp. 335-350.
- Scorrano, P., Fait, M., Maizza, A. and Vrontis, D. (2019), "Online branding strategy for wine tourism competitiveness", *International Journal of Wine Business Research*, Vol. 31 No. 2, pp. 130-150.
- Tommasetti, A. and Festa G. (2014), "An Analysis of Wine Tourism in Italy from a Strategic Service-Based Perspective", *Service Science*, Vol. 6 No. 2, pp. 122-135.

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SOCIO-DEMOGRAPHIC FACTORS AND ONLINE SHOPPING FOR FOOD AND BEVERAGE: AN ANALYSIS OF ITALIAN CONSUMERS

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ABSTRACT

Understanding the determinants of users' propensity to purchase goods online is urgent for firms in the food industry. Changes in technology, business models and market structure have been disrupting the whole retail experience, creating new winners and new losers. Answering to the changes is the real discriminating factor determining who will survive and who will fade away. The present paper aims at understanding how socio-demographic traits and characteristics influence consumers' predispositions and propensity to buy online. More specifically, the paper aims at understanding whether there are any differences or similarities in online purchases of food and beverage items *vis-à-vis* the purchases of non-food items. We find that a variety of socio-demographic characteristics influence online buying behavior and do so, nonetheless, in nuanced ways. As far as food purchases are concerned, we find that males, aged 40-49 are more inclined to buy food and beverage online. While age and gender explain online shopping for food and beverage, other variables, such as education and place of residence, do play a role in explaining the propensity to buy online non-food items. Several indications related to the preferences of customers in terms of additional services are proffered throughout the paper.

Keywords: e-commerce; online shopping; food and beverage.

INTRODUCTION

Digital channels to purchase goods and services triggered relevant transformations in a variety of industries the last two decades. Digitally-mediated forms of commerce were seen as ripe with opportunities especially for small and medium-sized enterprises that might leverage upon digital tools to expand their reach and thus open new markets. Moreover, the adoption of e-commerce strategies has been seen as a crucial requirement for firms that are dealing with clients that are increasingly familiar with digital devices and services (Kannan, 2017; Merrilees, 2016; Weil, Woerner, 2015). E-commerce and the proliferation of virtual shelves it brought about were heralded as a force for good since they encouraged the explosion of variety in markets for goods and services: as the advocates of concepts such as the *long tail* (e.g. Brynjolfsson et al., 2006)

maintain, the proliferation of online stores and the low cost of expanding catalogues on the Internet, together with the lowering costs of logistics, allowed a variety of niches to become economically viable.

The debate on e-commerce, both in academic discourses as well as in policy-making ones, still faces the need to understand the determinants of online shopping behavior and the variables influencing the use of e-commerce platforms by users. Firms, whether they want to capitalize the potential of e-commerce or aim at finding ways to contrast its advance, still need to make sense of the factors influencing the behavior of customers. Some markets are populated by users that are highly familiar with e-commerce platforms, others are not. Some product categories are commonly bought and sold online, others are not (Carpio, 2015).

The paper contributes to extant knowledge of the attitudes of consumers to buy food and beverage items online and the underlying motivations by shedding light on the socio-demographic variables influencing their behavior.

The paper considers a specific geographical market and a specific set of product categories to shed light on the factors underlying the online shopping behavior of consumers, namely the Italian market for food and beverage products. Italy is an interesting testbed for theories and frameworks aimed at understanding the factors influencing customers' online purchases: in Italy e-commerce has shown signs of growth and increased revenues, but the development of online transactions occurs at a much lower rate than the growth of usage of social networks and other digital services (Casaleggio Associati, 2018). More interestingly, food and beverage items lag behind other product categories in terms of online transactions: Health & Wellness registered +39% in 2017 with respect to 2016, Fashion +28%, Food & Beverage +24%, Electronics +21% and Furniture +19% (Casaleggio Associati, 2018). Despite the positive trend, food and beverage goods are characterized by low absolute numbers (2.7% of the total) and are interesting to be observed as a field where internet usage to make transactions is still at an early stage.

Understanding the determinants of users' propensity to buy food and drinks online, thus, is urgent for firms in the food industry and for players in the food retail industry. Changes in technology, business models and market structure have been disrupting the whole retail experience, creating new winners and new losers: responding quickly to the changes is the real discriminating factor determining who will survive and who will fade away. The present paper aims, specifically, at understanding how socio-demographic traits and characteristics influence consumers' predispositions and propensity to buy online. More specifically, the paper aims at understanding whether there are any differences or similarities in the online purchases of food and beverage *vis-à-vis* the purchases of non-food items. The paper is organized as follows: the first section provides a

brief synthesis of the extant literature on e-commerce and socio-demographic characteristics; the second presents the research design and is followed by a section that illustrates the results of the analysis of empirical data. Finally, the paper considers the results of a logit regression model that attempts at singling out the specific socio-demographic traits and characteristics that are apparently correlated with the propensity to buy food and beverage online. Finally, the paper identifies the limitations of the current research design and its further developments.

1. LITERATURE REVIEW

The multiplication of merchants selling goods and services online and the increasing familiarity of consumers in a variety of markets with digitally-mediated forms of transaction are central to the evolution of many industries. Inquiries in a variety of fields—from business strategy to marketing and consumer research—tackled questions related to the motivations and determinants underlying consumers' online shopping behavior. Socio-demographic characteristics are central in these streams of research: inferring and predicting online buying behaviors from objective data represents a promising avenue of research. Data related to consumers' characteristics and behaviors is increasingly available: individuals release data that are collected in public and private databases and, most of all, feed datasets owned and processed by firms controlling and managing online environments (e.g. websites, company-owned or controlled social media and the like, cf. Hofacker et al. 2016; Heinonen, 2011; Li, 2010). Understanding the role of socio-demographic factors in the use of e-commerce platforms, moreover, resonates with the prevailing posture in literature on technology acceptance model (cf. Hernandez et al., 2011; Venkatesh et al., 2003) that either consider socio-economic variables as predictors of users' acceptance of new technologies or socio-demographic ones.

Age was one of the eminent themes in literature regarding the role of socio-demographic characteristics on online shopping behavior. In an analysis of Israeli online consumers' behavior, for instance, Lissista and Kol (2015) showed how age is only to a certain extent a predictor of online shopping behavior. Despite common sense might bring analysts to consider younger consumers as more prone to buying items online, such a contention needs to be balanced with considerations related to the availability of disposable income. As the authors state, generation X (composed by individuals born between 1960 and 1980) shows a higher propensity to buy online than generation Y (individuals born after 1981) given the higher availability of disposable income and free time. Hence, despite generation Y appears more attractive to marketers given its connectivity, hedonism and search for engaging online experiences, marketing efforts should consider generation X as a primary target. Similarly, Kooti et al. (2016) find that the amount of money spent on online

websites increases sharply with age, reaching a peak when consumers approach the late 30s. In a study on Chinese consumers, Wang et al. (2018) find that they might be grouped in two segments: online-food-conservatives and online-food-pioneers. The authors highlight how the two segments differ in terms of socio-demographic characteristics, singling out age as the most important discriminant factor: pioneers are mainly individuals aged 31 to 40, while conservatives are those that are younger than 30 or older than 40. Bryla (2018) analyzed selected characteristics, attitudes and opinions of organic food e-consumers (online shoppers) in Poland. Through a logistic regression model, age and income turned out to be statistically significant determinants of online shopping behavior: specifically, higher age decreases the likelihood of being an organic e-consumer. Also, Kaur et al. (2017), studying the customer's demographic characteristics on influence on their attitude towards online grocery shopping, demonstrated that age is one of the most significant variables. Other studies, such as those published by Kooti et al. (2016), try to model the interaction of a large set of socio-demographic variables with online shopping behavior. For instance, they find that gender is highly correlated with the propensity to buy online across product categories, with men buying more items and more frequently than women. Moreover, they find that available income, measured through the residence of individuals—in more or less affluent areas—is highly correlated both with online shopping frequency and with the amount of money spent. Also, other Authors (Kaur et al., 2017; Bryla, 2018 and Wang et al., 2018) show that the income variable plays an important role in the interviewee's use of e-commerce.

As far as gender, the first variable examined in Kooti et al. (2016), is concerned, evidence is still mixed in literature. While many studies do infer the impact of gender on specific behaviors in terms of online shopping, more recent examinations such as that of Pascual-Miguel et al. (2015) introduce variables like effort expectancy and social influence as important mediating variables explaining different rates of e-commerce acceptance among women and men. Research the authors did on Spanish consumers suggest that both the variables tend to be more important for women than for men and that such a situation might determine females' low acceptance of e-commerce in some product categories (digital goods and services) and high acceptance in others (non-digital goods). The findings of Wang et al. (2018) and Kaur et al. (2017) have demonstrated indifference between genders and e-commerce adoption.

A host of other socio-demographic variables are considered in the present literature on consumers acceptance of e-commerce and propensity to buy products and services online and an extensive and systematic review is outside the scope of this paper. We refer the interested reader to Kooti et al. 2016 for both a review of the different foci of the existing literature as well as for the attempt to develop and test an integrative model.

What interests the most to the authors of this paper is that literature on the determinants of online shopping behavior is highly fragmented both in terms of industry and market considered, and in terms of geographical area of reference (Hallikainen, Laukkanen, 2018). An increasing number of studies, for instance, consider e-commerce acceptance in emerging economies and highlight how cultural factors in different countries and regions interact with consumers' socio-demographic characteristics in different ways (Kim, Peterson, 2017). Moreover, the fragmentation of literature in hundreds of streams related to different industries suggest that the hope for integrative and unifying views of the online shopping behavior of consumers might be an illusion and that knowledge of the phenomenon is destined to be contextual and industry-specific.

Moving from this hypothesis, the present paper aims at contributing to the debate on the online shopping behavior of consumers in a given geographical area—Italy, characterized by a specific national culture—and in a specific industry: food and beverage. Such a choice is justified by the need to adhere to a prevailing trajectory in the field that privileges contextual and industry-specific analyses and by the aim of producing advanced knowledge on e-commerce to benefit firms in a sector that currently is lagging behind. The remainder of the paper, thus, illustrates the research design motivated and the results of an empirical analyses aimed at answering at the following research question: which socio-demographic characteristics influence, and how, consumer propensity to buy online food and beverage items?

2. METHODS AND DATA

Following the methodological approach proposed by Kaur et al. (2017) a web-based survey was carried out in order to investigate consumers' attitude towards the use of e-commerce to purchase food and beverage online. The empirical analysis aimed at capturing the motivations and expectations underlying consumers' willingness to make use of e-commerce websites (or the absence thereof).

A survey was administered among a sample of consumers living in the Veneto Region (North-East of Italy) aged 20 to 69. A non probabilistic selection method was used to obtain the sample: users of Facebook were contacted and addressed for a period of 18 days in the third quarter of 2016. Groups of citizens gathering around local pages of their municipalities were solicited and asked to distribute the call to fill the survey.

The questionnaire consisted of 29 items, articulated in four main sections: the first aimed at investigating and understanding the habits and routines of consumers in relation to food and beverage purchases, specifically the frequency of their purchases, the places and retail superficies where purchases are made and the main elements influencing their perception of the point of sale.

The second section aimed at understanding how, how frequently and what these consumers buy online, as to understand the degree of familiarity of the sample with e-commerce websites and their use habits, including their preferred payment methods and the reasons behind the eventual interruption of the purchase process once online. The third section of the survey aimed at collecting data specifically on the online purchases of food and beverage items by the selected sample: this section aimed at providing a picture of how many consumers in the sample used e-commerce websites, with which frequency, which specific websites. The final section of the survey allowed the research team to collect socio-demographic information on the individuals included in the sample.

The vast majority of the questions in the survey were closed-ended; the questionnaire was validated with industry experts before being administered online.

2.1 The sample

Female participants to the survey outnumbered men (75%). The ratio is in line with national polls showing that 75% of women in Italian households take responsibility for the procurement of food and beverage. As far as the samples' age distribution is concerned, data from the survey show that the most represented age group is the one aged between 40 and 49 (28%), immediately followed by the 30-39 age group (25%) and by the 20-29 group (21%). The instrument chosen to solicit respondents, a social network, is likely to have determined the lower percentages in the age group 50-59 (18%) and 60-69 (8%). Based on national panel data, Italian citizens below 45 years of age familiar and active on social media, while those over 45 years lag behind (cf. Prato, 2016), with just 17% of over 65 that do possess and account of Facebook.

Another variable that was considered is educational attainment: a large share of interviewees attained medium-to-high credentials, especially if compared with average national values. Specifically, 57% of the informants attained a secondary title, 29% a graduate degree, 14% a lower secondary title. As far as the occupational condition in the sample is concerned, the vast majority of individuals surveyed are employees (52%), followed by free-lance workers (19%), housewives (10%), with other conditions such as students, retired and unemployed being relatively less represented. The sample is concentrated in urban areas (75%) *vis-à-vis* rural areas (25%). As far as households are concerned, 29% of individuals in the sample live in households of four components, 29% in households with three components, 26% are living with one other person. Singles (10%) and people living with four other relatives (7%) are less represented in the sample.

3. RESULTS

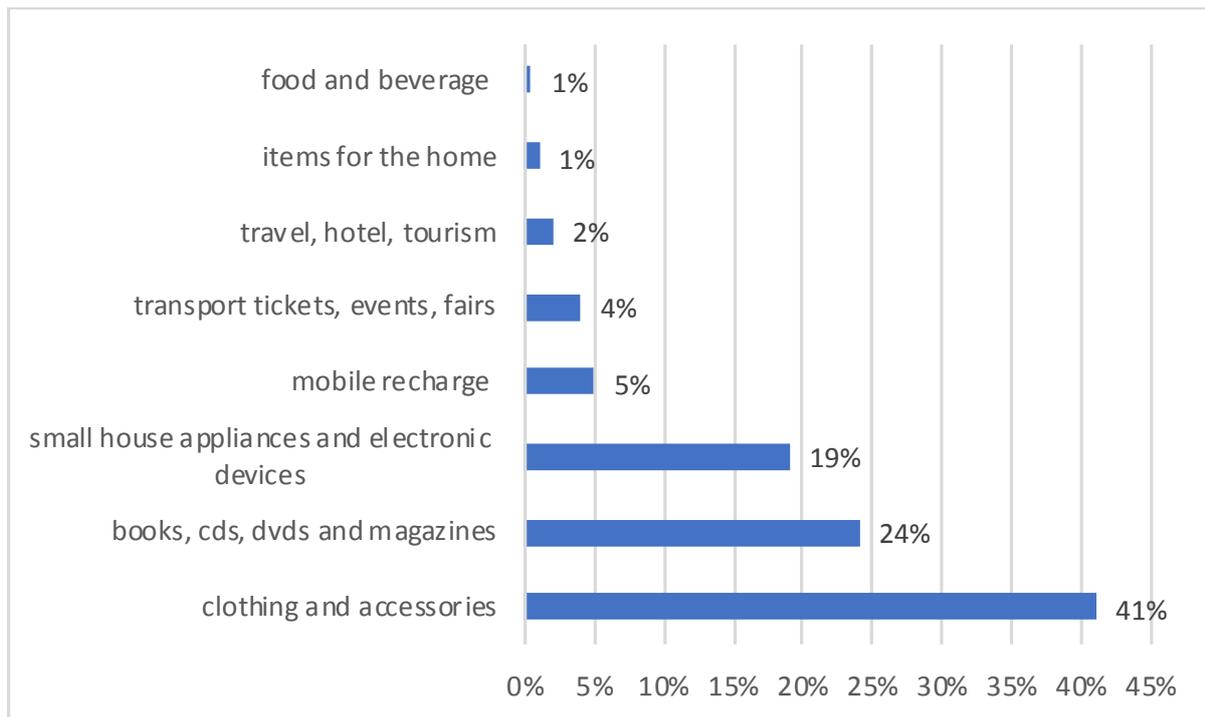
3.1 *Shopping for food and beverage: habits and behaviors*

Data from the survey highlights how the vast majority of consumers in the sample shop frequently for food and beverage: 44% of the sample buys groceries at least twice a week, 39% less than twice a week. Smaller percentages shop daily (9%), every two weeks (7%) and monthly. When shopping for food and beverage is concerned, consumers choose different places: supermarkets are the solution of choice for the majority of the sample (51%), larger superficies (e.g. malls) are chosen by 17% of the sample. A contained share of the sample (14%) declared to be erratic in their choices, with no prevalence of one over the others. How do individuals in the sample make their decisions as to where to buy foods and beverages? Prices and promotions (e.g. discounts) are the most important signaling devices used by respondents in making their choices (28%), while quality of products (25%) and geographical contiguity of the shop with their homes (22%) are close followers. Operating hours, availability of parking space and other services (10%) are used by a smaller portion of the sample to make their decisions as to where their purchases will be made. Apparently, factors such as the presence of given brands, trust inspired by the point of sale, being acquainted with the owner of the shop are relatively less important in guiding consumers' behavior in our sample.

3.2 *Online buying behaviors and habits*

Three out of four interviewees (78%) bought something online at least once. More specifically, the sample includes a vast majority of individuals whose buying behavior is mild towards online channels: interviewees made less than six purchases in two months, with 59% of individuals recurring to online e-commerce websites three times in two months, 17% six times, 17% zero purchases in the last two months. Only 8% of the sample bought items online more than 12 times in the last 2 months. As far as categories are concerned, the items that are preferred by the components of the sample are electronic devices and small house appliances (17%), clothing and accessories (17%), published goods (books, magazines, cd, dvd, 14%), trips and hotels (14%), tickets for events or public transport (10%). The question allowed respondents to indicate more than one answer. The analysis of the first (most frequent) answers allowed us to identify the salience of different categories of goods: 41% of the respondents shop frequently (indicate as a first choice) for clothing and accessories, 24% report books, CDs, DVDs and magazines, 19% small house appliances and electronic devices (fig. 1).

Figure 1: Most important categories bought online - first answer



Consumers in the sample use different payment methods and instruments: credit card is used as the preeminent payment method by 36% of the sample, Paypal by 31% of the respondents, pre-paid cards by 26% of the respondents.

The survey aimed also at understanding how frequently and why consumers interrupt their purchasing experience online by abandoning the cart in the process. The phenomenon is quite frequent in the sample with 83% of respondents stating that they left the process at least once. Consumers do not complete the purchases they initiated mainly for reasons related to insecurity: 31% of the interviewees state that they were not sure enough about the quality and features of the product, while 17% were convinced to abandon the process by the shipping costs that were judged as too expensive. As far as this latter reason is concerned, e-commerce platforms and websites that specify shipping costs only at an advanced stage in the process tend to discourage users to buy since they perceive that the final cost is too high. Other recurring reasons explaining the interruption of the purchase process are the presence of the same item at lower prices in other websites (11%), the lack of the preferred method of payment (10%), a mandatory process of subscription to the website or an overly long one (9%), and finally doubts regarding the security of the payment process (6%).

3.3 Food and beverage online purchases

Buying food and beverage online is relatively infrequent among respondents to the survey: in fact, 155 respondents (15% of the total) bought food or drinks on an e-commerce website or platform at least once. Women tend to buy groceries and beverages online more frequently (68%), while age

tends to discriminate buyers vis-à-vis non buyers: 40% of respondents reporting that they bought at least once food and beverages online belong to the age classes 20-29 and 30-39, followed closely by respondents aged 40-49 (39%).

Respondents in the sample buy certain types of items more frequently than others: items with longer expiration dates are those that are preferred and bought repeatedly by respondents in the sample, with a particular emphasis on coffee and tea (14%), sweets and cookies (12.63%), wine (10.88%), pasta (8.07%), beer or other alcoholic beverages (8.07%), oil (7.72%) cereals (7.02%). Consumers in the sample buy groceries online mainly because they cannot find the items they selected in physical stores (30%); some of them rely on e-commerce websites to save time (26%), to save money since online prices are lower than those in physical retail spaces (23%), and finally to purchase typical local foods (10%) from other regions or countries.

When asked whether there are categories of goods that they would not buy online, respondents in the sample indicate fresh vegetables and fruit (20.88%), meat and poultry (17.01%), fish (16.49%), cured meat (8.51%), water (6.70%), frozen foods (6.70%). The reasons behind the exclusion of these categories from their online shopping list are manifold: the risk of receiving deteriorated fresh food (43%), the absence of a physical, direct, non mediated contact with the items to be purchased (33%), the risk that goods might break or lose their quality during transport (9%), the lack of opportunities to read the labels in advance (6%), the lack of the opportunity to be aware of the expiration date before receiving the good at home (5%).

Consumers (n=1361) were then asked to express their judgment on the importance (measured through a 4-point Likert scale, with 1 being absolutely not at all important, 2 slightly important, 3 important, 4 very important) 6 different factors in influencing their purchase decisions related to food and beverage.

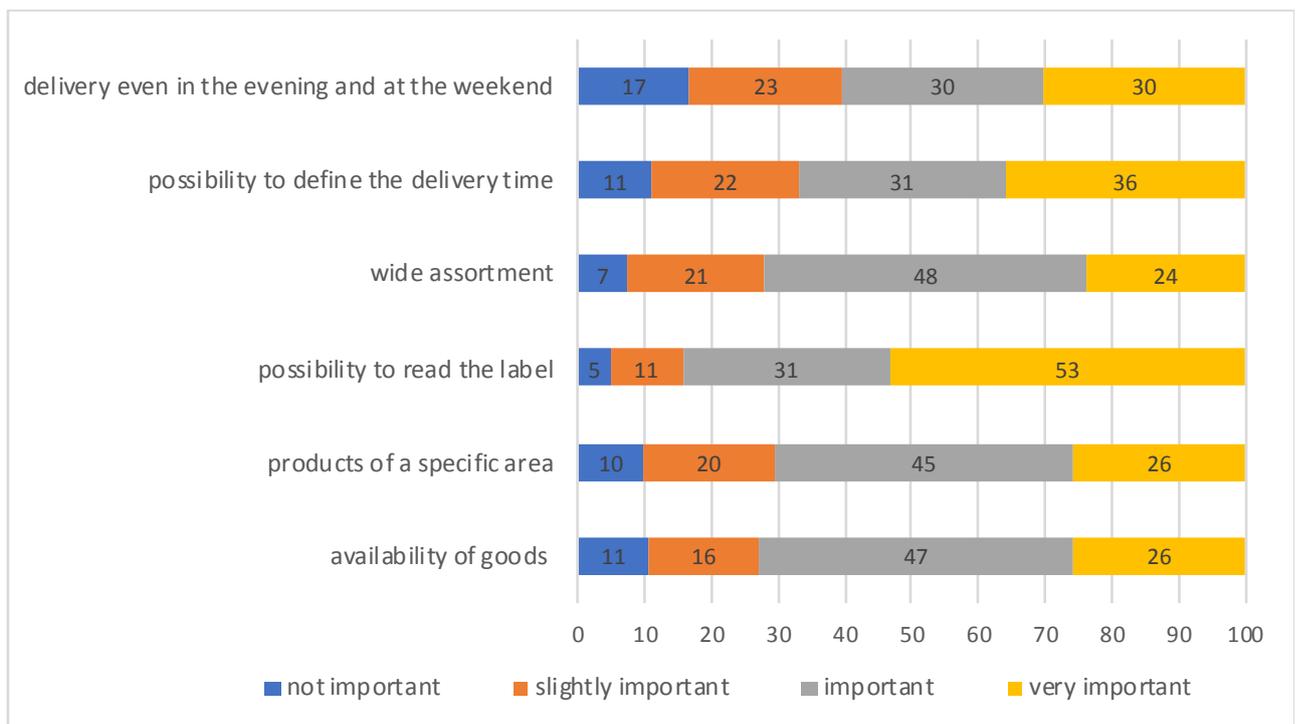
The aspects respondents were required to ponder were the following:

- The online availability of items otherwise difficult to be find in physical stores located close to the customer;
- The availability of typical local foods;
- The opportunity to read food labels before the actual purchase of the good;
- The variety of items offered by the website;
- The possibility to clearly define the timing of the delivery of the good purchased online;
- The delivery of food and beverage during weekends and the night.

Figure 2 synthesizes the perception of the respondents. The availability of products that are seldom available in stores close to the customers, the opportunity to read food labels in advance and the

opportunity to buy typical local foods are the factors that most likely motivate customers in shopping online. The last two factors, the possibility to clearly define the timing of delivery and the availability of delivery services at night and in the weekends, do not show a clear predominance in terms of perceived importance.

Figure 2 - Relevant factors in consumers' online purchase decisions



4. LOGISTIC REGRESSION MODEL AND RESULTS

The research question motivating the paper is whether some socio-demographic characteristics explain the propensity of individuals to buy food and beverage online. To attempt at answering the research question we estimated a logistic regression model.

In the remainder of the paper we will present two models: general one that considers "online purchase" as the dependent variable, and a second one that will consider "online purchase of food and beverage" as the dependent variable. Both the models consider the following socio-demographic characteristics: gender, age cohort, level of education, profession, area of residence, size of the family (measured by the number of family members) (see table 1).

Table 1- model variables and categories

Socio-demographic variables	Reference category	Category included in the model
Gender	Female	Male
Age group	Age 5 (60-69)	Age 1 (20-29) Age 2 (30-39) Age 3 (40-49) Age 4 (50-59)
Education	Low level (elementary school license/lower middle school license)	Middle Education (higher secondary school license) High Education (tertiary education credential)
Profession	Employee	Student Unemployed Housekeeper Free lance worker Retired
Area of residence	Urban	Rural
Family size	Large family (5 or more family members)	Small family (1-2 family members) Average family (3-4 family members)

Table 2 – Results: online purchase

	Estimate	Standard Error	p-value	Odds Ratio	Marginal Effects
constant	-0.427	0.234	0.067		
Male	0.359	0.167	0.032	1.433	0.055
Age1	1.056	0.248	<0.00005	2.876	0.141
Age2	1.467	0.251	<0.00005	4.295	0.190
Age3	1.392	0.238	<0.00005	4.023	0.188
Age4	0.635	0.239	0.007	1.890	0.091
Middle Education	0.619	0.179	0.0005	1.858	0.103
High education	0.929	0.217	<0.00005	2.534	0.133

As far as the first model, the general one, is concerned, all coefficients except the constant are positive, indicating that, relative to the reference category, the propensity to buy online is positively influenced. Focusing on the Odds ratio column, all the values are higher than 1, to indicate that the propensity to buy online for the considered categories is always higher than that of the reference category. The odds ratio of the variable “age” is particularly high, with a propensity to buy online that is 2 to 4 times superior that that of the reference category represented by the 60-69 age group. Similar considerations might be done for the education variable: the

propensity to buy online for respondents with a middle or high education is 1.0 to 2.5 superior than that of respondents with lower education attainment.

Table 3 – Results: online purchase of food and beverage

	Estimate	Standard Error	p-value	Odds Ratio	Marginal Effects
constant	-2.000	0.124	<2e-16	0.135	
Male	0.322	0.189	0.0891	1.380	0.0418
Age3	0.435	0.181	0.0173	1.539	0.0564

When the second model is considered, the one focusing on the online purchase of food and beverage, the results indicate that all the coefficients are statistically significant and, the constant aside, are positive. This means that, relative to the reference category, the propensity to buy online is positively influenced. Focusing on the odds ratio column, similarly to the first model, also in this one the values are higher than 1, indicating that the propensity to buy food and beverage online for all of the considered categories is superior to that of the reference category. If gender is considered, males show to be more likely to buy food and beverage online than women. When age is considered, the propensity to buy food and beverage online for respondents aged 40 to 49 is 1.5 times higher than those not belonging to the same age group.

5. DISCUSSION

The findings of our analysis allowed to develop a profile of online consumers according to their general online shopping behavior first and then according to their food online shopping behavior. What emerged from our survey is that males are more willing to buy online, especially those that are employed and are aged 30-49.

The first estimated model singles out three relevant socio-demographic characteristics that influence individuals' online shopping behavior: gender, age and education. As far as the online shopping behavior in general is concerned, the study suggests that women are more inclined to buy goods and services in the "tourism", clothing and apparel, and books/cd/dvd/magazine categories. On the other hand, men, especially in the age group 30-49, are more inclined to buy small home appliances and electronic devices. Age influences the choice among different categories: youngsters in the age group 20-29 are more inclined to buy products belonging to the tourism, clothing and accessories categories.

The second estimated model, then, focused on the online shopping behavior of food and beverage items. In general, data related to the purchase of food and beverage items online allowed us to register that women are more inclined to buy pasta and grains, while men are more inclined to shop for wines and sweets. In both cases, the items are packaged goods, with long expiry dates,

that consumers probably already bought repeatedly and know extensively. When motivations to buy online are concerned, the availability of rare or typical products that are not easily accessible in physical stores in the residence area consumers live in is the most important. Fresh items, such as fruit and vegetables, meat and fish, are not among those preferred by customers since they fear that the logistic process might deteriorate them. The second estimated model highlighted how two socio-demographic variables influence the propensity to buy food and beverage online: gender (with a prevalence of men) and age (with a prevalence of people aged 40-49).

6. CONCLUDING REMARKS

The development of updated and effective e-commerce platforms to sell food and beverage online represents a promising avenue for the development of the industry and for the competitiveness and growth of food and beverage firms, especially in countries like Italy, characterized by a prevalence of small- and medium-sized firms and by the multiplicity of typical local foods appreciated in global markets. Nonetheless, consumers still put a prize on the physical and direct visual contact with food and beverage items, are still worried by the risk of food deterioration during the transport of these items and are still not completely convinced of the reliability and security of e-commerce websites and of online payment methods. These and other impediments are currently slowing the speed of e-commerce adoption by firms and the transformation of firms' business models.

Data in the paper show that the relatively contained share of "high-tech" consumers that more enthusiastically buy on e-commerce websites privilege items that have longer expiry dates, both in known categories as well as new and never tried before, especially when the internet allows them to buy typical local foods of other regions or items that are not easily available in their area of residence.

As far as the consumers' online purchase preferences for specific food categories are concerned, our results are consistent with those of Wang et al. (2018): consumers had weak online purchase intentions toward fresh food products such as meat, eggs, vegetables, fish and seafood.

Italian consumers, as well as consumers from other countries (Chintagunta et al., 2012; Wang et al., 2018) appear to be more willing to purchase packed food when shopping online.

Our results provide some useful bases for customer segmentation and targeting in e-commerce platforms other studies suggest (cf. Lissitsa and Kol, 2016), despite the centrality in the e-commerce discourse of younger generations, the most promising prospects for marketers are relatively older customers. Our findings highlighted how the propensity to buy food and beverage online is affected by the consumer's age, in particular the higher propensity is associated with individuals

aged between 40-49 years. This is in contrast with the findings from a recent study on a specific product category (organic products) (Bryła, 2018) that highlights that being younger increases the chance of shopping online for organic food. Even Kaur et al. (2017) found out that consumers' attitudes towards online grocery shopping differ significantly with respect to their age: in their study, the respondents in the age group 25 to 34 significantly differ from the respondents in the age groups 15 to 24 years and 35 to 44. The middle-aged people have positive attitude towards online grocery shopping as compared to young aged people.

With regard to gender, the estimated model indicates that male consumers have a higher propensity to buy food and beverage online. This is in line with the results of Kooti et al. (2016).

Our investigation allowed us also to collect additional information that might be useful to design the online strategies of food and beverage firms. On the one hand customers claim to appreciate complementary services such as the opportunity to read food labels in advance (especially women), the possibility to receive food at home in specific time slots (especially employees). Finally, the use of e-commerce websites by these consumers is not excluding their loyalty to physical stores: more than half of the sample, in fact, still shops frequently in physical retail spaces and visit physical stores at least once a week.

The study is exploratory and has limitations. In particular the sampling procedure, despite allowing for a large number of respondents, might require an additional wave of data collection among a sample that better fits the social characteristics of the country to validate the emerging results.

REFERENCES

- Bryła, P. (2018). Organic food online shopping in Poland. *British Food Journal*, 120(5), 1015–1027.
- Brynjolfsson, E., Smith, M. D., & Hu, Y. J. (2006). From Niches to Riches: Anatomy of the Long Tail. *MIT Sloan management review*, 47(4), 67-71.
- Carpio, C. (2015). Trends in e-commerce for the food marketing system. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources*, 10(023), 1–24.
- Casaleggio Associati (2018). E-commerce in Italia 2018. Report available at [Casaleggio.it, https://www.casaleggio.it/wp-content/uploads/2018/05/Ecommerce_in_Italia_2018_Web.pdf](https://www.casaleggio.it/wp-content/uploads/2018/05/Ecommerce_in_Italia_2018_Web.pdf)
- Chintagunta, P.K., Chu, J. and Cebollada, J. (2012). Quantifying transaction costs in online/off-line grocery channel choice. *Marketing Science*, Vol. 31 No. 1, pp. 96-114
- Freathy, P., & Calderwood, E. (2013). The impact of internet adoption upon the shopping behavior of island residents. *Journal of Retailing and Consumer Services*, 20(1), 111-119.
- Hallikainen, H., & Laukkanen, T. (2018). National culture and consumer trust in e-commerce. *International Journal of Information Management*, 38(1), 97-106.
- Heinonen, K. (2011). Consumer activity in social media: Managerial approaches to consumers' social media behavior. *Journal of Consumer Behaviour*, 10(6), 356-364.
- Hernández, B., Jiménez, J., & José Martín, M. (2011). Age, gender and income: do they really moderate online shopping behaviour?. *Online information review*, 35(1), 113-133.
- Hofacker, C. F., Malthouse, E. C., & Sultan, F. (2016). Big data and consumer behavior: Imminent opportunities. *Journal of Consumer Marketing*, 33(2), 89-97.

- Kannan, P. K. (2017). Digital marketing: A framework, review and research agenda. *International Journal of Research in Marketing*, 34(1), 22-45.
- Kaur, H. and Shukla, R. K. (2017). Consumer's Attitude towards Online Grocery Shopping in Delhi City. *International Journal of Multidisciplinary Approach and Studies*, 1-12.
- Kim, Y., & Peterson, R. A. (2017). A Meta-analysis of Online Trust Relationships in E-commerce. *Journal of Interactive Marketing*, 38, 44-54.
- Kooti, F., Lerman, K., Aiello, L. M., Grbovic, M., Djuric, N., & Radosavljevic, V. (2016). Portrait of an online shopper: Understanding and predicting consumer behavior. In *Proceedings of the Ninth ACM International Conference on Web Search and Data Mining* (pp. 205-214). ACM.
- Li, C. (2010). Groundswell. Winning in a world transformed by social technologies. *Strategic Direction*, 26(8).
- Lissitsa, S., & Kol, O. (2016). Generation X vs. Generation Y—A decade of online shopping. *Journal of Retailing and Consumer Services*, 31, 304-312.
- Merrilees, B. (2016). Interactive brand experience pathways to customer-brand engagement and value co-creation. *Journal of Product & Brand Management*, 25(5), 402-408.
- Pascual-Miguel, F. J., Agudo-Peregrina, Á. F., & Chaparro-Peláez, J. (2015). Influences of gender and product type on online purchasing. *Journal of Business Research*, 68(7), 1550-1556.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS quarterly*, 425-478.
- Wang, O., & Somogyi, S. (2018). Consumer adoption of online food shopping in China. *British Food Journal*, 120(12), 2868-2884.
- Weill, P., & Woerner, S. L. (2015). Thriving in an increasingly digital ecosystem. *MIT Sloan Management Review*, 56(4), 27

THE LEVEL OF PROXIMITY OF LATIN COUNTRIES IN TERMS OF CUSTOMER'S EXPECTATIONS ABOUT SERVICES: APPLICATION TO THE HOTEL SERVICE

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ABSTRACT

Among the years, the interest in the study of customers' expectations about services has increased, due to its dynamic nature and importance to achieve a high understanding of customers' behaviour. In this sense, the main purpose of this research is to understand if customers from countries with alleged similar culture expect services dimensions equally and to understand the level of proximity among countries. Quantitative methodology was used to test the level of proximity in customers' expectations about a service among different countries with alleged similar cultural patterns and if these customers share similar expectations about a set of service dimensions. This transnational research regarded the hotel service and data was collected from ten Latin countries: Portugal, Spain, France, Italy, Romania, Brazil, Mexico, Uruguay, Bolivia and Chile. About 1262 customers answered a questionnaire about their expectations about service dimensions of the hotel service. Findings show that Latin customers' expectations about services are not equal in these countries with alleged cultural similarity and that there is a low level of proximity or similarity of customers' expectations about service among Latin countries. Theoretically the major contribution is the use of a cross-cultural approach applied in countries with alleged cultural similarity. Furthermore, managers when marketing services internationally in Latin countries need to adapt the service offer to each country.

Keywords: cross-cultural management, Latin countries, customers' expectations, services, hotel service, service dimensions, international marketing, cultural distance

INTRODUCTION

In the last years, services became one of the most important sectors worldwide, in developed countries and in developing countries, pushed by the fast internationalization of service companies (Javalgi and White, 2002, Ghemawat, 2001). A cross-cultural study is very pertinent, because when services are commercialized in foreign countries, the cultural influence plays a major role between customers and

the service provider. As culture affects how people consume, a successful internationalization strategy should anticipate cultural influences in customers' expectations about a service, in each country. In fact, managers select countries that are culturally closer to internationalize their company (Martin and Droegendijk, 2014). And the Latin countries are an example, as Latin companies internationalize to Latin countries based on an alleged proximity and on the presumed cultural similarity. Indeed, authors have performed cross-cultural research to cluster the countries that are culturally similar and the Latin countries emerged without agreement on its constitution. The countries that cluster together according to the expectations about service dimensions, will also have a higher cultural proximity and consequently it is expected that the society and people inside this cluster have similar behaviours, values and beliefs. Therefore, the individuals in the same cluster are expected to act equally and to have a similar way of being. Having in consideration the customer expectations about services, this research tries to uncover the level of proximity/similarity among different countries.

LITERATURE REVIEW

Cultural distance in international marketing

One of the major challenges to market services internationally is the cross-cultural incongruence (Javalgi and White, 2002). Marketing activities when targeting foreign markets become more complex, require an effort in working in cooperation with other people with a different cultural background. Additionally, international marketing managers need to know more about the markets, not only the main and visible differences between the domestic market and the foreign market: they need to understand how people think, what are their wishes and desires and how they act to fulfil those desires (Holzmüller and Stöttinger, 2001). Customers are culturally diverse, with different religious beliefs, language, education, family structure, gender role, and time orientation (Javalgi and White, 2002), this has influence on customer's expectations, perceptions and evaluations about the service and ultimately it will impact customer's behaviour when experiencing the service (Schumann et al., 2010).

Most of the costs and risks of internationalization are created by distance, which influences the attractiveness of a foreign market. The CAGE model (Ghemawat, 2001) takes in account four dimensions to measure distances between countries. One of the dimensions is the cultural distance, related to how people interact with each other and with institutions and how customers build their preferences and choices. The cultural distance is greater when the languages are different, different ethnicities, lack of social networks, different religions and different social norms. More recently Martin and Droegendijk (2014) developed the COD index (country distance index), build on the psychic distance literature based on three basic dimensions: socioeconomic development distance, physical distance and cultural and historical distance. The cultural and historical distance has in consideration

the differences in language that can cause problems in the information flow, compromising communication and interpretation of information. So, speaking the same language is an obvious strength when it comes to choose the international market. Moreover, religious differences shape people's behaviour, values and norms, and these differences can lead to misunderstandings and disagreements. For last, the colonial tie can also build a strong relation between the two countries. As higher the country distance is, higher is the possibility of difficulties in communication, information disturbance and obstacles to the international activities. For example, when it comes to the dimension of cultural and historical distance the Latin American countries and the Latin European countries are the ones with the shortest distance to Spain.

Thus, service providers in these countries make internationalization decisions based on alleged cultural proximity/similarity to other Latin countries. However, there are no agreement in clustering these countries in terms of cultural similarity. So, there is an incongruence, in one side the service providers internationalize to these countries based on cultural similarity, on the other side researchers that tried to cluster Latin countries based on cultural similarity did not reach to an agreement in the countries that constitute the cluster. The development of cross-cultural research was useful to cluster countries (see Hofstede, 1980, House et al., 2004, Trompenaars and Hampden-Turner, 1997, Haire et al., 1966, Sirota and Greenwood, 1971, Ronen and Kraut, 1977, Ronen and Shenkar, 1985, Stankov, 2011). From the previous exercises of country clustering, two clusters emerged without agreement on its constitution: Latin countries, subdivided into Latin Europe and Latin America. The countries were clustered according to the importance given to the cultural dimensions, so the countries with higher cultural proximity are clustered together, as it is expected that the society and people inside this cluster have similar behaviours, values and beliefs. So, Latin countries are assumed to have a cultural similarity, not only in terms of internationalization processes among companies from these countries, as also in the cross-cultural research, where Latin Europeans and Americans share some cultural characteristics. If this Latin cluster really exists, the customers that live in these countries will have similar expectations about a service, more particularly about the service dimensions.

Customer's Expectations

In a basic understanding, customer expectations are about what a service should offer (Parasuraman et al., 1988), an anticipation to a service experience (Wu et al., 2014). Satisfaction is accomplished through the balance between customer expectations and the real experiences or perceptions (Wu et al., 2014). As this difference is lower, between customer expectations and perceptions, the customer has a higher satisfaction level and the company will benefit from it, as the customer will probably return to the company and eventually build a positive feedback about the company to other potential customers.

Therefore managing customer's expectations is critical to service conception and management (Kurtz and Clow, 1992).

Customers' expectations are dynamic and based in several factors (Parasuraman et al., 1991, Pizam and Ellis, 1999), influenced by the customer's view of the providers', provider's image, traditional marketing activities, traditions, ideology or word-of-mouth (Grönroos, 1984). Also, before the initial service encounter every customer has its cultural identity, related to physiognomy, language and demeanour, as a background that influences all the service encounter process (Hopkins et al., 2005). In sum, each country has its own culture, and as culture influences the way that the customer expects the service, there is a need of adapting the service according to the culture of each country. In fact, several sources of information are part of customer expectations formation about a service (Parasuraman et al., 1991, Zeithaml et al., 1993), however other authors (Cunningham et al., 2005, Cunningham et al., 2006, Cunningham et al., 2004, Donthu and Yoo, 1998, Hsu et al., 2013) state that culture is a major influence on customer's expectations about service.

Services dimensions

Customers' have expectations for each one of the service dimensions. So, it is fundamental do understand the service dimensions that authors among the years have identified (eg. Chase, 1981, Cunningham et al., 2006, Lovelock, 1980, Bowen, 1990, Liu et al., 2008, Salegna and Fazel, 2013, Van der Valk and Axelsson, 2015). As this research is outlined from the customers' point of view, only the service dimensions that the service provider can influence and control are taken into account, as these dimensions are the ones that the service provider can design in order to fulfil customers' expectations. Then, it is proposed a new classification for service dimensions:

- Degree of customer involvement: the level of connection and interaction between the service provider and the customers during the service process or system. This is very important for the service provider to manage the service process, to assure service quality, to determine the level of customers' involvement and co-production in the service or if customers only consume the service after the service production (no involvement).
- Convenience level: before and during the service process, customers evaluate the availability of the service and its effort to achieve it (money, time and energy spent in the service process), with the ultimate goal that the service provider will satisfy their needs in the expected time and appropriate space. In this evaluation, customers consider the amount of risk, the physical safety, the financial security and the level of confidentiality.
- Contact personnel performance: the contact personnel are a very important player in the service performance, especially when front line employees can be a source of differentiation of the service

because they know how to fulfil customers' needs. The contact personnel judge and evaluate customers' needs, based on the level of resources that they have at their disposal.

- Complexity degree: the service provider has the power to define and design service encounter steps and their number, according to the customer's degree of repeatability of service steps and to the degree of freedom that customers have in defining them. It is also important for the service provider to define the complexity level of those steps.
- Information and communication power: the information exchange between the service provider and the customers is fundamental to bond, perform a task, clarify doubts, promote and sell the service. The information is a power that can be controlled by customers or by the service provider and who controls information has more power in the service process.
- Environment and social responsibility: the provider can offer a service that has an environmental orientation, with ecological processes and materials. It can also play an educational role, raising customer awareness for environmental protection and social responsibility.

It appears that internationalization strategic decisions between Latin countries are stuck on a "presumed cultural similarity paradox" (Vromans et al., 2013), where Latin countries are assumed to have a cultural similarity and that this similarity eases the internationalization processes between companies from these countries, and with strong previous assumed expectations about the culture from other Latin countries. Therefore, customers from countries culturally closer are likely to act and behave equally and to have equal expectations about service dimensions. Having in consideration the customers' expectations about services dimensions, this research tries to uncover the level of proximity/similarity among different countries. Thus, the following hypothesis are posited:

Hypothesis 1a (H1a): High level of proximity in customers' expectations about a service among different countries with alleged similar cultural patterns.

Hypothesis 1b (H1b): Customers' from all countries, with alleged similar cultural patterns, share similar expectations about a set of service dimensions.

METHODOLOGY

The hypothesis propositions were tested in Latin countries and in the hotel service. In the more recent research, the travel and tourism services are one of the most explored themes. The tourism sector in some countries is the main player in the economic development and also one of the most subjects studied in the service quality research, because of its uniqueness characteristics, as for example in hotel services, customers are part of the service experience (Dortyol et al., 2014).

This research performed a multi country analysis, a gap identified previously in this research area (Engelen and Brettel, 2011). Cardon (2008) advices that cross-cultural research should include a

minimum of 10 to 15 cultures. This research aims to take a step further and make a transcontinental cross-cultural study and due to these gaps, considering 10 different countries with a “presumed cultural similarity paradox” (Vromans et al., 2013). Therefore, the Latin Europeans countries selected for this research are: France, Italy, Portugal, Spain and Romania. And the Latin American countries are: Bolivia, Brazil, Chile, Mexico and Uruguay. The population is composed by university students (attending post-graduate, master and PhD programs) from the selected Latin countries. The objective was to have people that can answer a questionnaire about consumer issues and that are customers of the hotel service, with resources to spend on that service. In fact, Schwartz (2006) stated that “countries are meaningful cultural units” and that students are an ideal sample to make cross-cultural research, as they match on critical characteristics. Data was collected through an online questionnaire and to increase the filling rate and the validity, all questions were of mandatory answer. The questionnaire was made in English and then translated to the native languages of the Latin countries (Portuguese, Spanish, Italian and Romanian) by a local native expert and then it was applied back translation to assure the words have the same meanings in both languages. The questionnaire measured customers’ expectations about each service dimension using a seven-point Likert scale and was based on service quality measurement questionnaires developed by Parasuraman et al. (1994), measuring customers’ expectations about the minimum acceptable level of service for an hotel.

	PT	ES	FR	IT	RO	BR	MX	UY	BO	CL	NLE	NEL	NENL	Total
Age														
18 to 25	59%	14%	27%	12%	32%	16%	25%	22%	48%	17%	25%	0%	0%	29%
26 to 40	31%	32%	36%	40%	46%	41%	31%	32%	33%	37%	63%	29%	50%	36%
41 to 60	11%	50%	30%	44%	22%	38%	39%	44%	15%	35%	13%	42%	50%	31%
Above 60	0%	4%	7%	4%	0%	4%	6%	2%	4%	11%	0%	29%	0%	4%
Sex														
Female	26%	36%	29%	22%	50%	42%	33%	47%	43%	30%	63%	46%	17%	43%
Male	74%	64%	71%	78%	50%	58%	67%	53%	57%	70%	38%	54%	83%	57%
Education qualification														
Primary	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Secondary	22%	3%	0%	1%	3%	1%	0%	4%	18%	4%	0%	4%	0%	7%
Bachelor's	36%	13%	6%	36%	24%	17%	35%	40%	48%	23%	13%	29%	0%	28%
Master's/PhD	42%	84%	94%	62%	73%	82%	65%	56%	35%	73%	88%	67%	100%	65%
Annual household income (in relation to country's average)														
Far below	3%	3%	4%	1%	1%	1%	0%	0%	1%	1%	0%	0%	0%	2%
Below	17%	10%	9%	1%	3%	3%	2%	2%	12%	0%	0%	0%	0%	7%
Average	42%	38%	27%	55%	25%	21%	26%	29%	38%	19%	50%	29%	33%	32%
Above	36%	42%	48%	42%	48%	45%	57%	62%	39%	53%	38%	46%	33%	46%
Well above	3%	7%	12%	1%	23%	30%	15%	7%	11%	28%	13%	25%	33%	14%

Notes: Portugal (PT); Spain (ES); France (FR); Italy (IT); Romania (RO); Brazil (BR), Mexico (MX); Uruguay (UY); Bolivia (BO); Chile (CL); Non Latin Europe (NLE); Non European Latin (NEL); Non European Non Latin (NENL).

Table 1. *Socio demographic profile by country of residence*

FINDINGS

The sample of this research is adequate with 1262 observations (Portugal (15%), Spain (9%), France (9%), Italy (6%), Romania (9%), Brazil (12%), Mexico (13%), Uruguay (8%), Bolivia (10%) and Chile (7%). In Table 1 is presented the socio-demographic profile of the sample.

Reliability, consistency analysis and outlier detection

The Exploratory Factor Analysis (EFA) and the Cronbach Alpha determination was conducted on the general sample (N = 1262) and results are in Table 2.

Dimension	KMO Test	Cronbach's alpha (score reliability)	AVE	CR
Degree of customer involvement (DCI)	0,879	0,819	0,480	0,820
Convenience level (CL)	0,955	0,947	0,669	0,948
Contact personnel performance (CPP)	0,902	0,941	0,733	0,943
Complexity degree (CD)	0,910	0,895	0,532	0,900
Information and communication power (ICP)	0,840	0,855	0,563	0,865
Environment and social responsibility (ESR)	0,917	0,929	0,611	0,926

Table 2. *Service dimensions: KMO test, score reliability, average variance extracted (AVE) and composite reliability (CR)*

The KMO test indicates of the service dimensions DCI (KMO=0,879) and ICP (KMO=0,840) have a good homogeneity, as the values are between 0,8 and 0,9 (Marôco, 2011), and that the service dimensions CL (KMO=0,955), CPP (KMO=0,902), CD (KMO=0,910) and ESR (KMO=0,917) have an excellent homogeneity, as the values are above 0,9 (Marôco, 2011), so it is recommended the execution of the EFA. All the service dimensions indicate a good internal consistency, as the Cronbach Alpha (score reliability) is above 0,8 (George and Mallery, 2003). All the service dimensions present good values of reliability, as the CR values are all above 0,7 (Hair et al., 1998). Also, all service dimensions have a convergent validity of the construct, as the AVE values are above 0,5 (Hair et al., 1998), with the exception of degree of customer involvement dimension (DCI) that has an AVE near to 0,5 (AVE=0,480). Using the method proposed by Hoaglin and Iglewicz (1987), the “outlier labelling rule”, the outliers were identified and then eliminated. From the sample it was eliminated 227 observations in service dimensions in all the countries of residence.

Results

The Multidimensional Scaling (PROXSCAL and MDPREF) determination was made by using the software SPSS Statistics (v. 24, IBM SPSS, Chicago, IL). The analysis was conducted on the final sample, considering the ten countries of residence: Portugal, Spain, France, Italy, Romania, Brazil, Mexico, Uruguay, Bolivia and Chile. In order to apply the MDS PROXSCAL it was created a matrix of proximities between Latin Countries, presented in Table 3, based on the customers' expectations about

all the service dimensions in all the Latin Countries. In Table 4 are presented the measures for stress and adjustment of the produced solution. According to the quality evaluation criteria STRESS-I and DAF, the solution of two dimensions is classified as reasonable (STRESS-I=0,257) to very good (DAF=0,933), as the DAF (Dispersion Accounted For), has a score higher than 0,7 (Marôco, 2011).

	Portugal	Spain	France	Italy	Romania	Brazil	Mexico	Uruguay	Bolivia	Chile
Portugal	0,000	0,128	1,816	0,921	0,505	0,143	0,238	0,438	0,384	0,331
Spain	0,128	0,000	1,252	0,709	0,429	0,367	0,316	0,442	0,208	0,579
France	1,816	1,252	0,000	0,410	0,725	2,632	2,674	1,528	0,600	3,406
Italy	0,921	0,709	0,410	0,000	0,334	1,696	1,814	0,533	0,161	2,280
Romania	0,505	0,429	0,725	0,334	0,000	1,016	1,178	0,432	0,143	1,529
Brazil	0,143	0,367	2,632	1,696	1,016	0,000	0,098	0,970	0,914	0,089
Mexico	0,238	0,316	2,674	1,814	1,178	0,098	0,000	0,921	0,959	0,102
Uruguay	0,438	0,442	1,528	0,533	0,432	0,970	0,921	0,000	0,308	1,233
Bolivia	0,384	0,208	0,600	0,161	0,143	0,914	0,959	0,308	0,000	1,335
Chile	0,331	0,579	3,406	2,280	1,529	0,089	0,102	1,233	1,335	0,000

Table 3. Proximity matrix of Latin Countries

Normalized Raw Stress	0,06655
Stress-I	,25797 ^a
Stress-II	,74619 ^a
S-Stress	,18023 ^b
Dispersion Accounted for (D.A.F)	0,93345
Tucker's Coefficient of Congruence	0,96615

PROXSCAL minimizes Normalized Raw Stress.

a. Optimal scaling factor = 1,071.

b. Optimal scaling factor = 0,944.

Table 4. Stress and measurement adjustments

Analysing the matrix of proximities (see Table 3), where the higher the value, the greater the proximity, it is possible to identify the closest, or with higher similarity, countries in terms of customers' expectations about service dimensions: Portugal/France, France/Spain, France/Chile, Italy/Chile, Romania/Chile, Brazil/France, Mexico/France, France/Uruguay and Bolivia/Chile.

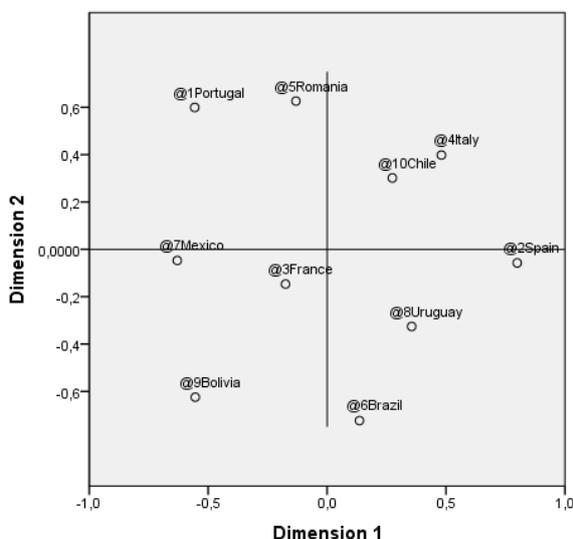
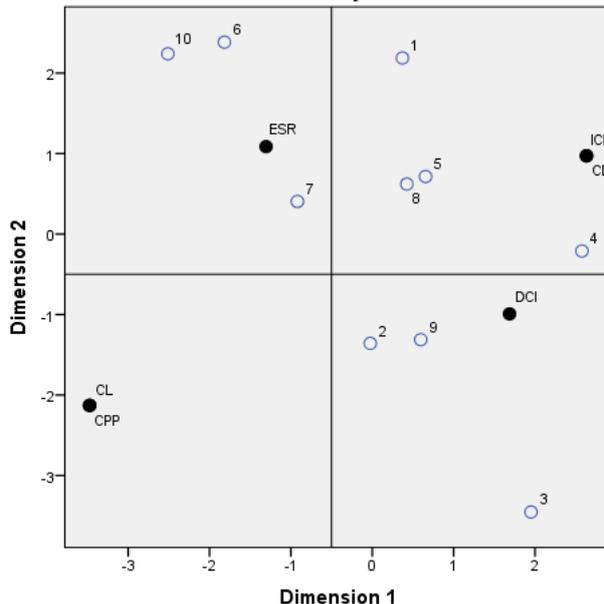


Figure 1. Perceptual map for Latin Countries proximity

	Dimensions	
	1	2
1: Portugal	-0,572	0,585
2: Spain	0,795	-0,067
3: France	-0,168	-0,142
4: Italy	0,49	0,401
5: Romania	-0,147	0,619
6: Brazil	0,137	-0,724
7: Mexico	-0,62	-0,052
8: Uruguay	0,348	-0,321
9: Bolivia	-0,549	-0,628
10: Chile	0,285	0,329

Table 5. Final coordinates for Latin Countries

The perceptual map in Figure 1 illustrates where the ten Latin countries are positioned according to the similarities perceived by the respondents of their expectations about service dimensions. Therefore, and taking into consideration the final coordinates of the Latin Countries in each dimension (see Table 5), it is concluded that Chile and Italy are the most similar and Brazil and Romania are the most dissimilar, regarding the two retained dimensions. Regarding dimension 1, the countries with higher level of similarity are Italy, Chile, Spain and Uruguay. Regarding dimension 2, the countries with higher level of similarity are Portugal and Romania. Consequently, the level of proximity or similarity of customers' expectations about service among Latin countries is not high, therefore Hypothesis H1a is rejected. Although, some countries present high similarity or proximity.



1: Portugal; 2: Spain; 3: France; 4: Italy; 5: Romania; 6: Brazil; 7: Mexico; 8: Uruguay; 9: Bolivia; 10: Chile

Figure 2. Perceptual map for service dimensions and Latin Countries

The multidimensional scaling of preference (MDPREF) was applied in order to get a representation of the service dimensions in multidimensional space, and then relates the set of countries to the same multidimensional space (Figure 2). Regarding the two retained dimensions no country showed similar

customer expectations about any of the service dimensions. Concerning the dimension 1, customers from Italy and France have similar expectations about the *degree of customer involvement*, the *complexity degree* and the *information and communication power* service dimensions. In dimension 2, customers from Mexico, Uruguay and Romania have similar expectations about the *environment and social responsibility*, the *information and communication power* and *complexity degree* service dimensions. Consequently, the Hypothesis H1b is rejected, as customers from Latin countries do not have similar expectations about service dimensions.

DISCUSSION

Results showed that the level of proximity among Latin countries is not high, regarding customers' expectations about service. Still, Chile and Italy have a high level of proximity, this can be partially explained by the HDI level in 2015, as Chile has the highest HDI level of Latin America (0,847) and Italy has the second highest level of HDI in Latin Europe (0,887). In terms of previous cross-cultural research, these two countries scored as high power distance countries, where people believe that power is distributed unequally in the society (Gupta et al., 2002, Jesuino, 2002, Stankov, 2011). Also, Italy, Chile, Spain and Uruguay have a high level of similarity in one dimension, this can be partially explained by historical ties connected to the immigration flows from Spain and Italy to Uruguay and Chile, and also by Italy, Chile and Spain have high scores on power distance cultural dimension (Gupta et al., 2002, Jesuino, 2002, Stankov, 2011). This partially confirms previous findings, that considered a high cultural proximity between Latin countries and Spain (Fernández, 2007, Martin and Drogendijk, 2014). And Portugal and Romania have a high level of similarity in the other dimension, this can be partially explained by the high score that these countries have as inner-directed cultures, that believe that they can and should control nature (Trompenaars and Hampden-Turner, 1997) and by close HDI scores in 2015 (Portugal with 0,843 and Romania with 0,802). This disconfirms that Portugal has high cultural proximity with Brazil, that defined several internationalization processes between these two countries (Anderson and Goffee, 2001, Coelho, 1998, Costa et al., 2013, Fonseca and Silva, 2011, Teixeira and Pires, 2001).

Results also showed that customers from Latin countries do not have similar expectations about any service dimensions. Nevertheless, Italian and French customers have similar expectations about the degree of customer involvement, the complexity degree and the information and communication power of the service. In fact, France and Italy grouping is in agreement with some previous country clustering research, that clustered these two countries together (Gupta et al., 2002, Hofstede, 1976, Hofstede, 1980, House et al., 2004, Jesuino, 2002, Ronen and Kraut, 1977, Ronen and Shenkar, 1985, Stankov, 2011, Trompenaars and Hampden-Turner, 1997). Customers from Mexico, Uruguay and

Romania have similar expectations about the environment and social responsibility, the information and communication power and the complexity degree of the service. Highlight for Uruguay, that have never been considered in the previous country clustering studies, and now Uruguayan, Mexican and Romanian customers have similar expectations about some service dimensions.

CONCLUSION

It was fundamental to understand if countries that compose these groups have cultural similarity or proximity between them, regarding customers' expectations. The level of proximity among Latin countries is not high, in fact, only Chile and Italy have a higher level of proximity, that can be explained by high human development scores and by being high power distance countries. Making a more particular analysis and by dimensions, in terms of historical ties, it can be said that Italy, Chile, Spain and Uruguay have a higher level of proximity. Portugal and Romania have a high level of similarity in terms of being inner-directed cultures, as customers believe that they can control nature when they expect the service. These results disconfirm that Latin countries have a high cultural proximity and that Portugal has high cultural proximity with Brazil. In terms of service dimensions, Latin customers do not have similar expectations about any service dimensions. However, in a unidimensional analysis, it can be stated that the way that Italians and French customers expect to be involved in the service, to define service steps and its complexity and to receive communication is the same. Also, customers from Mexico, Uruguay and Romania are similar in the way that they expect to receive service communication, to define service steps and its complexity and to concern about environmental and social responsibility actions of the service. Summing up, when analysed individually Latin countries have a low level of proximity in terms of expectations of service dimensions and it cannot be considered culturally close. This confirms that there is in fact a "presumed cultural similarity paradox" (Vromans et al., 2013) among Latin countries.

This research contributed to clear the disagreement on previous research of clustering Latin countries into one group based on cultural similarity. The Latin countries have a low level of proximity, regarding customers' expectations about services, and therefore, cannot be considered culturally close. In fact, it can be stated that Latin countries do not cluster together regarding customer's expectations about service dimensions. So, the same service should not be designed and commercialized equally for the Latin customers, managers should adapt the service to each country. By, clearing this cognitive dissonance, managers can now reduce risks in internationalization processes to the Latin countries. Moreover, regarding specifically the way that Latin customers expect service dimensions, the Italian and French customers are very similar in the way that they expect to be involved in the service, to participate in the service steps complexity definition and to receive communication, for example, the

service provider can design the same communication strategy for these countries. Also, Mexican, Uruguayan and Romania are similar in the way that they expect to receive communication from the service provider, to concern about environmental and social responsibilities from the service provider and to participate in definition of the services' level complexity, as for example, the service provider can define the participation of the customer as a co-producer. Hence, involving customers from these countries in the service process and understanding their choices and thoughts will help service providers to create value to customers.

The first limitation is that this research was only applied in one context, on the hotel service. The service dimensions scale was developed in order to be suitable for application in other services. So, future research can test the same relation in other services. The second limitation is also linked to the context, where it was considered a specific group of countries to test hypothesis, the Latin countries. Although, future research can replicate the hypothesis in other groups of countries with alleged cultural proximity or even to extend this research to more Latin countries.

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REFERENCES

- Anderson, J. & Goffee, R. 2001. From Wood Panels To Mobile Phones: Strategic Diversification At Sonae Group. *Business Strategy Review*, 12, 57-70.
- Bowen, J. 1990. Development Of A Taxonomy Of Services To Gain Strategic Marketing Insights. *Journal of the Academy of Marketing Science*, 18, 43-49.
- Cardon, P. W. 2008. A Critique of Hall's Contexting Model A Meta-Analysis of Literature on Intercultural Business and Technical Communication. *Journal of Business and Technical Communication*, 22, 399-428.
- Chase, R. B. 1981. The Customer Contact Approach To Services - Theoretical Bases And Practical Extensions. *Operations Research*, 29, 698-706.
- Coelho, J. D. 1998. Internacionalizacao: O Caso Da Sonae. JANUS [Online]. Available: http://janusonline.pt/1998/1998_3_14.html#dados [Accessed 13th of September 2014].
- Costa, Neves, J., Couto, A., Pires, H. P., Sousa, P. P., Simoes, C., Esperanca, J. P., Simoes, V. C., Barbosa, C., Mendes, J., Martins, L. M. & Castro, R. M. 2013. Horizonte Internacionalizar: Guia para PME. Lisbon.
- Cunningham, L. F., Young, C. E. & Lee, M. 2005. Customer Perceptions Of Service Dimensions: American And Asian Perspectives. *Service Industries Journal*, 25, 43-59.
- Cunningham, L. F., Young, C. E., Lee, M. & Ulaga, W. 2006. Customer Perceptions Of Service Dimensions: Cross-Cultural Analysis And Perspective. *International Marketing Review*, 23, 192-210.
- Cunningham, L. F., Young, C. E., Ulaga, W. & Lee, M. 2004. Consumer Views Of Service Classifications In The Usa And France. *Journal of Services Marketing*, 18, 421-432.
- Donthu, N. & Yoo, B. 1998. Cultural Influences On Service Quality Expectations. *Journal of Service Research*, 1, 178-186.

- Dortyol, I. T., Varinli, I. & Kitapci, O. 2014. How do international tourists perceive hotel quality?: An exploratory study of service quality in Antalya tourism region. *International Journal of Contemporary Hospitality Management*, 26, 470-495.
- Engelen, A. & Brettel, M. 2011. Assessing Cross-Cultural Marketing Theory And Research. *Journal of Business Research*, 64, 516-523.
- Fernandez, M. P. S. 2007. Estrategias De Internacionalizacion De La Gran Banca Espanola. *Pecunia: Revista de la Facultad de Ciencias Economicas y Empresariales, Universidad de Leon*, 5, 229-272.
- Fonseca, M. J. M. & Silva, J. R. O Caso Portugal Telecom No Contexto Das Relacoes Entre O Brasil E Portugal: A Perspectiva Da Sua Internacionalizacao. XI Congresso Internacional Luso-Afro Brasileiro (CONLAB) de Ciencias Sociais, 9th-10th of August 2011 Bahia.
- George, D. & Mallery, M. 2003. *Using SPSS for Windows step by step: a simple guide and reference*, Boston, MA, Allyn & Bacon.
- Ghemawat, P. 2001. Distance Still Matters. *The Hard Reality Of Global Expansion*. *Harvard Business Review*, 79, 137.
- Gronroos, C. 1984. A Service Quality Model and its Marketing Implications. *European Journal of Marketing*, 18, 36-44.
- Gupta, V., Hanges, P. J. & Dorfman, P. 2002. Cultural Clusters: Methodology And Findings. *Journal of World Business*, 37, 11-15.
- Hair, J., Anderson, R., Tatham, R. & Black, W. 1998. *Multivariate data analysis*, Englewood Cliffs, NJ, Prentice Hall.
- Haire, M., Ghiselli, E. & Porter, L. 1966. *Managerial Thinking*, New York, John Wiley & Sons.
- Hoaglin, D. C. & Iglewicz, B. 1987. Fine-Tuning Some Resistant Rules for Outlier Labeling. *Journal of the American Statistical Association*, 82, 1147-1149.
- Hofstede, G. 1976. Nationality And Espoused Values Of Managers. *Journal of Applied Psychology*, 61, 148-155.
- Hofstede, G. 1980. *Culture's Consequences: International Differences in Work-Related Values*, Beverly Hills, Sage Publications.
- Holzmuller, H. H. & Stottinger, B. 2001. International Marketing Managers' Cultural Sensitivity: Relevance, Training Requirements And A Pragmatic Training Concept. *International Business Review*, 10, 597-614.
- Hopkins, S. A., Hopkins, W. E. & Hoffman, K. D. 2005. Domestic Inter?Cultural Service Encounters: An Integrated Model. *Managing Service Quality: An International Journal*, 15, 329-343.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W. & Gupta, V. 2004. *Culture, Leadership, And Organizations: The Globe Study Of 62 Societies*, Thousand Oaks, Sage publications.
- Hsu, S., Woodside, A. G. & Marshall, R. 2013. Critical Tests of Multiple Theories of Cultures' Consequences: Comparing the Usefulness of Models by Hofstede, Inglehart and Baker, Schwartz, Steenkamp, as well as GDP and Distance for Explaining Overseas Tourism Behavior. *Journal of Travel Research*, 52, 679-704.
- Javalgi, R. G. & White, D. S. 2002. Strategic Challenges For The Marketing Of Services Internationally. *International Marketing Review*, 19, 563-581.
- Jesuino, J. C. 2002. Latin Europe Cluster: From South To North. *Journal of World Business*, 37, 81-89.
- Kurtz, D. L. & Clow, K. E. 1992. Managing Consumer Expectations Of Services. *Journal of Marketing Management*, 2, 19-25.
- Liu, C., Wang, C. & Lee, Y. 2008. Revisit Service Classification To Construct A Customer?Oriented Integrative Service Model. *International Journal of Service Industry Management*, 19, 639-661.
- Lovelock, C. H. 1980. Towards A Classification Of Services. In: LAMB, C. W. & DUNNE, P. M. (eds.) *Theoretical developments in marketing*. Chicago: American Marketing Association.
- Maroco, J. 2011. *Analise Estatistica com o SPSS Statistics*, Pero Pinheiro, Report Number.
- Martin, O. M. & Drogendijk, R. 2014. Country Distance (COD): Development and Validation of a New Objective Measure. *Journal of Small Business Management*, 52, 102-125.
- Parasuraman, A., Berry, L. L. & Zeithaml, V. A. 1991. Understanding Customer Expectations Of Service. *Sloan Management Review*, 32, 39-48.
- Parasuraman, A., Zeithaml, V. A. & Berry, L. L. 1988. SERVQUAL - A Multiple-Item Scale For Measuring Consumer Perceptions Of Service Quality. *Journal of Retailing*, 64, 12-40.
- Parasuraman, A., Zeithaml, V. A. & Berry, L. L. 1994. Alternative Scales For Measuring Service Quality - A Comparative-Assessment Based On Psychometric And Diagnostic-Criteria. *Journal of Retailing*, 70, 201-230.
- Pizam, A. & Ellis, T. 1999. Customer Satisfaction And Its Measurement In Hospitality Enterprises. *International Journal of Contemporary Hospitality Management*, 11, 326-339.
- Ronen, S. & Kraut, A. I. 1977. Similarities Among Countries Based On Employee Work Values And Attitudes. *Columbia Journal of World Business*, 12, 89-96.

- Ronen, S. & Shenkar, O. 1985. Clustering Countries On Attitudinal Dimensions - A Review And Synthesis. *Academy of Management Review*, 10, 435-454.
- Salegna, G. J. & Fazel, F. 2013. An Integrative Approach for Classifying Services. *The Journal of Global Business Management*, 9, 1-11.
- Schumann, J. H., Wangenheim, F. V., Stringfellow, A., Zhilin, Y., Praxmarer, S., Jimenez, F. R., Blazevic, V., Shannon, R. L. M., Shainesh, G. & Komor, M. 2010. Drivers of Trust in Relational Service Exchange: Understanding the Importance of Cross-Cultural Differences. *Journal of Service Research*, 13, 453-468.
- Schwartz, S. H. 2006. A Theory of Cultural Value Orientations: Explication and Applications. *Comparative Sociology*, 5, 137-182.
- Sirota, D. & Greenwood, J. M. 1971. Understand Your Overseas Work Force. *Harvard Business Review*, 49, 53-60.
- Stankov, L. 2011. Individual, Country And Societal Cluster Differences On Measures Of Personality, Attitudes, Values, And Social Norms. *Learning and Individual Differences*, 21, 55-66.
- Teixeira, J. A. & Pires, I. M. 2001. Integracao De Mercados E Internacionalizacao: Estrategias Empresariais No Comercio E Servicos Em Portugal. *GeoINova*, 3, 129-162.
- Trompenaars, F. & Hampden-Turner, C. 1997. *Riding the Waves of Culture: Understanding Diversity in Global Business*, London, Nicholas Brealey Publishing.
- Van Der Valk, W. & Axelsson, B. 2015. Towards A Managerially Useful Approach To Classifying Services. *Journal of Purchasing and Supply Management*, 21, 113-124.
- Vromans, P., Van Engen, M. & Mol, S. 2013. Presumed Cultural Similarity Paradox. *Journal of Global Mobility: The Home of Expatriate Management Research*, 1, 219-238.
- Wu, P., Huang, C. & Chou, C. 2014. Service Expectation, Perceived Service Quality, And Customer Satisfaction In Food And Beverage Industry. *The International Journal of Organizational Innovation*, 7, 171-180.
- Zeithaml, V. A., Berry, L. L. & Parasuraman, A. 1993. The Nature And Determinants Of Customer Expectations Of Service. *Journal of the academy of Marketing Science*, 21, 1-12.

UNDERSTANDING THE DONATING MIND & OPTIMIZING MESSAGING – PUBLIC HOSPITALS

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ABSTRACT

This study examines messages which drive the statement ‘*I want to donate to this hospital,*’ and identifies communication messages to promote donations by individual. The study does so by uncover new-to-the-world mind-sets, groups of individuals who respond in similar ways to themes of messages. Rather than presenting prospective donors with messages based on who they ARE, or what they have EXPERIENCED, the approach, Mind Genomics, uncovers these mind-sets, and at the same time discovers the precise theme and language to increase likelihood of donation. The study finishes with the PVI, the personal viewpoint identifier, allowing the organization to understand the mind-set to which a prospective donor belongs, and thus the specific messages expected to be most effective for the specific individual.

Keywords: Communication, Donations, Hospitals, Messages, Mind-set segments, Mind-Genomics, Nonprofit-Organizations

INTRODUCTION

Non-profit organizations such as schools, hospitals, churches, and so forth depend up financial support from publicly supported organizations, governmental units, and foundations (List, 2011), all requiring some level of convincing. A non-profit organization dependent upon such external, public support, must assure the reality and the external perception of its status as a charitable organization. The right language, the right messages, the right audience for those messages, are critical. This paper examines the messages that can be used to motivate donations, presenting a way to understand how to create new campaigns which may be more effective because of the knowledge provided by small-scale studies of the right type, such as the one reported here.

People help worthy causes by donations or by volunteering. Sources of donations are individuals, bequests, corporations, and foundations (List, 2011). Seventy five percent of annual donations were donated by individuals (List, 2011). By understanding what drives people to donate, organizations can learn how to generate the greatest level of donations (Carpenter, Holmes & Matthews, 2008).

Salamon, Sokolowski, and Haddock (2012) reported that the percentage of support for nonprofit organizations coming from governments ranges from 30.5 percent in the United States and 46.7 percent in the United Kingdom to 76.8 percent in Belgium. Differences among these percentages are affected by national tax policies, national income distributions, national attitudes on government responsibility for satisfying social needs, and governments' policies (Andreoni & Payne, 2011; Adelino, Lewellen & Sundaram, 2015). When controlling these sources of variance, however, there still emerges significant variation across donors and donations. Is there a simple, discoverable pattern? What drives differences among individual donors?

Gender makes a difference. UK data on donations of individuals to charitable causes reveal that most women are more generous than are men in terms of the number of causes to which they donate, and the amounts they donate (Mesch, Rooney, Steinberg & Denton, 2006). The percentage of female donors was significantly higher than that of male donors across causes (Breeze & Thornton, 2005.) For example, 55% of male donors supported only one cause each month, compared to 46% of female donors supporting only one cause. Moreover, women tended to give smaller amounts that they distributed among several causes. The patterns differ in terms of the recipient. Women were reported to provide a higher support for animal welfare, education and the elderly, whereas men were reported to provide higher support for religious organizations (Mesch, Rooney, Steinberg & Denton, 2006). These differences remained, even after taking into account characteristics such as household structure, education and income (Piper & Schnepf, 2008).

Marital status also makes a difference, but the picture is complicated by gender, marital status, and amount of donation. In almost all cases, the donor proportion for women has been reported higher than the donor proportion for men, whether the woman is single or married. When the amount of the donation was split, and the 50% of lower donations considered, married women tended to donate more than did married men with similar background characteristics. Among single people, about ninety percent of women gave more than did men (Mesch, Rooney, Steinberg, & Denton, 2006). When it comes to men, married men have been reported to donate nearly twice as much as their unmarried male counterparts (Mesch, Rooney, Steinberg, & Denton, 2006).

Age was interacting with marital status (Wiepking & Bekkers, 2010). For all groups, except for married men and for all causes except for religious organizations, the likelihood to donate *decreased* when the age increased from 55 years to 64 years. More married men donated when age increased to 55-64 years (Wiepking & Bekkers, 2010). Finally, 60% of the total amount donated was given by the top 10% of donors (Micklewright & Schnepf, 2007).

The foregoing discussion of the literature shows the complexity of understanding just WHO is the best donor. We have not even considered the reality that most development officials struggle with this

problem, but at the same time with an even more profound and subtle problem, namely WHAT TO COMMUNICATE. Finding the most likely donor is only part of the task. The harder part is to determine the 'ask'.

Approaching the Giving Issue using the science of Mind-Genomics

Public hospitals have always depended, to some degree, upon the public largesse. Many of them rely to a great degree upon the donations of private citizens. It should come as no surprise, therefore, that most hospitals have an official 'arm' devoted to fundraising, often called development support.' In this study we examine specific word pictures, even specific words to motivate a person to donate. Moskowitz & Onufrey (2012) studied how to assist organizations fighting Cancer, based on data, to increase their donations. The language had to be right. Surprisingly, the, the wrong words inhibited a person from donating. It is this information which motivates the present effort to discover specifically WHAT to say to increase donations.

During the past three decades Galanter, Moskowitz & Silcher (2011) and Gabay, Moskowitz, Silcher and Galanter (2017) researched and published extensively on the topic of what specific messages resonate in the minds of consumers and patients. One chapter was even devoted to communication messages for donations and charity (Galanter, Moskowitz & Silcher, 2011). These books and other studies were based on the Mind Genomics approach.

There were other efforts along this line using Mind-Genomics from 2011 to 2019, some appearing in the literature (Galanter, Moskowitz & Silcher, 2011, Gabay, Moskowitz, Silcher and Galanter, 2017, Prince, Gabay, Priporas, & Moskowitz, 2019, Gabay, Moskowitz, Onufrey & Rappaport, 2017, Gabay & Moskowitz, 2015, Gabay, Moskowitz & Kochman, 2015, Gabay & Moskowitz, 2012) that all share one thing. They all identified communication messages through experiments in which the objective was to use the language necessary to affect behaviors of consumers and patients. Results of studies using Mind-Genomics on donations suggested that when the right communication was applied, the donations could be increased by 10% to 40% (Galanter, Moskowitz & Silcher, 2011).

The Mind Genomics approach can be summarized as using experimentally designed combinations of messages, presenting these messages to prospective donors, obtaining ratings, either of interest to donate and/or amount that would be donated, and then deconstructing the combinations of messages to the contribution of each message. This simple structure ensures that one cannot 'game' the system, providing expected responses to be 'politically correct.'

Mind Genomics works by assembling a set of messages or elements, of different types, following a specific structure. Elements are similar to the types of questions a reporter might ask when composing a story about an event. That is, the questions pertain to WHO, WHAT, WHERE, WHEN, WHY. Mind Genomics asks more topic related questions, specifically those shown in Table 1. The source of the

elements are the professionals working in the field who are familiar with the topic. The Mind Genomics system is simply a structure by which to present stimuli, get responses, and understand what every element contributes to the response. The benefit of the Mind Genomics process are speed (hours and days), specificity (the messages are relevant), cost and simplicity (substantially lower because of a templated system, from start to finish), iterativity and scalability (promoted by the confluence of speed, cost, simplicity.)

METHODS

Sample and Procedure

This explorative study was part of a research project conducted at the NYU Langone Heart Center. We wanted to identify what particular messages might spur donations. Mind Genomics was suggested as a rapid, inexpensive, easily and quickly deployed method to acquire the appropriate knowledge about WHAT to say. Thus, Mind Genomics provided the scientific and technology structure for a feasible, repeatable, and scalable system for knowledge-building.

Respondents were recruited by a company specializing in recruiting and maintaining panelists for participation in on-line studies. The company, Turk Prime, was instructed to recruit respondents for a 17-minute on-line study. The panel was to comprise individuals age 18 and older, but not other requirements were placed on the panel. This 'loose' criterion is relevant for Mind Genomics studies where the focus is on identifying the types of messages to say and to avoid, and the existence and nature of the underlying mind-sets, groups of individuals with different patterns of messages to which they will respond.

Each participating respondent read an orientation page telling them about the study (donations to stop heart disease). The orientation page was simple, conveying primarily information about what the respondent's tasks would be (read the entire vignette, rate as one idea), and telling the respondent the vignettes were all different. Often in Mind Genomics experiments of this type the respondent might complain that the 'vignettes are the same,' principally because the same elements are being recombined. The assurance that all the vignettes differ from each other forestalls that complaint.

Process and measures

The raw material (silos/elements or questions/answers) comprised six silos with four elements each. The silos and the elements were provided by the Development Department at Langone. After raw materials were converted into short phrases, they were combined according to a basic experimental design. The experimental design created 36 unique combinations, vignettes, with each vignette comprising 2-4 elements. The experimental design ensured that each element appeared equally often, that each element was statistically independent of every other element, and each respondent would

evaluate a unique set of 36 vignettes, different from the set evaluated by any other respondent. At the same time, the basic design structure was maintained, so that the only difference was the specific combinations evaluated by each respondent (Gofman & Moskowitz, 2010; Milutinovic, & Salom, 2016; Moskowitz & Gofman, 2014; Moskowitz, Sciacca & Lester, 2018.) Table 1 presents the final list of six silos and 24 elements.

	Silo A – What are relevant statistics about cardiovascular disease to grab attention?
A1	Cardiovascular disease is the leading killer in the United States
A2	At least 1.2 million Americans will have a heart attack this year, 50% of them will die
A3	40 million Americans have high cholesterol and 72 million have high blood pressure
A4	70% of people go on to have a heart attack even after medically lowering their cholesterol and blood pressure
	Silo B – What are relevant shortcomings in our treatment of cardiovascular disease?
B1	Current treatments for cardiovascular disease are only partially effective
B2	Cholesterol lowering drugs are only 30% effective
B3	Current imaging techniques don't tell us who is going to have a heart attack
B4	Current risk factors don't accurately predict who is going to have a heart attack
	Silo C – What is a second expertise, of a patient-centered nature?
C1	Our cardiovascular medical center studies prevention methods from lifestyle modification to dissolving plaque on a cellular level
C2	Our cardiovascular medical center does preventative cardiology research and treatment
C3	The NYU Center for the Prevention of Cardiovascular Disease has an integrated program
C4	Our cardiovascular medical center is expert in hypertension, lipid disorders, diabetes, and nutrition and behavior modification
	Silo D – What is a second expertise, of a patient-centered nature?
D1	Our cardiovascular medical center translates basic research to the clinic
D2	Our cardiovascular medical center performs personalized assessments of risk and response to treatment
D3	Our expert consultations aim to combine lifestyle modification and medical therapy
D4	Our faculty are experts in treatment and research of lipid disorders and are improving the diagnosis of cardiovascular risk factors
	Silo E – What can the center do in the next 10 years?
E1	Within 10 years, we can discover the key factors in the coronary artery wall that cause plaque build-up and heart attacks
E2	Within 10 years, the NYU Center for the Prevention of Cardiovascular Disease can make existing plaques disappear
E3	Within 10 years, our cardiovascular medical center has the potential to identify new targets for treatments, imaging and diagnosis
E4	We can improve imaging so that diagnoses can be determined accurately and non-invasively
	Silo F – Why are we asking you for a donation?
F1	Governmental resources are insufficient
F2	The budget of the NIH, the biggest funder of biomedical research, has declined by 15% over the past 8 years
F3	The NIH, the biggest funder of biomedical research, funds only 10% of proposals, leaving most worthy projects unfunded
F4	Less than 1/3 of projects rated as "Excellent" receive funding from the NIH, the biggest funder of biomedical research

Table 1. The six silos (questions), and the four elements (answers) in each silo

The strategy of combining 2-4 elements by experimental design creates combinations that are easy to read. The ease of reading is achieved because the vignette contains only a modest amount of information, with the information displayed in rows, one atop the other, and without connectives to link the different elements.. Mind Genomics covers a wide number of combinations, emerging with

the patterns because of the wide coverage. The stability of the pattern emerges from the fact that so much of the space is covered that deviations in the pattern emerging from one respondent can be counterbalanced by the deviations in the pattern emerging from another respondent. The strategy we used differs dramatically from the more conventional methods, wherein the research depends upon a large number of replicated experiences to produce a more stable pattern. Mind Genomics achieves stability by space-filling and coverage. Conventional conjoint measurement and really all forms of measurement achieve stability by replication to reduce the variability of the mean.

The respondent was unaware of the underlying design, and simply rated the combination of elements as if the combination represented a single idea. This approach prevents the respondent from providing so-called 'politically-correct' answers, responses that present oneself in a good light, but do not represent reality. The speed of the interview, with one vignette quickly following the previous vignette, ends up requiring the respondent to judge the individual vignette in almost an automatic fashion.

At the end of the 'experiment' comprising the evaluation the aforementioned 36 vignettes, each respondent completed a self-profiling classification questionnaire, which allowed the respondent to define himself or herself in terms of gender, age, education, causes to which the respondent donates, and 'typical' amount of the donation.

1. Analysis

Each rating was transformed to a binary scale. Ratings of 1-6 were transformed to 0. Ratings of 7-9 were transformed to 100. A small random number was added to each transformed rating. The transformation produces an easy-to-read result. Managers and in fact most researchers have an easier time with binary scales, i.e., no/yes (not interested in donating, interested, won't increase the size of the donation, will increase the size of the donation).

RESULTS

Total Panel

Table 2 shows the results for the two questions, after averaging the individual models. The parameters for both questions appear in the table. These parameters are the additive constant, and the coefficients for each of the elements.

The first finding deals with the basic likelihood of in donating to stop heart disease (Question #1) or the basic likelihood of increasing one's donation by 50% (Question #2.) The two 'basic likelihoods' are shown by the respective additive constants, which we interpret at the expected percent of respondents rating the vignette 7-9, with the vignette lacking all elements. In a sense, the additive constant is a baseline value. The first thing which emerges is the very low additive constant, 20 for interest in

donating, and a corresponding low value of 18 for likelihood of a major increase in donation. The additive constants suggest that it will have to be the messages which 'do the work.' The proclivity to donate or to increase one's donations by 50% is simply not present.

The second finding deals with the power of the individual elements to increase the likelihood of a donation (Question #1) or the likelihood to increase one's donation by 50% (Question #2.) Previously studies of this type, whether in charity (Galanter, Moskowitz & Silcher, 2011) or in many other areas ranging from hospitalizations to food to games and house decorations, suggest that coefficients of 0-5 are irrelevant, coefficients of 6-10 begin to become relevant, and coefficients of 11 or higher are relevant. We use the coefficient value of 6.51 or greater to signal a relevant positive response, and a coefficient of -6.51 or lower to signal a relevant negative response. We look at the magnitude of the coefficient, not at the statistical significance of the coefficient. This way of thinking puts Mind Genomics squarely in the world of modeling, rather than in the world of inferential statistics. In traditional research, we would focus on all coefficients beyond 2 because in the world of inferential statistics these elements are all 'statistically significant.' Yet, in the world of practice, these significant but small coefficients do not end up translating to relevance in terms of 'action' later in, such as the translation of interest to purchase or to donation. In this study, with the total panel, none of the elements score highly.

Finally, for the total panel, the coefficients are highlight correlated for Question #1 (Likelihood to donate) and Question #2 (Likelihood to double donation.) Across the 24 coefficients, the Pearson Correlation Coefficient is high (+0.90.). Table 2 presents model parameters.

		Q#1 Donate	Q#2 Increase Donation
	Question #1 (interest in donating), and Question #2 (donating a substantially greater amount, 50% or more, versus last donation) Total (Base size = 75)		
	Additive constant	20	18
B4	Current risk factors don't accurately predict who is going to have a heart attack	6	5
E2	Within 10 years, the NYU Center for the Prevention of Cardiovascular Disease can make existing plaques disappear	4	4
B2	Cholesterol lowering drugs are only 30% effective	4	2
B3	Current imaging techniques don't tell us who is going to have a heart attack	4	2
E3	Within 10 years, our cardiovascular medical center has the potential to identify new targets for treatments, imaging and diagnosis	4	1
B1	Current treatments for cardiovascular disease are only partially effective	3	1
A4	70% of people go on to have a heart attack even after medically lowering their cholesterol and blood pressure	3	3
E1	Within 10 years, we can discover the key factors in the coronary artery wall that cause plaque build-up and heart attacks	2	3
D2	Our cardiovascular medical center performs personalized assessments of risk and response to treatment	2	0
A2	At least 1.2 million Americans will have a heart attack this year, 50% of them will die	1	2
A1	Cardiovascular disease is the leading killer in the United States	1	2

D3	Our expert consultations aim to combine lifestyle modification and medical therapy	1	0
F3	The NIH, the biggest funder of biomedical research, funds only 10% of proposals, leaving most worthy projects unfunded	1	-1
E4	We can improve imaging so that diagnoses can be determined accurately and non-invasively	0	0
A3	40 million Americans have high cholesterol and 72 million have high blood pressure	0	-1
F2	The budget of the NIH, the biggest funder of biomedical research, has declined by 15% over the past 8 years	-1	-1
D4	Our faculty are experts in treatment and research of lipid disorders and are improving the diagnosis of cardiovascular risk factors	-1	-1
F4	Less than 1/3 of projects rated as "Excellent" receive funding from the NIH, the biggest funder of biomedical research	-1	-2
D1	Our cardiovascular medical center translates basic research to the clinic	-2	-1
C1	Our cardiovascular medical center studies prevention methods from lifestyle modification to dissolving plaque on a cellular level	-2	-2
C3	The NYU Center for the Prevention of Cardiovascular Disease has an integrated program	-2	-3
C2	Our cardiovascular medical center does preventative cardiology research and treatment	-3	-3
F1	Governmental resources are insufficient	-4	-4
C4	Our cardiovascular medical center is expert in hypertension, lipid disorders, diabetes, and nutrition and behavior modification	-5	-3

Table 2. Average parameters of the models for the 75 respondents

What convinces – a comparison of subgroups

When we look at the strong performing elements across subgroups, specifically elements which generate a coefficient of +6.51 or higher in at least one subgroup, we see different themes communicated by the elements (Table 3). The subgroups are gender, age, income, donation patterns, and donation amounts, respectively.

These are the elements which stand out:

70% of people go on to have a heart attack even after medically lowering their cholesterol and blood pressure

Current risk factors don't accurately predict who is going to have a heart attack

Within 10 years, the NYU Center for the Prevention of Cardiovascular Disease can make existing plaques disappear. Table 3 presents elements by their performance.

A4	70% of people go on to have a heart attack even after medically lowering their cholesterol and blood pressure	7
B4	Current risk factors don't accurately predict who is going to have a heart attack	7
E2	Within 10 years, the NYU Center for the Prevention of Cardiovascular Disease can make existing plaques disappear	7
B3	Current imaging techniques don't tell us who is going to have a heart attack	6
B2	Cholesterol lowering drugs are only 30% effective	5
F2	The budget of the NIH, the biggest funder of biomedical research, has declined by 15% over the past 8 years	5
F4	Less than 1/3 of projects rated as "Excellent" receive funding from the NIH, the biggest funder of biomedical research	5

Table 3. Elements which perform well in at least one of five subgroups driving the interest to donate

Mind-sets

A key tenet of Mind Genomics is that within most situations that people experience there are different dimensions, and that across these dimensions or aspects one can discover groups of ideas which co-vary. One can liken these groups of co-varying ideas to mind-genes of different types. The comparison to genes and genomics is only metaphorical because the 'genes' we discover are not physical genes, but groups of ideas.

We uncover these mind 'genes' by clustering our 75 respondents based upon their individual coefficients for the 24 elements or messages. Recall that each individual generated a unique set of 24 coefficients, emerging from the OLS regression. Clustering allows us to put our 75 individual respondents into groups, with the property that the patterns of the 24 coefficients within a group are 'similar' in a quantitative sense, whereas the centroid or average coefficients of different groups are 'different' from each other in a quantitative sense. The clustering is purely mathematical. The 'mental gene' emerges when we uncover mathematically created clusters which can be interpreted, i.e., which make sense.

The method of k-means clustering groups respondents based upon the pattern of their coefficients. We use two criteria to create the clusters or mind-set segments, our so-called mental genomes, or more correctly the complementary alleles

1. Extract as few clusters or mind-sets as possible.
2. Ensure that the clusters can be interpretable, i.e., that they tell a story.

A two-cluster solution did not make intuitive sense. The patterns did not tell a 'coherent' story. In contrast, the three-cluster solution was clear, and did present the 'coherent' story. Table 4 suggests three clusters or mind-sets of different sizes, and with different patterns of responding to the messages. Table 4 presents strong performing elements. The most important patterns emerging from Table 4 are:

1. The additive constants are low. For these respondents, there is simply not much 'basic interest' in donating. The elements will have to do the work to convince respondents.
2. More than half the respondents (Mind-set A, base size of 43) are simply not responsive, and are a waste of time to pursue. Nothing at all really motivates them, at least nothing that we have tested in this study.
3. The remaining two segments do respond to messages.
4. Mind-set B responds strongly to messages about medical advances, i.e., technology and science.
5. Mind-set C responds to messages which 'seem' to promise hope for the individual over the next decade.

		DONATE			INCREASE DONATION				
		A	B	C	A	B	C		
	Base Size	4	3	13	1	9	43	13	9
	Constant	2	0	15	2	5	10	24	3
	Mind-Set A – Nothing drives interest in donating								
	Mind-Set B – Focus on medical advances								
B4	Current risk factors don't accurately predict who is going to have a heart attack	6	14	2	5	11	2		
B2	Cholesterol lowering drugs are only 30% effective	2	10	5	1	4	3		
E2	Within 10 years, the NYU Center for the Prevention of Cardiovascular Disease can make existing plaques disappear	1	10	9	5	3	5		
B1	Current treatments for cardiovascular disease are only partially effective	2	9	1	2	6	3		
B3	Current imaging techniques don't tell us who is going to have a heart attack	3	7	5	2	4	1		
C1	Our cardiovascular medical center studies prevention from lifestyle modification to dissolving plaque	-	5	7	-	2	-3	-3	1
	Mind-Set C – Technical advances with an implication for personalization, possibly for the donor								
E3	Within 10 years, our cardiovascular medical center has the potential to identify new targets for treatments, imaging and diagnosis	2	2	1	1	2	-6	5	
E1	Within 10 years, we can discover the key factors in the coronary artery wall that cause plaque build-up and heart attacks	-	2	4	9	4	-1	3	
D3	Our expert consultations aim to combine lifestyle modification and medical therapy	-	2	0	7	1	-2	0	
	Elements which do not perform strongly in any mind-set								
D2	Our cardiovascular medical center performs personalized assessments of risk and response to treatment	0	1	6	2	-1	5		
D4	Our faculty are experts in treatment and research of lipid disorders and are improving the diagnosis of cardiovascular risk factors	-	3	-2	5	0	0	3	
C4	Our cardiovascular medical center is expert in hypertension, lipid disorders, diabetes, and nutrition and behavior modification	-	8	-	10	4	-4	10	4
E4	We can improve imaging so that diagnoses can be determined accurately and non-invasively	-	2	2	3	-1	-5	5	
C3	The NYU Center for the Prevention of Cardiovascular Disease has an integrated program	-	4	-2	3	-1	-8	2	
F1	Governmental resources are insufficient	-	8	-2	3	-5	-1	4	
C2	Our cardiovascular medical center does preventative cardiology research and treatment	-	5	-8	3	1	15	2	
F2	The budget of the NIH, the biggest funder of biomedical research, has declined by 15% over the past 8 years	-	4	5	2	-2	-1	1	
A4	70% of people go on to have a heart attack even after medically lowering their cholesterol and blood pressure	4	4	-3	2	6	-6	1	
A2	At least 1.2 million Americans will have a heart attack this year, 50% of them will die	3	3	-2	1	6	10	1	
A1	Cardiovascular disease is the leading killer in the United States	3	3	-6	1	6	-9	1	
A3	40 million Americans have high cholesterol and 72 million have high blood pressure	3	3	-	1	4	-9	4	
F4	Less than 1/3 of projects rated as "Excellent" receive funding from the NIH, the biggest funder of biomedical research	-	1	1	2	-1	1	6	

D1	Our cardiovascular medical center translates basic research to the clinic	-2	2	-5	-2	1	-2
F3	The NIH, the biggest funder of biomedical research, funds only 10% of proposals, leaving most worthy projects unfunded	3	2	-5	0	-2	3

Table 4. Strong performing elements versus all-others, for three mind-set segments

Finding these mind-sets in the population

Creating and analyzing the strong messages for this study sample enables us to understand the existing mind-sets in the population. The value of the study lies in the ability to use the discovery of mind-sets to identify the mind-set to which a NEW PERSON belongs, and then send that new person the most motivating message to encourage a donation. These mind-sets do not covary with the conventional ways that people are divided. The important thing here is that it is the 'donating mind,' and not the 'donating WHO' which is important to define and target.

Based on the strong messages for the total panel and for the two mind-set segments, we use these obtained results in the real world to classify newly recruited participant, developing a PVI, a 'personal viewpoint identifier.' The objective of the PVI is to ask a new person a few simple questions, the pattern of answers to which define a person as a member of one of the three mind-sets, and thus the appropriate message, if any, to encourage donation. The PVI would be useful personal viewpoint identifier (PVI) would be efficiently during a donation event or for an online campaign to identify those who would be ready to donate.

The requirements of such a tool are

- a. Platform-independent so new participants can use it on their phone, tablet, or computer
- b. Short to avoid fatigue and drop of interest
- c. Provides immediate information to the participant and/or to the researcher.

The PVI was created for this study for demonstration purposes and placed under the following link <http://162.243.165.373838/TT10/>

Figure 1 (left side) presents the welcome screen of the PVI, where participants are greeted. Only a short study explanation is given in order to avoid bias. Binary questions are used to answer the elements instead of vignettes to make the process faster. Each participant completing the one-minute PVI rated whether or not whether she or he is interested in each presented element. The respondent also provides the email address. The answers and the e-mail address are saved by the system, hence later the proper messages can be delivered to the participant. The addition informational fields can be changed, of course, depending on the purpose of the PVI and other demographic or general questions can be included e.g. gender, interest, etc.

After clicking on the Submit button the PVI calculates the mind-set membership and immediately presents a feedback screen. The feedback is always personalized presenting the proper messages. In our case, it is a simple text message containing the name of the mind-set and a short description about

the mind-set (Figure 1, right side.) However, it is technically simple to change the text message to links, images or any kind of material the study requires.

**Welcome to Shiny Typing Tool of study:
Understanding the donating mind**

Your answers will help us to understand what drives hospital donations.
Given these statements, how **INTERESTED** are you in donating to help stop heart disease?

Our cardiovascular medical center does preventative cardiology research and treatment Not at all interested Very interested

40 million Americans have high cholesterol and 72 million have high blood pressure Not at all interested Very interested

Current risk factors don't accurately predict who is going to have a heart attack Not at all interested Very interested

Governmental resources are insufficient Not at all interested Very interested

Within 10 years, we can discover the key factors in the coronary artery wall that cause plaque build-up and heart attacks Not at all interested Very interested

Our cardiovascular medical center studies prevention methods from lifestyle modification to dissolving plaque on a cellular level Not at all interested Very interested

Please provide your email address.

We will not share your e-mail address with third-parties and it will not be used for marketing purposes.

Nothing drives interest in donating

More than half of the respondents are simply not responsive, and are a waste of time to pursue. Nothing tested in this study really motivates them.

Focus on medical advances

This mind-set responds strongly to messages about medical advances, i.e., technology and science.

Technical advances with an implication for personalization, possibly for the donor

This mind-set responds to messages which 'seem' to promise hope for the individual over the next decade.

Figure 1. Personal viewpoint identifier. The left panel shows the questions asked. The right panel shows the three different feedbacks, depending upon the mind-set to which the participant is assigned.

DISCUSSION

This exploratory study identified messages which drive the promise of donations to hospitals, looking at the performance of message by subgroups of gender, age and income. This study was part of a research project conducted at the NYU Langone Heart Center. Seventy-five respondents ages 18 and older were recruited by, Turk Prime, a company specializing in recruiting and maintaining panelists for participation in on-line studies. Mind Genomics revealed messages to say and to avoid, as well as uncovering the existence and the nature of underlying mind-sets, groups of individuals with different patterns of messages to which they will respond. We identified mind-set segments of potential donors and the strength of messages for each mind-set.

We identified messages to drive donations to hospital by subgroups of gender, age and income. We identified mind-sets of potential donors and the strong messages that appear to link to their stated likelihood of donating. Finally, using the mind-set data, we created a PVI, a personal viewpoint

identifier, to assign a new person to one of the three mind-sets. That assignment is important because people differ in what they find compelling. Messages which strongly appeal to the mind-set receptive to the state of medical advances do not strongly appeal to the other mind-set, receptive to the emotionality of hope for patients. Public hospitals have always depended, to some degree, upon the public largesse of individual donors. If we continue to focus only on the WHO of respondents, and their previous behavior, we miss out on the discovery of strong but segmented messages. Across all the elements there was no consistent strong messages. It is only when look at mind-sets that we find these 'magic bullets,' messages which resonate in the minds of prospective donors.

Two strong mind-sets emerged. Respondents in the first mind-set segment strongly responded to messages about medical advances. Respondents in the second mind-set segment strongly responded to messages which promising hope for individuals over the next decade. Messages which strongly appealed to people in one mind-set, generally did not appeal to people in the other mind-set. From the mean patterns of responses by the two mind-sets we built a personal viewpoint identifier to assign a new person to one of the two mind-sets. The PVI uses only a few simple questions, albeit questions emerging from the study, and thus immediately applicable to the issue of increasing donations Mind Genomics allowed us to experiment, discovery, and then create, all within the single, limited realm of the topic, donating to Langone.

CONCLUSION

The study and the easy and quickly implemented approach, creates a knowledge-based system for fund-raising campaigns. The speed, simplicity and low cost enables public hospitals to more effectively deploy their fund-raising efforts, by using knowledge about what appeals to donors, and thus what to feature in their fundraising and PR campaigns.

REFERENCES

- Adelino, M., Lewellen, K. and Sundaram, A., 2015. Investment decisions of nonprofit firms Evidence from hospitals. *The Journal of Finance*, 70(4), pp.1583-1628.
- Andreoni, J. and Payne, A.A., 2011. Is crowding out due entirely to fundraising? Evidence from a panel of charities. *Journal of public Economics*, 95(5-6), pp.334-343.
- Breeze, B. and Thornton, A., 2005. Raising a giving nation. The Citizenship Foundation report, www.g-nation.co.uk
- Carpenter, J., Holmes, J. and Matthews, P.H., 2008. Charity auctions A field experiment. *The Economic Journal*, 118(525), pp.92-113.
- Gabay, G. Moskowitz, H. R. , Silcher, M. and Galanter, E. *The New Novum Organum Policy, Perceptions and Emotions in healthcare*. 2017, Pardes-Ann Harbor academic publishing.
- Gabay, G., Moskowitz, H., Onufrey, S. and Rappaport, S. 2017. Predictive Modelling and Mind-Set Segments Underlying Health Plans. In *Applying Predictive Analytics Within the Service Sector* (pp. 135-156). IGI Global, Pennsylvania.
- Gabay, G. and Moskowitz, H.R., 2015. Mind Genomics What Professional Conduct Enhances the Emotional Wellbeing of Teens at the Hospital? *Journal of Psychological Abnormalities*.

- Gabay, G. Moskowitz, H. R. Kochman, M. 2015. Market sensing, Mind Genomics and health promotion in Prince, M. (Eds) *Market Sensing Today*. Business Expert, Academic Publisher. Ch. 7, Boston.
- Gabay, G. and Moskowitz, H.R., 2012. The algebra of health concerns implications of consumer perception of health loss, illness and the breakdown of the health system on anxiety. *International journal of consumer studies*, 36(6), pp.635-646.
- Galanter, E., Moskowitz, H., & Silcher, M. 2011. *Attitudes Towards Money. People, Preferences and Prices Sequencing the Economic Genome of the Consumer Mind*, Ch. 12.
- Gofman, A. and Moskowitz, H., 2010. Isomorphic permuted experimental designs and their application in conjoint analysis. *Journal of Sensory Studies*, 25(1), pp.127-145.
- List, J.A., 2011. The market for charitable giving. *Journal of Economic Perspectives*, 25(2), pp.157-80.
- Mesch, D.J., Rooney, P.M., Steinberg, K.S. and Denton, B., 2006. The effects of race, gender, and marital status on giving and volunteering in Indiana. *Nonprofit and Voluntary Sector Quarterly*, 35(4), pp.565-587.
- Micklewright, J. and Schnepf, S.V., 2009. Who gives charitable donations for overseas development?. *Journal of Social Policy*, 38(2), pp.317-341.
- Milutinovic, V. and Salom, J., 2016. *Mind Genomics A Guide to Data-Driven Marketing Strategy*. Springer.
- Moskowitz, H.R. and Gofman, A., Innovation Inc, 2014. System and method for performing conjoint analysis. U.S. Patent 8,738,419.
- Moskowitz, H., Sciacca, A. and Lester, A. 2018. I'd Like to Teach the World to Think Mind Genomics, Big Mind, and Encouraging Youth. In *Harnessing Human Capital Analytics for Competitive Advantage*, pp. 55-90, IGI Global Academic Press, Pennsylvania.
- Moskowitz, H.R., & Onufrey, S. Optimizing donations for Stand up to cancer. 2012. Results of a study conducted in 2012, in preparation for a telethon. Unpublished data
- Moskowitz, H. R., Porretta, S. and Silcher, M. 2008. *Concept research in food product design and development*. John Wiley & Sons.
- Piper, G. and Schnepf, S.V., 2008. Gender differences in charitable giving in Great Britain. *Voluntas International Journal of Voluntary and Nonprofit Organizations*, 19(2), pp.103-124.
- Prince, M., Gabay, G., Priporas, C. V. and Moskowitz, H. R. 2019. Uniting Theory and Empirical Research Marketing Research and Health promotion in Market Sensing and Marketing Research in P. Hackett (ed) *Quantitative Methods in Consumer Psychology*, London Routledge, Ch.10
- Salamon, L.M., Sokolowski, S.W. and Haddock, M., 2012. Measuring civil society and volunteering New findings from implementation of the un nonprofit handbook. Johns Hopkins University Center for Civil Society Studies.
- Shapely, P., 2016. *Medicine, Charity and Mutual Aid. The Consumption of Health and Welfare in Britain, c. 1550–1950*. Routledge.
- Wiepking, P. and Bekkers, R., 2010. Does who decide really matter? Causes and consequences of personal financial management in the case of larger and structural charitable donations. *Voluntas International Journal of Voluntary and Nonprofit Organizations*, 21(2), pp.240-263.

THE ROLE OF CIRCULAR ECONOMY TO IMPROVING UPON THE ECONOMIC GOVERNANCE IN ROMANIA

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ABSTRACT

This paper presents how the European funds granted to the Member States and aiming to support innovative circular economy, can contribute to a resource-efficient, environmentally friendly and competitive economy in Romania leading to the achievement of the EU objectives in terms of sustainable development.

The method of work used consists mainly in the documentation, analysis, comparison and verification of the existing context, the limitations / constraints identified in the field of cycling economy, and the identified solutions. By accessing European funds for national implementation of the concept of circular economy, Romania can provide best practices for resource efficiency mechanisms.

The transition from the linear economy to the circular one may be affected by the low infrastructure that does not allow the implementation of circular business models. Technological and systemic barriers can be removed by accessing European funds such as Horizon 2020, the European Fund for Strategic Investment – EFSI.

Comparative analysis of the funds allocated to several operational programs that can participate in the insurance and implementation of the circular economy in Romania.

By acting across sectors, investing in innovative technologies and models, stakeholders can lead to the common goal of resource efficiency, sustainable development and waste management.

Keywords: circular economy, innovation, infrastructure, waste management, sustainable development, competitive economy, strategic investment, operational programs, circular business models, European Union.

INTRODUCTION

The circular economy theory comes along with specific advantages provided as a support to make economy more competitive and the environment more sustainable. This can happen by accepting a new vision of life and work inside the society, based on the full good use of resources leading to environmental conditions' improvement. In the European Union countries, the identified limits and constraints that may hinder the development of the circulating economy - such as reduced infrastructure, technological and systemic barriers that do not allow the implementation of business models in the circular economy – come together with levers ready to use to reduce limitations - accessing the non-reimbursable funds, arising the member states' awareness about such handy tools and their advantages.

Bearing in mind the scarce resources and destructive influence of human beings on the environment, the linear economy model is already proved as a non- sustainable and destructive one. Essential bio systems for survival, contributing to the consumption non-regenerative resources have an irreversible impact on the environment too; therefore, measures to raise awareness and involve the human factor in generating fundamental and sustained changes are obligatory and necessary to maintain the rigor of a decent living, if not better for future generations.

At the same time, new approaches are needed to conceive and adapt the economic activities to the circular economy context. We argue this need based on the sustainable development concept that promotes *integrated efficiency* in using the natural resources and leading to the sustainable economy. To become sustainable, the economy needs measures of environmental protection, encouraging support for ecological systems to use wisely the natural resources. At European Commission level, the representatives share the concern, analyze the state of affairs of human activity that affects, directly or indirectly, the environment and provide support to improve the situation by allocating funds to Member States; they also encourage the adoption of circular economy concept for sustainable development (Todor *et al*, 2014).

METHODOLOGY

The method of work used consists mainly in documenting, analysing, comparing and checking the existing context in order to identify the limitations and constraints that prevent the implementation of the measures necessary for a feasible circular economy, the solutions identified in the field of cycling economy that can be implemented with funds which can be accessed within the framework of Horizon 2020, the European Fund for Strategic Investment (EFSI).

APPRAISAL OF LITERATURE

Starting from the current context regarding the efficiency of the use of natural resources to lead to a sustainable economy, the need for transition from the linear economy to the circular economy has been identified. The notion of circular economy, firstly advanced by environmental researchers (Stahel, 2014), has been developed in the UK since 2010, being considered a reliable solution for the protection of natural resources given the long-term negative effects of the linear economy giving rise to waste and environmental pollution, the shortage in natural resources (hardly accessible and more expensive) and climate change.

The circular economy represents the only solution for reviving the economy as it contributes to the elimination of waste and to the reduction of carbon emissions as a result of the recovery of materials through recycling and their reintroduction into the economy. Considered more than recycling, the circular economy is based on upper technological processes that contribute to the waste reduction as a result of a performing management and re-introduction of secondary raw materials use.

The circular economy model is based on 3 principles: • reuse of raw materials disposed of as waste; • optimizing resources' use and • reuse of natural regeneration systems.

The circular economy is a widely circulated topic, a concept debated, promoted and sustained by the European Commission, which considers that the adoption of the circular economy and the proposed measures will maximize the value of all raw materials, products and waste, favouring the energy saving and the reduction of greenhouse gas emissions. Its circular package covers the entire life cycle: from production and consumption, to waste management and the secondary raw material market (Bekeken, 2015).

For this transition, the European Commission adopted on December 2, 2015 the Circular Economy Package in the EU that includes: • the action plan, • the list of actions to be taken during the term of the current Commission and • the legislative proposals.

The Action Plan is addressed to all the sectors: production, consumption, waste management, priority sectors, innovation and investment. In this respect, the main actions taken for the production sector were: • sustainability (repair and recycling products, in line with the Ecodesign Directive and extensive producer responsibility); • best practices for waste management and resource efficiency in industrial sectors; • industrial symbiosis, reprocessing; • coherent policy and tools' framework for SMEs' products.

- The main actions taken for the consumer sector refer to eco-label and environmental footprint, new forms of consumption (collaborative economy, digital platforms); warranties, complaints' solutions for fake ecological products; green procurement.
- The main actions taken for the waste management sector deal with EU revised targets for recycling (65% of municipal waste and 75% of packaging waste by 2030 - Bekeken, 2015); consolidate reduction

of landfills to max 10% of total waste by 2030 (Nistor & Herman, 2017), new investments in waste management policy - recycling capacities, avoidance overcapacity at incineration and mechanic-biological treatment (Masi *et al*,2017), ensuring coherence between waste investments and waste hierarchy.

- The main actions taken for the sector - waste priority sectors target: the strategy addressing issues such as the recycling potential, biodegradability, the presence of hazardous substances in plastics, and the significant reduction target for marine waste, as set out in the Sustainable Development Objectives.

Given the opportunity to use innovation and investment to overcome technological and systemic barriers and to implement business models in the circular economy, EU funds have been allocated to finance projects and support the achievement of circular economy objectives and industrial competitiveness. The Horizon 2020 pilot program "*Innovative Agreements in the circular economy*" support the development of innovative solutions when innovators face uncertainty at EU level. In conjunction with this program, legislative changes are harmonised to meet the circular economy European objectives. A wise investment policy is essential to allow the shift to the circular economy and refer specifically to smart technologies and block chain logistics for innovative business models meeting the environmental conditions.

Another element of the Circular Economy Package sets clear targets and quotes to 2030, for waste management and recycling to be transposed into legislative proposals (Bekeken, 2015): 65% of municipal waste by 2030, 75% of packaging waste by 2030, reduce landfill to 10% of municipal waste by 2030 (consolidated target); prohibition of burying separately collected waste; • promoting tools to discourage waste burying; • simplified and harmonized definitions and methods for calculating recycling rates in all EU countries; promote re-use and stimulate the "*industrial symbiosis*" of transforming the by-products of a raw materials industry into another industry; increase green products' supply and support recovery using specific and recycling schemes (packaging, batteries, electrical and electronic equipment, vehicles).

Such proposals send positive signals to those who want to invest in the European circular economy (Katainen, 2016) considered the best place to develop a sustainable and environmentally friendly business. The transition means restructuring the market economy and improving competitiveness. In an economy resource-efficient with reduced dependence on rare raw materials, the competitive advantage is applicable for job creation, for more efficient products and services booming (Katainen, 2016).

In order to fulfill the conditionality as well as the actions proposed to the Member States to implement them as much as possible in the circular economy, the European Commission provides the Member

States, as a horizontal measure, with different sources of funding, including new ones such as the European Fund for Strategic Investment - EFSI for funding and project development support, providing funding platforms for the circular economy but also for disseminating knowledge and sharing expertise. The European Regional Development Fund and the Cohesion Fund will invest € 5.5 billion to improve waste management for the development of new production processes, but last but not least to support the efficiency of innovative resources and technologies by SMEs (Katainen, 2016). At the same time, business innovation models in circular economy will also be supported. To this end, the European Commission has entered into a partnership with the European Investment Bank on the InovyFin Advisory program to provide access to loans (24 billion euros) to business and financial communities for innovative investment in the field of the circular economy. Taking into account the measures already taken, in January 2018, the European Commission analysed the degree of circular economy in the Member States, analysed on the basis of 7 relevant indicators respectively: municipal waste (per year per person), food waste (per year per person), municipal recycling rate, share of goods traded that are recyclable raw materials, material reuse rates, patents related to circular economy (since 2000), investment in circular economy sectors. For each indicator, a hierarchy of 1 to 28 was established, the final index being calculated by the arithmetic mean of the seven components.

The countries with the circular economy best scores are: Germany, U.K. and France, as shown below:

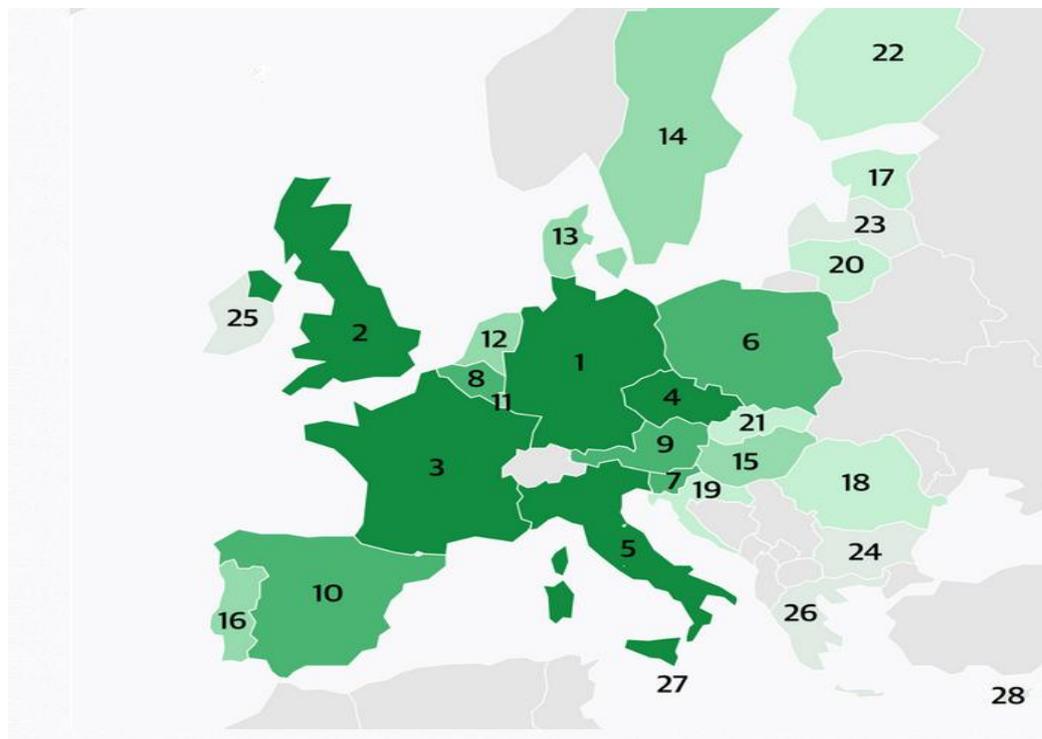


Figure 1. The countries with the best scores of the circular economy

The details of the 7 indicators for each Member State are presented in Table 1, as follows:

Country	Municipal waste (year/person)	Food waste (year/person)	Municipal recycling rate	Recyclable raw material	Material re-used rate	Patents for circular economy since 2000	Investment in circular economy sectors
Austria	564 kg	209 kg	58%	0.32%	9%	122	€3.50 M
Belgium	420kg	345 kg	54%	22.00%	17%	105	€2.80 M
Bulgaria	404 kg	105 kg	32%	0.11%	3%	10	€0.50 M
Croatia	403 kg	91 kg	21%	23.00%	5%	4	€0.60 M
Cyprus	640 kg	327 kg	17%	0.13%	3%	4	€0.10 M
Czech R.	339 kg	81 kg	34%	25.00%	7%	72	-
Denmark	777 kg	146 kg	48%	0.31%	10%	53	€2.30M
Estonia	376 kg	265 kg	28%	26.00%	11%	3	-
Finland	504 kg	189 kg	42%	0.06%	7%	111	€2.00 M
France	511 kg	136 kg	42%	24.00%	18%	542	€21.30 M
Germany	627 kg	149 kg	66%	25.00%	11%	1260	€28.70 M
Greece	498 kg	80 kg	17%	0.14%	1%	5	€0.60 M
Hungary	379 kg	175 kg	35%	23.00%	5%	36	€0.90 M
Ireland	563kg	216 kg	41%	0.18%	2%	38	-
Italy	497 kg	179 kg	45%	0.19%	19%	294	€17.80 M
Latvia	410 kg	110 kg	25%	0.18%	3%	11	€02.00M
Lithuania	444 kg	119 kg	48%	0.15%	4%	19	€0.40M
Luxembourg	614 kg	175 kg	48%	0.97%	11%	24	-
Malta	621 kg	76 kg	7%	0.12%	10%	-	-
Netherlands	520 kg	541 kg	53%	0.17%	27%	169	€5.20 M
Poland	307 kg	247 kg	44%	0.18%	13%	298	€4.70 M
Portugal	461 kg	132 kg	31%	0.26%	2%	22	€1.40 M
Romania	261 kg	76 kg	13%	0.13%	2%	34	€11.00 M
Slovakia	348 kg	111 kg	23%	0.15%	5%	10	€0.60 M
Slovenia	466 kg	72 kg	58%	0.41%	8%	8	€0.50 M
Spain	443 kg	135 kg	30%	20.00%	8%	210	€11.00M
Sweden	443 kg	212 kg	49%	0.19%	7%	49	€4.10M
United Kingdom	483 kg	236 kg	44%	0.35%	15%	292	€31.00M

Table 1: The details of the 7 indicators for each Member State

Analysing the current context of how to implement the circular economy, restrictions have been identified on the cross-border waste shipment that is not possible without “prior notification and preliminary agreement” and which hinders the implementation of the Commission's proposed reduction targets for waste disposal up to in 2030.

When waste generation cannot be prevented or recycled, it is preferable, both economically and environmentally, to capitalize on their energy content rather than opting for storage. To this end, the E.C. Energy Efficiency Initiative within the Energy Union will allow the full exploitation of the energy potential without compromising higher levels of reuse and recycling. The E.C. solutions occurring

measures and actions for the implementation of the cyclical economy and the financial allocations have increasingly encouraged investments in high performance technologies and innovative efficient ways of production and consumption to reduce the environmental impact of resource use and valorise waste by turning it into products.

The benefits of the economy are felt first and foremost as a result of the creation of many jobs, the preservation of precious and increasingly scarce resources, the reduction of the effects of their processing on the environment, the valorisation of waste through their transformation into secondary products, the improvement of quality standards.

In addition to the sustainable development objectives, the strategy on plastics adopted in the field of circular economy addresses issues such as the recycling potential, biodegradability, the presence of hazardous substances in plastics, and the significant reduction target for marine waste. To stimulate EU industry's competitiveness for public and private investment The European Commission has made financial allocations available to Member States through programs such as Horizon 2020, COSME, Structural and Investment Funds, the European Investment Fund as well as other EU programs considered as instruments important support for inclusive stakeholders for SMEs or social businesses that are particularly active in areas such as recycling, repair and innovation. Through Horizon 2020 (2016-2017), the E. C. and European Bank of Investments allocated 650 million € to finance projects relevant to the field. They also assess the possibility of launching a platform together with the national banks to support the financing of the circular economy that will create business opportunities to attract private funding.

RESULTS

Starting from the Commission's goal of transforming the current model of linear economy into the circular economy model, the package promoted to support the circular economy addresses all stakeholders including economic operators and targets innovative and more efficient production and consumption patterns paving the way for new opportunities business and boosting competitiveness.

Circular economy has a high potential to create many jobs in Europe while preserving precious resources and fewer resources, reducing the environmental impact of resource use and valorizing waste by turning them into products. Sectoral measures as well as quality standards for secondary raw materials are foreseen. Among the circumstances that led to the transfer from the linear economy model to the circular economy model, we can exemplify:

- the linear economy generates massive misuse, dissipation and losses in products and waste of natural resources. In this respect, according to Girling R (2005), 90% of the raw materials used in the manufacturing industry become waste, while 80% of the finished products drop in the first 6 months

of their life cycle. Given the trend of population growth along with the demand for resources (land, water, food, raw materials, energy), which are becoming more and more difficult to access and more expensive than the climate of political and economic tensions, the model of linear economy will no longer could be continued in the long run. As a result of the linear economy, there is a shortage of resources, the volatility of their prices on the international market, but also the generation of waste, environmental pollution and, ultimately, climate change.

- compared to the linear economy, the circular economy remains the single best future solution take, given the holistic impact on the resources and the integrative effects that can be gained on the environment. The circular economy is based on the fact that end-of-life products recuperate materials through recycling and dismantling, which then "reuse" as raw materials in other early-life products. The major advantage of the circular economy is that, on the one hand, waste and its impact on the environment are reduced, and on the other hand, production costs are reduced. Circular economy means "closing the loop" of the value chain, from production to consumption, through repairs and refurbishment, waste management and secondary raw materials that are reintroduced into the economy.

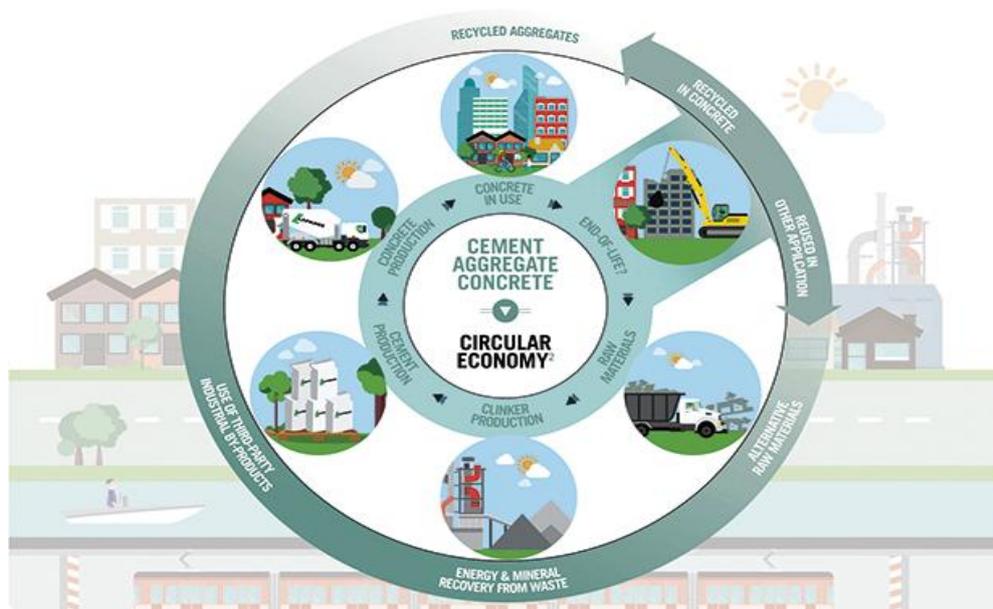


Figure 2: *The life cycle of the product in the circular economy*

Starting from the premise that man has a central place in decision-making and is actively involved in the community life, it is extremely important to know the incentives that people respond to, and how they can change the general behaviour when environmental issues are aware. In this sense, civil society organizations can become important factors in creating positive incentives, promoting good practices by conducting information campaigns to educate the population, increase accountability and generate feedback.

CONCLUSIONS

The European Commission's concern for a circular economy, corroborated with the concrete action plan presented in this paper, taking into account the stages of the cyclical economy, from production to consumption, repair and refurbishment, waste management and the secondary raw material market for reintegration into the economy, manage us to emphasize the importance to the EU economy in general and of member states in particular; the benefits of promoting the circular economy in each Member State are obvious and **straight** to the integrated efficiency's vision.

To diminish the damages caused by the technological and systemic barriers faced by the Member States, the European Union makes available financial allocations through different calls and programs (Horizon 2020, InovFin Advisory Program, European Investment Fund, European Regional Development Fund and Cohesion Fund) to implement innovative, performing technologies, to emerge eco-business models and implement the circular economy integrated efficiency by competitiveness. It is up to the Member States to support the Commission's legislative proposals on waste management in the light of the targets proposed by 2030.

Romania, as a member of the European Union, has the high duty to become more pro-active and participate in the actions demarcated by the European Commission by undertaking the more visible measures for the gradual transfer from the linear economy to the circular economy model, including the adoption of the EU waste management directives.

REFERENCES

- Bekeken, Anders, (2015), Closing the Loop: An EU Action Plan for the Circular Economy, <https://www.stichtingmilieunet.nl/andersbekekenblog/cradle-to-cradle/closing-the-loop-an-eu-action-plan-for-the-circular-economy.html>
- Comisia Europeana, (2016), Un nou pachet de măsuri pentru o economie circulară în Uniunea Europeană, Politici & economie, <http://www.ecologic.rec.ro/articol/read/politici-economie/13055/>
- Ellen Mac Arthur Foundation, (2014), Concept. What is a circular economy? A framework for an economy that is restorative and regenerative by design, <https://www.ellenmacarthurfoundation.org/circular-economy/concept>
- European Commission, (2018), Circular Economy. Implementation of the Circular Economy Action Plan, http://ec.europa.eu/environment/circular-economy/index_en.htm
- European Commission Directorate-General for Research and Innovation, (2019), Accelerating the transition to the circular economy – Improving access to finance for circular economy projects, http://ecocircle-concept.de/files/2019_Literatur/accelerating_circular_economy_032019.pdf
- Ginger Hervey, (2018), Ranking how EU countries do with the circular economy, POLITICO's circular economy index produces some unexpected results, <https://www.politico.eu/article/ranking-how-eu-countries-do-with-the-circular-economy/>
- Masi, Donato, Day, Steven and Godsell Janet, (2017), Supply Chain Configurations in the Circular Economy: A Systematic Literature Review, Sustainability, http://publications.aston.ac.uk/id/eprint/37904/1/sustainability_09_01602.pdf
- Nistor, Cornelia and Herman,R., (2017), The sustainable management in the e-waste and municipal solid waste sectors, Univ. Bucharest, Publication ID: 2032296
- Stahel, Walter R, (2016), Circular economy, Nature, March, 531(7595), pp:435-438 DOI: 10.1038/531435a
- Todor Arpad, Andrada Nimu and Alexandra Diaconescu, (2014), Analize de politici publice cu impact asupra mediului și dezvoltării durabile, Dec,Wolters Kluwer, ISBN: 606677004- 0,

https://www.researchgate.net/publication/275039465_Analize_de_politici_publice_cu_impact_asupra_mediului_si_dezvoltarii_durabile

Katainen J. (2016), Keynote Speech at the 2016 European Circular Economy Conference, https://ec.europa.eu/commission/commissioners/2014-2019/katainen/announcements/vice-president-katainens-keynote-speech-2016-european-circular-economy-conference_en.

INTANGIBLE ASSETS – INFLUENCE ON THE “RETURN ON EQUITY ON MARKET VALUE” (S&P100 INDEX)

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ABSTRACT

This study aims to analyze the effect of IA (exclusively those that are recognized and shown in the balance sheet) on the return on equity (ROE) using a market value approach. In order to analyze the influence of IA on ROE using market value, the study used components of the Standard and Poor 100 Index (S&P100). The S&P100 index comprises 101 companies across multiple industry groups; however, due to the research restrictions, only 68 companies were selected as the study's sample. The research results were obtained using the Ordinary Least Square (OLS) method. The Pearson correlation test indicates a strong relationship of the IA to the ROE (excluding goodwill). According to our findings the influence of IA on ROEmv is 23% excluding goodwill. Additionally, the results indicated a significant gap between the models used. The limitations and future research directions are found at the bottom of the conclusion.

Keywords: Intangible Assets, Return On Equity, Ratio Analysis, Dupont Model.

INTRODUCTION

Nowadays, companies are acquiring and develop more non-physical assets. Therefore, a question arises – what is the effect of the intangible assets in companies' performance? A study performed by Aboody and Lev shows that companies who had intense research and development programs (R&D) obtained bigger gains than those without them (Aboody and Lev, 2000). Considering the relevance of the issue, this research aims to study the influence of the Intangible Assets (IA) - exclusively those that are recognized and showed in the balance sheet - on the Return on Equity (ROE) using market values. Due to the accounting segregation of the IA and the goodwill, the analysis considers both IA and “IA including goodwill”. Therefore, the main research question can be stated as follows: what is the influence of IA (recognized in the balance sheet) on companies' performance, and, in particular, on the return on equity using market values? In order to answer the question, 2 operational objectives were established: analyze the impact of IA on ROEmv and analyze the impact of IA including the goodwill

on ROEmv. In order to analyze the influence of the IA on ROEmv, the study is based on a group of companies that are components of Standard and Poor 100 Index (S&P100). The S&P100 index comprises 101 companies across multiple industry groups; however, due to the requirements established for this project, only 68 companies were selected as the study's sample. The Three-Step Dupont Model, which lies in a broken form of Return on Equity (ROE) original formula, is used as a starting point. The model comprises the three following factors: net profit margin, asset turnover and equity multiplier. For the study purposes the equity multiplier was modified to isolate the intangible assets, obtaining a modified version of the Dupont model. Next, the Ordinary Least Square (OLS) was used to analyze the impact of the intangible assets (recognized in the balance sheet) over the return equity using market values.

INTANGIBLE ASSETS AND RETURN ON EQUITY

Intangible Assets

The article has a comprehensive revision of the literature available and previous studies regarding intangibles and returns. Intangibles gained more importance in firms' accountancy at the end of the past century. Further, IA are a fundamental factor of value (Cañibano, *et al.*, 2000). International Accounting Standard (IAS) and International Forms of Reporting Standards (IFRS) have made major advances in defining and recognizing IA on financial statements. Although, today's accounting framework is distant to comprehends all intangibles resources. The term IA was first introduced in the mid-80's (Artsberg & Mehtiyeva, 2010; Bryan, *et al.*, 2017). Until the year 1997, the International Accounting Standards Board (IASB) issued the IAS No. 38. IA are contained in "other assets" section, that consist of permanent investments and the IA (Guerard & Schwartz, 2007), at the bottom of the assets section in the Balance Sheet financial statement. The Financial Accounting Standards Board (FASB) framework defines assets as the possible future economic benefits obtained as a result of past transactions and IA as an identifiable non-monetary asset without physical substance. This standard outlines the recognition, valuation and disclosure of IA on financial statements. Additionally, the IAS 38 provides the scope were the IA are to be found. The issue of this standard was in responds to the demand of an international demand on recognizing intangible resources. This demand came along with the surge of the Knowledge -based Economy (KE) The IA gained more importance after the surge of the KE. Aligned to the globalized economy, this microeconomic model is focused on intangible resources such as expertise, patents, data and information (Bratianu, 2017; Carrillo, 2015).

This economy framework is stimulating firms to drive their business from massive production processes to fostering knowledge that produces innovative and cutting-edge products. Furthermore, this framework promotes a change in businesses' sources of value pivoting to intangibles (Pucci, *et al.*,

2015). KE is habitually associated with technological, media, financial and medical industries. Nevertheless, this economic model affects all industries. The influence of this model can be seen by in the rise of IA, which has almost doubled in the last 16 years, from \$19.8 trillion to \$47.6 trillion. Most of the high-tech and pharmaceutical companies in 2005 had more than 90% of their assets in intangibles (Bryan *et al.*, 2017).

One of today's problems regarding IA is the disclosure of some intangibles. Scholars, professionals and audit firms have been discussing the need for a modern form of reporting of IA due to the improper recognition and valuation of some IA (Bryan *et al.*, 2017; Niculita, *et al.*, 2012; Pucci *et al.*, 2015; Tahat, *et al.*, 2017). This is to say that within the current accounting standards most of the intangibles are not recognized, leaving many intangibles unacknowledged.

The study conducted by Heiens *et al.*, (2007) regarding the implication of the IA on firms' holding returns suggests that IA other than goodwill have a significant positive impact, in contrast, high accumulation of goodwill and R&D expenditures have a negative impact on shareholders' returns. Heiens' study proceed using the resourced-base view, the mentioned study obtained data from 1.675 companies recorded by the Center for Research in Security Prices in 2001. The results support the premise for a positive relationship between the IA and shareholders' returns, specifically those intangibles that are used for advertising have a slight impact on long-term returns.

Tahat *et al.*, (2017) studied the impact of intangibles on firms' current and future financial and market performance within the companies constituting the United Kingdom's Index FTSE 150 from 1995 to 2015. The study was focused on the role of goodwill and R&D on firms' performance. The authors support the idea that financial statements are not revealing accurate present information regarding financial performance. Moreover, the study emphasizes the need for studies targeting future performance. The proxies employed in earnings per share were return on assets (ROA) and ROE. The findings display a positive impact of investments in intangibles on company's future performance, yet for the short term, the relationship goes in the opposite way. The results are consistent with market-based and resource-based theories, assuming IA are a relevant factor for sustainability of earnings and boost future performance. Additionally, the study though not significantly negative relationship between R&D and companies' current market operation.

A universal definition of IA has not been established hitherto, however identifiable IA have much in common with tangible long-lived assets. Assets are recognized only if they will bring future benefit to the firm (Tahat *et al.*, 2017), yet intangibles have the peculiar characteristic that besides providing future benefit, they are also recognized if they could prevent or block other competitors to enter in the market, e.g., patents, or licenses. The following characteristics must be present to qualify an item as an asset (Wittsiepe, 2008): The asset must provide probable future economic benefits that enable it to provide

future net cash inflows, the entity is able to receive the benefit and restrict other entities' access to that benefit and the event that provides the entity with the right to the benefit has occurred.

As it was said before, a more complex framework is used to define IA. One case study had to integrate the federal court, local real estate laws, international financial standards and industry literature about IA to provide not a definition but a scheme to identify intangibles as assets (Understanding Intangible Assets and Real Estate: A Guide for Real Property Valuation Professionals, 2016). This exercise produced a 4-step test that helps managers and assessors to recognize easily if an intangible is subject to be considered part of the assets.

- Intangibles should be identifiable.
- Intangibles should possess evidence of legal ownership.
- Intangibles should be capable of being separate and divisible from the real estate.
- Intangibles should be able to be legally transferred.

These four qualifications in addition to the 3 previously mentioned must be present to determine an intangible as an asset. The IAS 38 (IFRS Foundation, 2014) defines an "intangible asset as an identifiable non-monetary asset without physical substance". For the purposes of this study, IA are defined as all identifiable resources that lack of physical substance that could be self-generated or traded, and for those intangibles that were acquired by past trade transactions their usage could last for a limited or unlimited period and are shown in the balance sheet financial statement. It is necessary to mention that only those IA which are recognized in the financial statements were used in this study. Intangible resources provide a composition of knowledge, information, intellectual property, and experience. IA could be acquired as a result of market transactions or self-generated and they could have a definitive or indefinite life (El-Tawy & Tollington, 2013; Wittsiepe, 2008). Goodwill has a singular treatment. It is, indeed, an intangible asset; nonetheless, depending on how it was gained (Saunders & Brynjolfsson, 2016), it could be treated as part of business combinations (IAS 3 and FAS 141) or as any other IA. The reason that self-generated goodwill is not recognized is, in most of the cases, because it is still under development and cannot be separated (Artsberg & Mehtiyeva, 2010; Saunders & Brynjolfsson, 2016). The literature reviewed of IA point towards IA as a strong component of a company's financial potential. However, it should be pointed out that IA by themselves are not enough to maximize profit or significantly increase ROE. IA must come along with tangible assets to develop continuous growth. Is also necessary to emphasize the need for proper classification and early recognition of IA.

Return on Equity

Many financial tools are available to measure companies' financial performance. On the one hand, investors, managers and shareholders can perform a financial statement analysis to determine if a

company is profitable or not. On the other hand, ratios are useful tools to measure the extent of profit earned by companies in a certain period of time (Jensen, 2008). Financial ratios were created to provide quick indicators regarding companies' financial situation and to measure economic effectiveness. Most ratios use book values. This means that information is taken from companies' financial statements. Some other ratios use market value for forecasting purposes and better decision making. Financial ratios that use market values provide more accurate information about companies in "real time", compared to the historical information provided by financial statements. One of the most used and well-known profitability ratios is the return on shareholders' equity (ROE). This ratio has been used to measure companies' efficiency in profit generation, and due to the ratio uses the net income as a benchmark to measure profitability (Kijewska, 2016). Profitability ratios, as ROE is, are likely to confirm that a company is able to efficiently use available resources available to increase sales or/and net profit (Ciurariu, 2015). The simple formula for this ratio is as the Eq. 1 displays:

$$\text{Return on Equity} = \frac{\text{Net income}}{\text{Total Equity}} \quad (1)$$

Approximately a century ago, the DuPont Corporation designed a formula to understand company's profitability and performance, the formula was first called return on equity. Thereafter, this ratio was fragmented into several more sub-ratios to obtain a better analysis of companies' corporate performance. Due to their simplicity and versatility in fulfilling almost every company's needs, these ratios were easily implemented (Stockert, Kavan, & Gruber, 2016). Measuring profitability responds to the need of every firm's intention: to increase profit. Therefore, how to maximize ROE? the question could not be answered without identifying the factors that affect net income and the relation to equity. These factors are known as profit margin (PM), assets turnover and equity multiplier. Eq. 2 shows the 3 factors described affecting ROE.

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}} = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}} \quad (2)$$

PM presents how much profit the company can generate per unit sold (net income/sales). AT shows the percentage of sales a company produces from a unit of assets (sales/assets). Equity multiplier represents the leverage used by the company to finance its assets (assets/equity). Having the ratios separated enables a precise examination of the factors that affect the companies' increment of profit. Furthermore, by analyzing those ratios separately, a company's strategies are clearly revealed: for each of the previously mentioned ratios - PM, assets turnover and equity multiplier - correspond to the following financial strategies: volume of sales strategy, margin assets strategy or leverage strategy. These strategies play an important role in the organization's planning, and managers should wisely consider which of those strategies would fulfil the company's demands. For example, a company could use leverage to finance more equipment; by doing this, the assets turnover rate would be reduced while

the equity multiplier would increase. This example exhibits the correlation between the ratios, and hence the strategies, to maximize ROE. A high result of ROE represents a favourable financial position of a studied company (Rutkowska-Ziarko, 2015). The third factor, equity multiplier, has considerable relevance to this study because this factor evidences the impact of intangibles on the ROE.

METHODOLOGY

Data and Sample

Data was collected from the companies that composed the Standard & Poor 100 Index (S&P 100) in 2016. The S&P 100 consists of 101 companies blue chip companies across multiple industry groups. The study decided to choose this index due to the relevance of the USA economy and its impact on the global economy. A full list of the companies was obtained from the official website of Standard and Poor Index. Microsoft Excel was used to create a database that shows the companies' net profit, sales, total assets, intangible assets, goodwill and total equity. This data was collected from the firms' financial statements, those financial statements were extracted from the annual report known as the 10k form. The 10k forms were extracted using the Electronic Data Gathering, Analysis, and Retrieval system (EDGAR). Most of the financial statements are issued for the calendar year, compelling from January first 1st to December 31st of 2016. The firms Starbucks, Target, The Home Depot and Wal-Mart Stores issued their financial statements in January 2017. Lowes Companies in March 2017. Medtronic in April 2017. For FedEx, Nike and Oracle the month was May 2017. Microsoft, Procter & Gamble and Twenty-First Century Fox, Inc. issued in June 2017. In July 2017, SISCO Systems issued its financial statements. The companies Accenture, Monsanto Co. and Walgreens Boots Alliance, Inc. issued in August 2017. On September 2017 Qualcomm, Apple, Emerson Electric, Visa and Walt Disney allotted theirs.

During the data analysis process, 2 companies were left out of the selection due to the lack of information. The companies were Google Inc (GOOG. Symbol) and Twenty-First Century Fox, Inc. (FOX. Symbol). This due to in the 2016-year Twenty-First Century Fox, Inc. changed its symbol to FOXA. For Google Inc., the firm changes its name to Alphabet Inc. using the symbol GOOGL. The following firms were put aside as well: American Intl, Chevron, Conocophillips, Costco Whole Sale, Duke Energy, Halliburton, Metlife, Occidental Petroleum, The Allstate And Union Pacific. The mentioned companies did not disclose the amount of their intangible assets on their financial statements nor in their annual reports. Thus, these firms were irrelevant to our study. Three more firms were taken out of the scoop due to their deficit in total equity, the reason was a repurchased of more than 70% on their own shares. The magnitude of this buyback action affected the financial ratios

results. The companies were: Colgate-Palmolive, McDonald's and Philip Morris. 85 organizations comprised the study's final sample.

The data refers to the business year 2016, all variables were measured at the same moment in time, making this a cross sectional database. All the variables are presented and defined in detail in the next section where their importance for achieving the objective of the research study is explained.

DuPont Model

The DuPont analysis was chosen to this study because it goes further on the financial analysis, recognizing that ROE can be separated into return on sales, asset turnover and equity multiplier, this delves deeper into the cause of the ROE results. The DuPont Analysis gives us exceptional insight into the reasons for a company's performance. Perhaps the most important consequence of the DuPont Analysis is that it suggests to an analyst that he or she has the ability, and license, to develop specific ratios that enable him or her to see indicators relevant to a specific analysis being performed or particularly relevant to the company being analyzed (Sherman, 2015). This study used reported information in financial statements, such as, balance sheet and income statement. Additionally, stock price and shares outstanding were some of the values used to calculate market ratios. By separating the factors composing the net income on the main ROE formula (3), the factors are net profit, sales and total assets. The formula is as follows:

$$\text{Return on Equity} = \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Shareholders' equity}} \quad (3)$$

For our purposes, we will break down the formula to separate the intangible assets from the total assets. The intangibles were isolated by tearing the assets turnover ratio (Sales/total assets) (4). The financial leverage was modified as well. The result divides tangible assets over shareholders' equity.

$$\text{Return on Equity} = \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Intangible Assets}} \times \frac{\text{Intangible Assets}}{\text{Total Assets}} \times \frac{\text{Tangible Assets}}{\text{Shareholders' equity}} \quad (4)$$

As the result of this split, the formula now provides the framework of the variables used. The formula shows the 4 independent variables: 1) Profit Margin, 2) Intangible assets turnover, 3) Intangibles ratio and 4) Financial leverage ratio (modified). See table 1.

Ratio	Description	Ratio Formula
Return on equity (ROEmv)	Return on the shareholders' investment over a year. Measuring profitability, using market value.	$ROEmv = \frac{\text{Net Profit}}{\text{Shareholders' equity}} \times 100\%$
Profit Margin (PM)	Expresses the percentage of money collected from net sales turned into profit.	$PM = \frac{\text{Net Profit}}{\text{Sales}} \times 100\%$
Intangible assets turnover (IAT)	Shows how intangible assets are deploying in generating revenue.	$IAT = \frac{\text{Sales}}{\text{Intangible Assets}} \times 100\%$
Intangible assets turnover + goodwill (IATg)	Shows how IA and goodwill are deploying in generating revenue.	$IAT_g = \frac{\text{Sales}}{\text{Intangible Assets}} \times 100$
Intangible assets ratio (IAR)	This one represents the amount of IA from the total assets ¹ .	$IAR = \frac{\text{Intangible Assets}}{\text{Total Assets}} \times 100\%$

Intangible assets ratio + goodwill (IAR _g)	This variable represents the amount of IA plus goodwill from the total assets.	$IAR_g = \frac{\text{Intangible Assets}}{\text{Total Assets}} \times 100$
Financial leverage (FL)	Represents how much of the equity was used to fund tangible assets.	$FL = \frac{\text{Tangible Assets}}{\text{Shareholders' equity}}$

Table 1. *Independent and dependent variables description**Ordinary Least-Squares*

The econometric method used in this study to process the selected data was The Ordinary Least-Squares (OLS) method. This method is attributed to Carl Friedrich Gauss and is well known as a useful, reliable and compelling regression analysis method. This method is a variation of the Least Squares Principle and is one of the most used linear regression models in econometrics. Heij *et al.*, (2004) described the OLS as the first step in estimating economic relations and could provide a valuable insight in the essence of the relation between variables.

The main objective by using the OLS method is to minimize the remains of the estimated errors. As was said before, the main objective of this study is to identify whether there is a positive effect of IA on the return of the shareholders' investments of the 68 selected companies on the S&P100 index, as was outlined in the literature review. Since independent variables are presented in the adjusted formula of DuPont, this study fits the independent variables on a multiple linear regression analysis.

Of note for this study is that the growth rate of the dependent variable (ROE) is linearly related to the 4 independent variables - profit margin (PM), IA turnover (AT), IA ratio (AR) and financial leverage (FL). The following formula, Eq. 6, show the OLS equations adapted for the study purposes using the logarithmic function. Indeed, all the previous variables were transformed into are the logarithmic values (IROE, lPM, lIAT, lIAR and lFL) used in each of the formulas. Formula of the OLS analysis (6):

$$IROEmv_i = \alpha + \beta_i lPM_i + \beta_i lIAT + \beta_i lIAR_i + \beta_i lFL_i + \varepsilon_i \quad (6)$$

The formula shows the constant is displayed as α , the coefficient of the estimator of the population intercept of each independent variable is represented by β , the estimation errors are projected by the OLS method and shows the impact of each independent variable on the dependent one and the error term, ε . Lastly, the symbol i represents each one of the observations in the dataset, in other words, it represents every single firm in the study's sample.

In order to keep the results of the OLS in this cross-sectional study unbiased, the model takes the following assumptions: first, the models are linear in their parameters; second, data is a randomly selected sample of the population; third, independent variables are measured exactly such that measurement error is negligible; and, finally, independent variables are not too rigidly collinear.

RESULTS

Descriptive Statistics

It is necessary to understand the indicator values before this study undertakes analysis of the results of the OLS Method. Table 2 was elaborated using the sample to provide a clear understanding of the indicators' distribution of values of the descriptive statistics. Furthermore, indicators of central tendency, variability and shape can be observed in Table 2. The second column presents the statistical mean, which is the most widely used measure of central tendency, while the median, represented in the third column, halves the data. The minimum (min) and the maximum (max) are displayed on the fourth and fifth columns. The standard deviation (the sixth column) and coefficient of variation (seventh column, expressed in percentage) are indicators of dispersion, and are both based on the average squared distance between the elements of a data set and the mean. Skewness and kurtosis, in the eighth and ninth columns, are indicators of distribution shape. Kurtosis measures the tailedness and flatness of the normal distribution: in other words, the relative amount of observations in the tails as compared to the number of observations around the mean. Skewness is a measure of the symmetry of the mean for a given studied variable.

Indicator	Mean	Median	Min	Max	Standard Deviation	Coefficient of Variation	Skewness	Kurtosis
ROEmv	0,07	0,05	-0,01	1,48	0,18	2,44%	7,05	51,30
PM	0,15	0,13	-0,06	0,55	0,11	0,75%	1,26	2,19
IAT	44,57	8,69	0,45	766,67	116,51	2,61%	4,58	22,79
IATg	24,95	2,20	0,26	766,67	108,65	4,36%	5,88	34,54
IAR	0,11	0,07	<0,001	0,49	0,12	1,08%	1,43	1,35
IARg	0,30	0,28	<0,001	0,86	0,21	0,69%	0,46	-0,41
FL	3,47	2,84	1,10	14,26	2,19	0,63%	2,68	8,78

Note: All values are presented in the same unit of measurement of the variables except the coefficient of variation that is presented in percentage.

Table 2. *Descriptive statistics of all variables (Autor's calculatoins)*

The variables "IAT" and "IATg" project the longest distance between their means and maximums. IAT exhibits an outstanding maximum value close to 767% whereas its mean is close to 45%. The distance from the mean to the maximum value is more than 17 times its mean. On the other hand, the minimum values from all the indicators are not far away from their means, with the exception of IAR and IARg. IAT and IATg present the highest values of standard deviation regarding their means. Therefore, their coefficient of variation shows a high degree of dispersion; in particular the result of IATg presented 108,65% of deviation.

That means the data for IATg is broadly spread out. Furthermore, these variables present an abnormal skewness, that is to say, their distributions are asymmetric. Additionally, their long right tails mean

that the samples are positively skewed; simply put, the data are distributed mainly around the mean. Nevertheless, some data is distant from the mean representing a longer right tail in a graph. The variables' kurtosis results exhibit a property known as "fat-tails" due to the spread distribution. Fat tails occur where the actual probability of extreme outcomes is greater than the normal distribution: put in short, the extreme outcomes of the data is expected to be greater than the normal distribution. The variables PM and IAR present low values in contrast with the rest of the variables. Their deviations are close to their respective means and their dispersion is short, as their coefficient of variation is close to 0,8% for PM and almost 100% for IAR. Kurtosis values are 220% for PM and for IAR is almost 135%.

These results indicate a platykurtic or long tail distribution, meaning that the normal distribution is flat. Regarding the Skewness values, the results show a narrow dispersion around the means.

In summary, all variables are positively skewed due to median values being lower than the means, most of them having maximum values in their data far away from their means (outlier values). Moreover, IAR and PM have narrower dispersions in contrast to IAT and FL. To wit, the variables IAT and PM have values that are close to each other, which is not present in the IAR and FL.

Note that the descriptive statistical analysis showed that some variables present high range values. Therefore, the linear functional form adjusted into a logarithmic functional form has another added advantage. Logarithmic values are known to decrease the degree of dispersion of a variable's values.

OLS regression analysis results

The test is used to assess a possible linear association between two or more variables. For the purpose of this research, the test will help the study to explore which of the 4 independent variables are positively or negatively related to IROE, and the magnitude of such relations. The results of the Pearson correlation coefficient test for all the variables using logarithmic values, see Table 3.

The table shows in the first column the name of the logarithmic function of the dependent variable (IROEmv), and the following columns display the independent variables and the results of the Pearson correlation test.

Dependent variables	Independent variables					
	IPM	IIAT	IIAR	IIATg	IIARg	IFL
Logarithmic ROEmv	0,15*	0,02	0,12*	-0,03	0,108	0,20*

Note. The symbol (*) stands for a 10% level of significance. A set of 66 observations were used to perform this test, two observations presenting negative values were left out. The symbol (-) stands for not applicable.

Table 3. *Results of Pearson correlation coefficient between independent variables and the ROE (Autor's calculatoins)*

The results show an intense and positive relation between the logarithmic version of the variables IROEmv and IFL in comparison to the rest of the independent variables; this means that the observations in the financial leverage correspond with observations of IROEmv. IIAR, IIARg, IIAT and

IIATg present low correlation coefficient for ROEmv. Until this point, the IA recognized in the financial statements show almost insignificant influence on ROE.

The following models, Table 4 and 5, show the regression tests for the dataset selected by this study. The models have been estimated using information from the total sample - 66 companies (two of them were taken out of the test for presenting negative values on the ROEmv). The format of the tables displays in their first column the adjusted independent variables. The second column shows the results obtained for the estimated coefficients. The third column displays the outcomes of the standard robust errors to assure that the assumption of the homoscedasticity of the error term is not infringed and the results are robust, accurate and it is possible to trust them. The fourth column presents the results of the p-values. This column is related to the fifth column, which indicates the statistical significance of the estimated coefficient. The last column shows the results of the Variance Inflation Factor (VIF). The table correspondingly displays the results for the joint statistical significance test (F-test) and the Adjusted R-squared (adjusted for the degrees of freedom)

Variables	Estimated coefficient	Standard robust error	P-value	Statistical Significance	VIF
Constant	-2,84	0,31	<0,001	***	-
IPM	0,26	0,12	0,04	**	1,20
IIAT	0,23	0,06	<0,001	***	3,81
IIAR	0,20	0,05	<0,001	***	3,52
IFL	0,37	0,16	0,03	**	1,02
n=66					
F-Test (4, 61) = 6,74***					
Adjusted R-squared = 0,11					
Note. The symbol (***) means 1% level of significance and (**) means 5% of level of significance. The symbol (-) stands for "not applicable".					

Table 4. Results of the OLS regression analysis. Excluding goodwill (Autor's calculatoins)

Table 4 displays the presence of statistically significant variables, including the constant. The outcomes for the variables IIAT, IIAR and constant display a 99% of confidence. For IPM and the IFL, the level is 95%, implying that if the logarithmic function of the IAT grows 1%, the return on the equity market value (IROEmv) will grow by almost 0,23% in the same direction. The variable IIAR will influence the growth of the return on equity market value by 0,20% if it changes 1%. Regarding the logarithmic function of the profit margin, it is possible to say that if it grows 1% the return on equity market value will also grow by 0,26%. In regard to the financial leverage variable, the result shows that if it grows 1% it causes a growth in the logarithmic function of the return on equity market value by 0,37%.

The sample used for Model 2 was composed of 66 observations (n), 2 companies were left out of the test due to presenting negative values on the ROEmv. The result of the F-test implies the existence of statistical significance. Despite the fact that the F-test presents statistical significance, the result of the adjusted R-squared does not confirm the model as a strong model, due to this indicator showing that 11% of the growth on the IROEmv is caused by changes in the independent variables. The reason for this low indicator is that accounting does not explain the changes in the market information. The values

of the VIF come are presented in the last column, for all variables the results are not higher than 10, which excludes any collinearity problems among the independent variables.

The following model, Table5, presents the same format as in the previous table. However, this table presents the logarithmic function of the variables including goodwill.

Variables	Estimated coefficient	Standard robust error	P-value	Statistical Significance	VIF
Constant	-2,59	0,32	<0,001	***	-
IPM	0,36	0,13	<0,001	***	1,49
IIATg	0,36	0,10	<0,001	***	12,07
IIARg	0,36	0,12	<0,001	***	10,88
IFL	0,47	0,19	0,02	**	1,08
n=66					
F-Test (4, 61) = 17,80***					
Adjusted R-squared = 0,72					
Note. The symbol (***) means 1% level of significance. The symbol (-) stands for "not applicable".					

Table 5. Results of the OLS regression analysis. Including goodwill (Autor's calculatoins)

Table 5 shows that all the variables present estimated coefficients with high statistical significance. All independent variables, the constant included, exhibit a level of trustworthiness at 99% for the values computed. For this model, the independent variable which presents the highest estimated coefficient is the logarithmic function of the financial leverage. That is to say that if the variables change 1% the return on equity market value will change in the same direction. For the IFL variable, the growth on IROEmv will grow 0,47%. In the case of IIARg, the change will be 0,38%. Regarding IIATg and IPM, if they change the growth in the ROE will be close to 0,36%. The model presented in Table 10 was estimated using 66 companies, as for the previous models. The result of the F-test implies the existence of a statistical significance. Despite the fact that the F-test presents statistical significance with 95% confidence level, the result of the adjusted R-squared does not confirm the Model 4 as a strong model, due to this indicator showing that 10% of the growth on the IROEmv is caused by changes in the independent variables. The reason for this low indicator is that accounting does not explain the changes in market information. The values of the VIF are presented in the last column, the variables IIAT and IIAR present results higher than 10 which could indicate collinearity problems among them.

CONCLUSION

The main purpose of the study was to find out if the intangible assets, recognized in the balance sheet, have a positive influence on the return on equity using market value. The literature review showed that, on the one hand, there are studies that indicate a considerable influence of the IA on the ROE, while on the other hand, there are studies that did not find a relevant influence of the IA on the ROE. The model exhibited in Table 4 shows an adjusted R-squared of 11%; therefore, the model holds a very weak explanatory power. In general, in this model the coefficients of the independent variables are low. In the "IA excluding goodwill" alternative the IIAR ratio presents the lowest value: 20%. Which means

that a growth of 1% of the ratio will lead to an increase of 0,20% on the ROEmv. Testing the “IA including goodwill” shows the IIARg ratio with a value of 0,38%, a significantly higher value than the “IA excluding goodwill”. However, the model presents a collinearity problem on two variables. Consequently, the model is not trustworthy to study the growth on the ROEmv. Therefore, the model is not suitable for conclusions.

The study used only a cross-sectional method to analyze the impact of the IA for a single year. We have a strong belief that future studies should add a time-series approach and use broad indexes.

REFERENCES

- Aboudy, D. and Lev, B. (2000) ‘Information Asymmetry, R & D, and Insider Gains’, *The Journal of Finance*, 55(6), pp. 2747–2766.
- Artsberg, K. and Mehtiyeva, N. (2010) ‘A literature review on intangible assets’, Dept of Business Administration, (June). Available at: <http://www.stir.ac.uk/media/schools/management/documents/accountingfinance/eufin2010/EUFIN - Artsberg - Mehtiyeva.pdf>. (accessed 28 December 2017)
- Bratianu, C. (2017) ‘The Knowledge Economy: The Present Future’, in *Management Dynamics in the Knowledge Economy*, pp. 477–479.
- Bryan, D., Rafferty, M. and Wigan, D. (2017) ‘Capital unchained: finance, intangible assets and the double life of capital in the offshore world’, *Review of International Political Economy*. Taylor & Francis, 24(1), pp. 56–86.
- Cañibano, L., Garcia-Ayuso, M. and Sánchez, P. (2000) ‘Accounting for intangibles: a literature review’, *Journal of Accounting Literature*, 19, pp. 102–130.
- Carrillo, F. J. (2015) ‘Knowledge-based development as a new economic culture’, *Journal of Open Innovation: Technology, Market, and Complexity*. *Journal of Open Innovation: Technology, Market, and Complexity*, p. 1:15.
- Ciurariu, G. (2015) ‘The Du Pont de Nemours System within the Company Diagnostics’, *Economy Transdisciplinary Cognition*, 18(2), pp. 25–32. Available at: http://www.ugb.ro/etc/etc2015no2/06_Gabriela_Ciurariu.pdf. (accessed 2 January 2018)
- El-Tawy, N. and Tollington, T. (2013) ‘Some thoughts on the recognition of assets, notably in respect of intangible assets’, *Accounting Forum*. Elsevier Ltd, 37(1), pp. 67–80.
- Guerard, J. B. and Schwartz, E. (2007) *Quantitative corporate finance*, *Quantitative Corporate Finance*.
- Heiens, R. A., Leach, R. T. and McGrath, L. C. (2007) ‘The contribution of intangible assets and expenditures to shareholder value’, *Journal of Strategic Marketing*, 15(2–3), pp. 149–159.
- Heij, C. et al. (2004) *Econometric methods with applications in business and economics*. First edit. Oxford University Press.
- Jensen, M. C. (2008) ‘Erratum: Paying people to lie: The truth about budgeting process (European Financial Management (2003) 9:3 (379–406))’, *European Financial Management*, 14(2), pp. 375–376.
- Kijewska, A. (2016) ‘Determinants of the return on equity ratio (ROE) on the example of companies from metallurgy and mining sector in Poland’, *Metalurgija*, 55(2), pp. 285–288.
- Niculita, A. L., Popa, A. F. and Caloian, F. (2012) ‘The Intangible Assets—A New Dimension in The Company’s Success’, *Procedia Economics and Finance*. Elsevier B.V., 3(12), pp. 304–308.
- Pucci, T., Simoni, C. and Zanni, L. (2015) ‘Measuring the relationship between marketing assets, intellectual capital and firm performance’, *Journal of Management and Governance*. Springer US, 19(3), pp. 589–616.
- Rutkowska-Ziarko, A. (2015) ‘The Influence of Profitability Ratios and Company Size on Profitability and Investment Risk in the Capital Market’, *Folia Oeconomica Stetinensia*, 15(1), pp. 151–161.
- Saunders, A. and Brynjolfsson, E. (2016) ‘Valuing Information Technology Related Intangible Assets.’, *MIS Quarterly*, 40(1), pp. 83–110. Available at: <https://login.cyrano.ucmo.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=112750558&site=ehost-live>. (accessed 26 December 2017)
- Stockert, P., Kavan, S. and Gruber, M. (2016) ‘What drives Austrian banking subsidiaries’ return on equity in CESEE and how does it compare to their cost of equity?’, *OeNB, Financial Stability Report*, 33, pp. 78–88.

- Tahat, Y. A., Ahmed, A. H. and Alhadab, M. M. (2017) 'The impact of intangibles on firms' financial and market performance: UK evidence', *Review of Quantitative Finance and Accounting*. Springer US, pp. 1–22.
- Understanding Intangible Assets and Real Estate: A Guide for Real Property Valuation Professionals (2016). Kansas City.
- Wittsiepe, R. (2008) IFRS for small and medium-sized enterprises: Structuring the transition process, IFRS for Small and Medium-Sized Enterprises: Structuring the Transition Process.

PATH DEPENDENT EXPLANATIONS OF A CITY'S CLEANLINESS ACHIEVEMENTS

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ABSTRACT

Cities in India are reporting new achievement milestones across public service domains (sanitation, smart configurations, traffic management, sustainable practices etc.). The efficient delivery of public services requires management of a complex configuration of stakeholders, often making it difficult to identify the salient contributions of the different constituents. This paper studies an exemplary public service delivery i.e., the city of Indore topping the nation's cleanliness survey charts thrice successively. We make necessary and sufficiency arguments to identify the contributions of politics, administration, legal and history, as the salient stakeholders, in the city achieving exemplary public service delivery. Our arguments lead us to believe that; firstly, the stakeholders interact in complex ways for exemplar delivery, and secondly, history i.e., path dependency, has an important yet unrecognized role to play.

Keywords : Clean City, Public Service Delivery, Public Management, Path Dependence, History, Exemplar Public Performance

INTRODUCTION

As India proudly marches into the 21st century, to become a developed nation from a developing one, it faces numerous socio-economic challenges. These stretch from poverty, corruption, inequality, literacy, skill development, health, primary education, to things even as basic as cleanliness. To bring back focus on these fundamental issues, while at the same time implementing a decentralized approach, the Indian Government launched numerous development initiatives, which it proposed to manage through a competitive route -- government funds and efforts to be spent based upon achievements made. This approach has resulted in changing the existing mindset and in not only successfully aligning the numerous stakeholders but also in delegating the responsibility for reporting development to the grass-root level. One particular domain in which these efforts have resulted in visible change is in changing perceptions about cleanliness. This paper studies this context from a public management perspective.

India, which is home to one of the oldest civilizations in the world, has "borne the burden of sanitation for centuries," such that *"Wherever a man touches, there are feces and fecal organisms present."* (Tierno, 2004). While such recognition has been existing for long, it was only recently that the country decided to do something about this on a war footing. Over time, numerous initiatives have been taken to address this fundamental problem and its associated aspects in a comprehensive manner, with the aim to bury the statements like the above in history. On October 2, 2014, the birth anniversary of Mahatma Gandhi, the father of our Nation (Jha, 2015) a path-breaking initiative was launched by the Prime Minister of India in the form of Swachh Bharat Abhiyan (SBA - Clean India Mission). The country has not looked back since.

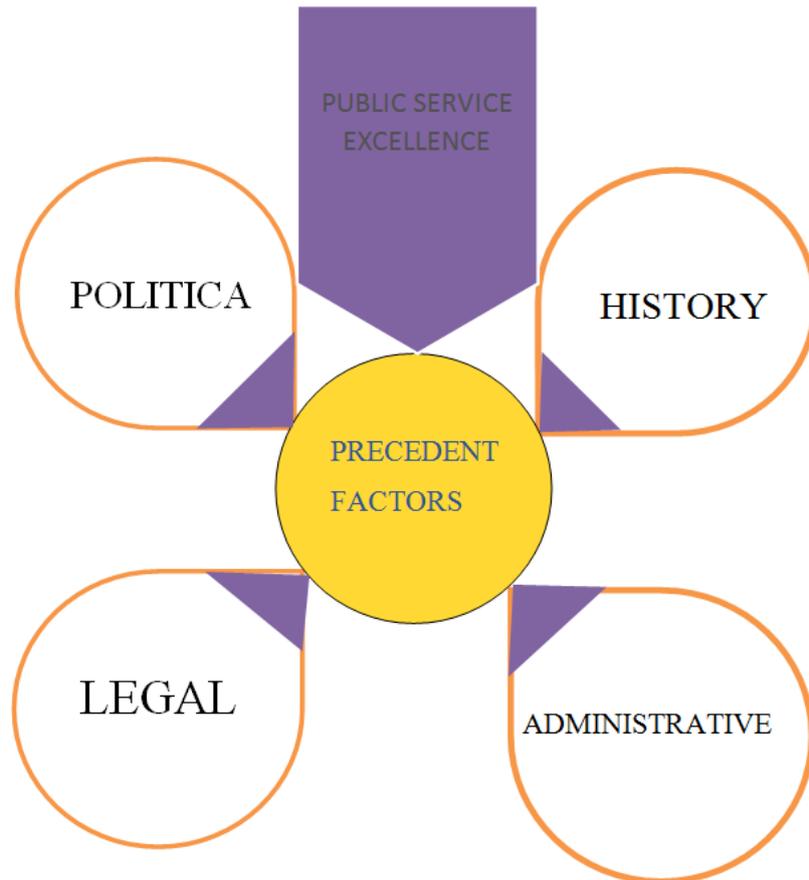
The SBA initiatives were taken at all levels, aiming to make villages, towns, and cities Open Defecation Free. The SBA introduced a competitive spirit to better one another in cleanliness and sanitation measures, reduce waste generation, recycle waste, develop a consciousness in the younger generation, and the like. The competitive spirit was brought in through an Annual Cleanliness Survey of towns and cities (Annual Swachh Survekshan Assessment). The public service initiative aimed to delegate the responsibility for cleanliness to the ground level -- village, town, city and district, rather than centrally conceiving and implementing action plans. That is delegating actions and ownership to the front line for public services management.

Public service management is a complex context, as it includes numerous powerful actors, each with their own set of priorities. Politicians play an important role in providing direction to the public, which are politically motivated, and often biased. Public executive machinery, known to be risk averse, while being perpetually burdened by more than what they can do, is plagued with resource shortfalls and complex network of procedures and policies. Legal seeks to influence and control political and executive decision making, while ensuring fairness and equity in the delivery of public services. The three converge into the office of the Mayor, who is ultimately responsible for the cities development and upkeep. However, each of them not only acts alone but also interacts in more ways than one. When it comes to owning responsibility for making the city clean, and making resource contribution, ambiguity prevails, with overlapping and cross-cutting roles and responsibilities. Furthermore, achievements in cleanliness require an enthralling focus on behavioural change with equity, reminding us that those left behind are the ones who were the first in need of improved sanitation - the poor and the under-privileged.

The paper employs set theoretic arguments of necessity and sufficiency, to identify the role of political, executive, and judiciary and history in bringing about exemplary public service delivery. It contextualizes the study of the cleanliness achievements of Indore city, which rose from outside the list of the top hundred cleanest cities in India, to top the ranks for three continuous years i.e., 2017,

2018, and 2019. Whereas political, executive and judiciary conditions were not individually sufficient, they formed a configuration for providing superior cleanliness performance, which when boosted by historical aspects, enabled Indore to top the surveys, and maintain its top position.

The paper next carries out a literature review for the antecedents of public service delivery achievements, which is followed up with a brief description of Indore cities achievements. It next makes necessity and sufficiency arguments for the various key antecedents for superior public service delivery and presents our conclusions.



The above diagram depicts several salient contributions which already exist in the case of Indore city. The precedent factors show us the convergence of the past and the future alignments.

DRIVERS OF SUPERIOR PERFORMANCE IN PUBLIC SERVICE DELIVERY

“ When individuals take ownership of public space they become citizens (referring to Singapore). But there is a problem when we look at it from the Indian perspective. Civic virtue does not come naturally to us. We think of ourselves first; we don’t think of the public space. That is why an Indian’s horizon of concern should extend beyond his or her door,”

Gurcharan Das, while citing Singapore as an example for India to follow.

The above quotation highlights that cleanliness- a public service attribute is a complex subject, which has antecedents lying in political, bureaucratic and judicial priorities, the three pillars of democracy.

NATIONAL SWACHATA (CLEANLINESS) MISSION

When the Indian Prime Minister launched the SBA in 2014, he vowed that by October 2019 every Indian will have access to a toilet, and the country will be free of the scourge of open defecation. While transitioning from squatting in an open field to squatting on a concrete laid hole in a 1 meter x 1 meter cubicle, India metamorphosed multiple attitudes to reflect social change and economic growth. Most of these aspects have been beautifully captured in a Bollywood Blockbuster film (i.e., TOILET), which depicts the struggles of a newly married village man who seeks to break social dogma to provide a toilet for his newly married (but well educated) wife who hails from the city. The film captures the deep social and cultural system in which open defecation has over a period of time gained acceptance in society. It highlights the need for emphasizing the need for public shaming of citizens, which are beyond building public consensus and imposing fines for open defecation. From a deeper social context, the laid down Shastras by the Brahmin men (the guardian of social conduct in the Hindu Indian society) were openly rejected. The Prime Minister publicly wielded a broom and cleaned garbage from a street. This very act shattered preconceived notions about cleanliness, where the act of cleaning was viewed with contempt or disdain for centuries. To build a wider social consensus, the head of state administered pledges to students, and asked them to become politically vigilant and conscious citizens. While history provides evidence that India lacks a sense of brotherhood and has remained a segmented society, community initiatives require action to be undertaken in a shared public space, necessitating widespread collaboration. On the other hand, menaces like extensive use of plastic led to tragedy of the commons in the shared public space.

INDORE CITY'S RENDEZVOUS WITH CLEANLINESS

About 60% of the population of Indore city (i.e., 2.7 million of its 4.5 million residents) is governed by the Indore Municipal Corporation (IMC). The corporation, first decided to make the city open defecation free, and based upon its achievements on this front it won the national competition for the first year in 2017. For the second year, the city adopted the "binless city model". This model argues for a paradoxical situation -- withdrawing public dustbins rather than adding more bins to improve cleanliness. Rag pickers, beggars, strays, and trash jockeys poke around public bins, making them agents for propagation of contagious diseases. Movement of large amount of trash leaves trails of trash all across the city, making it unhygienic. Smaller litter bag bins if adopted, make the city free of big public dustbins, thus consuming less money (in clearing public dustbins) and improving sanitary

standards. However, this required a massive change in public behavior, as public garbage disposal bins were removed from the cities landscape, often with difficult alternative modes of garbage disposal. Overtime, the city decided to make each bin location (which was viewed as the most dirty spot in any locality) as selfie points and as a garden.

As a substitute for the public dustbins, door-to-door garbage collection service was started in January 2016, as a pilot project in two of the 84 wards in the city. In just a year's time 100% door-to-door garbage collection was achieved. For the third year, the city put in place a collaborative initiative which aimed at 100% segregation of waste at source -- individual households and commercial units. Collection services were introduced by municipal authorities to carry out this (including slum areas and illegal colonies) at under ₹60 , which was significantly less than what was charged by previous private garbage collection services. The municipality's trash pickup vehicles made a huge impact on how garbage collection got done in the city of Indore.

All these initiatives had a historic precedent. During the reign of Devi Ahilya Bai Holkar (the Hindu ruler of the province of Indore), almost two centuries back, trash pickers visited every colony and later deposited it at the trenching grounds (Wangchuk, 2018). At the time this was an informal practice. With a population density of 9,718/km², each ward has on an average 6,000 households and 600 commercial establishments, making the adoption and propagation of the model a herculean enterprise. However, the city administration successfully achieved this to become the cleanest city, in 2019.

Numerous other initiatives were also taken during this time. The city's roads were made free of stray animals such as cows and dogs. The stray animal population polluted the city by their feces and spread trash from public dustbins. While initially cattle sheds were built to sustain the population of stray cows, overtime cows were domesticated and transferred to farms rather than being sent to these sheds. Similarly, the city, in a collaborative effort, decreased the use of plastic by over 90%. Plastic bag rallies have taken over the city, convincing the public that plastic should be used at a bare minimum. The utilization of single use plastic has been abolished over the city. To urge citizens to the cause, the use of plastic bags was made more expensive than the use of paper or jute bags. Cloth bags were distributed, trash bags for use in cars were encouraged, and even use of disposable cutlery actively discouraged. Most recently, a cutlery bank has been created, from where one can rent cutlery for large gathering, rather than use disposable cutlery.

One of the biggest achievements was the large number of people who were made conscious about the importance of cleanliness. This has resulted in a large part of the city's population becoming conscious about cleanliness , and contributing to the cause in their own ways. One of the significant benefits of cleanliness, but an indirect one is the significant fall in water and air borne diseases in the city. The

reported number of cases has fallen by almost 50%. The biggest change has been come about in how people perceive cleanliness jobs. Earlier when the municipality advertised for manning cleaning jobs at the municipality, hardly 3500 people applied. It has now doubled to 6500, with people vying to get a cleaning job at the municipality (SWACHH SURVEKSHAN 2017: INDORE'S RISE TO NUMBER 1 RANK).

For years, the disposal of the city's municipal waste was a menace, as it was done in open areas without taking measurable controls. This led to massive health hazards from improperly treated natural waste. In 2019, Indore was generating over a thousand metric tons of municipal solid waste in a day (Ministry of Housing and Urban Affairs, 2019). Over a century back, the Municipal Corporation identified a disposal site 15 km away from the city centre of Indore (i.e., Devguradia) for disposal of this waste. The solid waste, once collected from all over the city, was brought to this ground for dumping. The waste which reached the trenching ground constituted of blue waste (dry) and green waste (wet waste). Over time this waste came to the trenching ground fully segregated into dry and wet waste, so that it could be treated differently.

The city put in place a state of the art dry waste segregation system, which segregated the dry waste into 16 different categories, each of which could be taken up for recycling. Post this segregation, only 1 % of inert waste is left which needs to be sent for landfill. This has enabled Indore to achieve the hallmark of becoming a near zero landfill city.

For wet waste treatment, the city innovated and put in place a new system. The new system was innovated from the Indore method of solid waste management. The INDORE METHOD is an old and textbook method of compost preparation in pits size of 9'x5'x3'. The pit is filled with farm wastes layer by layer. Each layer is around 3" thick, with a 2" layer of cow dung slurry mixed with urine. The pits are filled with farm wastes and plastered with 2"-4" thick layer of soil and dung. This prevented moisture loss and allowed the temperature to rise up to 60-65°C within 3-4 days, and enable its decomposition. Material inside the pit was turned after 15-30 days and the level of moisture maintained by adding water. Another turning is given after an interval of 30 days. By this process, good quality compost was generated within 3-4 months. The wet waste treatment process that the city put in place now, innovated over this age old method. This exploited the Indore method's use of chemical, bacteriological and physical changes in buried refuse.

To systematize the process, a new facility for wet waste treatment was constructed, which could handle 600 MT of wet waste every day. Infrastructure was put in place to let wet waste dry and decompose in the open, and decompose in 7-10 days. During this period, the temperature of the decomposing waste rises to over 60 °C, killing all the pathogens and hastening the decomposition process. A method of controlled tipping was also introduced, which revolutionized the method by

introducing mechanization. The principal method of refuse disposal through controlled tipping or sanitary landfill was introduced, which differed from ordinary dumping in that the material is placed in a trench, adequately compacted and then covered in earth. Over time, the old landfill has also been re-excavated and treated, releasing over 100 acres of land fill area, which is proposed to be developed into a Golf course, city forest, or a wedding location.

WHY DID INDORE EXCEL IN PUBLIC SERVICE DELIVERY?

Political alignment

The political factors favorably aligned, reinforcing one another, and this was an important factor that made Indore into a role model as a clean city. Following the win of Bharatiya Janata Party (A national party) at the federal and state level, Mrs Mailin Gaur, a soft-spoken lady who had entered politics following the death of her husband in a road accident, won the Mayoral Elections of Indore in February 2015, with an overwhelming majority. Her first announcement on winning the Mayor's position was to follow a developmental agenda for the city and make it one of the Smart Cities in the country (Ministry of Housing and Urban Affairs, 2019).

However, soon after taking up her role as the Mayor of the city she started getting balked down by routine administrative issues, which often revolved around rag pickers, petty corruption issues, court mandates for cleaning, street dog menaces, litigations on encroachments, sanitation workers problems, etc. As per her, all of these issues can be traced back to the fundamental issue of CLEANLINESS! When she got together with her team of confidants in the bureaucracy, she assured that everything was possible and all issues could be addressed, if politics was taken care of. Her overwhelming win in the elections and her relatively newer political roots led her to commit to taking care of political issues head-on, and provide a free hand to a team headed by the Municipality Commissioner to clean the city up.

The presence of a single party at Center, State, and City levels helped align political priorities and have often been argued to be central to Indore's achievements. However, such an alignment also existed in at least 500 other municipalities in the country. Also, a closer analysis of the winners also shows that such an alignment is not necessary. For instance, cities like NDMC, Chandigarh, followed by Bhopal and Jharkhand figured in the top ranks but had different political parties involved at different levels. Hence, it is argued that,

Proposition 1: Political alignments are important, but not a sufficient or a necessary condition for achieving excellence in public service delivery.

Bureaucratic priority

“Nothing comes easily; let alone the title of cleanest city. Indore shed both sweat and blood to achieve the title.” Indore municipal commissioner Manish Singh while addressing 138 representatives from 22 states to study the efforts put in by the city to top Swachh Survekshan-2017.

The people who manned the key bureaucratic posts in 2015, were a little different. Manish Singh, the Municipality Commissioner, who spent 80% of his working time on the field. The commitment of the bureaucratic machinery is evident from the efforts required to free the city of stray cattle. *“Even an IMC official had to pay with his life in our effort to free city from cattle menace. He was murdered by cattle rearers. Still, it failed to stop us,”* Manish Singh.

To supplement the bureaucracy, the Municipality decided to appoint a consultant. The consultant provided 400 Sanitation Consultants, who were trained in the new methods of sanitation and public involvement and who could be used by the bureaucracy flexibly to convey their message to the grassroots. This team was on standby 24X7, and usually worked 12 hours a day.

Indore being the commercial capital of the state, Parliamentary Speakers Constituency, and the most populated city of the state, it had always been an important place of posting for the bureaucratic cadres. Hence, the city had always been manned by active and highly motivated bureaucratic machinery. Also, as the city provided a career growth path to the capital city of Bhopal and later to the state headquarters, only the best were posted at Indore. Consequently, a strong bureaucratic cadre is not unique to Indore, though the group of officers, present at that time were unique in their own ways.

Proposition 2: Bureaucratic priority is important, but not a sufficient or a necessary condition for achieving excellence in public service delivery.

When numerous stakeholders are involved, ensuring equity and fairness at all times can often be problematic. Actions even when taken with the best of intentions and in public interest can be questioned and found fault with as one evaluates them against different conceptualizations and measurements of equity and fairness. In such situations, judiciary plays an important role in ensuring equity and fairness. This has been difficult in the Indian scenario, where judicial activism has been evident of late. However, in the case of Indore the judiciary provided full support to political and bureaucratic actions, and placed public interest above everything else, providing a free hand to the city officials to take unpopular decisions, and stand scrutiny for the same. While, such judicial support is uncommon, in this case it served as an enabler of actions taken. As by itself, judicial support has little to achieve, hence we argue that

Proposition 3: Judicial support is important, but not a sufficient or a necessary condition for achieving excellence in public service delivery.

It goes without a doubt, that in the case of Indore all the three pillars of democracy came together to enable the city to achieve a hat-trick in cleanliness. In the case of Indore city this was nothing less than a mini revolution for the city and, in particular for its citizenry. This contemporary take on the issue of cleanliness is evident from the rally, which was taken out on the third day of a seven days special camp of National Service Scheme of Jai Maa Bhagwati Sonanchal Post Graduate College. Through the rally, people were given a message of hygiene and the concept of sanitation spread through the voices of students of a public school. This strategy was very similar and in line with the approach adopted by Devi Ahilya Bai Holkar, who took numerous steps to involve the public while attempting to address issues which lay at the core of the society. The city's solid waste management system also bears the mark of the policies and practices put forth at that time, making us wonder if history and path dependence had a role to play here.

PATH DEPENDENT DETERMINANTS TO INDORE'S ACHIEVEMENTS

Indore has a unique historical background. Though being located in one of the most fertile areas of central India, it was never a significant seat of power for either the Mughals or the British, even when they ruled over the entire country. This historical background had a rather strange implication for the city. While being one of the most important cities in central India, its public governance almost always lay with the local leaders, with only a distal impact of alien/ foreign ways of public governance. The founders of Indore were hereditary Zamindars and aboriginal landholders of Malwa who retained their possessions of royalty even after the advent of Holkars. Between Mughal rule, these families were granted confirmatory sanads by Aurangzeb, Alamgir and Farukhshayar, confirming their 'Jagir' rights.

Indore being one of the most fertile areas in the arid Central India, it was made the capital by the Holkars. Rao Nandlal Chaudhary, founder of the city, named it as 'Indrapur' after Lord Indra, the deity of Indreshwar temple. During the Maratha regime, the city was renamed 'Indur', a label which the local Marathi community continues to use. It was later Anglicised to 'Indore' during the British era.

The Maratha confederacy, in 1733 came into conflict with the East India Company during their war with the British and the Scindias. The Holkars signed the Treaty of Mahidpur in 1818, as per which they retained the rights to rule. Ahilya Bai took charge of civil administration and directly looked after it. She beautified her capital, Maheshwar, a town on the banks of the Narmada river. As stated by a contemporary American historian, Stewart Gordon, "*Ahilyabai had one of the most stable reigns of the 18th century.*" Devi built roads, temples, *ghats*, wells, tanks and rest-houses not only in the Malwa region, but across an area stretching from the Himalayas to pilgrimage centres in South India. One of the most

sacred Hindu temples at Varanasi, the Kashi Vishwanath temple, was built by her, although it was 1000 miles from her capital.

The *Bharatiya Sanskritikosh* lists the sites that she embellished - Kashi, Gaya, Somnath, Ayodhya, Mathura, Hardwar, Kanchi, Avanti, Dwarka, Badrinarayan, Rameshwar and Jagannath Puri. Ahilya Bai encouraged affluence of her bankers, merchants, farmers and cultivators, and did not consider that she had any legitimate claim to any of their wealth, be it through inappropriately high taxes or feudal right. Hence, business prospered under her reign. The flourishing of the business community provided a rich source of tax, providing her with sufficient funds to carry out public services and development, of which sanitation comprised of a good part. As it became the predominant city of Malwa, thanks to good civic amenities it became the most happening place and gradually became the preeminent city of Malwa and present day Madhya Pradesh.

The focus on sanitation can also be partially attributed to the agglomeration attached to the borders of the city - Mhow, a cantonment area. Mhow, is a major centre of Military training in the country, and it is one of the largest and cleanest cantonments of Indian Army. Mhow originally was part of the Indian State of Maharaja of Holkar. In 1818, Maharaja of Holkar signed the Treaty of Mandsaur. Under Article VII of this treaty, the Crown's representative included the cantonment of Mhow in the 'administered areas' and applied the Cantonments Act, 1924, to the Cantonment of Mhow. Such 'administered areas' were recognized for their well laid down planning of underground drainage.

The pre-independence railway link joining the Pilgrimage route fueled the growth of trade and commerce making Indore city the commercial capital of central province. After independence, the first ever-planning intervention for Indore in the post-independence period was in the form of Indore Development Plan (1974- 1991), which was adopted under Section 18 & 19 of Town & Country Planning Organization Act – 1973. The plan envisaged a planning area of 21,410 hectare, of which 12,145 hectare was to be provided for common use of the 12.5 lakhs population.

Proposition 4: Historical antecedents serve as guideposts for excellence in public service delivery. Sooner or later, they propel the existing systems towards excellence, making them necessary for achieving excellence in public service delivery, but not sufficient in themselves.

The condition of the defunct rule, of internal dissents and of stalemate continued through the first decade of the nineteenth century. "The New Industrial Town was beginning on a larger scale than is the type Garden City, Letchworth. And with all the corresponding provisions for increase of water supply, with thorough-going Sanitation and River Purification, with re-planned and simplified drainage. With this again, development of Gardens, on a scale fuller than that of other Garden Suburbs and Garden Cities are these of every kind, from simple sanitarian... materially improving environment, their neighbourhoods improved with the rest, and their ideal claims also advanced; as notably with

the improvement of the Chhatri Bagh as Sacred Park of 'Indore.'" (Town Planning towards City Development: A REPORT TO THE DURBAR OF INDORE by Patrick Geddes)

Proposition 5: Town planning is important, but not a sufficient or a necessary condition for achieving excellence in public service delivery.

Patrick Geddes in Town Planning towards City Development: A REPORT TO THE DURBAR OF INDORE, argues that the uprising of the new industrial town, and the residential suburbs gave legitimate birth to Indore. The depiction and imposition of schemes in the late eighteenth and the early nineteenth century marked to be contributive in the legitimate developments of Indore. "The Cleansing and Sanitation, the Repair and Renewal of the Old City, and the improvement of Road Communications, and of Railway Station, are similarly definite needs. The purified Rivers, the Park and Garden system, are a once measures towards Public Health, and provision towards its development to the highest levels." This citation proves to be a portrayal of the laid down path and the very genetic transformatory evidence of the citizens of Indore.

Proposition 6: Schemes are important, but not a sufficient or a necessary condition for achieving excellence in public service delivery.

Schemes implemented several decades ago help us solidify the basic structure of a clean city which is intertwined in its history.

"Though the cost and scale of each house is a matter for each householder according to his means, its construction, sanitation is always under municipal control. Still more is municipal vigilance needed with New Schemes; for what use can be the best of plans, unless guided in execution. The resultant increase of real estate, and of taxable value accordingly is thus encouraged as far as may be." This very scheme illustrates the politics and the imposition of schemes at state level. This ties up another scheme of 1912, the concept of 'Plaque Camps' was imposed on the population. Town Planning Scheme of 1912, a concept was adapted from an ancient tradition, where a systematic rotation between the occupied and unoccupied areas in formation. This leads to public health and sanitation.

The regular funds were allocated under the belt of cleansing expenditure, as documented by Patrick Geddes. These expenditures included cleansing of rivers and nullas, before the plaque season started. Therefore this eludes that the concept of sanitation is inbred in the Indorean population.

Proposition 7: Traditions, Schemes, and Town planning, each being necessary in itself, together can become sufficient conditions for excellence in public service delivery.

CONCLUSION

This makes us argue that Indore's journey to become the cleanest city in the nation, and maintain that position for three consecutive years, may have something to do with the history of the city. That is an

element of path dependency, the idea that tries to explain the continued use of a product or practice based on historical preference or use, has had a key role to play in the city achievements, which was over and above the influence of political, bureaucratic and judicial alignments and consensus that the city witnessed. Such path dependency emerges spontaneously, even if newer, more efficient practices emerge, often because it is easier or more cost effective to simply continue along an already set path than to create an entirely new one.

REFERENCES

- BHASKAR, R. (2015). WHY ZONE 7 USED EXCESS DIESEL IMC COMMISSIONER ISSUES NOTICE
- Bhaskar, R. (2017). Indore shed sweat and blood to achieve Swachhta title: Manish Singh. [online] The Free Press Journal. Available at: <https://www.freepressjournal.in/latest-news/indore-shed-sweat-and-blood-to-achieve-swachhta-title-manish-singh/1082302> [Accessed 21 Mar. 2019].
- Business Standard (2014). Modi taking cue from Singapore's clean drive?. [online] p.1. Available at: https://www.business-standard.com/article/economy-policy/modi-taking-cue-from-singapore-s-clean-drive-114100300043_1.html [Accessed 16 Mar. 2019].
- Census2011.co.in. (2019). Indore Municipal Corporation City Population Census 2011-2019 | Madhya Pradesh. [online] Available at: <https://www.census2011.co.in/data/town/802273-indore-madhya-pradesh.html> [Accessed 23 Mar. 2019].
- En.wikipedia.org. (2019). Swachh Bharat mission. [online] Available at: https://en.wikipedia.org/wiki/Swachh_Bharat_mission [Accessed 15 Mar. 2019].
- Goswami, S. (2018). Weak municipalities, governance failure stalling progress of Swachh Bharat: experts. DownToEarth. [online] Available at: <https://www.downtoearth.org.in/news/waste/weak-municipalities-governance-failure-stalling-progress-of-swachh-bharat-experts-59645> [Accessed 23 Mar. 2019].
- Indiapopulation2019.com. (2019). Population of Indore 2019 | India Population 2019. [online] Available at: <https://indiapopulation2019.com/population-of-indore-2019.html> [Accessed 19 Mar. 2019].
- Jha, B. (2015). Malini Gaud becomes second woman mayor of Indore. The Times of India. [online] Available at: <https://timesofindia.indiatimes.com/city/indore/Malini-Gaud-becomes-second-woman-mayor-of-Indore/articleshow/46122092.cms> [Accessed 20 Mar. 2019].
- Kaushal, Rajendra & K Varghese, George & Chabukdhara, Mayuri. (2012). Municipal Solid Waste Management in India-Current State and Future Challenges: A Review. International Journal of Engineering Science and Technology. 04. 1173-1189.
- Madhya Pradesh High Court Association Of Residents Of Mhow vs Union Of India on 16 September, 2009. <https://indiankanoon.org/doc/782063/>
- Ministry of Housing and Urban Affairs (2016). Swachh Survekshan 2016. Government of India.
- Ministry of Housing and Urban Affairs (2017). Swachh Survekshan 2017. Government of India.
- Ministry of Housing and Urban Affairs (2018). Swachh Survekshan 2018. Government of India.
- Ministry of Housing and Urban Affairs (2019). Swachh Survekshan 2019. Government of India.
- Ministry of Housing and Urban Affairs (2019). Smartnet. National Institute of Urban Affairs.
- Ministry of Housing and Urban Affairs (2019). Swachh Bharat Timeline. Government of India, p.All.
- MP Government (2019). Method of Composting. Tata Consultancy Services Limited, p.1.
- Nidugala, Ganesh Kumar, and Abhay Pant. "Cleanest cities in India 2017: Indore's meteoric rise to no. 1 spot." Journal of Public Affairs 17.4 (2017): e1674.
- The Free Press Journal. [online] Available at: <https://www.freepressjournal.in/indore/why-zone-7-used-excess-diesel-imc-commissioner-issues-notice/614305> [Accessed 20 Mar. 2019].
- Tierno, P. (2004). The secret life of germs. New York: Atria Books
- Wangchuk, R. (2018). 100% Door-to-Door Urban Garbage Collection? This Indian City Has Shown Its Possible!. The Better India, [online] p.1. Available at: <https://www.thebetterindia.com/128451/100-door-door-urban-garbage-collection-indian-city-shown-possible/> [Accessed 20 Mar. 2019].
- Zelliot, E. (2019). Ahilyabai Holkar. [online] Indiatogether.org. Available at: <http://www.indiatogether.org/manushi/issue124/holkar.htm> [Accessed 23 Mar. 2019].

EXAMINING THE INFLUENCE OF EMOTIONAL INTELLIGENCE ON STUDENTS' BURNOUT

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ABSTRACT

In this paper an attempt is made to analyse the effect of emotional intelligence on students' burnout syndrome. In particular, emotional intelligence was decomposed into four components using exploratory factor analysis (EFA). Respectively, students' burnout syndrome was decomposed into seven elements based on the same technique. By using hierarchical regression trees, the structural elements of emotional intelligence were ranked in terms of the importance of their effect on burnout. Furthermore, given that only indirect effects of factors exist because of the existence of burnout structural components, the contribution of each element of emotional intelligence towards students' burnout was evaluated using a structural equation model. The results indicated that the most important aspects of the emotional intelligence on students' burnout are the difficulty in empathy - heteroconsciousness and in particular their inability to see things from the point of view of others and to understand why others feel what they feel and also the lack of emotional self-determination that is their weakness to understand and express their own feelings.

Keywords: student burnout, emotional intelligence, recursive regression trees, structural equation modelling.

INTRODUCTION

The burnout syndrome has been the focus of research in recent years (Cordes and Dougherty, 1993; Leiter and Maslach, 2003; Maslach et al., 2001; Maslach and Jackson, 1981; Schaufeli et al., 2002b, 2002a). According to Maslach the burnout syndrome consists of three elements, this one of emotional exhaustion, depersonalization and lack of personal achievement (Maslach and Jackson, 1981; Maslach and Leiter, 2008). In particular: (a) emotional exhaustion manifests with a sense of mental fatigue of the person who no longer has the necessary energy to invest in his/her work; (b) depersonalization manifests itself by the removal of the individual from the public he/she serves and (c) the lack of personal achievement expressed by the weakness of performance and the resignation of any attempt to deal effectively with problems (Guthrie and Black, 1997).

Parallely, a new dimension of intelligence, called emotional intelligence (Goleman, 2006), was developed. The term “emotional intelligence” describes qualitative features such as self-understanding of emotion and comprehension of others' feelings as axes of actions and thoughts (Salovey and Mayer, 1990). The notion of emotional intelligence displays negative correlation with burnout and stress (Antoniou and Koronaiou, 2018). Emotional intelligence qualities could be considered skills such as self-control, determination, motivation and sensitivity to the feelings of others. Several scholars have defined and explained the concept of emotional intelligence in terms of models consisted of various emotional competences. However, these models share the common core of the basic concepts (Goleman, 2001).

Some researchers focus on the study of students' burnout syndrome, (Capri et al., 2012; Dyrbye et al., 2008; Guthrie and Black, 1997; Schaufeli et al., 2002a; Zhang et al., 2007). In particular, Cazan and Năstasă 2014 examined the relationship between the triptych of emotional intelligence, burnout and student satisfaction concluding that high levels of emotional intelligence are associated with low levels of stress, exhaustion and high levels of life satisfaction, (Cazan and Năstasă, 2015). Benson *et al.* 2010 looked into the phenomenon of emotional intelligence of nursing students finding out their capability of coping with interpersonal relationships and working efficiently under stressful conditions, (Benson et al., 2010). The research by Nasir and Masrur 2010 led to the existence of a strong correlation between emotional intelligence and students' academic achievement, (Nasir and Masrur, 2010). Duran *et al.* 2006 focused their research on the predictive factors of academic burnout and student commitment, concluding that stress and the overall efficacy are strongly associated with the exhaustion and the dedication of students and therefore through the control of these two variables emotional intelligence may also act as a predictive factor in the students' burnout syndrome, (Durán et al., 2006).

In this paper, using exploratory factor analysis, both the students' burnout syndrome and emotional intelligence were analysed. In further, their correlation was thoroughly examined and the burnout syndrome was interpreted under the spectrum of emotional intelligence' structural elements.

METHODOLOGICAL APPROACH

The students of the University of Patras, which consists of 24 Departments belonging to 5 Schools, School of Business Administration, School of Engineering, School of Health Sciences, School of Humanities and Social Sciences and School of Natural Sciences, consist the statistical population. It should be noted that the University of Patras is regional and accepts admission students from all over the country through a national system of examinations. Therefore, on the basis of the criterion of geographic distribution, the students of the University of Patras are a representative sample of the population.

A structured questionnaire was responded by 582 students on December 2018. The sample is representative on two criteria this one of the geographical distribution and of the university departments. In terms of gender, 51.5% of the students were women and 48.5% were men. The distribution of students in study years is almost uniform and corresponds to approximately 16% of the sample for each year of study.

The questionnaire includes the following thematic areas: (a) Demographic data, (b) Student Life, (c) Intensification and Satisfaction of Studying, (d) Student Burnout Syndrome (e) Student Emotional Intelligence. Most of the items are based on the following validated questionnaires: (a) Maslach Burnout Inventory - Student Survey (MBI-SS) measuring the three characteristic dimensions of the burnout syndrome (Hu and Schaufeli, 2009; Schaufeli et al., 2002a) namely emotional exhaustion, depersonalisation and lack of personal accomplishment, (b) the Trait Emotional Intelligence Questionnaire (TEIQue-SF) (Petrides, 2009), (c) the Employee Satisfaction Inventory (Koustelios, 1991; Koustelios and Bagiatis, 1997), and (d) the Self-Rated Emotional Intelligence Scale (Brackett et al., 2006). All items are measured by the use of a 7-point Likert scale. The Cronbach α for the present study is calculated 0.92.

Initially, using exploratory factor analysis, the students' burnout syndrome was decomposed into the following seven factors:

- (1) B1 physical-psychoemotional exhaustion,
- (2) B2 efficacy and self-accomplishment of studies,
- (3) B3 cynicism – lack of interest in others,
- (4) B4 empathy - understanding others' feelings,
- (5) B5 lack of interest in studying and absenteeism,
- (6) B6 difficulty in working with others,
- (7) B7 depersonalization.

In addition, a separate exploratory factor analysis (EFA) for the students' emotional intelligence was performed, resulting in four factors, two positive ones concerning the EI1 (self-control ability) and EI4 (heteroawareness ability) respectively, and two negative ones EI2 (lack of empathy - heteroconsciousness) and EI3 (lack of emotional self-determination).

The study of the emotional intelligence influential factors on students' burnout was accomplished by means of a multiple linear regression, a structural equational model (SEM), (Kline, 2015) and a hierarchical regression tree (Breiman et al., 1984).

By the usage of the hierarchical regression tree, the hierarchy of the effect of all the structural elements of emotional intelligence on students' burnout syndrome was realised. Based on the above hierarchical tree, multiple regression was performed to assess the significance of each element of emotional

intelligence towards the interpretation of the change in the students' burnout syndrome and their interdependencies.

A suitable structural equation model was adapted on the basis of the exploratory factorial analysis on the students' burnout syndrome. The purpose was to enlighten the indirect effects of emotional intelligence on the students' burnout mainly via the seven elements that emerged from the additional decomposition of the burnout syndrome.

Items for Student Burnout	B1	B2	B3	B4	B5	B6	B7
Absenteeism	0.601				0.446		
Physical exhaustion							
Lack of concentration					0.347		
Dedication on studies		0.632					
Department culture				0.340			
Stress and efficacy	0.531						
Mental exhaustion	0.616						
Wake up exhausted	0.369				0.321		
Tired of student cooperation						0.658	
Tired of teacher cooperation						0.490	
Study frustration					0.420		
Stressed with student cooperation						0.620	
Stressed with teacher cooperation						0.605	
Understand students' feelings				0.554			
Understand teachers' feelings				0.547			
Facing study problems		0.421					
Rejuvenated working with students				0.463			
Rejuvenated working with teachers				0.310			
Impersonal behaviour towards students							0.791
Impersonal behaviour towards teachers							0.581
Emotional hardening							
Lack of caring for students			0.625				
Lack of caring for teachers			0.734				
Forgetting study troubles	-0.558						
Irritability	0.584						
Lack of time for social meetings	0.614						
Drained by studies	0.419					0.393	
Pressure from studies	0.437						
Less interest in studies					0.442		
Excited about studies		0.722					
Self-efficacy					-0.520		
Accomplishment of important things		0.655					
Doubt about the importance of studies		-0.525					
Cynical about the importance of studies		-0.305					
Drop out studies		-0.427					

Table 1. Loadings greater than 0.3 of the items corresponding to each of the seven factors of the exploratory factor analysis on students' burnout syndrome. Fit measures of the exploratory factor analysis: TLI (0.896), RMSEA (0.072).

RESULTS AND DISCUSSION

For the Exploratory Analysis of Factors (EFA) on students' burnout, the psych library of the R package (Revelle, 2018; Team, 2017) was used. Table 1 presents loadings greater than 0.3 for all of the factors composing the students' burnout syndrome.

Table 2 presents the items' loadings corresponding to the structural components of the emotional intelligence.

Figure 1 shows the hierarchical regression tree for the burnout syndrome using the structural elements of the emotional intelligence. The library rpart of R package (Therneau et al., 2018) was used for the regression tree.

According to the hierarchical tree of Figure 1, the most crucial factor influencing the burnout syndrome is EI3 (lack of emotional self-determination). The second factor responsible for the high values of students' burnout - right part of the tree - is EI2 (lack of empathy - heteroconsciousness), while for the low values of the burnout - left part of the tree - EI4 factor (heteroawareness ability) contributes.

Focusing on tree branches showing the highest values, three case scenarios are noted. In particular, following the two right branches of the tree, it is clear that high burnout rates concerning the 4% percentage of students, exist as long as high values greater than 1.4 of the EI2 (lack of empathy-heteroconsciousness) and greater than or equal to the average -0.31 of EI3 index (lack of emotional self-determination) occur. It is noteworthy that the same result as the two previous conditions indicate is also present if EI4 factor (heteroawareness ability) is absent. However, if EI4 factor exists at high values greater than 1.7 then the students' burnout syndrome also displays extremely high values.

The third branch concerns the condition where there is intense emotional self-determination ($EI3 < -0.31$) and at the same time high level of heteroawareness ability ($EI4 > 1.9$), conditions that enhance the burnout syndrome. Perhaps, this condition raises reflection because one could expect strong emotional self-determination accompanied by high heteroawareness ability to be far from the burnout situation. However, this conceptual approach could be of some interest if we consider that students who can recognise the feelings of others, see things from others' perspective, dive into the reasons of others' behavior and realise their own feelings, then it is likely that they charge themselves with psycho-emotional exhaustion; the ability to recognise and understand their own feelings and others' motions preassumes in one way or another, emotional spending. The same conclusion is drawn from the principal components analysis (PCA) of the structural elements of emotional intelligence. As it can be noticed in Figure 2, the projection of the structural elements of emotional intelligence on the two principal axes (left-hand figure) namely EI3 (lack of emotional self-determination) and EI4 (heteroawareness ability) are almost vertical to one another and thus, the state of the existing burnout is determined by them. The projections on the second and third principal components (figure on the

right) namely EI1 (self-control ability) and EI2 (lack of empathy-heteroconsciousness) being vertical to EI3 and EI4, are not capable to influence the existence or not of the burnout state.

Questions about the emotional intelligence of students	EI1	EI2	EI3	EI4
Difficulty in expressing my feelings			0.703	
Difficulty in seeing things from others' perspective		0.686		
Difficulty in controlling my feelings	-0.304	0.433		
Difficulty in figuring out what I feel		0.368	0.479	
Ability to understand others' feelings				0.700
Ability to acknowledge my feelings clearly	0.539			
Ability to express my feelings clearly	0.439		-0.428	
Ability to manage my feelings	0.704			
Ability to acknowledge others' feelings successfully				0.741
Difficulty in understanding others' messages		0.469		
Some of the most important events of my life have led me to review what is important and what not in life	0.451		0.368	
Ability to control my feelings	0.641			
Difficulty in understanding why others feel what they feel		0.625		
Ability to implement these which I am engaged to	0.659			
Ability to be aware of my abilities and weaknesses	0.537			
Ability to recognize how my feelings influence my performance	0.404		0.333	
Ability to understand the reasons behind others' behaviour				0.660

Table 2. *Loadings of the items corresponding to the four factors of the exploratory factor analysis on students' emotional intelligence (loadings > 0.3). Fit measures of the exploratory factor analysis: TLI (0.906), RMSEA (0.092).*

To determine the degree of synergy of emotional intelligence structural elements in modulating the state of burnout syndrome, a multiple linear regression was performed. Table 3 presents the independent variables of the multiple regression, their interdependencies, the beta coefficients for each variable and the indication of their statistical significance. The R-squared measure of the multiple regression is 0.31. Therefore, emotional intelligence is a factor indeed, in interpreting the change of the burnout syndrome, but yet not the major one. Given that the values of the emotional intelligence components are normalized, the effect of each one was compared based on the absolute value of the linear beta coefficient for each. It follows that the most significant factor in terms of the effect on burnout is EI2 (lack of empathy-heteroconsciousness) presenting a positive correlation (0.461). EI3 (lack of emotional self-determination) factor follows up correlated positively with burnout (0.406). EI1 (self-control ability) develops in turn, a negative correlation with students' burnout syndrome (-0.309). EI4 (heteroawareness ability) as an additional influencing factor is positively correlated with the state of students' burnout (0.192).

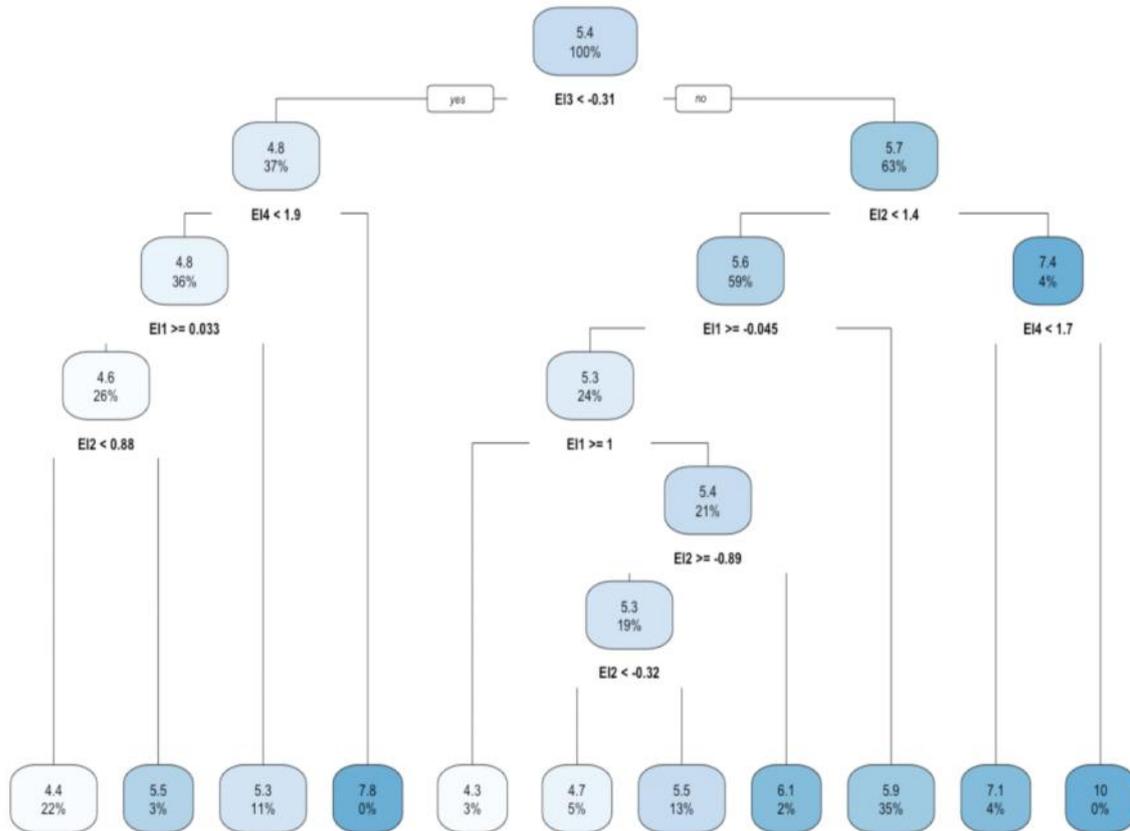


Figure 1. The hierarchical regression tree of the burnout syndrome using the elements of emotional intelligence. The number inside the eclipsis refers to the mean values of students; burnout for the particular branch or leaf. The number under the eclipsis refers to the percentage of the student sample corresponding to the branch or leaf. When the indicated condition is true, we are led to the left branch.

Nevertheless, the burnout syndrome is the resultant of its structural elements. Thus, any other factor only indirect effect, could exert. To assess how the indirect effect of emotional intelligence’s components on the burnout syndrome mediate, a structural equation model (SEM) is used (Figure 3). In particular, every structural element of the burnout syndrome has been matched accordingly with all of the structural elements of emotional intelligence. For comparability purposes, all the coefficients listed in the structural model have been normalized.

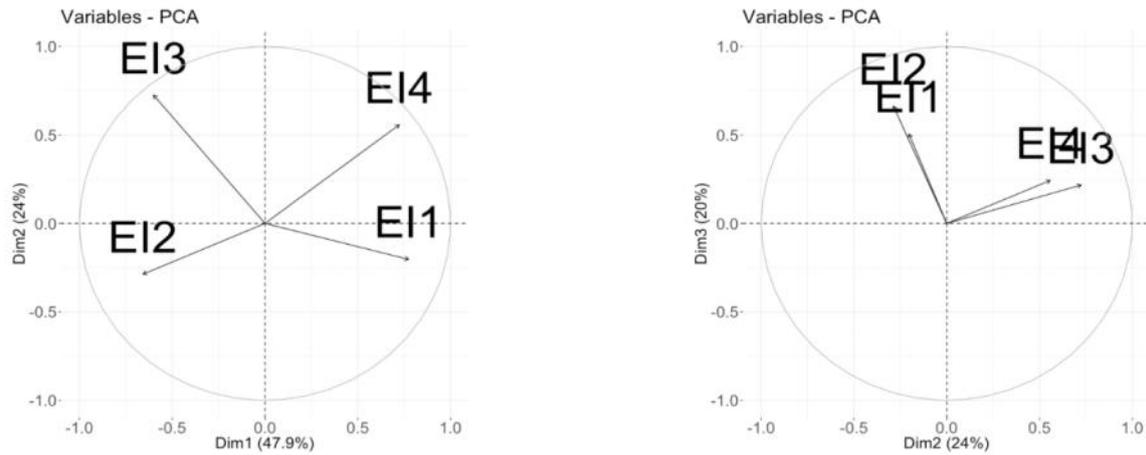


Figure2. Projections of emotional intelligence components on the principal axes. To the left are the projections on the two principal axes and on the right on the second and on the third principal axes.

Independent variables	Beta
EI1 self-control ability	-0.309 ***
EI2 lack of empathy - heteroconsciousness	0.461 ***
EI3 lack of emotional self-determination	0.406 ***
EI4 heteroawareness ability	0.192 ***
EI1 self-control ability: EI2 lack of empathy - heteroconsciousness	0.201 ***
EI1 self-control ability: EI3 lack of emotional self-determination	-0.049 **
EI1 self-control ability: EI4 heteroawareness ability	0.055 ***
EI2 lack of empathy - heteroconsciousness: EI4 heteroawareness ability	-0.082 ***
EI1 self-control ability: EI2 lack of empathy - heteroconsciousness: EI3 lack of emotional self-determination	0.133 ***
EI1 self-control ability: EI2 lack of empathy - heteroconsciousness: EI4 heteroawareness ability	-0.063 ***
EI2 lack of empathy - heteroconsciousness: EI3 lack of emotional self-determination: EI4 heteroawareness ability	0.028 *
EI1 self-control ability: EI2 lack of empathy - heteroconsciousness: EI3 lack of emotional self-determination: EI4 heteroawareness ability	0.038 ***

Table 3. Results of multiple regression on burnout syndrome with the structural elements of emotional intelligence. (Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05)

Table 4 shows all estimates of the structural equation model coefficients normalized for comparability purposes. In each row the structural elements of burnout are mentioned, while in the columns the structural elements of emotional intelligence are presented.

It can be observed that EI2 factor (lack of empathy-heteroconsciousness) exerts a positive effect on the total burnout level via factor B7 (depersonalization). Therefore, students who have difficulty in seeing things from the others' point of view, may be led to the state of burnout mainly because these students tend to be depersonalised. Factors B1 (physical and psycho-emotional exhaustion), B4 (empathy - understanding others' feelings) and B3 (cynicism - lack of interest in others) could be viewed as secondary channels of the indirect positive effect by EI2 (lack of empathy - heteroconsciousness) on burnout. In other words, students who have difficulty in empathy are likely to experience the burnout

syndrome especially if they are already psycho-emotionally exhausted; another scenario is that students may simply realise how others feel but might not delve deeper into “why” or sympathise others’ motions; or based on the third scenario, they might be characterised by severe lack of interest in others predicting possible existence of burnout. Similarly, a positive effect is exerted by EI2 factor (lack of empathy – heteroconsciousness) indirectly on burnout via factor B6 (difficulty in working with others). This could be interpreted in the sense that students lacking the ability to empathize could be led to the state of burnout provided that the interpersonal relationships fatigue them. In addition, students characterised by weakness in “empathy” could get into the state of burnout especially when they perceive themselves as being ineffective in their studies; this is illustrated by the “route” of the indirect negative effect exerted by factor EI2 (lack of empathy - heteroconsciousness) via factor B2 (efficacy and self-accomplishment of studies) on burnout.

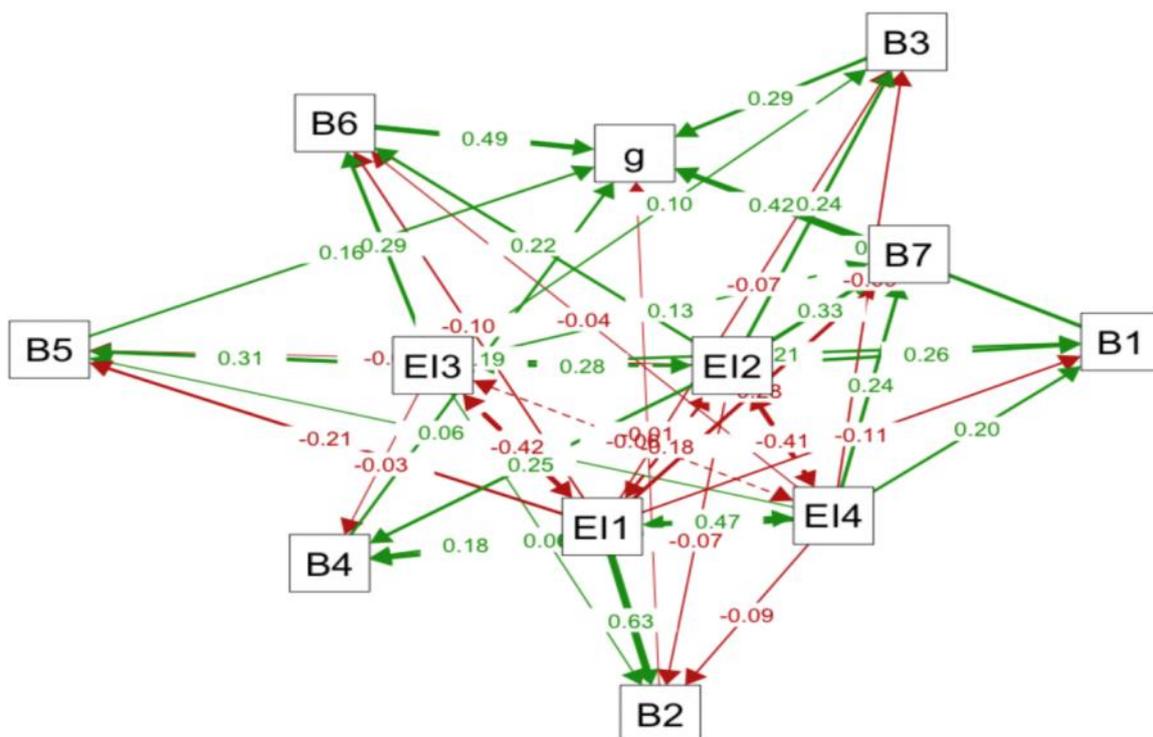


Figure 3. Structural Equation Model (SEM) of factor *g* (burnout) with its structural elements B1 to B7, and the structural elements of emotional intelligence EI1 to EI4. Fit measures CFI (0.9410), RMSEA (0.043), SRMR (0.041).

It can also be observed that EI3 factor (lack of emotional self-determination) exerts an indirect positive effect on burnout through four channels; B5 (lack of interest in studying and absenteeism), B6 (difficulty in working with others), B1 (physical - psycho-emotional exhaustion) and B7 (depersonalization). This could be interpreted under the spectrum of the idea that students who have weakness in their emotional “self-determination” can be led to burnout under the assumption that they

feel inefficient in their studies or find it difficult to cooperate with others or feel exhausted from their studies or even behave to others impersonally.

Normalized indirect effect factors from SEM	EI1	EI2	EI3	EI4
B1 physical - psychoemotional exhaustion	-0.113	0.258	0.206	0.198
B2 efficacy and self-accomplishment of studies	0.628	-0.066	0.056	-0.086
B3 cynicism - lack of interest in others	-0.072	0.244	0.099	-0.090
B4 empathy – understanding others’ feelings	0.181	0.251	-0.026	0.326
B5 lack of interest in studying and absenteeism	-0.214		0.312	0.057
B6 difficulty in working with others	-0.104	0.225	0.287	-0.039
B7 depersonalisation	-0.279	0.329	0.133	0.244

Table 4. *The normalized estimates of the coefficients of the structural equation model of Figure 3.*

Furthermore, EI1 factor (self-control ability) exerts indirect influence on the burnout syndrome via two positive channels; B2 (efficacy and self-accomplishment of studies) and B4 (empathy - understanding others’ emotions) and through two negative channels; B7 (depersonalization) and B5 (lack of interest in studying and absenteeism). It could be noted that the resultant of all the above components is negative after all. Indeed, it is possible that students experience burnout despite their ability to manage effectively their own motions as long as they treat others impersonally or feel ineffective in their studies.

Similarly, EI4 factor (heteroawareness ability) indirectly affects burnout syndrome following three positive routes; B4 (empathy - understanding others’ feelings), B7 (depersonalization) and B1 (physical and psycho-emotional exhaustion). In this sense, students who have the ability to recognise and at the same time understand how others feel are prone to burnout perhaps because these processes require “emotional spending”. Additionally, students who encompass the “heteroawareness ability” could be led to the state of burnout as long as they behave to others impersonally or have experienced physical - psycho-emotional exhaustion.

CONCLUSION, IMPLICATIONS AND FURTHER RESEARCH

In this paper the effect of students’ emotional intelligence on students’ burnout syndrome was analysed. Both phenomena were decomposed by using exploratory factor analysis, respectively. In particular, emotional intelligence was decomposed into four components and students’ burnout syndrome was decomposed into seven elements. Via hierarchical regression trees, the structural elements of emotional intelligence as they emerged, were ranked in terms of the importance of their direct effect on students’ burnout. Likewise, the indirect effect of emotional intelligence’s structural components on students’ burnout syndrome was analysed using an appropriately adjusted structural equational model.

The analysis showed that two structural components of emotional intelligence outrival in terms of the direct effect on students’ burnout syndrome; the inability of students to see things from others’ point of

view and to understand “why” others feel what they feel. Also, the inability of students to understand and express their own feelings.

Furthermore, the research showed that there exist certain paths exerting indirect influence on students’ burnout syndrome via emotional intelligence’s structural elements; in particular, students who lack the ability in seeing things from the others’ point of view could be led to the state of burnout mainly due to their tendency to be depersonalised. Under the same assumption that is lack of empathy, the students are likely to experience burnout especially if are already psycho-emotionally exhausted. In addition, it emerged that students who lack empathy could get into the state of burnout especially when they perceive themselves as being ineffective in their studies. It also emerged that students whose emotional “self-determination” is weak can be led to burnout under the assumption that they feel inefficient in their studies or have difficulty in cooperate with others or feel exhausted from their studies or behave to others in impersonal ways.

The correlation between students’ emotional intelligence and burnout is confirmed in this research and this inversely proportional conjunction is examined and supported in literature. The structural elements of emotional intelligence that emerged from this work as the direct causes of students’ burnout revolve around two axes; understanding the emotions of others and understanding the emotions of self. In relation to the literature, these are the core axes of emotional intelligence and thus its qualitative features. Consistent with the literature are also the interrelationship among emotional intelligence, burnout and students’ satisfaction, concluding that high levels of emotional intelligence are associated with low levels of students’ exhaustion and high levels of satisfaction. Furthermore, the analogous association among students’ emotional intelligence and their ability of coping with interpersonal relationships and working efficiently was emerged in this paper and is in line with the literature. This paper adds to the hierarchy of the factors’ influence and their categorization into direct and indirect variables. It is interesting the diverse mediation exerted that emerged from this work; factors such as exhaustion, lack of satisfaction from studies, disability in cooperation, cynical and detached behavior intermediate between students’ emotional intelligence and students’ burnout, detail which indicates both direct and indirect influences of students’ emotional intelligence on students’ burnout syndrome.

An innovative element in the methodological approach is that both the phenomena of students’ burnout and emotional intelligence were analysed via exploratory factor analysis and their structural elements were examined as separate influential factors. The same methodological approach could be followed towards the interpretation of students’ burnout syndrome on the basis of the structural elements of student satisfaction. Analogously, student engagement could be interpreted under the spectrum of the decomposition of emotional intelligence.

Therefore, the academic environment could accomplish appropriate interventions towards the enhancement of students' emotional intelligence mainly on the basis of explicit academic modules that cultivate students' skills towards this direction so as students meet best the goals of personal balance, spiritual improvement and interpersonal harmony.

REFERENCES

- Antonioni, A.S., Koronaiou, P., 2018. Investigating burnout/occupational stress in relation to emotional intelligence and coping strategies in Greek nurses. *Dialogues Clin. Neurosci. Ment. Heal.* 1, 38–51.
- Benson, G., Ploeg, J., Brown, B., 2010. A cross-sectional study of emotional intelligence in baccalaureate nursing students. *Nurse Educ. Today* 30, 49–53.
- Brackett, M.A., Rivers, S.E., Shiffman, S., Lerner, N., Salovey, P., 2006. Relating emotional abilities to social functioning: a comparison of self-report and performance measures of emotional intelligence. *J. Pers. Soc. Psychol.* 91, 780.
- Breiman, L., Friedman, J., Stone, C.J., Olshen, R.A., 1984. *Classification and Regression Trees*: Taylor & Francis.
- Capri, B., Ozkendir, O.M., Ozkurt, B., Karakus, F., 2012. General self-efficacy beliefs, life satisfaction and burnout of university students. *Procedia-Social Behav. Sci.* 47, 968–973.
- Cazan, A.-M., Năstăsă, L.E., 2015. Emotional intelligence, satisfaction with life and burnout among university students. *Procedia-Social Behav. Sci.* 180, 1574–1578.
- Cordes, C.L., Dougherty, T.W., 1993. A review and an integration of research on job burnout. *Acad. Manag. Rev.* 18, 621–656.
- Durán, M.A., Extremera, N., Rey, L., Fernández-Berrocal, P., Montalbán, F.M., 2006. Predicting academic burnout and engagement in educational settings: Assessing the incremental validity of perceived emotional intelligence beyond perceived stress and general self-efficacy. *Psicothema* 18, 158–164.
- Dyrbye, L.N., Thomas, M.R., Massie, F.S., Power, D. V., Eacker, A., Harper, W., Durning, S., Moutier, C., Szydlo, D.W., Novotny, P.J., 2008. Burnout and suicidal ideation among US medical students. *Ann. Intern. Med.* 149, 334–341.
- Goleman, D., 2001. Emotional intelligence: Issues in paradigm building. *Emot. Intell. Work.* 13, 26.
- Goleman, D., 2006. *Emotional intelligence*. Bantam.
- Guthrie, E., Black, D., 1997. Psychiatric disorder, stress and burn-out. *Adv. Psychiatr. Treat.* 3, 275–281.
- Hu, Q., Schaufeli, W.B., 2009. The factorial validity of the Maslach burnout inventory–student survey in China. *Psychol. Rep.* 105, 394–408.
- Kline, R.B., 2015. *Principles and practice of structural equation modeling*. Guilford publications.
- Koustelios, A.D., 1991. The relationship between organizational culture and job satisfaction in three selected industries in Greece. University of Manchester.
- Koustelios, A.D., Bagiatis, K., 1997. The Employee Satisfaction Inventory (ESI): Development of a scale to measure satisfaction of Greek employees. *Educ. Psychol. Meas.* 57, 469–476.
- Leiter, M.P., Maslach, C., 2003. Areas of worklife: a structured approach to organizational predictors of job burnout. *Res. Occup. Stress Well Being* 3, 91–134.
- Maslach, C., Jackson, S.E., 1981. The measurement of experienced burnout. *J. Occup. Behav.* 2, 99–113.
- Maslach, C., Leiter, M.P., 2008. Early Predictors of Job Burnout and Engagement. *J. Appl. Psychol.* 93, 498–512.
- Maslach, C., Schaufeli, W.B., Leiter, M.P., 2001. Job Burnout. *Annu. Rev. Psychol.* 52, 397–422.
- Nasir, M., Masrur, R., 2010. An exploration of emotional intelligence of the students of IIUI in relation to gender, age and academic achievement. *Bull. Educ. Res.* 32, 37–51.
- Petrides, K. V., 2009. Psychometric properties of the trait emotional intelligence questionnaire (TEIQue). In: *Assessing Emotional Intelligence*. Springer, pp. 85–101.
- Revelle, W., 2018. *Psych: procedures for personality and psychological research*. Northwestern University, Evanston.
- Salovey, P., Mayer, J.D., 1990. Emotional intelligence. *Imagin. Cogn. Pers.* 9, 185–211.
- Schaufeli, W.B., Martinez, I.M., Pinto, A.M., Salanova, M., Bakker, A.B., 2002a. Burnout and engagement in university students: A cross-national study. *J. Cross. Cult. Psychol.* 33, 464–481.
- Schaufeli, W.B., Salanova, M., González-Romá, V., Bakker, A.B., 2002b. The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *J. Happiness Stud.* 3, 71–92.

- Team, R.C., 2017. R: A language and environment for statistical computing (Version 3.4. 2)[Computer software]. Vienna, Austria R Found. Stat. Comput.
- Therneau, T., Atkinson, B., Ripley, B., 2018. rpart: Recursive partitioning and regression trees (R package).
- Zhang, Y., Gan, Y., Cham, H., 2007. Perfectionism, academic burnout and engagement among Chinese college students: A structural equation modeling analysis. *Pers. Individ. Dif.* 43, 1529–1540.

ANALYSING FACTORS AFFECTING BURNOUT IN UNIVERSITY STUDENTS: THE PHENOMENON OF DEPERSONALISATION

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ABSTRACT

In this paper an attempt is made to analyse the factors that affect the phenomenon of depersonalization as a result of the burnout syndrome in students. In particular, the phenomenon of depersonalisation was examined as a result of the main factors that emerged from nested hierarchical regression trees. The most important factors were similarly analysed with hierarchical regression trees and examined with the use of a structural equation model. The results showed that the main factors influencing the phenomenon of depersonalization among students are the difficulty of cooperation, cynicism - lack of interest in others and physical – psychoemotional exhaustion. Furthermore, emotional intelligence, student satisfaction and the university department appear to be additional factors that affect the phenomenon of depersonalization.

Keywords: student burnout, depersonalisation, emotional intelligence, student satisfaction, structural equation modelling, recursive regression trees.

INTRODUCTION

In recent years, many researchers have dealt with the burnout syndrome in the workplace (Cordes and Dougherty, 1993; Leiter and Maslach, 2003; Maslach et al., 2001; Maslach and Jackson, 1981; Nia and Zadeh, 2019; Schaufeli et al., 2002). Initially, in 1980 Maslach assessed the three dimensions of burnout; emotional exhaustion, depersonalisation and lack of personal achievements (Maslach and Jackson, 1981; Maslach and Leiter, 2008). In particular: (a) emotional exhaustion manifests with a sense of mental fatigue of the worker, who no longer has the necessary energy to invest in his/her work; (b) depersonalisation manifests itself by the removal of the individual from the people he/she serves and the creation of impersonal relationships with them, (c) lack of personal achievements is expressed by the weakness of performance and the resignation of any attempt to deal effectively with problems (Guthrie and Black, 1997).

The phenomenon of depersonalization often manifests itself with negative attitudes, irritability and inappropriate behavior towards the people served. It is often described as cynicism, loss of ideals and the treatment of others as if they were impersonal objects (Maslach et al., 1997). One of the most

important factors with a strong link to depersonalization is the confusion and overload of roles involving multiple and usually conflicting tasks without sufficient implementation time (Green et al., 2014). Also, the "non-functional climate" where there is no cooperation and support by colleagues and leadership (Green et al., 2014) and poor interpersonal relationships at the workplace (Brouskeli et al., 2017) can lead to a loss of interest in others and isolation (Green et al., 2014). In general, a lack of support from colleagues, supervisors, friends, family (Jones et al., 2001) can lead to an increase in absenteeism or even abandonment of work, (Guthrie and Black, 1997). In the same line of argument the lack of participation in decision-making of continuous education and of the sense of justice and autonomy (Tsounis et al., 2014) may also be an aggravating factor in the status of depersonalisation (Green et al., 2014).

Some researchers focus on the study of students' burnout syndrome, (Capri et al., 2012; Dyrbye et al., 2008). Young people such as students are more prone to emotional exhaustion under the circumstance of expectations for the future (Cordes and Dougherty, 1993), in conjunction with the transition period they experience (Maslach and Goldberg, 1998). Particularly first-year students may experience problems in adapting to the new environment, changing lives and creating new interpersonal relationships which encompasses uncertainty (Hicks and Heastie, 2008).

Negative correlation is presented between depersonalization and emotional intelligence, ie the ability to self-identify and control emotions but also to recognize the emotions of others (Antoniou and Koronaiou, 2018). There is also connectivity between the levels of life satisfaction and the burnout syndrome. In particular, it has been shown that the higher students' satisfaction level, the lower their exhaustion is (Capri et al., 2012), while the levels of the academic performance and persistence are increasing. Factors such as students' interaction with each other and their tutors, social life, intellectual development, academic performance are indeed structural elements of their overall satisfaction with student life (Lee et al., 2000).

Additionally, the frequency and intensity of interaction with the public is a strong predictive factor that can lead to depersonalization, (Watts and Robertson, 2011). For instance, it is indicated that nursing students' intense contact with patients is considered as a serious cause of perceived anxiety and a potential cause of students' depersonalisation (Prinz et al., 2012). At the same time, rapid consumption of energy reserves, (Koustelios and Kousteliou, 2001) implies psycho-emotional exhaustion and physical fatigue that may lead to depersonalisation (Green et al., 2014).

In this work, students' burnout syndrome is analysed using exploratory factor analysis and the phenomenon of depersonalisation as a crucial component of students' burnout syndrome is confirmed. In addition, a detailed analysis was exhibited on the factors affecting depersonalisation itself and their hierarchy in terms of their influential correlations.

METHODOLOGY

The population of this work consists of the students of the University of Patras. The University of Patras has 24 Departments which belong to 5 Schools, School of Business Administration, School of Engineering, School of Health Sciences, School of Humanities and Social Sciences and School of Natural Sciences. Patra's University is regional with students from all over the country who enter the university based on the criterion of successful national examinations. Therefore, a representative sample of the geographic distribution criterion can be derived from its students.

The survey took place in December 2018. The questionnaire was answered by 582 students, using stratified sampling based on the geographical distribution and the university departments. 51.5% of the sample are women and 48.5% are men. The students' distribution is uniform in semesters, approximately analogous to 8% of the sample for each semester.

The questionnaire includes the following eniological categories: (a) Demographic data, (b) Student Life, (c) Intensification and Satisfaction of Studying, (d) Student Burnout Syndrome (e) Student Emotional Intelligence. Most of the questionnaire items are based on the following validated questionnaires: (a) Maslach Burnout Inventory - Student Survey (MBI-SS) measuring the three characteristic dimensions of the burnout syndrome (Hu and Schaufeli, 2009; Schaufeli et al., 2002) namely emotional exhaustion, depersonalisation and lack of personal accomplishment, (b) the Trait Emotional Intelligence Questionnaire (TEIQue-SF) (Petrides, 2009), (c) the Employee Satisfaction Inventory (Koustelios, 1991; Koustelios and Bagiatis, 1997), and (d) the Self-Rated Emotional Intelligence Scale (Brackett et al., 2006). All items are measured by the use of a 7-point Likert scale. The Cronbach a for the present study is calculated 0.92.

In order to find out the factors which students' burnout syndrome is analysed to, an exploratory factor analysis (EFA) of all items took place in terms of burnout. From this exploratory factor analysis seven factors emerged: a) B1 physical - psychoemotional exhaustion, b) B2 efficacy and self-accomplishment of studies, c) B3 cynicism - lack of interest in others, d) B4 empathy – understanding others' feelings, e) B5 lack of interest in studying and absenteeism, f) B6 difficulty in working with others, g) B7 depersonalisation.

A separate exploratory factor analysis (EFA) was conducted for the emotional intelligence of the students resulting in 4 factors, two positive abilities self-control (EI1) and heteroawareness (EI4) and two negative ones lack of empathy - heteroconsciousness (EI2) and lack of emotional self-determination (EI3).

In addition, the following factors emerged as crucial ones when focusing on student satisfaction, by the usage of an exploratory factor analysis (EFA): a) A1 workload pressure, b) A2 learning infrastructure sufficiency, c) A3 existence of justice and reward, d) A4 adequate information and organisation, e) SL1

total studying level satisfaction, f) SL2 level-procedures satisfaction, and g) SL3 satisfaction from the studies within the departments.

In order to prioritise the independent variables as to the significance of their effect on depersonalisation, hierarchical regression trees were applied (Breiman et al., 1984). The most important hierarchical factors that emerged were similarly analysed using hierarchical regression trees for each of them, separately. Using all the independent variables derived from the above complex sequential approach of nested regression trees, a structural equational model (SEM), (Kline, 2015), was conducted in order to assess the indirect as well as the direct effect on overall, of the most crucial factors formatting factor B7 (depersonalisation).

RESULTS AND DISCUSSION

For the Exploratory Factor Analysis (EFA) of the students' burnout syndrome, the library *psych* of the R statistical package (Revelle, 2018; Team, 2017) is used. Table 1 shows the exploratory factor analysis loadings greater than 0.3.

The factors that statistically affect the values of B7 (depersonalisation) are presented in the last column of Table 2 and are in certain details in accordance with the literature: a) **A3 existence of justice and reward**: it is about rewarding student achievements and the perception of the fairness of tutors' judgment, having negative correlation with B7 (depersonalisation); therefore, as factor A3 increases, there is a decrease in factor B7, b) **A4 adequate information and organization**: it is about the adequacy of academic information and organization and has a negative correlation with B7 (depersonalisation); therefore, the increase in A4 values corresponds to a decrease in B7 (depersonalisation) value, c) **B1 physical-psychoemotional exhaustion**: a positive correlation with B7 (depersonalisation) is computed. That is, as the emotional burnout of students increases, the value of depersonalisation increases accordingly, d) **B2 efficacy and self-accomplishment of studies**: a negative correlation with B7 (depersonalisation) is resulting; when the value of index of efficacy and self-accomplishment of studies increases, the phenomenon of depersonalisation is recessed, e) **B3 cynicism - lack of interest in others**: there is a positive correlation with B7 (depersonalisation); the more lack of interest for others is observed, the more the status of depersonalisation is intensified, f) **B6 difficulty in working with others**: there is a positive correlation with B7 (depersonalisation), so as the difficulty in students' interpersonal cooperation increases, the phenomenon of depersonalisation is intensified, g) **Department**: three departmental categories are presented according to B7 (depersonalisation) levels. In particular, Chemical Engineering, Material Science, Pharmacy and Science Sciences of Education and Early Childhood Education show the smallest values for factor B7 (depersonalisation). On the other hand, the Philosophical, Environmental and Natural Resources, Physics, Biology, Electrical and

Computer Technology, Environmental Management and New Technologies, Mechanical and Aeronautical Engineering and Mathematics departments show the highest values for factor B7 (depersonalisation). Finally, the Department of Architecture, Computer Engineering and Informatics, Civil Engineering, Theatre Studies, Primary Education, Philology, Medicine, Geology, Chemistry, Business Administration, Business Administration of Agricultural Products and Food and Economics show prices around the mean value of B7 (depersonalisation), h) **EI1 self-control ability**: a negative correlation with the factor B7 (depersonalisation) is calculated and therefore an increase in the self-management ability of the students' emotions corresponds to a decrease in the values of their depersonalisation levels, i) **EI2 lack of empathy - heteroconsciousness**: it is positively correlated with the factor B7 (depersonalisation) and thus as the difficulty in understanding others' feelings increases, the levels of student depersonalisation increase accordingly.

Figure 1 shows the hierarchical regression tree for factor B7 (depersonalisation) illustrating the statistically significant factors. The library rpart of R is used to create the regression tree (Therneau et al., 2018). Regarding the hierarchy of factors based on the criterion of their influence on the factor B7 (depersonalisation), the most important ones appear higher in the branches of the regression tree. Therefore, the hierarchically most important factor is B3 (cynicism - lack of interest in others), followed by B1 (physical - psychoemotional exhaustion) and B6 (difficulty in working with others). EI3 (lack of emotional self-determination) and the Department are in the fourth place. The "importance of work stability" variable (importance.workstab), the A4 factor (adequate information and organization), the B2 factor (efficacy and self-accomplishment of studies) and EI2 (lack of empathy - heteroconsciousness) follow up.

Focusing on the right side of the regression tree (Figure 1) that corresponds to the large mean values of B7 (depersonalisation), it can be noticed that high values for the factor B7 (depersonalisation) appear on the right leaf, with an average of 2.00 concerning 3% percent of the population. Following the nodes leading to this leaf, high values of factor B7 (depersonalisation) are observed as long as the following combination of conditions exists:

- (a) **B3 (cynicism - lack of interest in others)** which is the most important factor towards the formation of B7 level (depersonalization) when displays values greater than 0.83.
- (b) **B1 (physical and psychoemotional exhaustion)** is the second most significant factor since its values are greater than or equal to the mean value, -0.25.
- (c) The **university department** is the third most crucial factor with increased values of depersonalisation in the following departments: Biological, Environmental and Natural Resources, Geology, Medicine, Architecture and Physics.

Items for Student Burnout	B1	B2	B3	B4	B5	B6	B7
Absenteeism	0.601				0.446		
Physical exhaustion							
Lack of concentration					0.347		
Dedication on studies		0.632					
Department culture				0.340			
Stress and efficacy	0.531						
Mental exhaustion	0.616						
Wake up exhausted	0.369				0.321		
Tired of student cooperation						0.658	
Tired of teacher cooperation						0.490	
Study frustration					0.420		
Stressed with student cooperation						0.620	
Stressed with teacher cooperation						0.605	
Understand students' feelings				0.554			
Understand teachers' feelings				0.547			
Facing study problems		0.421					
Rejuvenated working with students				0.463			
Rejuvenated working with teachers				0.310			
Impersonal behaviour towards students							0.791
Impersonal behaviour towards teachers							0.581
Emotional hardening							
Lack of caring for students			0.625				
Lack of caring for teachers			0.734				
Forgetting study troubles	-0.558						
Irritability	0.584						
Lack of time for social meetings	0.614						
Drained by studies	0.419					0.393	
Pressure from studies	0.437						
Less interest in studies					0.442		
Excited about studies		0.722					
Self-efficacy					-0.520		
Accomplishment of important things		0.655					
Doubt about the importance of studies		-0.525					
Cynical about the importance of studies		-0.305					
Drop out studies		-0.427					

Table 1. Loadings greater than 0.3 of the items corresponding to each of the seven factors of the exploratory factor analysis on students' burnout syndrome. Fit measures of the exploratory factor analysis: TLI (0.896), RMSEA (0.072)

In order to assess the overall indirect and direct effect of the most important factors in the values of B7 (depersonalization) a structural equation model (SEM) was adapted (Figure 2). For comparability purposes all the coefficients listed have been standardised.

For the examination of the direct effects on factor B7 (depersonalisation), exclusively the factors of the hierarchical regression tree which correspond to the 75% of the overall cause of the change of B7 (depersonalization) were selected. Therefore, the factors B3 (cynicism - lack of interest in others), B6 (difficulty in working with others), B1 (physical - psychoemotional exhaustion), B2 (efficacy and self-accomplishment of studies), EI2 (lack of empathy – heteroconsciousness, A4 (adequate information and organization) and A3 (existence of justice and reward) were used.

Independent variables	Dependent variables			
	B1	B3	B6	B7
A1 workload pressure	0.314 *** 0.091			
A3 existence of justice and reward				-0.170 *** 0.027
A4 adequate information and organization	-0.092 *** 0.006			-0.311 *** 0.085
B1 physical-psychoemotional exhaustion		0.340 *** 0.128	0.499 *** 0.262	0.402 *** 0.177
B2 efficacy and self-accomplishment of studies		-0.261 *** 0.075	-0.301 *** 0.095	-0.386 *** 0.162
B3 cynicism - lack of interest in others				0.548 *** 0.296
B5 lack of interest in studying and absenteeism	0.370 *** 0.123	0.259 *** 0.067	0.446 *** 0.189	
B6 difficulty in working with others		0.541 *** 0.309		0.549 *** 0.313
Department			(categorical) *** 0.106	(categorical) *** 0.041
EI1 self-control ability		-0.192 *** 0.040		-0.272 *** 0.079
EI2 lack of empathy - heteroconsciousness	0.271 *** 0.065	0.322 *** 0.103		0.321 *** 0.101
EI3 lack of emotional self-determination	0.338 *** 0.098	0.207 *** 0.041	0.415 *** 0.156	
SL1 total studying level satisfaction	-0.204 *** 0.041			

Table 2. Results from simple linear regressions. In columns are presented the dependent variables. In rows the independent variables are displayed. Regressions' beta and the R squared coefficients are presented. (Significant codes: 0 '***' 0.001)

In terms of the indirect effects, as can be observed in Figure 1, the factors B1 (physical and psycho-emotional burnout), B3 (cynicism - lack of interest in others) and B6 (difficulty in working with others) emerge as the three most important factors towards the formation of B7 (depersonalisation). For each of the three above factors, an additional hierarchical regression tree was performed. Table 2 lists the beta coefficients and the R-squared coefficient for each simple regression among factors B1, B3 and B6 with their respective independent variables.

Based on the above methodological approach the following variables emerged:

- (1) Variables affecting factor B3 (cynicism - lack of interest in others): (a) B6 (difficulty in working with others) has a positive correlation, (b) B5 (lack of interest in studying and absenteeism) has a positive correlation, (c) B1 (physical and psycho-emotional exhaustion) has a positive correlation, (d) EI3 (lack of emotional self-determination) exhibits positive correlation, (e) EI1 (self-control ability) appears a negative correlation, (f) EI2 (lack of empathy - heteroconsciousness) has positive correlation, and (g) B2 (efficacy and self-accomplishment of studies) exhibits negative correlation.

- (2) Variables affecting factor B6 (difficulty in working with others): (a) B1 (physical and psycho-emotional exhaustion) has a positive correlation; (b) the department, being a categorical variable creates accordingly positive or negative deviations, (c) EI3 (lack of emotional self-determination) calculates a positive correlation; (d) B5 (lack of interest
- (3) Variables affecting factor B1 (physical and psycho-emotional exhaustion): (a) A1 (workload pressure) has a positive correlation; (b) SL1 (total studying level satisfaction) calculates a negative correlation; (c) B5 (lack of interest in studying and absenteeism) has a positive correlation; (d) EI3 (lack of emotional self-determination) exhibits a positive correlation (e) EI2 (lack of empathy-heteroconsciousness) has a positive correlation; (f) A4 (adequate information and organization) shows a negative correlation.

Considering mainly the direct effects of these factors on the change in B7 (depersonalization), the following classification is observed:

- (1) The strongest factor overall is B6 (difficulty in working with others) having a direct positive effect on B7 (depersonalisation) and a positive indirect one through B3 (cynicism - lack of interest in others). Therefore, students who have difficulty in working with others tend to display depersonalisation. However, it is worth noting that the difficulty in working with others can be a foundation stage for the depersonalisation situation manifested by the parallel appearance of cynicism - lack of interest in others.

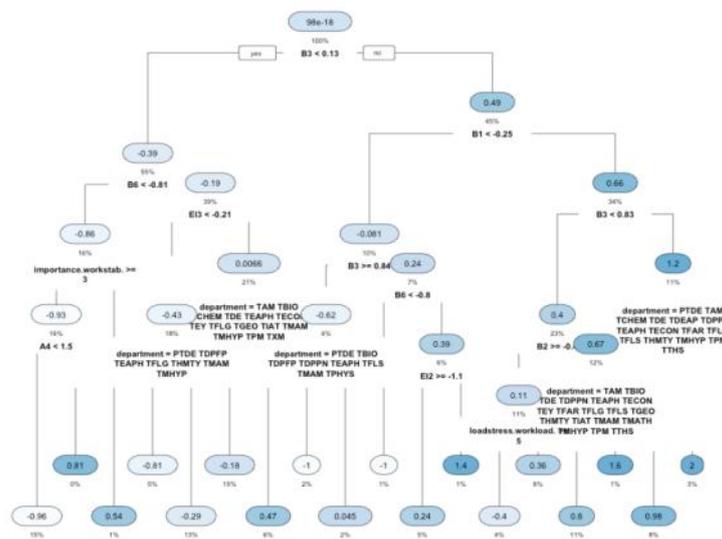


Figure 1. Hierarchical regression tree for the factor B7 depersonalisation. The number inside the eclipsis refers to the mean values of depersonalisation for the particular branch or leaf. The number under the eclipsis refers to the percentage of the student sample corresponding to the branch or leaf. When the indicated condition is true, we are led to the left branch

The second factor is B3 (cynicism - lack of interest for others) having great direct impact on B7 (depersonalisation). This suggests that students exhibiting cynical behaviour towards others tend to experience the situation of depersonalisation.

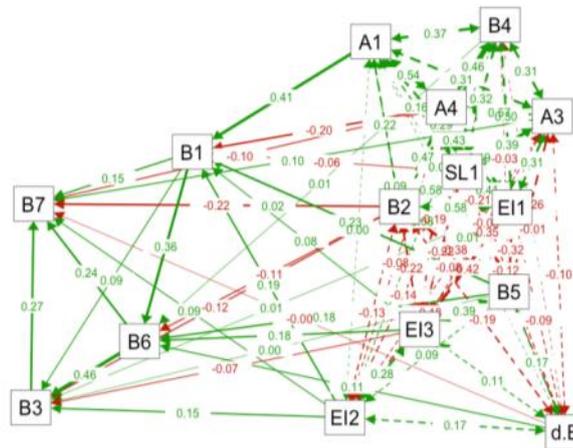


Figure 2. *Structural equation model for the factor B7 (depersonalisation). Fit measures: CFI (0.9410), RMSEA (0.043), SRMR (0.041)*

- (2) B1 (physical and psycho-emotional exhaustion) follows having a direct positive effect on B7 (depersonalisation) and an indirect dual positive effect mainly through the change of B6 (difficulty in working with others) and secondarily via B3 (cynicism - lack of interest for others). Consequently, students experiencing physical and psycho-emotional exhaustion, especially those with difficulty in working together and those who have lack of interest for others could be led to depersonalisation.
- (3) B2 (efficacy and self-accomplishment from studies) comes next showing a relatively strong negative direct effect on B7 (depersonalisation) and also a small negative indirect one through B3 (cynicism - lack of interest in others) and B6 (difficulty in working with others). Therefore, students who feel excited about their studies are considered to be far from the phenomenon of depersonalisation. However, these students, when governed by the characteristics of cynicism and the difficulty in working with others could be led to depersonalisation.
- (4) A4 (adequate information and organisation) presents a small negative direct effect on B7 (depersonalisation) and a greater indirect negative one via B1 (physical and psycho-emotional exhaustion). Therefore, it can be perceived that the adequacy of information towards students and their organised learning environment could help towards the prevention of their depersonalisation. However, under the same circumstances (adequacy of information and organisation), the same students may be depersonalised provided that they have experienced physical and psycho-emotional exhaustion.

- (5) A3 (existence of justice and reward) has a direct negative impact on B7 (depersonalisation). This implies that students who perceive the sense of rewarding and the sense of fairness could be considered as far from the status of depersonalisation.
- (6) EI2 (lack of empathy - heteroconsciousness) exhibits a small positive direct effect on B7 (depersonalisation) and also a small indirect positive one through B1 (physical and psycho-emotional exhaustion) and via B3 (cynicism – lack of interest in others). This means that students who have difficulty in understanding others and seeing things from others' point of view are likely to experience depersonalisation. Particularly, those who encompass behaviours such as lack of interest in others and also psycho-emotional exhaustion are more prone to be depersonalised.
- (7) The Department factor appears to be as well an influential factor upon depersonalisation, where three department categories are distinguished according to the levels of depersonalisation appeared.

Focusing on the indirect effects exerted by the independent variables (most of them are in accordance with the literature exerting though direct effect) on the formation of B7 (depersonalisation), the following descending order according to the magnitude of the influence, is observed: (a) B5 (lack of interest in studying and absenteeism) shows an exclusive indirect positive effect on B7 (depersonalisation) and in particular via a three-fold influence; B1 (physical and psycho-emotional exhaustion), B3 (cynicism - lack of interest in others) and B6 (difficulty in working with others). Therefore, it could be realised that students who feel frustrated and lack of interest in their studies may be led to a situation of depersonalisation provided that the following conditions are individually or collectively present: physical and psycho-emotional exhaustion, difficulty in working with others and lack of interest in others. (b) EI3 (lack of emotional self-determination) has an indirect effect on B7 (depersonalisation) through the following pathways: B6 (difficulty in working with others) and B1 (physical and psycho-emotional exhaustion) both presenting positive effect and B3 (cynicism - lack of interest in others) presenting though negative effect. The positive correlations are in one way or another, expected as students who have difficulty in recognising and expressing their own feelings are more likely to encounter obstacles in working with others. Under the same line of argument, the same students who have difficulty in recognising their own feelings are more likely to experience physical psychoemotional exhaustion as a stage perhaps before the depersonalisation. The negative correlation between EI3 (lack of emotional self-determination) and B3 (lack of interest in others) could perhaps be viewed as unexpected; a possible interpretation could be the case where students interested in others leave little "space" and time in order to focus on their own feelings. (c) A1 (workload pressure) is positively directly associated with B1 (physical and psycho-emotional burnout). Students who are

under pressure because of the burden of their student obligations might be prone to physical and psycho-emotional exhaustion before the depersonalisation situation occurs. (d)SL1 (total studying level satisfaction) is directly negatively related to factor B1 (physical and psycho-emotional exhaustion). Students who are happy with their level of study are less likely to fall into the situation of burnout either depersonalisation.

CONCLUSION, IMPLICATIONS AND FURTHER RESEARCH

In this paper most of the factors affecting students' depersonalisation were examined. The analysis was based on Structural Equation technique. For the construction of the equations, the most important independent variables were used as emerged from the hierarchical tree of the students' depersonalisation factor. Analogously, the most crucial factors emerged were further analysed on the basis of their independent variables. The corresponding nested regression trees have formatted the final Structural Equation Model. The analysis showed that twelve factors, eight directly and four indirectly, exert influence on students' depersonalisation. In particular, the most significant factor that exerts influence on the status of students' depersonalisation appeared their difficulty in cooperating with their fellow students and could be a foundation stage for the depersonalisation manifested by the parallel appearance of cynicism - lack of interest in others. In addition, it was found that students who exhibit cynical behaviour towards others are more likely to experience the situation of depersonalisation. In addition, the research indicated that prone to depersonalisation are also the students who have difficulty in understanding others and seeing things from others' point of view that is low emotional intelligence. On the other hand, it emerged that students who feel excited about their studies and enjoy an organised learning environment are considered to be far from the phenomenon of depersonalisation as well as these who perceive the sense of rewarding and fairness. The role of the department also emerged pointing out the School of Engineering with the highest average score of students depersonalisation whereas the School of Humanities and Social Sciences with the lowest average score.

Certain factors described above are indeed in accordance with the literature. Nevertheless, this paper adds to the hierarchy of the factors' influence and their categorization into direct and indirect variables. An innovative element in the methodological approach is that since the phenomenon of burnout was initially analysed via exploratory factor analysis, its structural elements were examined as separate factors, and thus as stages of the phenomenon of depersonalisation itself. Based on the analysis, depersonalisation could be viewed as the final stage of burnout, and therefore the remaining six structural elements of burnout were used as independent factors.

The same methodological approach could be followed to interpret other structural factors of the burnout syndrome such as emotional exhaustion, lack of personal accomplishment, difficulty in working with others and cynicism. Therefore, the educational system could elaborate and implement appropriate interventions towards the prevention and confrontation of students' depersonalisation i.e. placing emphasis on the particular characteristics of each academic department, on student life to meet the goals of student involvement, cooperation, socialisation and improvement.

REFERENCES

- Antoniou, A.S., Koronaïou, P., 2018. Investigating burnout/occupational stress in relation to emotional intelligence and coping strategies in Greek nurses. *Dialogues Clin. Neurosci. Ment. Heal.* 1, 38–51.
- Brackett, M.A., Rivers, S.E., Shiffman, S., Lerner, N., Salovey, P., 2006. Relating emotional abilities to social functioning: a comparison of self-report and performance measures of emotional intelligence. *J. Pers. Soc. Psychol.* 91, 780.
- Breiman, L., Friedman, J., Stone, C.J., Olshen, R.A., 1984. *Classification and Regression Trees*: Taylor & Francis.
- Brouskeli, V., Giakovis, E., Loumakou, M., 2017. Burnout and Depressive Symptomatology of the Employees in Institutions of Chronic Diseases. *Mediterr. J. Soc. Sci.* 8, 17–28.
- Capri, B., Ozkendir, O.M., Ozkurt, B., Karakus, F., 2012. General self-efficacy beliefs, life satisfaction and burnout of university students. *Procedia-Social Behav. Sci.* 47, 968–973.
- Cordes, C.L., Dougherty, T.W., 1993. A review and an integration of research on job burnout. *Acad. Manag. Rev.* 18, 621–656.
- Dyrbye, L.N., Thomas, M.R., Massie, F.S., Power, D. V, Eacker, A., Harper, W., Durning, S., Moutier, C., Szydlo, D.W., Novotny, P.J., 2008. Burnout and suicidal ideation among US medical students. *Ann. Intern. Med.* 149, 334–341.
- Green, A.E., Albanese, B.J., Shapiro, N.M., Aarons, G.A., 2014. The roles of individual and organizational factors in burnout among community-based mental health service providers. *Psychol. Serv.* 11, 41–49.
- Guthrie, E., Black, D., 1997. Psychiatric disorder, stress and burn-out. *Adv. Psychiatr. Treat.* 3, 275–281.
- Hicks, T., Heastie, S., 2008. High school to college transition: A profile of the stressors, physical and psychological health issues that affect the first-year on-campus college student.
- Hu, Q., Schaufeli, W.B., 2009. The factorial validity of the Maslach burnout inventory–student survey in China. *Psychol. Rep.* 105, 394–408.
- Jones, F., Bright, J., Clow, A., 2001. *Stress: Myth, theory and research*. Pearson Education.
- Kline, R.B., 2015. *Principles and practice of structural equation modeling*. Guilford publications.
- Koustelios, A., Kousteliou, I., 2001. Job satisfaction and job burnout in the education. *Psychology* 8, 30–39.
- Koustelios, A.D., 1991. The relationship between organizational culture and job satisfaction in three selected industries in Greece. University of Manchester.
- Koustelios, A.D., Bagiatis, K., 1997. The Employee Satisfaction Inventory (ESI): Development of a scale to measure satisfaction of Greek employees. *Educ. Psychol. Meas.* 57, 469–476.
- Lee, G., Jolly, N., Kench, P., Gelonesi, B., 2000. Factors related to student satisfaction with university. In: *Proceedings of the Fourth Pacific Rim-First Year in Higher Education Conference: Creating Futures for a New Millennium*. pp. 1–8.
- Leiter, M.P., Maslach, C., 2003. Areas of worklife: a structured approach to organizational predictors of job burnout. *Res. Occup. Stress Well Being* 3, 91–134.
- Maslach, C., Goldberg, J., 1998. Prevention of burnout: New perspectives. *Appl. Prev. Psychol.* 7, 63–74.
- Maslach, C., Jackson, S.E., 1981. The measurement of experienced burnout. *J. Occup. Behav.* 2, 99–113.
- Maslach, C., Leiter, M.P., 2008. Early Predictors of Job Burnout and Engagement. *J. Appl. Psychol.* 93, 498–512.
- Maslach, C., Leiter, M.P., Jackson, 1997. *Leiter (1996). Maslach Burn. Invent.* (3rd ed.).
- Maslach, C., Schaufeli, W.B., Leiter, M.P., 2001. Job Burnout. *Annu. Rev. Psychol.* 52, 397–422.
- Nia, M.-A.F., Zadeh, H.-A.B., 2019. A Comprehensive Model for Identifying and Explaining Factors Affecting Burnout. *J. Syst. Manag.* 5, 181–190.
- Petrides, K. V, 2009. Psychometric properties of the trait emotional intelligence questionnaire (TEIQue). In: *Assessing Emotional Intelligence*. Springer, pp. 85–101.

- Prinz, P., Hertrich, K., Hirschfelder, U., de Zwaan, M., 2012. Burnout, depression and depersonalisation– Psychological factors and coping strategies in dental and medical students. *GMS Z Für Med Ausbild* 29, 1–14.
- Revelle, W., 2018. *Psych: procedures for personality and psychological research*. Northwestern University, Evanston.
- Schaufeli, W.B., Martinez, I.M., Pinto, A.M., Salanova, M., Bakker, A.B., 2002. Burnout and engagement in university students: A cross-national study. *J. Cross. Cult. Psychol.* 33, 464–481.
- Team, R.C., 2017. *R: A language and environment for statistical computing (Version 3.4. 2)*[Computer software]. Vienna, Austria R Found. Stat. Comput.
- Therneau, T., Atkinson, B., Ripley, B., 2018. *rpart: Recursive partitioning and regression trees (R package)*.
- Tsounis, A., Bamidis, P.D., Sarafis, P., 2014. Motivation among physicians in Greek public health-care sector.
- Watts, J., Robertson, N., 2011. Burnout in university teaching staff: a systematic literature review. *Educ. Res.* 53, 33–50.

DELIVERY EXCELLENCE THROUGH PROCESS IMPROVEMENT AND CHANGE MANAGEMENT

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ABSTRACT

The globalization has influenced the companies to innovate. Given the circumstances, innovation become a priority for any organization regardless its size, activity or region. The notion of innovation defines the idea of new. The introduction of the "new" concept is the main factor that determines the evolution of economy.

The interest for innovation has grown more and more with the implementation of new efficient systems and methods, that represents a modality to increase the company's profits. The transformation of processes or services is generated by the fact that the organizations are more interested of the new concepts. People have become more competitive and open minded to what means new, innovation being largely influenced by the human mentality.

The leadership, in the context of innovation, can be regarded as an essential element that determines the direction, defines the objectives and motivates the human resources. Approaching a healthy leadership style is extremely important because the success of an organization is based on human resources.

Keywords: Innovation, Leadership, Innovation phases, Change Management.

INTRODUCTION

The process improvement is an essential concept to cope with market competition. The improved process offers client satisfaction based on the results obtained. The interest of the companies to the client requirements is materialized by adopting strategies in order to ensure the increase of productivity. The process improvement differs from a company to another because the entire activity is linked to their own resources, structures, process risks and style of management.

Innovation is not an isolated action; it is a mix of factors involving new management methods, coherent processes and open perspectives. Innovation is closely linked to creativity and inspiration, based on an efficient management related to the concept 'pro' change. Innovation refers to the approach of new ideas in order to generate improved outputs. The results of innovation are most often related to the generation of new products/services but innovation can also be met on updated products/services which have been already implemented.

Innovation is often done on the basis of a project that clearly identifies the objectives, determines the coordination of tasks, organization of resources and offers a control phase that ensures the success of the project. The economy finds itself on a transformation-based period. In the transforming process a big interest is allocated to the creation of new products. Besides of tangible products more and more companies are focused on new management methods, business reorganization or new leadership strategies.

The leadership is a defining aspect on innovation because it represents one of the main factors that bring the success of an initiative. The leader is the main actor that participates to create an organizational culture oriented to innovation. The ideas of improvement can come from any hierarchical level, the manager being able to prioritize the eligible ideas. Being a complex topic, innovation is a top-down concept with the direct involvement of top management. The manager contributes to the alignment of team members with the organization's strategy.

Innovation management is a field of research of specialized management that aims to create strategies in order to introduce new technologies, processes and innovative products within the organization " (Tidd, Bessant, Pavitt, 2005)

ANALYSIS OF INNOVATION REASONS, TYPES OF INNOVATION AND PROJECT PHASES

A big part of the results generated by innovation are identified as tangible products but in the same time the innovation makes its presence in the perimeter of services. The literature provides evidences of different type of innovation in multiple areas:

- Product innovation - refers to the creation of a new product or improvement the existing one.
- Marketing innovation - represents the introduction of new presentation guidelines.
- Organizational innovation - refers to the implementation of new methods of organization and management of human resources.
- In the same time, the literature presents the main reasons for which companies choose to innovate:
- Innovation to improve - is considered the simplest form of innovation and involves improving the existing product through changes.
- Innovation to adapt - it maintains the basic principle of the original product but it occurs in the context of a change and implies a greater improvement of the product / service than initially offered.
- Breakthrough innovation - it involves a radical change of the system, based on updated principles that can be applied to the original product.

- According to multiple analyses who aimed the innovation process, we can find evidence which describe two ways of how innovation rules:
- Closed innovation – it refers to the traditional method, applied for a long period of time, characterized by the flow: research-development-innovation. A number of thought ideas are generated; the ideas are sorted in order to develop only those that produced the best benefits for the company.
- Open innovation – it involves combining internal and external partners in order to obtain the best solutions. Thus, open innovation refers to the introduction of the concept of collaboration, development of partnerships, clients orientation and involvement of employees in the process of developing ideas. The interest for closed innovation has declined in favor of the open innovation for several reasons: competition and higher costs that cannot be sustained by the company.

A key element in increasing performance is the systematic assessment of generated results by using specific indicators to measure the performance. The indicators are the ones that present the real situation of the process, both through a clear picture of the main achievements but also weaknesses.

The analysis of these indicators determines the maturity of the process and helps to define the evolution trends. Since 2000, European Union has introduced a new method of assessing the performance of the innovation process called the European Innovation Scoreboard (EIS). Currently, the EIS contains 25 indicators that refer to three important aspects: the drivers of innovation, the company's activity and the results generated by innovation. In line with the results obtained, EU Member States can fit into one of the four categories of innovation: innovation leaders, followers, moderate innovators and modest innovators.

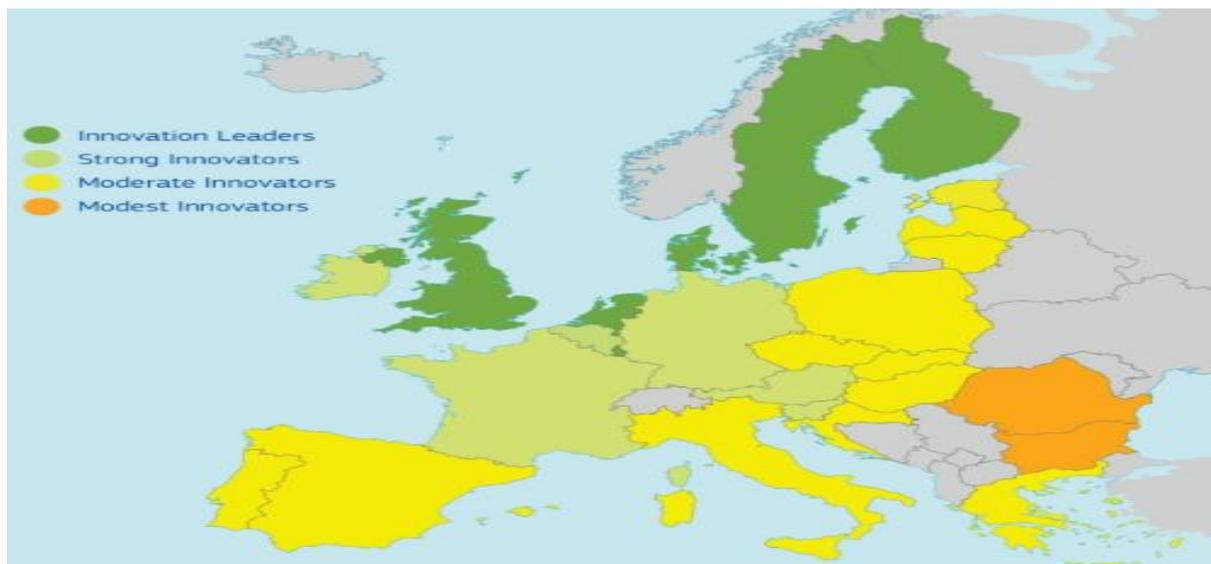


Figure 1. *European Innovation Scoreboard, 2018* / Source: *www.europa.eu*

Even if the degree of innovation may be different from one company to another, the innovation plan has a well-defined structure: the concept that involves generating ideas, the feasibility study and

the development of selected ideas - which means to put in practice the new concept. The management phases elaborated in 2003 by Mark Turell and Yvonne Lindow are represented by the following activities: establish the strategy and the project plan, collect and analyze the information, identify improvement solutions, put into practice the best solutions and in the end monitor the implementation as well as the results obtained.

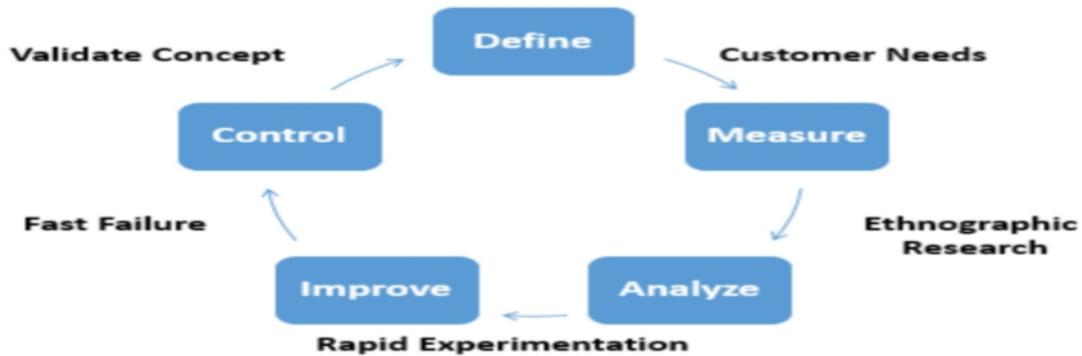


Figure 2. *Management phases* / Source: www.globalnpsolutions.com

- The concept stage purposes to identify new ideas or opportunities of improvement. Ideas can be generated both by the internal environment as employees or by outsiders such as customers or suppliers. Ideas may appear spontaneously or can be generated in workshops or brainstorming sessions. In brainstorming sessions the goal is to get as many ideas as possible regardless the nature of the impact or their complexity.
- The development stage is designed to identify constructive solutions and the resources that can be used to achieve the project goals.
- The implementation stage is represented by the results generated by the new concept. It is important to note that most of the new solutions implemented do not work optimally starting to the implementation phase; a process monitoring is done in order to improve the newly implemented solutions in order to achieve a satisfactory process.

ESTIMATED RESULTS

Successful companies have channeled their efforts by using the resources in a more efficient way in order to eliminate the losses. Thus, quality management through ISO 9000 standards, the Kaisen method and the method step-by-step improvement are the effects of the modern management used by companies to achieve customer requirements and gain advantage.

The result of innovation can be measured directly by evaluating the generated performance which can be analyzed on a basis of well-defined indicators, generally grouped into three categories: inputs, process and outputs. Input indicators refer to the resources used for the innovation process as budget or human resources. Process indicators measure the productivity and targets. Time is a

reference parameter transposed in order to determine the duration of the innovation process. Output indicators measure the benefits of the innovation. It should be remembered that although the indicators are some well-defined from the beginning, their nature is established according to the type of services provided by the company.

Innovation can be manifested by either assimilation of new products either through entry into new markets or through radical changes on the business process. In any situation the innovation requires time to understand the need and to assimilate the change. In the same time, for the long-term success of an organization, the early stage of innovation preparation becomes essential.

CONCLUSIONS

The concept of innovation becomes more and more common today because of the fast and growing environment. Characteristics such as competition, client's requests or development of technology make this process more important like before.

Innovation takes place only when the creation generates a new product / service that is more efficient than the original one. It is important to make the difference between what is meant by innovation and what innovation means. The invention led to the emergence of a new concept while innovation represents the commercialization of the new idea. In this case an invention is not an innovation unless it is marketed on the market.

Awareness and implementation of innovation is an essential factor for companies to survive on market, making reference to changes whose effect generates useful results for the company. These changes have a direct impact both in terms of quality and efficiency.

A high emphasis has been placed on process improvement that becomes a new concept for the companies' strategies. In organizations that sustain quality, the process improvement should be done continuously, this initiative being directly encouraged by superior management. Achieving performance means going from one level of performance to a higher lever and systematically developing the competitiveness.

REFERENCES

- Andrew, J.P., Hannes K., Michal, D.C., Sirkin, S.L, Taylor,(2009) A., *Measuring Innovation 2009, The Need for Action*, The Boston Consulting Group Inc.
- Baloiu, L.M, (1995). *Managementul Inovatiei*, Ed Eficient, Bucharest.
- Davila, T., Epstein, M.J. and Shelton, R., (2006) *Making Innovation Work How to Manage It, Measure It, and Profit from it.*, Pearson Education, Inc.
- Ebert, J., Chandra, S. and Liedtke, A., (2008), *Innovation Management, Strategies for Success and Leadership*, A.T. Kearney. Inc.
- Le, Ph. and Rivet, Ph., (2007), *Piloter et reusir l'innovation en entreprise*, Ed. Maxima, Paris.

Miller, P., Klokieters, K., Brancovic, A. and Duppen, F., (2012), Innovation Leadership Study. Managing innovation: an insider perspective, Capgemini Consulting, <https://www.slideshare.net/capgemini/innovation-leadership-study-managing-innovation-an-insider-perspective>.

Popescu, M. (2001), Managementul proceselor de cercetare-dezvoltare, Editura Universitatii Transilvania din Brasov.

Ranea, C., Filipoiu, I.D., Hadar, A., Marin, A. and Badea, C. (2012). Bazele managementului inovarii si transferul tehnologic, Comunitate virtual interuniversitara, Bucuresti, <https://www.imnr.ro/public/documents/curs-bazele-mangementului-itt.pdf>.

THE ENTREPRENEURS' PROPENSITY TO ADOPT ELECTRIC MOBILITY IN THE SHORT FOOD SUPPLY CHAIN

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ABSTRACT

In the last years, Short Food Supply Chain (SFSC) has gained relevant attention among the consumers, for its characteristics of environmental, economic and social sustainability. At the same time, recently some doubts has been raised about the environmental negative impacts that also SFSC is causing, despite the intrinsic "local" label. In particular, the reference is on the transport system and related CO₂ emissions of SFSC that undermines the full achievement of environmental concerns. To deal with this challenge, electric vehicles (EVs) are seen as a viable and very promising alternative. Starting from these considerations, this study investigates the propensity of entrepreneurs operating in the SFSC to introduce EVs inside their business. In particular, in order to understand which factors affect this behaviour, the Theory of Planned Behaviour and New Ecological Paradigm have been used. Results show that farmers with high attitudes towards the shift from carbon transport systems to electrical ones, and which are more sensitive to ecological and environmental sustainability issues, are more willing to adopt EVs in their business. This is the first work that investigates the intention of local producers, operating in the SFSC, to introduce an EV for the freight transports, providing interesting theoretical, managerial and political implication, and addressing scholars towards future researches.

Keywords: Local Food Supply Chain; Electric Vehicles; Farmer's market; Theory of Planned Behaviour; New Ecological Paradigm.

INTRODUCTION

Since the end of the nineties, Short Food Supply Chain (SFSC), a term coined by Marsden *et al.* (2002), has received considerable attention by scholars as a direct consequence of the increasing interest of consumers towards this alternative sale channel (Migliore *et al.*, 2015). The SFSC, as legally defined by EU Regulation 1305/13, is able to reach goals of "sustainable agriculture". However, the environmental dimension of the sustainable character of the SFSC has recently raised some doubts, in particular as regard its contribution to the reduction of CO₂ during the transportation phase (Schmitt *et al.*, 2017). Indeed, if from a hand, if compared to Mass Food Supply Chain, the reduction in travelled km can be

obvious, on the other hand, reflections are growing in relation to the effective contribution of CO₂ reduction at overall local level, on the route where usually entrepreneurs involved in the SFSC operate. Some scholars are attempting to investigate this environmental impact theoretically referring to the food miles concept, initially linked to the overall food supply chain (Paxton, 1994), so from cultivation phase to final distribution one, more recently linked much more explicitly to carbon accounting and the climate change debate (Schmitt *et al.*, 2017; Kissinger, 2012; Coley *et al.*, 2011; Kemp *et al.*, 2010; Smith and Smith, 2000). This is, of course, part of the recent scientific debates on climate change with particular attention on the transport system impact both of goods and people. In this domain, starting with the EU Directive 2014/94/EU on alternative fuels, in 2016 the EU Commission set a new target for road transport according to which within 2050 a reduction of 60% of CO₂ emissions can be achieved. A challenge that is aimed to ensure overall sustainability but at the same time responding to the transport forecasts according to which within 2050 transport will increase of 42%. Then, if we can't stop the transport growth we can reduce the related CO₂ emissions, changing/converting the transport means power systems to greener ones. In this context, the more promising option is the Electric Vehicle (EV) (both hybrid and 100% versions currently available in the market), and towards which the main National, Regional and Local policies around Europe are investing (from public transport means to private and commercial final use).

According to these recent trends, this study investigates the propensity of entrepreneurs operating in the SFSC to introduce EVs inside their business, with a view of overall sustainability. In particular, in order to understand which factors affect this behaviour the Theory of Planned Behaviour (TPB) and New Ecological Paradigm (NEP) have been used. The sample has been selected from the entrepreneurs participating in the farmer's markets of the city of Palermo, in Sicily (Italy). To the best of our knowledge, the present work, which is an exploratory study, is the first one aimed at investigating the behaviour of entrepreneurs operating in the SFSC against the opportunities to introduce an EV for the freight transports to reach farmer's market.

LITERATURE REVIEW

Short Food Supply Chain

At the base of SFCS there is the creation of a trust relation between producers and consumers, usually identifiable in a face-to-face interaction, allowing thus a direct relation that in the global FSC is totally absent. According to the definition of short food supply chains developed by Marsden *et al.* (2002), SFSCs have capacity to "resocialize" or "re-spatialize" food, thus allowing consumers to make value-judgements about foods. Authors make clear that "it is not the number of times a product is handled or the distance over which it is ultimately transported which is necessarily critical, but the fact that the

product reaches the consumer embedded with information”, enabling the consumer to confidently make connections and associations with the place/space of production, “and potentially the values of the people involved and the production methods employed” (Marsden *et al.*, 2002).

The scientific literature has then put into lights further factors and implications attributable to SFCS and directly linked to sustainability goals: economic, social and environmental impacts. As for the SFSC economic impact, authors convene in attributing rural development and economic regeneration to these models (DuPuis and Goodman, 2005; Renting *et al.*, 2003), to stimulate local employment opportunities (Roininen *et al.*, 2006), with multiplier effects (Henneberry *et al.*, 2009). SFSC is also characterized by the ability to increase income for producers (Pearson *et al.*, 2011; Feagan and Morris, 2009). In social terms, several investigations showed the ethical dimension characterizing SFSC. In this meaning, Ilbery and Kneafsey (1998) found that producers often act as “profit sufficers” rather than “profit maximizers”, putting at the top of producer’s intention their contribution to the wellbeing of the community, rather than aspiring to capital maximization (Jarosz, 2008).

As for the environmental impacts evaluation linked to SFSC, several contrasting opinions are currently under discussion at scientific level. Indeed, if from a hand scholars highlighted the positive impacts of SFSC in terms of food miles and carbon footprint reduction (Van Hauwermeiren *et al.*, 2007), other authors support a thesis according to which when in the SFSC local products are stored and purchased out of season, these products may have a greater carbon footprint than non-local goods (Edwards-Jones, 2010; Cowell and Parkinson, 2003). At this regard, the food mile literature opens interesting debates. Originally conceptualized in the nineties (Paxton, 1994), this concept was first linked to the overall food production process (from the cultivation phase to the distribution one). More recently, however, food miles have been linked much more explicitly, and in some cases solely, to carbon accounting and the climate change debate (Schmitt *et al.*, 2017; Kissinger, 2012; Coley *et al.*, 2011; Kemp *et al.*, 2010; Smith and Smith, 2000). This change has led to the shift of the food miles argument away from sustainable agriculture production systems *per se* to food distribution and retailing and, in particular, to the GHG linked to transport. At this regard, Coley *et al.* (2011), looking to the carbon emissions of several delivery systems compared to direct sales for vegetable box schemes, found that customers who have to drive more than 6.7 km in a round trip to buy their organic vegetables have higher levels of emissions when compared to the emissions involved in the system used by the large distributors. Ideas regarding the environmental benefits of local food in terms of the reduction in food miles and GHGs need to be rethought and better reformulated, as stressed by Schmitt *et al.* (2017), which support the argument that despite locally processed food products can be defined as more sustainable, not because of lower carbon footprint, but for localness criteria (e.g. identity, know-how, size and governance) rather than distance concerns. Giving the relevance of consumer’s role in

contributing to the spreading of more sustainable food purchasing practices, a need to further work on the increase of an overall awareness about that is also suggested by Kemp *et al.* (2010), which results suggest that the “food miles” argument has not had great influence on the behaviour of supermarket shoppers.

Electric vehicles adoption

The substantial emission reductions necessary to achieve climate change reduction targets require, among others, a de-carbonization of transport. EVs are seen as a viable and very promising alternative (Hao *et al.*, 2017), especially if electricity is generated in a clean manner (Egbue *et al.*, 2017). To date, no scholars have ever attempted to assess the propensity of entrepreneurs operating in the SFSC in introducing EVs into their business activities. The majority of works carried out in this last decade, in fact, has been addressed to assess the main drivers for the uptake of EV, mainly referring to private traditional car owners and early adopters, with the aim to investigate customer behaviours, intentions and preferences about support schemes (Santos and Davies, 2019; Ramos-Real *et al.*, 2018; Quak *et al.*, 2016; Rezvani *et al.*, 2015; Bunce *et al.*, 2014; Plötz *et al.*, 2014). Santos and Davies (2019), resuming the opinions of 189 respondents, represented by stakeholders and experts, found that 75% of respondents state that the development of charging infrastructure is on the top of the priorities for a mass EVs deployment, followed by purchase subsidies (68%), pilot/trial/demonstrations (66%) and tax incentives (65%). As Ramos-Real *et al.* (2018) suggest, geographic dimension of the area concerned by EVs introduction is also a relevant factor, together with the necessity that end users effectively know technical data on EVs so as to be able to do an aware choice. Authors, studying the feasibility of EVs introduction in the Canary Islands underline how the small size of the territory dictates driver mobility routines, as the short average travel distance reduces the effects of range anxiety. Furthermore, authors underline that willing to pay for an EV purchase is positively correlated with some factors, among others, education attainment and strong environmental concern (Ramos-Real *et al.*, 2018). As for range anxiety limit, defined as one of the main problem facing drivers interested in buying EVs, a recent study carried out in UK found that the initial range anxiety would fade overtime since knowledge and confidence developed through driving for an extensive period of time (Bunce *et al.*, 2014). The profile of consumers has been a topic widely examined, with special attention on EVs early adopters (Rezvani *et al.*, 2015; Plötz *et al.*, 2014), highlighting social, economic and demographic characteristics. Another literature branch investigated the role of the EV in the urban city logistic schemes examining the feasibility of using electrically powered vehicles in urban freight transport from a carrier’s perspective (Quak *et al.*, 2016).

CONCEPTUAL FRAMEWORK

With the aim to investigate the propensity of entrepreneurs operating in the SFSC to introduce EVs inside their business, we started from the consideration that the intention to adopt a specific behaviour depends on individual attitudes towards a given behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991), to which other authors add the role played by environmental concerns (Dunlap *et al.*, 2000). A conceptual framework, based on the Theory of Planned Behaviour and the New Ecological Paradigm, has been used in order to meet this purpose.

Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) (Ajzen, 1991), an extension of the Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980), is based on the premise that individuals make logical and reasoned decisions to engage in specific behaviours, by evaluating the information available to them.

According to the TPB model, an individual's intention to perform a behaviour is a function of that individual's attitude toward the behaviour, social norms and perceived behavioural control. Attitude towards the behaviour (ATT) is conceived by Ajzen and Fishbein (1980) as an "*individual's positive or negative evaluation of the performance of a particular behavior*". A person, who believes that valuable positive outcomes would result from performing the behaviour, will have a positive attitude toward it. According to the TPB model, it must be said that the more favourable attitude toward a behaviour, the more possibility that the individual will perform that certain behaviour (Ajzen, 1991). The second dimension, named Social Norm (SN) is a social pressure exerted on an individual to engage in a particular behaviour (Ajzen and Fishbein, 1980). Indeed, individuals intend to perform a behaviour when they feel that the people who are important for them confirm that behaviour (Shin and Hancer, 2016). Perceived Behavioural Control (PBC) consists in individuals' perceived ease or difficulty of a particular behavioural performance (Ajzen, 1991). This component emphasizes the extent to which that an individual perceives a behaviour to be under his/her volitional control (Fielding *et al.*, 2005). Behavioural control is related to beliefs about the presence of factors that may further or hinder the performance of behaviour (Ajzen, 2002; Ajzen and Madden, 1986). The above mentioned dimensions, affect the Intention (INT) which is an "*individual readiness to perform a given behaviour*" and is recognized as the motivation which is necessary for engagement in a particular behaviour. The intention is the most substantial predictor of behaviour and is assumed to be an immediate antecedent of this (Ajzen, 2002).

A review of literature shows that the TPB has long been successfully used to investigate a wide variety of farmers' intentions such as: adoption of innovations and technologies (Adnan *et al.*, 2019), sustainable practices (Zeweld *et al.*, 2017; Menozzi *et al.*, 2015; Fielding *et al.*, 2008), adaptation to climate change (Arunrat *et al.*, 2017; Dang *et al.*, 2014), engagement in pro-environmental activities

(Van Dijk *et al.*, 2016). Despite the general usefulness of the TPB to identify and understand different behaviours of farmers, some scholars have attempted to enhance the predictive power of the TPB model, by including additional constructs to strengthen the predicting power of the model. Rezaei *et al.*, (2018), extending the TPB model including the two constructs of moral norms and knowledge recognized an increased robustness and explanatory power of the proposed framework in predicting farmer's intention in engaging in farm food safety. Positive remarks as regard the robustness of an extended TPB have been also expressed by Giampietri *et al.* (2018). Authors, adding the trust construct to the original TPB, agree on the greater performance of the model in predicting interviews' intention to purchase food in SFSCs. Employing different constructs allowed Menozzi *et al.* (2015) to better investigate the consumers' intention to purchase traceable chicken and honey in France and Italy. Adding new variables (e.g. habits, trust, past behaviour and socio-demographics) to the original TPB demonstrated how an extended TPB model can be of relevant importance in better predicting behaviours in two different countries. Adnan *et al.* (2019) concluded their work highlighting that if paddy farmers have more concern towards the environment, they will have more attraction towards adopting sustainable agricultural practices. Results have been achieved thanks to the employment, also in this case, of an extended TPB model, including new variables linked to external and economic factors.

To date, far too little attention has been paid to extend the TPB model by incorporating additional constructs mainly pertaining to the environmental sphere, with a particular reference on NEP. To this we add that, despite the growing literature on farmer's behaviours through the application of TPB, no studies have put the attention on the behaviours of entrepreneurs operating in the SFSC as regard the electric mobility intention for managing freight transport.

New Ecological Paradigm

In investigating the environmental attitude of an individual, the environmental psychology can be of relevant support. This last refers to a specific tendency expressed by evaluating a particular object related to the environment with some degree of favour or disfavour (Kaiser *et al.*, 2011). The New Ecological Paradigm (NEP) scale (Dunlap *et al.*, 2000), is considered as the most widely used environmental attitude instrument today. Originally proposed in 1978 by Dunlap and Van Liere (1978), this theory has been revised in 2000 (Dunlap *et al.*, 2000). The NEP scale consists of 15 Likert-scale items, which are intended to measure five core components of individuals' environmental concern: (1) limits to economic growth, (2) anti-anthropocentrism; (3) the fragility of nature's balance; (4) human exemptionalism; and (5) the possibility of potentially catastrophic environmental changes or eco-crises affecting people (Dunlap *et al.*, 2000).

The NEP has been used in previous studies to investigate consumer attitudes about the risks of genetically modified food (Hall and Moran, 2006), to stress how environmental concern affects marine species conservation (Pienaar *et al.*, 2015), to study pro-environmental orientation differences between people living in city areas and rural districts (Berenguer *et al.*, 2005).

For what in our knowledge, this is the first time that the NEP scale is used to assess the environmental orientations of entrepreneurs operating in the SFSC.

METHOD AND DATA

To achieve the aim of the present work, an empirical analysis has been carried in the city of Palermo (Sicily, Italy) during March 2019, involving local Farmer's associations managing the farmer's markets in the Province of Palermo, among which Coldiretti group, currently leading the label "Campagna Amica", the Association "Pianeta Mercati", and the Association "Contadini in Villa".

To investigate the entrepreneurial propensity to introduce EVs inside their business for the distribution of agro-food products, a questionnaire has been developed and organized in four sections. In the first section, main data on firm characteristics have been detected, such as principal production, headquarter, and production methods. The second section collected socio-demographic characteristics of respondents, including specifications about eventual sons/grandchild in their family nucleus and membership to environmental associations. The third section contained specific questions aimed at gathering knowledge about the transport system characteristics of each sampled firms as well as questions attempting to quantify yearly distances travelled to reach selling points. The behaviours towards the EV introduction into their business has been measured through section four, which included a set of questions based on the TPB, appropriately modified according to the research field. The last section, the fifth, has been devoted to acquire data on individuals' environmental concern using questions based on the NEP scale. Questions pertaining to section 4 and 5 included a five points Likert scale. As for the TPB, the questionnaire items were defined, taking into account Ajzen's conceptual and methodological considerations for constructing a TPB questionnaire (Ajzen, 1991) and the previous works carried out in similar field where a 5 point response format has been used (Giampieri *et al.*, 2018; Rezaei *et al.*, 2018; Adnan *et al.*, 2019; Arunrat *et al.*, 2017). While, for the NEP scale, the selection of a 5 point Likert scale has been decided following the results of a meta-analysis on works employing NEP scales, executed by Hawcroft and Milfont (2010), who highlighted that all studies, like the Dunlap *et al.* (2000) one, used a Likert scale and the 83.45% of the sample the one with five-point response format. As a consequence, respondents were asked to specify their opinion respecting each item, using a five-point Likert-type scale from 1 to 5 as follows: 1=strongly disagree; 2=disagree; 3=neither agree nor disagree; 4=agree; and 5=strongly agree.

Giving the innovative nature of the research question and hence of the sample to be involved in order to gain initial primary data regarding this particular SFSC issue, a convenience sample method has been used. Following the research inputs suggested by Creswell and Plano Clark, (2010), according to which employing a convenience sample allows collecting data only from reliable people, in our case really adopting this business model. To this scope, the small sample was made up by 42 entrepreneurs, involved in the SFSC and participating in the farmer's markets of the Palermo Province. All firms have headquarters in rural areas, around 20-100 km far from Palermo city. Questionnaires have been administered directly in loco, visiting farmer' markets. Taking into consideration the scarceness of data collected, solely descriptive statistical analysis was performed, which importance is worth to be considered for future research in this area.

Table 1. Drivers about the introduction of electric mobility in the farm based on the TPB (range 1 to 5)

	Average value
Attitudes	3.49
In my opinion, issues related to climate change are a critical factor, and awareness and knowledge of electric mobility must be increased among farmers as a tool to reduce CO2 emissions.	4.19
In my opinion, the introduction of electric mobility in my farm will contribute to increasing the green image of my company	3.79
In my opinion, the introduction of electric mobility in my farm is a good and wise choice	3.67
I believe that the introduction of electric mobility in my farm is a fundamental step to make the agri-food supply chain more sustainable	3.64
In my opinion, the introduction of electric mobility in my farm is useful and valuable	3.48
Social Norms	2.67
In my opinion, more and more farmers will adopt sustainable practices in the future linked to distribution through the use of electric vehicles	3.33
The people, whose I appreciate opinions, will approve my choice to introduce electric mobility into my farm	3.07
Other farmers I know believe that electric mobility is an important issue and they are engaged in its introduction to their farms	2.26
People whose I appreciate opinions, ask me to introduce electric mobility in my farm	2.00
Perceived Behavioural Control	2.74
The adoption of electric mobility in my farm depends exclusively on me	3.17
I am quite confident in my abilities and skills for introducing electric mobility in my farm	3.14
The introduction of electric mobility in my farm is quite simple and I can easily manage it	2.71
The tangible and intangible resources in my farm are sufficient for the correct management of the distribution of food products through electric mobility	2.48
I am quite aware and informed about the support policies for electric mobility (e.g. incentives, tax systems) and I do not need any other information about it	2.21
Intention	3.52
I would like to introduce electric mobility in my farm in the future	3.52

RESULTS

Table 1 presents the main factors affecting entrepreneurs to introduce or not EVs in their business. Results show a propensity of the interviewees towards the shift from carbon transport systems to

electrical one. On the whole, findings show a greater number of interviewees who are convinced of their intention to introduce electric mobility in the future for the distribution of agro-food products (3.52). The intention to introduce electric mobility in the short chain is mainly linked to the shared opinion among the interviewees that this choice could contribute, on the one hand, to reducing CO₂ emissions (4.19) and, on the other hand, to improve the image of the company on the market (3.79). Respondents believe that the strong orientation towards sustainable choices will also concern the introduction of EVs (3.33), and this is in line with the awareness that corporate choices are shared by people (3.07). However, what emerges from the study is a lower awareness, among the interviewees, of the ability to control this new transport system, as emerges from the values obtained, which are all around average values. Furthermore, the results show that, on average, internal resources are not sufficient for an efficient management of this new transport system that can be implemented by the company (2.48).

Table 2. New Ecological Paradigm Scale Items (range 1 to 5).

	Average
Reality of limits to growth	4.60
The Earth has many natural resources if we only learned to exploit them	4.71
We are close to the limit of the maximum number of people that the Earth can bear	3.50
The Earth is like a spaceship with very limited rooms and resources	3.26
Possibility of an eco-crisis	4.21
Humans are seriously abusing the environment	4.60
If things continue to go on like now, we will soon experience a serious ecological disaster	4.05
The so-called ecological crisis has been greatly exaggerated	2.79
Fragility of nature' balance	3.59
When humans interfere with nature, they often produce disastrous consequences	4.50
The balance of nature is very delicate and easily disturbed	4.12
The balance of nature is strong enough to cope with the impacts of modern industrialized nations	2.79
Anti-anthropocentrism	2.94
Plants and animals have the same right to exist as humans	4.48
Humans were destined to rule the rest of nature	2.31
Humans have the right to change the natural environment to meet their needs	2.26
Rejection of exemptionalism	2.21
Despite our abilities, humans suffer the laws of nature	3.98
Human ingenuity will ensure that we do not make the earth unlivable	3.29
Humans will learn how nature works so that they can control it	2.07

Empirical evidences demonstrate that the environmental proactive behaviour of entrepreneurs, in this case associated to the introduction of EVs, is related to the different facets of the possible ecological visions on the nature. Table 2 shows how respondents agree on average on the five NEP ecological visions. In particular, results highlight a great awareness among respondents of the importance of protecting natural resources (4.71), which are exploited by human beings (4.60), causing disastrous

consequences (4.50). Based on mean responses to each of the NEP items, it seems that respondents tend towards a good enough pro-ecological worldview, proved by the positive agreement for *“Possibility of an eco-crisis”* (4.21 out of five) and *“Fragility of nature’ balance”* (3.59 out of five). An opinion further confirmed by the strong support recognized to the item *“Humans are seriously abusing the environment”* (4.60 out of five). The assumption of the presence of a pro-ecological opinion is also linked to the shared disagreement about *“Anti-anthropocentrism”* (2.94) and *“Rejection of exemptionalism”* (2.21).

In order to better understand the behaviour of entrepreneurs participating to the SFSC and their propensity to introduce the electric mobility, respondents have been divided into two groups, one including the entrepreneurs who have a high intention to introduce EVs in their business and respondents who have a low propensity. In particular, individuals with a high propensity to change the carbon transport system with the electrical one show a more positive attitude towards that behaviour (4.15), completed by positive scores in the effects from social norms, with a score that is over the neutral position (3.38), and a better Perceived Behavioural Control (3.55). Furthermore, they also show particular concern about the resources scarcity (4.79), the possible ecological catastrophes that can derive from an inappropriate exploitation of the environment and its resources (4.41), and the delicate balance of the nature (3.85).

An interesting fact arising from the study is that entrepreneurs who frequently participate in the farmers’ markets, since their corporate headquarters is located near the same markets show a greater willingness to introduce electric mobility in the SFCS.

Table 3. Profile of the sample considering two groups: individuals, respectively, with high and low intention to introduce electric mobility in the farm

	Respondent age	Distance from the market	Annual participation in the markets	Attitudes	Social Norms	PBC	Limits	Eco-crisis	Balance	Anti-anthro	Anti-exempt
High intention	25.54	13,346.15	139.38	4.15	3.38	3.55	4.79	4.41	3.85	3.00	2.00
Low intention	44.02	23,513.45	96.76	3.19	2.34	2.38	4.52	4.13	3.47	2.92	2.31
Total sample	38.30	20,366.43	109.95	3.49	2.67	2.74	4.60	4.21	3.59	2.94	2.21

This study also wanted to highlight the potential measures desirable for farmers to encourage the spread of electric mobility. Findings suggest that measures aimed at covering direct costs related to electric mobility (non-repayable grant, incentive for the relief of the insurance premium, and eco-

incentive for the purchase of EVs) are the most preferred by entrepreneurs. On the contrary, support tools related to the reduction of costs associated with circulation are less appreciated by interviewees.

Table 4. Support tools suggested to politicians in order to encourage the introduction of electric mobility in the farms

Support measures	No.	%
Non-repayable grant for the purchase of the electric vehicle	29	29.29
Incentive for the relief of the insurance premium	24	24.24
Eco-incentive for the purchase of an electric vehicle that covers more than 30% of the cost of the vehicle	17	17.17
Eco-incentives in cases where the purchase of one or more electric vehicles takes place between several farms in order to use them in a shared way	14	14.14
Exemption from paying the parking ticket in public areas (e.g. blue strip parking)	6	6.06
Exemptions from the payment of the fee to access the restricted traffic areas of all the municipalities	6	6.06
Right of movement in the lanes reserved for public transport	3	3.03

DISCUSSIONS

The main interesting findings of the present work and worth to be discussed, also for their managerial and political implications, originate from the profiling of interviewees we did according to the high or low intention showed. High social norms scores present in the group with higher intention towards introducing an EV in their business, suggest how in the presence of people with higher environmental concern, also the social context from which they belong to play a relevant role in pushing towards more and more sustainable practices. The higher value of PBC in this group, compared to the score of the overall sample, suggests how social norms and environmental awareness do the difference in the possibility of introducing greener transport means. A similar correlation has been found by Giampieri *et al.* 2018 where, analysing through TPB, the intention of consumers to buying in SFSC, found that the more consumers attitudes are positive toward SFSC and the more the people who are important for them approve the behaviour, the more the PBC increase.

However, entrepreneurs operating in the SFSC most concerned about the environment and the delicate balance of natural ecosystems are those who have the higher intention to reduce their environmental impact through sustainable means of transport, such as electrically powered vehicles. This evidence is also supported by the literature on EVs, according to which Ramos-Real *et al.*, (2018) found that early adopters are, among other features, the one with strong environmental concern. To this we add that by taking into account the social and geographical context from which this group belong to, that is rural area, our findings are in line with Berenguer *et al.* (2015) according to which, applying the NEP scale, authors found that people living in the rural context present more attitudes of environmental responsibility and greater consistency on expressing behavioural intentions compatible with the protection of the environment compared to people living in city areas.

The greater propensity to introduce EVs by entrepreneurs who frequently participate in the farmers' markets closest to the corporate headquarters is probably linked to what in the literature on EV is called

“range anxiety”, according to which the more the distance to be travelled the more the reticence to purchase an EV, as a consequence of fears (not technically founded) linked to the battery charge life and the few charging points along the route (Ramos-Real *et al.*, 2018; Bunce *et al.*, 2014).

Giving the high current market entry costs for EVs, the need for support measures is of relevance importance also for the entrepreneurs involved in the SFSC. Our results, showing a great preference for those measures mainly oriented at covering direct costs related to the purchasing of EVs, are in line with Santos and Davis (2019) which found that, despite the development of charging infrastructure is on the top of the priorities for a mass EV deployment, the main support measure necessary is the one linked to purchase subsidies.

CONCLUSIONS

This is a preliminary analysis aimed to investigate the behaviour of local producers operating in the SFSC against the opportunity to introduce an EV for the freight transports to reach farmer’s markets. Despite the small sample analysed, results are interesting because they contribute to enrich the literature on the pro-environmental behaviour linked to the debate currently open worldwide on how ensure an effective de-carbonization of transport system.

In particular, the research shows that farmers that mostly participate in the farmers’ markets and travel the shortest distance are more willing to introduce EVs for the distribution of their products. The same behaviour is highlighted in farmers whose managers and owners show high attitudes towards the shift from carbon transport systems to electrical ones, and which are more sensitive to ecological and environmental sustainability issues.

In light of this, the study provides interesting theoretical, managerial and political implications.

On the theoretical point of view the employment of an extended model of the TPB to which environmental opinions of entrepreneurs have been incorporated, further contributes to the development of the theory itself. Results show that TPB is a useful theory to investigate behaviours of the entrepreneurs operating in the SFSC as well as to know which characteristics linked to the distribution of goods are identified as main drivers for the effective introduction of EV to be intended here as the greener transport mean currently available in the market.

From a managerial perspective, the research mainly suggests farmers working in the SFSC to seriously consider the opportunity to take into account the introduction of EVs in their business, above all in those cases where distances travelled are on reduced range, so suitable for the actual battery duration. However, giving the growing societal awareness towards the transport system de-carbonization, managers should evaluate the EV purchasing as an added value of the local production model adopted to be properly communicated to consumers.

Switching to a political dimension, the majority of entrepreneurs participating in SFSC indicated as the most favourite support measure, for the introduction of EV into their business, non-repayable grant for the EV purchase. Policy makers in their political planning work should hence consider concrete measures able to provide an answer to this need that, if achieved, could allow the spread of EVs among entrepreneurs working in the SFSC. Having a look on Italy, and with particular attention on Sicily, the infrastructural charging system is ready to function as proved by the National infrastructure plan for the recharge of vehicles powered by electricity (PNIRE), approved by the Government in 2014. Following the PNIRE input, the Sicilian Regional Authority, in 2017 approved the Regional Plan for Infrastructure and Mobility (PIIM), which includes detailed measure for ensuring the electric mobility spread. In this respect, our findings could be useful for policy makers in order to plan programs addressed to promoting a more effective transport system de-carbonization among SFSC network. Taking into account that the intention to introduce electric mobility is greater among entrepreneurs who show both higher attitude for adopting proactive environmental behaviours and wider environmental awareness, an educational program aimed at the public and entrepreneurs to strengthen greater environmental awareness is desirable.

Although this study extended our understanding of farmers' intention to introduce EVs inside their business, it has likewise a number of certain limitations that need to be considered in future studies. Firstly, the present study only examines one Province of an Italian region, with a limited sample. Therefore, results could not be generalized to all farmers participating in SFSC neither in the entire country not in the overall region. Consequently, what is now needed is across-regional and/or a cross-national study involving the sample from a diverse geographic area. Secondly, the study has been performed only inside farmer' market, excluding the other alternative short supply chains. As consequent, future work should engage more entrepreneurs working in other business distribution channels of the SFSC.

REFERENCES

- Adnan, N., Nordin, S.M., Bahruddin, M.A. and Tareq, A.H. (2019), "A state-of-the-art review on facilitating sustainable agriculture through green fertilizer technology adoption: Assessing farmers behavior", *Trends in Food Science & Technology*, Vol. 86, pp 439-452.
- Ajzen, I. (1991), "The theory of planned behavior. *Organizational Behavior and Human Decision Processes*", Vol. 50 No. 2, pp. 179-211.
- Ajzen, I. (2002), "Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior", *J. Appl. Soc. Psychol.*, Vol. 32 No. 4, pp. 665-683.
- Ajzen, I. and Fishbein, M. (1980), *Understanding Attitude and Predicting Social Behavior*, Pearson Prentice Hall Publisher, New Jersey, USA.
- Ajzen, I. and Madden, T.J. (1986), "Prediction of goal-directed behavior: attitudes, intentions, and perceived behavioral control", *J. Exp. Soc. Psychol.*, Vol. 22 No.5, pp. 453-474.

- Arunrat, N., Wang, C., Pumijumong, N., Sereenonchai, S. and Cai, W. (2017), "Farmers' intention and decision to adapt to climate change: a case study in the Yom and Nan basins, Phichit province of Thailand", *J. Clean. Prod.*, Vol. 143, pp. 672-685.
- Berenguer, J., Corraliza, J. A. and Martín, R. (2005), "Rural-Urban Differences in Environmental Concern, Attitudes, and Actions", *European Journal of Psychological Assessment*, Vol. 21 No. 2, pp. 128-138.
- Bunce, L., Harris, M. and Burgess, M. (2014), "Charge up then charge out? Drivers perceptions and experiences of electric vehicles in the UK", *Transp Res Part A Policy Pract*, Vol. 59, pp. 278-287.
- Coley, D., Howard, M. and Winter, M. (2011), "Food miles: time for a re-think?", *British Food Journal*, Vol. 113 No. 7, pp. 919-934.
- Cowell, S. and Parkinson, S. (2003); "Localization of UK Food Production: An analysis using land area and energy as indicators", *Agriculture, Ecosystems, and Environment*, Vol. 94, pp. 221-236.
- Creswell, J.W. and Plano Clark, V.L. (2010), *Designing and conducting mixed methods research*, SAGE Publishing, Thousand Oaks, USA.
- Dang, H.L., Li, E., Nuberg, I. and Bruwer, J. (2014), "Understanding farmers' adaptation intention to climate change: a structural equation modelling study in the Mekong Delta, Vietnam", *Environ. Sci. Policy*, Vol. 41, pp. 11-22.
- Dunlap, R.E. and Van Liere, K.D. (1978), "The new environmental paradigm", *The Journal of Environmental Education*, Vol. 9 No. 4, pp. 10-19.
- Dunlap, R.E., Van Liere, K.D., Mertig, A.G. and Jones, R.E. (2000), "Measuring endorsement of the new ecological paradigm: A revised NEP scale", *Journal of Social Issues*, Vol. 56 No. 3, pp. 425-442.
- Dupuis, E.M. and Goodman, D. (2005), "Should We Go 'Home' to Eat? Toward a Reflexive Politics of Localism", *Journal of Rural Studies*, Vol. 21 No. 3, pp. 359-371.
- Edwards-Jones, G. (2010), "Does Eating Local Food Reduce the Environmental Impact of Food Production and Enhance Consumer Health?" *Proceedings of the Nutrition Society*, Vol. 69 No. 4, pp. 582-591.
- Egbue, O., Long, S. and Samaranayake, V.A. (2017), "Mass deployment of sustainable transportation: evaluation of factors that influence electric vehicle adoption", *Clean Technol. Environ. Pol.*, Vol. 19, 1927-1939.
- Feagan, R.B. and Morris, D. (2009), "Consumer Quest for Embeddedness: A Case Study of the Brantford Farmers Market", *International Journal of Consumer Studies*, Vol. 33 No. 3, pp. 235-243.
- Fielding, K.S., Terry, D.J., Masser, B.M. and Hogg, M.A. (2008), "Integrating social identity theory and the theory of planned behavior to explain decisions to engage in sustainable agricultural practices", *Br. J. Soc. Psychol.*, Vol. 47 No. 1, pp. 23-48.
- Fielding, K.S., Terry, D.J., Masser, B.M., Bordia, P. and Hogg, M.A. (2005), "Explaining landholders' decisions about riparian zone management: The role of behavioural, normative, and control beliefs", *Journal of Environmental Management*, Vol. 77 No. 1, pp. 12-21.
- Giampietri, E., Verneau, F., Del Giudice, T., Carfora, V. and Finco, A. (2018), "A Theory of Planned behaviour perspective for investigating the role of trust in consumer purchasing decision related to short food supply chains", *Food Quality and Preference*, Vol. 64, pp. 160-166.
- Hall, C. and Moran, D. (2006), "Investigating GM risk perceptions: A survey of anti-GM and environmental campaign group members", *Journal of Rural Studies*, Vol. 22 No. 1, pp. 29-37.
- Hao, H., Cheng, X., Liu, Z. and Fuquan, Z. (2017), "Electric vehicles for greenhouse gas reduction in China: A cost effectiveness analysis", *Transport. Res. Part D: Transport Environ*, Vol. 56, pp. 68-84.
- Hawcroft, L.J. and Milfont, T.L. (2010). "The use (and abuse) of the new environmental paradigm scale over the last 30 years: A meta-analysis", *Journal of Environmental Psychology*, Vol. 30 No. 2, pp. 143-158.
- Henneberry, S.R., Whitacre, B. and Agustini, H.N. (2009), "An Evaluation of the Economic Impacts of Oklahoma Farmers Markets", *Journal of Food Distribution Research*, Vol. 40 No. 3, pp. 64-78.
- Ilbery, B. and Kneafsey, K. (1998), "Product and Place: Promoting Quality Products and Services in the Lagging Rural Regions of the European Union", *European Urban and Regional Studies*, Vol. 5, pp. 329-341.
- Jarosz, L. (2008), "The City in the Country: Growing Alternative Food Networks in Metropolitan Areas", *Journal of Rural Studies*, Vol. 24, pp. 231-244.
- Kaiser, F.G., Hartig, T., Brügger, A. and Duvier, C. (2011), "Environmental protection and nature as distinct attitudinal objects: An application of the Campbell paradigm", *Environment and Behavior*, Vol. 45, pp. 369-398.
- Kemp, K., Insch, A., Holdsworth, D.K. and Knight, J.G. (2010), "Food miles: Do UK consumers actually care?", *Food Policy*, Vol. 35 No. 6, pp. 504-513.
- Kissinger, M. (2012), "International trade related food miles – The case of Canada", *Food Policy*, Vol. 37 No. 2, pp. 171-178.
- Marsden, T., Banks, J. and Bristow, G. (2002), "Food Supply Chain Approaches: Exploring their Role in Rural Development", *Sociologia Ruralis*, Vol. 40, pp. 424-438.

- Menozzi, D., Fioravanti, M. and Donati, M. (2015), "Farmer's motivation to adopt sustainable agricultural practices", *Bio base Appl. Econ.*, Vol. 4 No. 2, pp. 125-147.
- Migliore, G., Schifani, G. and Cembalo, L. (2015), "Opening the black box of food quality in the short supply chain: Effects of conventions of quality on consumer choice", *Food Qual. Prefer.*, Vol. 39, 141-146.
- Paxton, A. (1994), *The food miles report: the dangers of long distance food transport*, SAFE Alliance.
- Pearson, D., Henryks, J., Trott, A., Jones, P., Parker, G., Dumaresq, D. and Dyball, R. (2011), "Local Food: Understanding Consumer Motivations in Innovative Retail Formats", *British Food Journal*, Vol. 113 No. 7, pp. 886-899.
- Pienaar, E.F., Lew, D.K. and Wallmo, K. (2015), "The importance of survey content: Testing for the context dependency of the New Ecological Paradigm Scale", *Social Science Research*, Vol. 51, pp. 338-349.
- Plötz, P., Schneider, U., Globisch, J. and Dütschke, E. (2014), "Who will buy electric vehicles? Identifying early adopters in Germany", *Transportation Research Part A: Policy and Practice*, Vol. 67, pp. 96-109.
- Quak, H., Nesterova, N., van Rooijen, T. and Dong, Y. (2016), "Zero Emission City Logistics: Current Practices in Freight Electromobility and Feasibility in the Near Future", *Transportation Research Procedia*, Vol. 14, pp. 1506-1515.
- Ramos-Real, F.J., Ramírez-Díaz, A., Marrero, G.A. and Perez, Y. (2018), "Willingness to pay for electric vehicles in island regions: The case of Tenerife (Canary Islands)", *Renewable and Sustainable Energy Reviews*, Vol. 98, pp. 140-149.
- Renting, H., Marsden, T.K. and Banks, J. (2003), "Understanding Alternative Food Networks: Exploring the Role of Short Food Supply Chains in Rural Development", *Environment and Planning A: Economy and Space*, Vol. 35 No. 3, pp. 393-411.
- Rezaei, R., Mianaji, S., Ganjloo, A. (2018), "Factors affecting farmers' intention to engage in on-farm food safety practices in Iran: Extending the theory of planned behavior", *Journal of Rural Studies*, Vol. 60, pp 152-166.
- Rezvani, Z., Jansson, J. and Bodin, J. (2015), "Advances in consumer electric vehicle adoption research: A review and research agenda", *Transportation Research Part D: Transport and Environment*, Vol. 34, pp. 122-136.
- Roininen, K., Arvola, A. and Lahteenmaki, L. (2006), "Exploring consumers' perceptions of local food with two different qualitative techniques: laddering and word association", *Food Quality & Preference*, Vol. 17 No. 1-2, pp. 20-30.
- Santos, G. and Davies, H. (2019), "Incentives for quick penetration of electric vehicles in five European countries: Perceptions from experts and stakeholders", *Transportation Research Part A: Policy and Practice*. <https://doi.org/10.1016/j.tra.2018.10.034>.
- Schmitt, E., Galli, F., Menozzi, D., Maye, D., Touzard, J.M., Maresscotti, A., Six, J. and Brunori, G. (2017), "Comparing the sustainability of local and global food products in Europe", *Journal of Cleaner Production*, Vol. 165, pp. 346-359.
- Shin, Y.H. and Hancer, M. (2016), "The role of attitude, subjective norm, perceived behavioral control, and moral norm in the intention to purchase local food products", *Journal of Foodservice Business Research*, Vol. 19 No 4, pp. 338-351.
- Smith, P. and Smith, T.J.F. (2000), "Transport costs do not negate the benefits of agricultural carbon mitigation options", *Ecology Letters*, Vol. 3, pp. 379-81.
- Van Dijk, W.F.A., Lokhorst, A.M., Berendse, F. and de Snoo, G.R. (2016), "Factors underlying farmers' intentions to perform unsubsidised agri-environmental measures", *Land Use Pol.*, Vol. 59, pp. 207-216.
- Van Hauwermeiren, A., Coene, H., Engelen, G. and Mathijs, E. (2007), "Energy Lifecycle Inputs in Food Systems: A Comparison of Local Versus Mainstream Cases", *Journal of Environmental Policy and Planning*, Vol. 9 No. 1, pp. 31-51.
- Zeweld, W., Huylenbroeck, G., Tesfay, G. and Speelman, S. (2017), "Smallholder farmers' behavioral intentions towards sustainable agricultural practices", *J. Environ. Manag.*, Vol. 187, pp. 71-81.

THE MEDITERRANEAN'S GOLD: WHICH COMMERCIAL PROSPECTS FOR THE THUNNUS THYNNUS IN ITALY?

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ABSTRACT

By taking into consideration the relevant role, in the international trade of Bluefin Tuna (*Thunnus thynnus*), played by Italy, aim of this work is assess the change in the Italian competitive advantage in the international market over the last decade (2008/2017), as a consequence of the Total Allowable Catch system together with size limits set by the International Commission for the Conservation of Atlantic Tunas (ICCAT). Investigating the main changes occurred in the Italian international trade balance, by focusing the attention on the relations with the main commercial partners operating in this industry, is of relevant importance to make available updated data to policy makers, managers and scholars in order to reflect on alternative solutions to increase profits in the international trade. By applying the Relative Trade Advantage Index, results show that Italy in the last decade, although maintained an overall profitable position in the international market, has been affected by drastic changes at system level, mainly caused by the ICCAT regulations aimed at reducing the *Thunnus thynnus* stock overfishing. Measures that led the country to modify commercial partners relations and also internal production business patterns, such as a fragmentation of the *Thunnus thynnus* supply chain related to the export line. Results suggest to both policy makers and stakeholders to activate alternative solutions to improve the trade volume (in money terms) of this sector, in so doing better exploiting the great potential of product, respecting at the same time the Bluefin Tuna sustainability programs.

Keywords: Bluefin Tuna; international trade; Relative Trade Advantage Index; ICCAT; sustainable capture.

INTRODUCTION

Talking about the economic role played by the Atlantic Bluefin tuna or *Thunnus thynnus* (Linnaeus, 1758) entails the recalling of relevant historical traits characterizing this important marine species. Indeed, it is possible to find traces of the *Thunnus thynnus* in the past works of Latin and Greek scientists as well as philosophers. The main references were linked to the surprising biological

properties of this marine species, with particular reference on the *Thunnus thynnus*' size, able to exceed the length of 3 meters and a weight of around 900 kg. However, works also underlined the longevity of the species, with a life span of more than 35 years, as well as motility speed so great to guarantee the completion of wide migration routes, from the North of the Atlantic Ocean to the Mediterranean Sea. Since the Greek Empire, all these characteristics have been widely praised, adding also the economic relevance for commercialization scopes as well as nutritional ones. At this regards, some authors, like Eliano, Ateneo and Plinio the Old, eulogized the nutritional value of the *Thunnus thynnus*. While, in 400 A.C., the Greek historian Erodoto pointed out the how the *Thunnus thynnus* was the most remunerative marine species. There is trace of Greek and Roman works, belonging respectively to Aristotele (300 A.C.) and Pliny the Elder, in latin *Gaius Plinius Secundus* (90 A.C.), where the *Thunnus thynnus* fishing practices are widely described, underlying the migration routes some of them achieving sea waters located over the Hercules Columns, this last known as the extreme limit of the known world. Passing down over the centuries, the economic relevance of the *Thunnus thynnus* remains and also grown (Porch, 2005). While, most of the properties already outlined in the works of past philosophers and historians found scientific and nutritional confirmations.

The economic relevance of the *Thunnus thynnus* is mainly linked to the high nutritional properties of its fleshes, these last able to be consumed both immediately after the capture, thus crude, or after a cooking passage, then transformed. This characteristic represents the main strength point of the *Thunnus thynnus*, encompassing the economic potential intrinsically included in such marine species. Apart from nutritional concerns, it is important to specify that the increase in the Atlantic bluefin tuna was mainly driven by voracious Japanese demand, this last pushed on by the spread of sushi-sashimi consumption rates, a dish based on raw fish consumed in bars and restaurants. As a direct consequence, as already pointed out in 2006 by Spagnolo (2006), in less than 6 years (1997-2002), Japan's imports from the Mediterranean rose from zero to 70% of total imports (Spagnolo, 2006). A percentage that further increased since 2015, severely impacting the overall Atlantic bluefin tuna fishing sector. From a fishing practices side, overfishing of the largest scale, however, has occurred inside the Mediterranean Sea, the overfishing of this marine species has been almost completely attributable to the activity of purse seine fishing fleets, fuelled by the ever-increasing demand for live fish for fattening in Mediterranean tuna farms (COC/PA2, 2013; WWF, 2008). The direct consequence of the economic and nutritional value of the *Thunnus thynnus* can be seen in the biodiversity impact caused by the overfishing practices recorded worldwide during years (Fromentin & Ravier, 2005).

By taking into consideration the relevant role, in the international trade of Bluefin Tuna, played by Italy, third only to Spain and France, aim of this work is assess the change in the Italian competitive advantage in the international market over the last few year and as a consequence also of the total

allowable catch system promoted by the International Commission for the Conservation of Atlantic Tunas (ICCAT). Investigating the main changes occurred in the Italian international trade balance, by focusing the attention on the relations with the main commercial partners operating in this business sector, the present work intends to provide updated data which could be used by policy makers and scholars in better manage such data in order to reflect on the multiple ways to manage the Atlantic Bluefin tuna by considering both economic and habitat impacts.

The need of a such assessment is based on the necessity to evaluate how worldwide policies, mainly aimed arrest biodiversity lost affecting the BFT, can affect the economic performance of a country. In that case Italy has been identified as one of the main important actor in the fishing and commercialization of *Thunnus thynnus*, for both its geographical location and historical domain role in the Mediterranean players. For the economic analysis, the Relative Trade Advantage Index (RTA) (Vollrach, 1991) has been performed, by using money values of export and import rates in Italy in a time period ten years long (2008/2017).

The paper is structured as follows: the first paragraph presents an overview of the main political tools that in the last years addressed the management of BFT protection; after that, a presentation of the RTA index is released. The section results comment the main findings belonging to the application of the RTA in the Italian economic context. The discussion paragraph provides structured links between our findings and previous scholars results and suggestions. Finally, in the conclusions, specific implications are discussed.

THE ROLE OF THE ATLANTIC BLUEFIN TUNA IN BOTH BIODIVERSITY AND ECONOMIC TERMS

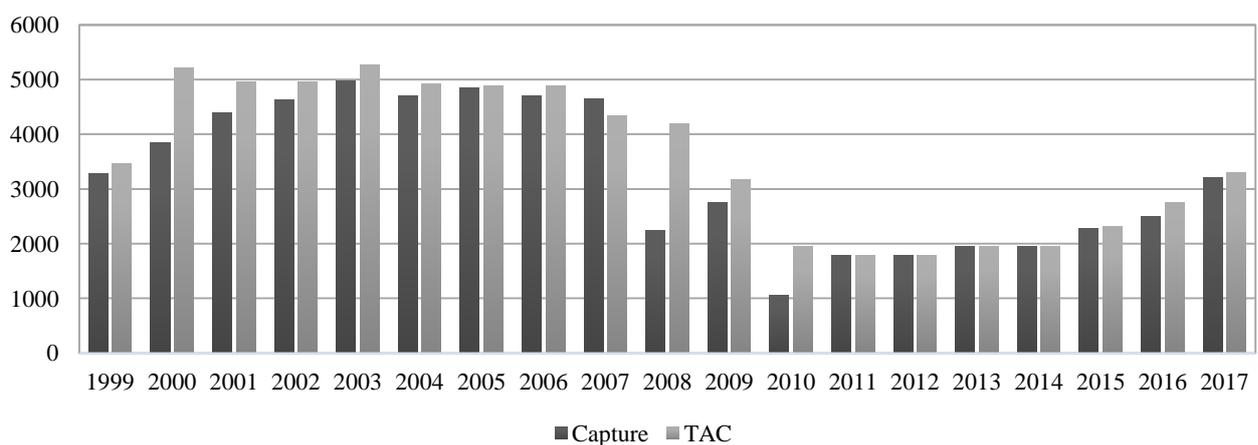
BFT is considered a “culture-specific” product because most of the world’s consumption occurs in Japan with over 45 countries competing to supply this market (Buentello et al., 2016; Hefferman, 2014). The Mediterranean region is one of the main relevant area for the catches and a major exporter of BFT to Japan (Di Natale et al., 2006). Increasing BFT catches have led to rapid stock declines over years. Collecting the environmental and green NGOs claims about the extinction threats of the Atlantic Bluefin Tuna, in 1966, the Food and Agriculture Organisation (FAO) convened a conference to manage the Mediterranean and other Atlantic tuna fisheries. Seventeen States agreed to the Convention, establishing the International Commission for the Conservation of Atlantic Tunas (ICCAT). Since 1966, membership has increased to 48 Contracting Party Countries (CPCs). Of these, 16 CPCs received an allocation of the BTF-E quota in 2013 (with the EU operating as a bloc), representing the major actors in the BTF-E fishing industry. To tackle with this specific challenge, ICCAT set total allowable catch (TAC), allocating shares of the annual TAC to its Contracting Parties, starting its controls and

the issuing of targeted regulations to limit the overfishing practices responsible of the main negative impacts affecting *Thunnus thynnus* overall stocks. The accession of the EU to the ICCAT, which took place in 1997, has also determined for Italy the obligation to adopt annual fishing quotas. Although in principle the ICCAT system of TAC could be seen as a good instrument to fight against the overfishing of BFT, several authors pointed out the weaknesses of a such system, lacking of structured and well-functioning control system on quota respect (Sumaila and Huang, 2012). Authors, in particular, underlines that the reason why ICCAT cannot succeed in combating IUU fishing is also for the lack of an effective detection and penalty system.

The competitive advantage of Italy in the world BFT market, measured during the period 2004/2009, was intercepted by Crescimanno and Galati (2012), underlying the overall positive advantage of Italy above all by taking into consideration the wide export shares towards Japan that in 2007 achieved the 79%, only followed by a lower rate from Spain and Malta, respectively of 10,6% and 3,3%. Giving the predominance of the Japan destination market, authors suggested for the Italian economy a differentiation strategy, trying to focus the attention on new destination markets, like USA and other Mediterranean countries. For sure, the decision of Italy to mainly exporting in Japan was driven by profit factors, giving the high money quotation of the BFT in the Asian country.

Nevertheless, since the end of the '90, Italy has had to respect specific yearly capture quotas, as set by the ICCAT, today the country continues to be one of the main actors in the fishing and commercialization of *Thunnus thynnus* in the Mediterranean area (Figure 1).

Figure 1. Italian captures of Atlantic Bluefin Tuna and ICCAT total allowable catches



Source: Our elaboration of FAO data and EU regulations.

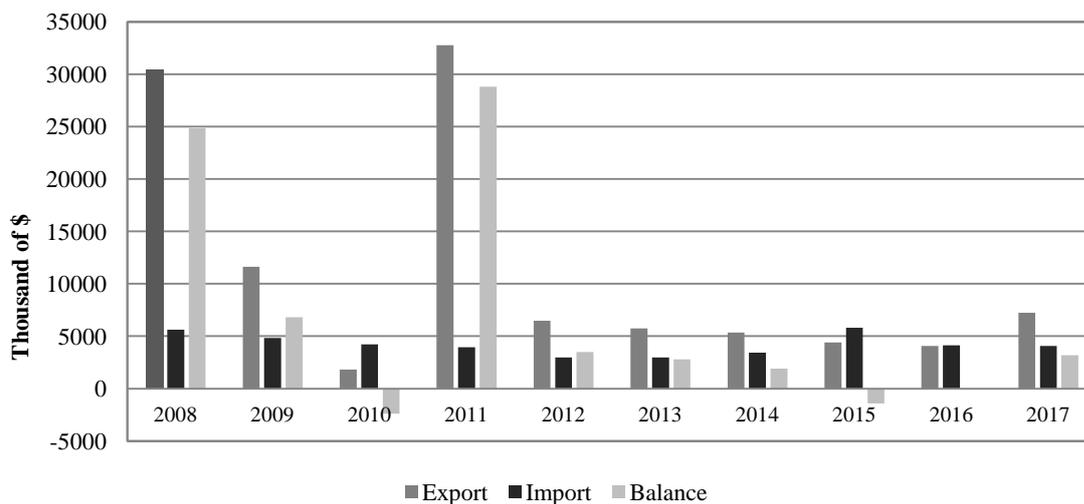
In Italy the TAC system has led to structural changes affecting both vessels and the labour market operating in this business sector (Maringelli et al., 2016). In particular, Italy, differently from the other

countries, is the only country in the Mediterranean that decided to share the quota among the fishing vessels (BMTI, 2019).

This means that, once the TAC is reached, the capture activity is suspended. After the introduction of TAC, as other countries involved in the ICCAT system, experimented substantial economic impact, above all in the amount of captures allowed. Indeed, Mediterranean producers, among them also Italian ones, pointed out how the first TAC, at the end of the '90, were set according to the last year, a year during which captures were lower than usual, so underestimating the potential of the Mediterranean vessels.

The Italian export of Atlantic Bluefin tuna reached in 2017 a value of 7.2 millions of dollars in the face of 4.06 millions of dollars of imports, showing a positive balance of trade. The trade trends in the period 2008/2017 shows that exports were reduced to a greater extent (-7.6%) compared to import (-2.8%) (Figure 2).

Figure 2 - Italy's trade balance: import and export shares of *Thunnus thynnus* (2008/2017)



Source: Our elaboration on UNComtrade data.

METHOD AND DATA

According to Pitts and Lagnevik (1998), the competitiveness of an industry is the “ability to profitably gain and maintain marketshare in domestic and/or in foreign markets”, a general definition that can be adapted to represent our case study. In order to assess the Italian competitive performance for the *Thunnus thynnus* on the international market, taking into account bilateral trade flows and market quotas, the present study employs specific indicators based on the principle of comparative advantage, widely used in economic literature (Traill, Da Silva, 1996; Frohberg, Hartmann, 1997; Havrila, Gunawardana, 2003; Fertö, Hubbard, 2003; Bavororà, 2003; Banterle, Carraresi, op.cit.; Hambalkovà, 2006). Amongst the indicators most commonly used for measuring

comparative advantage there is the *Revealed Comparative Advantage* (RCA) (Balassa, 1965) which shows the advantage held by a State in exporting a single product or group of products in relation to its total trade. Alternative specification of revealed comparative advantage commonly known in the literature and which is derived from a modified version of Balassa's index, is the *Relative Trade Advantage* (RTA) developed by Vollrath (Vollrath, 1991). The Vollrath's index, that accounts for exports and imports simultaneously, differs from the RCA for the elimination of the double-counting of country and product. Vollrath, in addition, proposes a new version of the index (RC) in which the *Relative Export Advantage* (RXA) and *Relative Import Advantage* (RMP) are expressed in logarithmic form, but this of limited use where trade flux is limited or nil (Havrila, Gunawardana, op.cit.).

To perform the competitiveness analysis of the Italian *Thunnus thynnus*, we have analyzed trade exchanges on the basis of the data on export and import money flows extracted from the UNComtrade database (UNComtrade, 2019) by considering a time span of 10 years (2008 – 2017).

In order to outline the structure and geography of trade in *Thunnus thynnus*, firstly the quota of the market was established for exports (*Export market share*, EMS) and for imports (*Import market share*, IMS), respectively expressed as:

$$EMS = 100(X_{ij}|X_{iw}) \quad [1]$$

$$IMS = 100(M_{ij}|M_{iw}) \quad [2]$$

In the formula, X and M stand for exports and imports. The indices j and w relate to the region, whilst i is the product. Market shares are expressed as values from 0 to 100; thus, a value of zero indicates that the exports (or imports) of a given product i from a given country j are nil; whilst a value of 100 indicates that the entirety of exportation (or importation) of product i is carried out by country j .

In this paper, the RTA index of Vollrath (1991) is used to capture Italy's comparative advantage with respect to the individual world partners and the trade intensity ties between the partners. Establishing the RTA allows us, lastly, to measure Italy's competitiveness in the international market for Atlantic bluefin tuna. The RXA [3] expresses the export share for product i of a given country in the market j compared to the share held for other products; the index has a higher (or lower) unit value if the country's has an advantage (or disadvantage) in its competitive position for exporting product i . In the formula, X stands for exports and M stands for imports. The indices i and n relate to categories of products, whilst j and r relate to region.

$$RXA = \left(\frac{X_{ij}/X_{ir \neq j}}{X_{nj}/X_{nr \neq j}} \right) \quad [3]$$

There is a similar index for imports, the RMP [4], which expresses the import share for product i of a given country in the market j compared to the same share held for the remaining products; this indicator is greater (or less) than 1 if the country in question has an advantage (or disadvantage) in its competitive position for importing product i .

$$RMP = \left(\frac{M_{ij}/M_{ir \neq j}}{M_{nj}/M_{nr \neq j}} \right) \quad [4]$$

The RTA, obtained from the difference between the RXA and RMP, shows positive (or negative) values if the country in question has an advantage (or disadvantage) in its competitive position for trading in product i (Frohberg, Hartmann, op.cit).

$$RTA = RXA - RMP \quad - \quad [5]$$

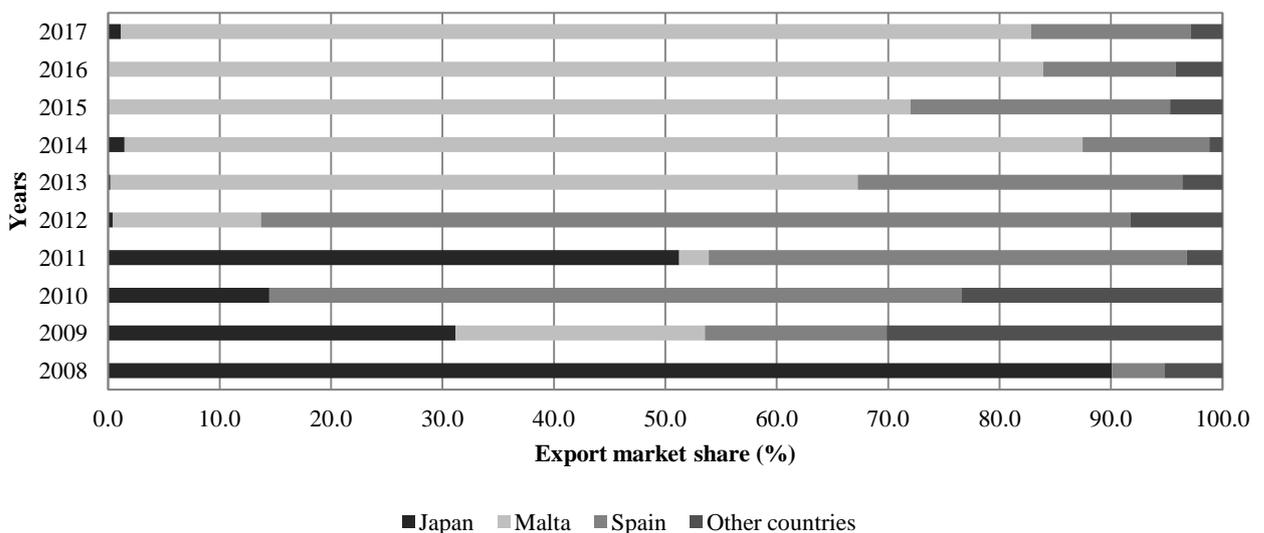
RESULTS

During the last decade, 2008/2017, the international trade as well as the main Italian commercial partners have been affected by deep changes. Figure 3 shows the main changes, in terms of economic volume, occurred in the trade relations with the main historical Italian's partners.

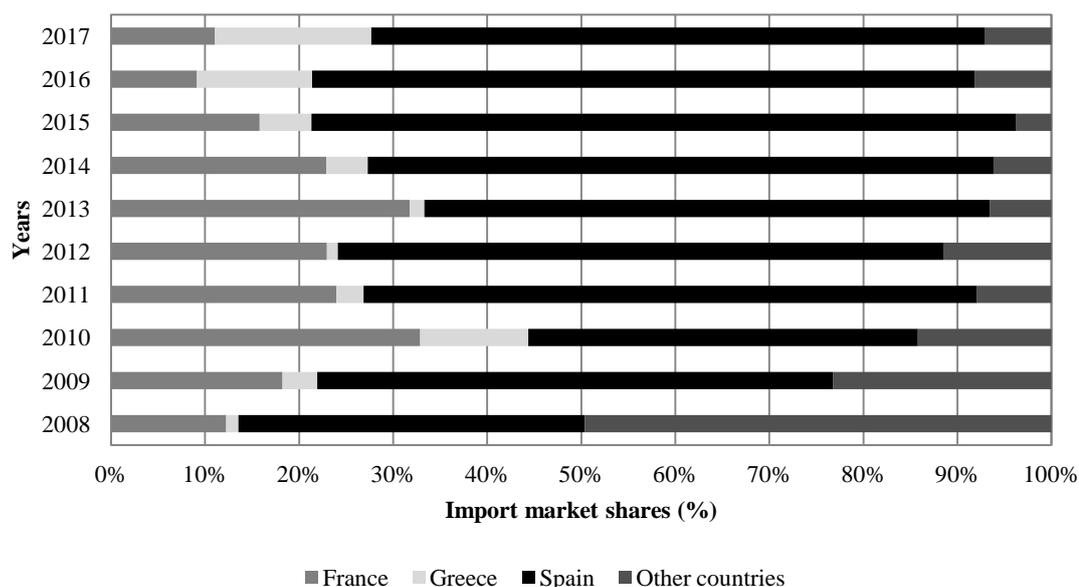
The main change occurred in this last decade regard the trade relations with Japan, which passed from more than 90% in 2008 to a 1% in 2017. The Japan commercial centrality then passed to Malta, toward which Italy increase the export shares from the 22% on 2009 to an average of 80% above all since the 2014. While Spain, the third historical Italian trade partner for the *Thunnus thynnus* has remained quite stable, with different shares recorded during the last decade, and concluding the 2017 with an export share of 14,3%.

A different scenario is the one recorded from the import side, where the historical Italian partners quietly remain stable, without relevant variation (Figure 4).

Figure 3 – Export market share (EMS) of Italy



Source: Our elaboration on UNComtrade data.

Figure 4 – Import market share (IMS) of Italy

Source: Our elaboration on UNComtrade data.

Indeed, as Figure 4 describes, the trade patterns recorded in the last decade, confirms a stable path as regard the *Thunnus thynnus* import shares from the most relevant Italian suppliers, respectively: Spain, France and Greece.

The main results achieved thanks to the employment of the RTA index, as before explained, allowed us to estimate the competitive advantage of Italy towards the world market. Table 1 reports the achieved results.

Table 1. Italian Relative Trade Advantage (RTA) Index towards main trade partner countries (2008/2017)

Relative Trade Advantage index										
Partner/Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Croatia	-3,28	-1,16	-4,02	-0,73	-0,76	-1,05	-0,40	-0,97	-4,02	-2,62
France	-1,22	-1,11	-2,98	-3,68	-3,99	-6,99	-5,61	-3,60	-1,96	-2,34
Greece	-0,22	-0,60	-1,95	-0,45	0,80	-0,25	-0,75	-1,07	-2,77	-3,99
Japan	1835,77	222,09	122,34	1092,76	1,95	0,53	4,40	-3,53	0,15	5,77
Malta	-0,62	1,52	-24,24	-1,54	-7,37	44,66	148,88	61,05	103,71	78,26
Portugal	-0,36	0,50	1,42	-1,41	-0,21	-0,58	-0,71	-0,52	-0,28	-0,25
Spain	-3,41	-6,56	0,01	-8,09	1,91	-6,46	-10,42	-13,87	-11,69	-9,06

The calculation of the RTA for Italy has been performed in a time period 10 years long, including the decade 2008/2017, so as to intercept the changes occurred in the Italian position as a consequence, above all, of the quotas introduction, according to the ICCAT regulations. In 2017, a positive value of

the index is, as expected, recorded as regard the relation with Malta (78,26), a data confirmed by Figure 3 where, indeed, differently from the first year of the decade, the main Italian export shares were towards Malta (more than 80%). The competitive disadvantage with Japan widely increased during the decade, by leaving space to a new relevant important trade relation, the one with Malta. To that, we add that a worsening of the Italian competitive advantage has been however recorded above all with Spain and Greece, where the negative values of the index grown during years following an increasing path, differently from the negative value recorded with France where the competitive disadvantage occurred through unstable paths.

Apart from a lesser positive value, the one recorded with Japan, a relation recently changed, all the other main partners, such as Spain, Greece, France lead the index to negative values, as a direct effect of the fact that Italy is more and more dependent on their imports of *Thunnus thynnus* (as showed in Figure 4).

DISCUSSIONS AND CONCLUSIONS

The analysis carried out highlighted a deep change of the reference competitive scenario. By taking into consideration the results of Crescimanno and Galati (2012), which highlighted a relevant growth of the Italian competitive advantage for the commercialization of *Thunnus thynnus* above all towards Japan, our findings updated such data. Indeed, compared to the time period, 2004/2009, analyzed by the above-mentioned authors, although Italy according to the TAC limits, continues to record a competitive advantage in this industry, its competitive positioning in the world market has changed. If on the one hand, Italy gained a greater profit in the Maltese market, where live tuna is sold, on the other hand, the most important economic value is for Malta selling in Japan of BFT for the final consumption, where according to the last Japanese auctions an exemplar of BFT, with a weight of 278 kg, has been sold for 3.1 thousand of dollars (The Guardian, 2019). Indeed, the Italian BFT sector differently from the first decade of the 2000, now is suffering a depreciation represented by the huge captures carried out by Italian fleets in the Mediterranean Sea which are after sold to Malta, where BFT are fattening, and finally sell to Japan with a net competitive advantage for the Maltese economy. What happened after the introduction of the TAC but also size and weight limits set, which affect the Italian export shares from Japan to Malta, was mainly due to the national economic industry system not well prepared from bureaucratic and climate variability sides to the mass fattening systems necessary to suitably farm BFT according to the Japanese standards. However, forced changes in trade partners for international relations, together with changes also at the economic system level, at the country level, where in order to respect TAC quotas, producers change their vessel operations. To that, it is also worth to mention the illicit market strictly linked to the TAC limits that call for a more

stringent control from regulators. At this regard, it is relevant to in-depth investigate the BFT black market, a phenomenon that recently led the European Union to carry out severe investigations, as a recent Europol operation, called Operation Tarantelo, conducted with the Spanish Guardia Civil and with support of French, Italian, Maltese and Portuguese authorities, which led to discover huge irregularities relating to BFT fishing in the Mediterranean Sea (EUROPOOL, 2018).

Nevertheless, the biodiversity threats are still present, and the ICCAT control system should be improved above all adding cooperation models among countries and in particular vessels, it is worth to mention that the stock has started to recover recently and, as a result, stakeholders have raised catch quotas by 50% for the period 2017–2020 (Failletaz et al., 2019). Today, indeed, as reported in the recent EU Council Regulation 2019/124, the quotas for Italy have been set at: 2018 with 3.894,13 tonnes; 2019 with 4.308,59 tonnes; and, 2020 with 4.756,7 5tonnes (Council Regulation (EU) 2019/124). By analyzing the Italian case and the partial loss of economic value related to the export, today almost totally addressed to Malta, it is time to reflect on the need to change business strategy so as to close the entire BFT supply chain and achieve a greater economic return in Italy.

The future of the BFT industry is not anyway free of other threats, indeed, also in this sector climate change is affecting the migration routes of BFT (Failletaz et al., 2019) as well as other aspects linked to the overall supply chain. The climatic variability becomes then a factor that, together with other political, judicial and business aspects before discussed, should be integrated in the current planning efforts. Our results, following the ones of Buentello et al. (2016) more and more pointed out that quota systems and the banning of international tuna trade are not enough to achieve management of tuna stocks for sustainability; it is now time to activate proactive strategies rather than just reactive approaches, involving several relevant stakeholders, from international tuna markets, fishing fleets, to tuna farmers as well as regulatory agencies and environmentalists.

Concluding, the main challenge to effectively cope with the extinction threat of the BFT cannot be managed only through quotas systems, giving that the economic value of this production sector is highly profitable, as Japan growing demand confirm. Concrete actions to really preserve this marine species should involve also a political commitment from all the main countries involved in such market, from demand to supply side actors, as previously suggested by Heffernan (2014). As for Italy, policymakers should reflect on how avoid the loss of competitive advantage in this highly profitable industry, trying to make available targeted investments and support for local companies engaged in such business sector, with the final aim to sustain the export line of the Italian BFT supply chain so as to increase profits, limiting delocalization into other more bureaucratic free countries, like Malta.

REFERENCES

- Balassa B., (1965). Trade Liberalization and 'Revealed' Comparative Advantage, *Manchester School of Economic and Social Studies*, 33, 99-124.
- BMTI (2019). Tonno Rosso – analisi economica e prospettive di consumo. Borsa Merci Telematica Italiana. Available at <https://ittico.bmti.it/CaricaPdfRegolamenti.do?doc=8>. (Last access on 10.05.2019).
- Buentello, A., Seoka, M., Kato, K., & Partridge, G. J. (2016). Tuna Farming in Japan and Mexico. In *Advances in Tuna Aquaculture* (pp. 189-215). Academic Press.
- COC/PA2 (2013). Report of the inter-sessional meeting of the Compliance Committee and Panel 2 (Seville, Spain, February 18–20, 2013) COC/PA2 (EU Capacity Plan) 31. Available at http://www.iccat.int/Documents/COC_PA2_REP_ENG.pdf.
- Di Natale, A., Mangano A., Vassallo Ajus AJUS R. (2006), Bluefin tuna size composition in cages from the Tyrrhenian sea and the strait of Sicily in 2004, *ICCAT*, 59.
- EU Council Regulation 2019/124, fixing for 2019 the fishing opportunities for certain fish stocks and groups of fish stocks, applicable in Union waters and, for Union fishing vessels, in certain non-Union waters. *OJEU*, 30.01. 2019, L 29/1.
- EUROPOOL (2018), available at <https://www.europol.europa.eu/newsroom/news/how-illegal-bluefin-tuna-market-made-over-eur-12-million-year-selling-fish-in-spain> (last access on 10.05.2019).
- Faillettaz, R., Beaugrand, G., Goberville, E., & Kirby, R. R. (2019). Atlantic Multidecadal Oscillations drive the basin-scale distribution of Atlantic bluefin tuna. *Science advances*, 5(1), eaar6993.
- Fromentin, J. M., & Ravier, C. (2005). The East Atlantic and Mediterranean bluefin tuna stock: looking for sustainability in a context of large uncertainties and strong political pressures. *Bulletin of Marine Science*, 76(2), 353-362.
- Havrila I. Gunawardana P., 2003. Analysing comparative advantage and competitiveness: an application Australia's textile and clothing industries, *Australian Economic Papers*, 42 (1), 103-117.
- Heffernan, J. P. (2014). Dealing with Mediterranean bluefin tuna: A study in international environmental management. *Marine Policy*, 50, 81-88.
- Maringelli, G., Sardaro, R., Bozzo, F., Petrontino, A., Fucilli, V. (2017). La pesca del tonno rosso: aspetti normativi e criticità inerenti alla salvaguardia della specie. *Agriregionieuropa*, anno 13, n49, Giugno 2017. Available at <https://agrireionieuropa.univpm.it/en/node/9848>. (Last access on 10.05.2019).
- Porch, C.E. (2005). The sustainability of Western Atlantic Bluefin Tuna: a warm blooded fish in a hot blooded fishery. *Bulletin of Marine Science*, 76, 363–84.
- Spagnolo M. (2006), *Elementi di economia e gestione della pesca*, Franco Angeli, Milano.
- Sumaila, U. R., & Huang, L. (2012). Managing bluefin tuna in the Mediterranean Sea. *Marine Policy*, 36(2), 502-511.
- The Guardian (2019). Sushi king pays record \$3.1m for endangered bluefin tuna in Japan. Available at <https://www.theguardian.com/world/2019/jan/05/sushi-king-pays-record-31m-for-endangered-bluefin-tuna-in-japan>
- UNCOM trade (2019). Database Thunnus thynnus, HS2017. Available at <https://comtrade.un.org/db/ce/ceSearch.aspx?it=Thunnus+thynnus&rg=2&r=381&p=0&y=recent&px=H5>. (Last access on 10.05.2019).
- Vollrath, T. L. (1991). A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage. *Weltwirtschaftliches Archiv*, 127(2), 265-280.
- WWF (2008). Race for the last Bluefin: capacity of the purse seine fleet targeting Bluefin tuna in the Mediterranean Sea and estimated capacity reduction needs. Available at http://awsassets.wwf.es/downloads/med_tuna_overcapacity.pdf

PERFORMANCE OF BIG DATA FIRMS AND THE INFORMATION PRIVACY LAW

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ABSTRACT

Big data firms are growing worldwide because, independently with respect for the industry and the business model adopted, data analysis is currently a key asset for every service and product offered. This study novelty consists in the attempt to connect the dots of the relationship between Big Data impact on performance of a company in the context of the existing information privacy law for a sample of 1040 listed firms operating in the IT services, which were active in the market for the past decade.

Although we have utilized a World sample, the majority of the firms are from Asia, Europe and the America, while the legislative changes are the cases of the SWISS-USA Privacy Shield, the EU-USA Privacy Shield and the General Data Protection Regulation). We have evaluated the abnormal performance of these firms near to the change in the regulation applied and results show that the impact of regulatory innovation is larger for big data firms with respect to other IT firms.

Keywords: Big Data, Data protection, Privacy, Performance

INTRODUCTION

In December 2018 Google company found another data breach in a Google+ API that left the name, email address, occupation, and age of 52.5 million Google+ users exposed for six days (Fastcompany.com, 2018), thus totaling over €8.24 billion penalty fees over the past 2 years in various breaches related to competition pricing, illegally tying its Android operating System, abusing monopoly advertising, (The Guardian, 2019). Also, a larger scandal Facebook/Cambridge Analytica in Spring 2018 shocked the general public, reducing by more than \$100 billion the company share price in just days.

Thanks to GDPR, companies must now disclose data breaches promptly or face massive fines. The downside: Americans don't have any such protections—even as cyberattacks intensify.

According to DarkReading, (2018), “there were an estimated 3,676 data breaches in the first nine months of 2018 alone, putting it on track to have the second-most number of reported breaches in a single year.” (Grothouse, 2018).

In light of such severe changes in the world of information, we aimed at seeing how themselves the IT firms are responding to the legislative changes and how affected is their performance. In particular, the following regulatory innovations capable to raise entry barriers are considered: EU-USA Privacy Shield; SWISS-USA Privacy Shield; General Data Protection Rule. By taking a global perspective, the analysis focuses on the performance of all IT services companies that are active at the end of 2018. The analysis is released for Data processing & Outsourced services compared with the IT industry overall by implementing both single factor and multifactor models over the time period 2014-2018. In order to assess the impact of regulatory innovations on the performance of the IT companies, we perform an event study. Results suggest that Big Data companies are better in managing regulatory innovations due to diversification opportunities, but when the regulatory innovation is implemented at global level the losses for such companies are higher than other firms.

The paper is organized as it follows: section 2 presents a detailed literature review on Big data companies and regulatory innovations affecting the data value chain while section 3 presents the sample, the methodology and the main results of the empirical analysis. Section 4 states closing remarks and further research development of the paper.

LITERATURE REVIEW

While the term Big Data is relatively new, the act of gathering and storing large amounts of information for eventual analysis is ages old. The concept gained momentum in the early 2000s when industry analyst Doug Laney articulated the now-mainstream definition of big data with initially three Vs : *Volume*: Organizations collect data from a variety of sources, including business transactions, social media and information from sensor or machine-to-machine data. In the past, storing it would've been a problem – but new technologies (such as Hadoop) have eased the burden. *Velocity*. Data streams in at an unprecedented speed and must be dealt with in a timely manner. RFID tags, sensors and smart metering are driving the need to deal with torrents of data in near-real time. *Variety*. Data comes in all types of formats – from structured, numeric data in traditional databases to unstructured text documents, email, video, audio, stock ticker data and financial transactions (Laney, 2001). Others (De Mauro et al, 2016) have considered two additional dimensions when it comes to big data: *Variability*. In addition to the increasing velocities and varieties of data, data flows can be highly inconsistent with periodic peaks. Is something trending in social media? Daily, seasonal and event-

triggered peak data loads can be challenging to manage. Even more so with unstructured data. *Complexity*. Today's data comes from multiple sources, which makes it difficult to link, match, cleanse and transform data across systems. However, it's necessary to connect and correlate relationships, hierarchies and multiple data linkages or your data can quickly spiral out of control. (Sas, 2019). Recently, it seems more realistic to add another important trait: visualization. (Hila, 2017).

Big Data markets are comprised of several links along the data value chain, that is the collection, storage, synthesis and analysis, usage of data (Rubinfeld and Gal, 2017). In order to facilitate the informed decision making of final users, Big Data companies activity develops through collection, storage and architecture and analytics processing, and, finally, the analysis for knowledge discovery (Elgendy and Elgaral, 2014).

Considerable attention has been devoted in recent years to studying the legal challenges associated with Big Data, that may concern either unfair outcomes that lead to discrimination, or transformative effects that impact social and individual autonomy (Pagallo, 2017). Following the normative intervention in the Big Data market, entry barriers raised along the data value chain. In particular, the collection of data is regulated by the introduction of data protection and privacy laws in most jurisdictions worldwide. Namely, in Europe, while privacy is a fundamental right with an established protection in the electronic communication sector with the Directive 2002/58, in 2016 the General Data Protection Regulation (GDPR)¹ was adopted to discipline the life cycle of information regarding the production of information through Big Data sets and techniques. Additionally, the collection of data can be hindered by issues concerning the ownership of the data, like showed by the famous judgment in 2015 by the European Court of Justice following the complaint by Maximilian Schrems versus Facebook² stating that collecting data using one's own algorithms does not automatically make the collected data the property of the collector (Drexler, 2017). Looking at the storage of data, on the base of privacy issues, the Schrems judgment invalidated the Safe Harbor Agreement³ between the EU and the United States of America allowing the free transfer of data. As a consequence, in 2016, the United States signed a new agreement, the EU-US Privacy Shield⁴, clarifying the strict circumstances under which European data may be transferred to US servers. Furtherly, in 2017, the United States extended such agreement also on the exchange of data with Switzerland (Swiss-USA Privacy Shield).

Finally, the analysis and processing of data is interested by the GDPR but it involves also the legal issue of the protection of the intellectual property of databases, in addition or in place of raw data (Rubinfeld and Gal, 2017).

¹ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32016R0679>, accessed 15 January 2019

² <http://curia.europa.eu/juris/document/document.jsf?text=&docid=169195&pageIndex=0&doclang=EN&mode=req&dir=&occ=first&part=1&cid=143358>, accessed 15 January 2019

³ U.S. Department of Commerce (2000), *Safe Harbor Privacy Principles and Related Frequently Asked Questions*, July 21

⁴ <https://www.privacyshield.gov/welcome>, accessed 20 January 2019

EMPIRICAL ANALYSIS

Sample

The sample considers all listed firms in the IT industry (GICS Industry Name: IT services) that are active at the end of the 2018 and collects information about their performance during the last decade (Table 1).

Table 1. Sample description

Geographical area	Overall	IT Consulting & Other Services	Internet Services & Infrastructure	Data Processing & Outsourced Services
Africa	18	11	0	7
America	213	84	35	94
Asia	507	391	44	72
Australia	3	1	0	2
Europe	299	215	40	44
Overall	1040	702	119	219

Source: Bloomberg data processed by the authors

The overall sample of listed IT firms considers 1040 firms that attain to the subsector IT Consulting & Other Services, Internet Services & Infrastructure or Data Processing & Outsourced Services. The most represented countries are the Asian ones, followed by Europe and America and the majority for the firms (702/1040) works in the IT consulting and related services, followed by Data processing & Outsourced Services, and Internet services & infrastructure.

The focus of the analysis will be on firms that are working in the subsector of Data processing & Outsourced services and the analysis will focus on the performance achieved by these players with respect to the rest of the IT industry near to some events that changed the rules for collecting and processing big data on private customer. The main events considered are:

Table 2. New privacy law implemented for the IT industry

Law	Effective from
EU-USA Privacy Shield	July 12th, 2016
SWISS-USA Privacy Shield	January 12th, 2017
General Data Protection Rule	May 25th, 2018

The analysis will present the abnormal performance of the IT firms near to the event dates and will compare results obtained for the three subsectors identified in the industry in order to evaluate if the new rules have more effects on the data processing firms with respect to other players.

Methodology

The focus of the analysis is an empirical study on the performance achieved by different types of IT firms nearby changes in the regulation for customer data disclosure and usage in order to underline

any difference in the performance for companies working in big data processing with respect to other IT companies.

The analysis of the performance for the sample of listed firms is performed by considering different approaches for the estimation of the expected return for the company. In formulas:

$$E(r_{it})^I = r_{ft} + \beta_{it}^m(R_{m,t} - R_{ft}) \quad (1)$$

$$E(r_{it})^{II} = r_{ft} + \beta_{it}^m(R_{m,t} - R_{ft}) + \beta_{it}^{SMB}(SMB_t) + \beta_{it}^{HML}(HML_t) \quad (2)$$

$$E(r_{it})^{III} = r_{ft} + \beta_{it}^m(R_{m,t} - R_{ft}) + \beta_{it}^{SMB}(SMB_t) + \beta_{it}^{HML}(HML_t) + \beta_{it}^{MOM}(MOM_t) \quad (3)$$

where $E(r_{it})^I$, $E(r_{it})^{II}$, $E(r_{it})^{III}$, and $E(r_{it})^{IV}$ are, respectively, the expected returns on the basis of the single-factor model (Sharpe, 1964), the three-factor model (Fama and French, 1993), the four-factor model (Carhart, 1997), and the five-factor model (Fama and French, 2015).

The single-factor model (equation (1)) defines the expected return on the basis of the risk-free rate (the three-month Treasury bond rate) and the market return (the value-weighted market index of all the Firms in the sample).

The three-factor model (equation (2)) considers two additional explanatory factors related to the size perspective (SMB) and growth perspective (HML), where SMB is the difference in returns achieved by two value-weighted portfolios constructed considering, respectively, all the Firms with a market value below the median value (i.e. small) and those with a market value above the median value (i.e. big) and HML is the difference in returns achieved by two value-weighted portfolios constructed considering, respectively, all the companies with a book-to-market value above the median value (i.e. high) and those with a book-to-market value below the median value (i.e. low).

The four-factor model (equation (3)) adds to the Fama–French factors a factor related to momentum (MOM), while the five-factor model (equation (4)) considers as additional factors to the three-factor model two proxies related to firm accounting profitability (RMW) and the investment strategy (CMA). Here, MOM is the difference in returns achieved by two value-weighted portfolios constructed considering, respectively, all the Firms that achieved a past performance above and below the median value and RMW is the difference in returns achieved by two value-weighted portfolios constructed considering, respectively, all the Firms that achieved an operating profit above the median value (i.e. robust) and below the median value (i.e. weak). Here, CMA is the difference in returns achieved by two value-weighted portfolios constructed considering, respectively, all the Firms that registered a growth of assets under management below the median value (i.e. conservative) and above the median value (i.e. aggressive).

All the betas are computed on the basis of a linear regression model constructed on weekly data for a two-year time horizon using a backward estimation procedure (data are collected from $t - 2$ to t).

The analysis of the performance is performed by using the standard Abnormal Return (AR) and Cumulative Abnormal Return (CAR) (e.g. Strong, 1992). In formulas:

$$AR_{it}^k = r_{it} - E(r_{it})^k \quad (4)$$

where the abnormal return is the difference of the current return of the company *i* at time *t* with respect to the expected return computed with the *k* model (*k* that varies from I to IV). The abnormal return is computed for different time horizons with respect to the event date:

$$CAR_{it}^k = \sum_{j=t-l}^{t+m} AR_{ij}^k \quad (5)$$

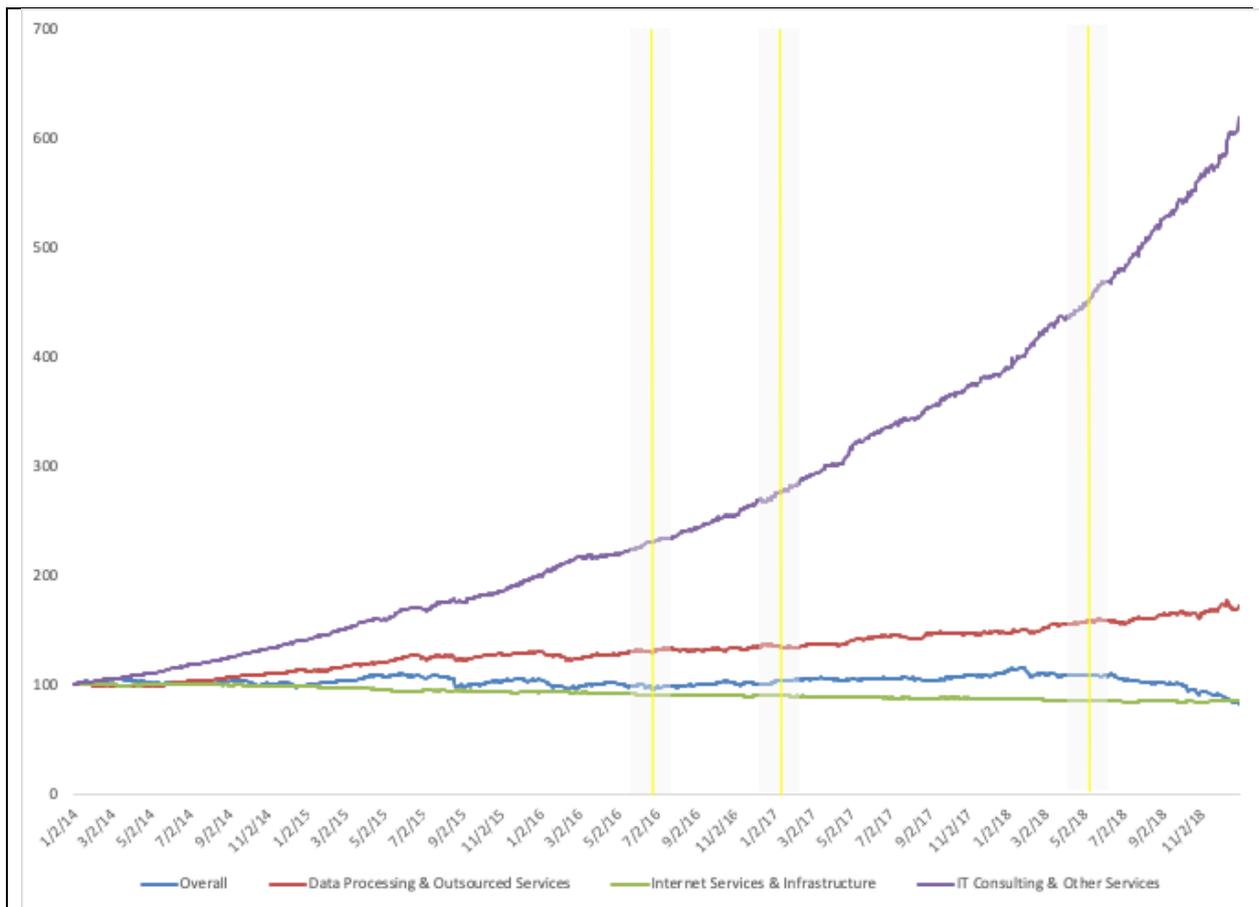
$$t - test_{it}^k = \frac{E(CAR_{it}^k)}{SD(CAR_{it}^k)} \quad (6)$$

where the cumulative abnormal return (formula (6)) is computed for the time horizon *m-l* and the significance of the result is performed by using standard t-test on the CAR.

Results

A preliminary analysis of the performance of big data companies show that the gross performance achieved by the firms is not always directly affected by the event but when there is a loss (SWISS-USA Privacy Shield and General Data Protection Regulation) the big data companies are those that suffer the most from the change in the regulatory framework (Figure 1).

Figure 1. Equally weighted index for IT companies (index with a base year 2014)



	Overall	Data Processing & Outsourced Services	Internet Services & Infrastructure	IT Consulting & Other Services
EU-USA Privacy Shield	0.40%	0.56%	0.39%	0.35%
SWISS-USA Privacy Shield	-0.17%	-0.33%	-0.12%	-0.13%
General Data Protection Regulation	+0.14%	-0.12%	+0.56%	+0.01%

Source: Bloomberg data processed by the authors

The performance over the 2014-2018 period is on average positive but the trend registered during the event dates for some IT subsector a negative performance is registered especially for big data companies. A more interesting analysis could be performed by considering the abnormal performance of the IT companies near to the event and by using the three different approaches for abnormal performance measurement (tables 3, 4 and 5).

Table 3. Event study analysis for IT firms - EU-USA Privacy Shield

The following table presents an analysis of the abnormal return computed by using the CAPM formula (1) and presenting the CAR on different time horizons (from -5 to +5 days) and a t test on the average different with respect to the overall IT market for different sub-types of IT firms (Data Processing & Outsourced Services, Internet Services & Infrastructure, and IT Consulting & Other Services) with respect to the market average (Overall).

		Overall	⊗ Data Processing & Outsourced Services	⊗ Internet Services & Infrastructure	⊗ IT Consulting & Other Services
CAPM	Event day (0 day)	0.36%	0.17%**	0.17%**	-0.12%**
	-1 day to 0 day	0.37%	0.35%**	-0.07%***	-0.12%**
	-2 days to 0 day	0.20%	0.28%**	-0.12%**	-0.07%**
	-3 days to 0 day	0.11%	0.18%**	-0.16%**	-0.02%***
	-4 days to 0 day	-0.05%	0.18%**	-0.22%**	0.00%***
	-5 days to 0 day	-0.14%	0.17%**	-0.23%**	0.00%***
	0 day to +1 day	0.20%	0.18%**	0.12%**	-0.11%**
	0 day to +2 days	0.19%	0.11%**	-0.06%***	-0.02%***
	0 day to +3 days	0.04%	0.14%**	-0.02%***	-0.05%***
	0 day to +4 days	0.02%	-0.04%***	-0.01%***	0.02%***
	0 day to +5 days	0.00%	0.02%***	-0.06%***	0.01%***
Fama & French	Event day (0 day)	0.29%	0.15%**	0.19%**	-0.12%**
	-1 day to 0 day	0.30%	0.33%**	-0.04%***	-0.12%**
	-2 days to 0 day	0.12%	0.26%**	-0.10%**	-0.07%**
	-3 days to 0 day	0.04%	0.16%**	-0.13%**	-0.02%***
	-4 days to 0 day	-0.12%	0.17%**	-0.20%**	0.00%***
	-5 days to 0 day	-0.21%	0.16%**	-0.21%**	0.00%***
	0 day to +1 day	0.12%	0.17%**	0.15%**	-0.11%**
	0 day to +2 days	0.12%	0.09%**	-0.03%***	-0.03%***
	0 day to +3 days	-0.03%	0.12%**	0.01%***	-0.05%***
	0 day to +4 days	-0.06%	-0.06%***	0.01%***	0.02%***
	0 day to +5 days	-0.08%	0.01%***	-0.04%***	0.01%***
Carhart	Event day (0 day)	0.38%	0.13%**	0.16%**	-0.10%**
	-1 day to 0 day	0.39%	0.31%**	-0.07%***	-0.10%**
	-2 days to 0 day	0.21%	0.24%**	-0.13%**	-0.05%***
	-3 days to 0 day	0.13%	0.14%**	-0.16%**	0.00%***
	-4 days to 0 day	-0.03%	0.15%**	-0.23%**	0.01%***
	-5 days to 0 day	-0.12%	0.14%**	-0.24%**	0.02%***
	0 day to +1 day	0.22%	0.14%**	0.11%**	-0.09%**
	0 day to +2 days	0.21%	0.07%***	-0.06%***	-0.01%***
	0 day to +3 days	0.06%	0.10%**	-0.03%***	-0.03%***
	0 day to +4 days	0.04%	-0.08%***	-0.02%***	0.04%***
	0 day to +5 days	0.01%	-0.01%***	-0.07%***	0.03%***

Notes: * mean difference statistically significant at 90%, ** mean difference statistically significant at 95%, *** mean difference statistically significant at 99%. Source: Bloomberg data processed by the authors

Table 4. Event study analysis for IT firms - SWISS-USA Privacy Shield

The following table presents an analysis of the abnormal return computed by using the F&F formula (2) and presenting the CAR on different time horizons (from -5 to +5 days) and a t test on the average different with respect to the overall IT market for different sub-types of IT firms (Data Processing & Outsourced Services, Internet Services & Infrastructure, and IT Consulting & Other Services) with respect to the market average (Overall).

		Overall	⊗ Data Processing & Outsourced Services	⊗ Internet Services & Infrastructure	⊗ IT Consulting & Other Services
CAPM	Event day (0 day)	-3.16%	0.84%**	-0.17%***	-0.29%***
	-1 day to 0 day	-1.83%	0.31%***	0.30%***	-0.19%***
	-2 days to 0 day	-1.50%	0.76%**	0.56%**	-0.44%**
	-3 days to 0 day	-0.98%	0.70%**	0.61%**	-0.43%**
	-4 days to 0 day	-0.79%	0.67%**	0.55%**	-0.40%**
	-5 days to 0 day	-0.93%	0.61%**	0.59%**	-0.38%**
	0 day to +1 day	-2.28%	0.76%**	0.09%***	-0.32%***
	0 day to +2 days	-1.66%	0.83%**	0.14%***	-0.36%**
	0 day to +3 days	-1.76%	0.83%**	0.28%***	-0.40%**
	0 day to +4 days	-1.65%	0.77%**	0.51%**	-0.43%**
0 day to +5 days	-1.43%	0.65%**	0.60%**	-0.41%**	
Fama & French	Event day (0 day)	-2.79%	0.05%***	-0.76%*	0.17%**
	-1 day to 0 day	-1.46%	-0.49%**	-0.29%**	0.26%**
	-2 days to 0 day	-1.13%	-0.03%***	-0.03%***	0.02%***
	-3 days to 0 day	-0.61%	-0.09%***	0.02%***	0.03%***
	-4 days to 0 day	-0.42%	-0.12%***	-0.04%***	0.06%***
	-5 days to 0 day	-0.56%	-0.18%***	0.00%***	0.07%***
	0 day to +1 day	-1.91%	-0.03%***	-0.49%**	0.14%**
	0 day to +2 days	-1.29%	0.04%***	-0.45%**	0.10%**
	0 day to +3 days	-1.39%	0.04%***	-0.31%**	0.06%***
	0 day to +4 days	-1.28%	-0.02%***	-0.07%***	0.03%***
0 day to +5 days	-1.07%	-0.14%**	0.01%***	0.05%***	
Carhart	Event day (0 day)	-2.01%	-1.09%**	-1.75%**	0.86%**
	-1 day to 0 day	-0.68%	-1.63%**	-1.27%**	0.96%**
	-2 days to 0 day	-0.35%	-1.17%**	-1.01%**	0.71%**
	-3 days to 0 day	0.17%	-1.24%**	-0.97%**	0.73%**
	-4 days to 0 day	0.36%	-1.27%**	-1.03%**	0.75%**
	-5 days to 0 day	0.22%	-1.33%**	-0.98%**	0.76%**
	0 day to +1 day	-1.13%	-1.17%**	-1.48%**	0.83%**
	0 day to +2 days	-0.51%	-1.10%**	-1.43%**	0.79%**
	0 day to +3 days	-0.61%	-1.10%**	-1.29%**	0.76%**
	0 day to +4 days	-0.50%	-1.17%**	-1.06%**	0.73%**
0 day to +5 days	-0.28%	-1.29%**	-0.98%**	0.76%**	

Notes: * mean difference statistically significant at 90%, ** mean difference statistically significant at 95%, *** mean difference statistically significant at 99%

Source: Bloomberg data processed by the authors

Table 5. Event study analysis for IT firms - General Data Protection Rule

The following table presents an analysis of the abnormal return computed by using the Carhart formula (3) and presenting the CAR on different time horizons (from -5 to +5 days) and a t test on the average different with respect to the overall IT market for different sub-types of IT firms (Data Processing & Outsourced Services, Internet Services & Infrastructure, and IT Consulting & Other Services) with respect to the market average (Overall).

		Overall	⊗ Data Processing & Outsourced Services	⊗ Internet Services & Infrastructure	⊗ IT Consulting & Other Services
CAPM	Event day (0 day)	-0.02%	-0.08%***	0.33%**	-0.13%**
	-1 day to 0 day	-0.14%	0.58%**	-0.01%***	-0.22%**
	-2 days to 0 day	-0.33%	0.28%**	-0.14%***	-0.04%***
	-3 days to 0 day	-0.26%	0.10%***	-0.08%***	0.00%***
	-4 days to 0 day	-0.22%	0.05%***	-0.11%***	0.03%***
	-5 days to 0 day	-0.20%	0.12%***	-0.06%***	-0.02%***
	0 day to +1 day	-0.21%	0.12%**	0.08%***	-0.09%**
	0 day to +2 days	-0.39%	0.30%**	-0.08%***	-0.08%**
	0 day to +3 days	-0.38%	0.46%**	-0.20%**	-0.09%**
	0 day to +4 days	-0.19%	0.28%**	-0.12%***	-0.05%***
0 day to +5 days	-0.13%	0.31%**	-0.13%**	-0.06%***	
Fama & French	Event day (0 day)	-0.36%	-0.13%**	0.39%**	-0.14%**
	-1 day to 0 day	-0.48%	0.53%**	0.05%***	-0.23%**
	-2 days to 0 day	-0.66%	0.23%**	-0.08%***	-0.05%***
	-3 days to 0 day	-0.60%	0.05%***	-0.02%***	-0.01%***
	-4 days to 0 day	-0.55%	0.00%***	-0.05%***	0.02%***
	-5 days to 0 day	-0.53%	0.07%***	0.00%***	-0.03%***
	0 day to +1 day	-0.55%	0.07%***	0.14%**	-0.10%**
	0 day to +2 days	-0.73%	0.25%**	-0.02%***	-0.09%**
	0 day to +3 days	-0.72%	0.41%**	-0.14%**	-0.10%**
	0 day to +4 days	-0.52%	0.23%**	-0.06%***	-0.06%***
0 day to +5 days	-0.46%	0.26%**	-0.07%***	-0.07%***	
Carhart	Event day (0 day)	-0.27%	-0.13%**	0.41%**	-0.15%**
	-1 day to 0 day	-0.39%	0.53%**	0.08%***	-0.25%**
	-2 days to 0 day	-0.57%	0.22%**	-0.05%***	-0.07%***
	-3 days to 0 day	-0.51%	0.04%***	0.01%***	-0.02%***
	-4 days to 0 day	-0.46%	0.00%***	-0.02%***	0.01%***
	-5 days to 0 day	-0.44%	0.07%***	0.03%***	-0.04%***
	0 day to +1 day	-0.46%	0.07%***	0.17%**	-0.11%**
	0 day to +2 days	-0.64%	0.25%**	0.01%***	-0.10%**
	0 day to +3 days	-0.63%	0.41%**	-0.11%**	-0.11%**
	0 day to +4 days	-0.44%	0.23%**	-0.03%***	-0.08%***
0 day to +5 days	-0.38%	0.26%**	-0.05%***	-0.08%***	

Source: Bloomberg data processed by the authors

The event that affected the most the IT sector was the GDPR regulation that for the overall IT sector causes a decrease of the abnormal performance for all the sub-sectors and the big data firms are those that were affected the most in the day of the change in the privacy regulation. The EU-USA Privacy Shield and SWISS-USA Privacy Shield have not a negative effect on the abnormal performance in the big data firms but all other IT firms have suffered of losses after the implementation of the new regulation when the Fama & French and Carhart models are considered. Results suggest that big data firms are better able to manage a regulatory innovation due to the opportunity to diversify in markets that are not affected by the same regulatory constraints but when the regulatory innovation became a worldwide standard the losses for big data providers are higher than other firms.

CONCLUSIONS

Our study's literature review indicated both a need of change in the bilateral agreements EU-USA, SWISS-USA and further internationalization of legislative base related to the governance of Big Data firms in regards to the protection of data privacy, storage, transfer, but also of the fair competition. This became more ardent with the 2018 implementation of the GDPR in the EU, due to variability, further complexity and visualization of Big Data firms' activities.

On a sample of 1040 listed firms from the GICS sector- IT services related, in the last decade, we run the analysis of their financial performance by utilizing the expected returns on the basis of a single-factor Model (Sharpe, 1964), the three-factor model (Fama and French, 1993), the four-factor model (Carhart, 1997) and the five-factor model (Fama and French, 2015). The analysis of their performance was done via: standard Abnormal Return and Cumulative Abnormal Return (e.g. Strong, 1992) and the standard t-test, with presenting the CAR on different time horizons (from -5 to +5 days) and a t-test on the average different with respect to the overall IT market for different sub-types of IT firms. The categories used in our analysis were: Data Processing & Outsourced services, Internet Services & Infrastructure, and IT Consulting & Other Services.

Initially, although the results show that the gross performance achieved by the firms is not always directly affected by the event except for when there is a loss (SWISS-USA Privacy Shield and General Data Protection Regulation) the big data companies seem those that are affected the most from the enhancement of the regulatory framework.

The performance over the 2014-2018 period was on average positive for EU-USA Privacy Shield, but the trend registered during the event dates for all IT subsectors under the SWISS-EU Privacy Shield

was a negative one, which was registered especially for big data companies. The only category that has shown mixed results, but on average positive, was the GDPR Protection Regulation.

From the analysis performed on the three categories of regulation, by utilizing the three performance tools and the analysis of the performance, it seems that the event that negatively affected the most the IT sector was the GDPR regulation, with the big data firms being most hit by in the day of the change in the privacy regulation.

When the Fama & French and Carhart models were applied it showed that the EU-USA Privacy Shield and SWISS-USA Privacy Shield have not a negative effect on the abnormal performance in the big data firms. However, all other IT firms have incurred losses after the implementation of the new regulation.

The study results suggest that big data firms seem better fit to deal with a regulatory change or innovation due to their access and opportunity to diversification in markets that are not affected by the same regulatory constraints. However, when the regulatory intervention/innovation got implemented worldwide, big data providers incurred higher losses than other firms.

In terms of the study limitations, perhaps the size of the firm can be further compounded in the analysis, and perhaps cross-sector analysis can be utilized. Also, looking at the performance of such firms after 2018 implementation of GDPR offers limited insights on the matter. More insightful results could be obtained by running the tests for abnormal performance of the IT companies nearer to the event and by using the three different approaches mentioned for abnormal performance measurement.

REFERENCES

- Carhart M.M. (1997), "On Persistence in Mutual Fund Performance", *Journal of Finance*, vol. 52, n.1, pp. 57-82.
- De Mauro A., Greco M., Gimaldi M., (2016), A Formal Definition of Big Data Based on its Essential Features, https://www.researchgate.net/publication/299379163_A_formal_definition_of_Big_Data_based_on_its_essential_features, accessed 15 March 2019.
- Drexler J. (2017), "Designing Competitive Markets for Industrial Data – Between Propertisation and Access", *JIPITEC*, pp. 257-292.
- Elgendy N., Elragal A. (2014), "Big Data Analytics: A Literature Review Paper". In: Perner P. (eds) *Advances in Data Mining. Applications and Theoretical Aspects. ICDM 2014. Lecture Notes in Computer Science*, vol 8557. Springer.
- Fama E. and French K. (1993), "Common Risk Factors in the Returns on Stocks and Bonds", *Journal of Financial Economics*, vol. 33, n. 1, pp. 3-56.
- IBM (2014), *The Four V's of Big Data*, <http://www.ibmbigdatahub.com/infographic/four-vs-big-data>, accessed 15 March 2019.
- Fry W. (2017), *Europe for Big Data, Report*, <https://www.williamfry.com>, accessed 15 March 2019.

- Grothouse M. (2018). How our Market got Hacked, scandalized and abused in 2018. Fast Company, from <https://www.fastcompany.com/90272858/how-our-data-got-hacked-scandalized-and-abused-in-2018>, accessed 15 March 2019.
- Hilla M. (2017). Linking Big Data Visualization to the Value of KPIs. Performance Magazine, <https://www.performancemagazine.org/big-data-visualization-kpis/>, accessed 15 March 2019.
- Laney D. (2001), "3D Data Management: Controlling Data Volume, Velocity and Variety", Metra Group Research Note, n. 6.
- Pagallo U. (2017), "The Legal Challenges of Big Data: Putting Secondary Rules First in the Field of EU Data Protection", EDPL, vol.3, n.1, pp. 36-46.
- Rubinfeld D., Gal M. (2017), "Access Barriers to Big Data", Arizona Law Review, vol.59, n.2, pp. 340-381.
- SAS (2019), Big Data What it is and Why it matters. Accessed 21 March 2019 from https://www.sas.com/en_us/insights/big-data/what-is-big-data.html
- Sharpe W.F. (1964), "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk", Journal of Finance, vol. 19, n. 3, pp. 425-442.
- Strong N. (1992), "Modelling abnormal returns: a review article", Journal of Business Finance & Accounting, vol. 19, n. 4, pp. 533-553.
- The Guardian (2019), Google fined €1.49bn by EU for advertising violations, <https://www.theguardian.com/technology/2019/mar/20/google-fined-149bn-by-eu-for-advertising-violations>, accessed 15 March 2019.
- U.S. Department of Commerce (2000), Safe Harbor Privacy Principles and Related Frequently Asked Questions, accessed 15 March 2019.
- Vijaian J. (2018). 2018 on Track to Be One of the Worst Ever for Data Breaches, <https://www.darkreading.com/vulnerabilities---threats/2018-on-track-to-be-one-of-the-worst-ever-for-data-breaches/d/d-id/1333252>, accessed 15 March 2019.

SUSTAINABILITY OF COW FARMING SYSTEMS AS AFFECTED BY THE TYPE OF THE FARMS AND THE FARMER'S PROFILE

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ABSTRACT

The aim of this study was to create a representative and update farm typology for the suckler cow sector in the region of Central Macedonia, Northern Greece. The identification of the types was done both for the farming system and the farmer's profile, based on the data obtained from a Neyman stratified random sample of 66 farms. The stratification was made by size class at the level of Regional Unity. Primary data were collected through personal interviews with the cattle farmers by completing questionnaires concerning (a) social, environmental, zootechnical and economic parameters of suckler cow holdings and (b) attitudes, decisions and views of farm owners. The statistical approach of hierarchical cluster analysis was applied in two successive analyzes exploiting (a) 17 initial and composite variables that characterize farming system and (b) 9 initial variables of farmer profile classification. The purpose of cluster analysis was to characterize and classify the farms into different clusters of farming types and farmer types. Differences between clusters were assessed using one-way ANOVA and χ^2 test. In the first cluster analysis four principal farming systems and one diversified were highlighted. The second cluster analysis highlighted three main types of farmers and a diversified one. They were then associated with two-way Anova tests, farming systems with the main types of farmers. This resulted in 5 combinations with statistically significant correlations. Finally depends on gross profit, cost of feeding and subsidies, the combination of multifunctional young farmers that own medium-sized farms with the application of a semi-intensive farming system demonstrates the highest sustainability perspective.

Keywords: Farming system, farmer typology, pasture availability, self-produce feedstuffs

INTRODUCTION

Farming systems in Mediterranean countries is characterized by a decrease in the number of farms, along with the enlargement of individual farms, specialization, and an increase in labor productivity (Choisi et al 2012). Furthermore another reason for the disappearance of livestock farming in

Mediterranean countries was lack of generational succession and/or the high opportunity cost of labour (Bernués et al., 2005).

The continuing need to improve the efficiency of production systems was mainly based on the intensification of the farming type (Emtage et al. 2006 & 2007). Thus, traditional pasture-based livestock activities such as suckler cow farming have intensified calf production and continued the nomadic way of rearing cows during summer grazing (Milan et al. 2006).

An important role in the development of the above model in Greece was played by the Common Agricultural Policy(CAP) of the European Union. CAP increased farm inputs, either through direct subsidies per capita or by joining development projects (Karagiannis & Sarris 2002). The main purpose of the support and development programs targeting on cattle farming was the upgrading of indigenous genetic material and the improvement of existing livestock facilities.

What is not predicted in this transformation of the traditional beef cattle farming way was the increased level of annual variable costs resulting from the high purchase cost of feedstuffs to meet the nutritional needs of the animals (Kitsopanidis 2005).

The suckler cow farmers who chose to intensify their productive system or the intensive fattening of their calves, in order to reduce their dietary costs started to be active in the cultivation and self production of feedstuffs (Alemu et al.2016).

According to the above mentioned suckler cow-calf production is sensitive to the amount of supplementary feed, in addition to grazing, that is required to overcome the lack of grazing matter during winter (Sollenberger et al 2005). This process was also led to a greater utilization of natural resources, increasing the average grazing period, accompanied by an increment of grazing areas and decrement of forage crops (Bernués et al. 2011).

It is obviously that the cultivation of utilized agricultural areas combined with the rational management of pastures, is an important factor in carrying out sustainable cattle farming.

The aim of the present paper is to develop a typology of both suckler cow farmers and the farming systems, according to their social-economical profile and their decision making plans for sustainable farming management.

MATERIALS AND METHODS

The region of central Macedonia that is being studied consists of seven regional units and is located in the center of Northern Greece. In the sampling area there are 129 holdings of suckler cows with a size of more than 20 cows. The total sample was divided into 3 categories according to farm size. Size is one of the most important stratification variables because it determines significant differences between farms (Daskalopoulou & Petrou 2002, Acosta-Alba et al. 2012). The first category consisted of

farms of 20-50 cows, the second of 51-100 cows, and the third of more than 100 cows (Ruiz et al. 2008).. The final proportionate stratified Neyman's sample includes 66 suckler cow farms with 6.122 suckler cows, accounting the 51% of all suckler cow holdings in the research area. According to the above methodology, was selected proportionally from the 7 regional units of the region for all three classes of size (Madry et al. 2013).

The primary data (which concerned the financial year 2014) were collected by a questionnaire taking into account similar surveys in other countries (Solano et al. 2011, Soini et al. 2012 & Martin-Collado et al. 2014) and some related studies in Greece (Aggelopoulos et al. 2011 & 2014, Gelasakis et al. 2013). There were recorded the farm structure characteristics, the farmer's profile and the techno-economic indicators were used to estimate the sustainability of suckler cow holdings (Gibon et al. 1999).

According to Kostrowicki (1977), wherever possible, the variables used in farm animal typologies must be quantified. The data were recorded on Ms Excel encoded sheets in order to create a data matrix for further statistical analysis with SPSS version 23 software.

The multivariate statistical analysis was used in two analytical fields. The first field investigated the correlations between variables that characterize the production system (Table 1).

Thematic Unity	Variable	Abbreviation	Type	Number of classes	Formulation
Herd size	Livestock units (cows)	LU	Quant.		Number of suckler cows
	Total livestock units	TLU	Quant.		Suckler cows LU + Calves LU + Heifers < 1 year LU
	Livestock units / total livestock units	LU/TLU	Quant.		
Labor input	Exploitation of labour for suckler cows	LU/AWU	Quant.		
	Exploitation of labour for the total beef population	TLU/AWU	Quant.		
	Veterinary and zootechnical assistance (regular)		Qual.	4	1(Veterinary), 2(Animal Scientist), 3(Animal Production Technologist), 4(None)
Land use and management	Facilities surrounding area (ha)		Quant.		
	Grassland area (ha)		Quant.		
	Grassland stocking rate (LU/ha)		Quant.		
	Pastureland characterization		Qual.	5	1(Mainly grassy), 2(Mainly shrubby), 3(Mainly brush woody), 4(Mainly wooded), 5(Mixed)
	Provided pasture safety		Qual.	5	1(very safe), 2(safe), 3(unsafe), 4(dangerous), 5(very dangerous)
Stable facilities	Stalling system		Qual.	3	1(Free), 2(Restricted), 3(Mixed)
	Mechanical equipment score		Qual.	5	1(insignificant), 2(minimal), 3(significant), 4(heavyweight), 5(very important)
	Facilities score		Qual.	5	1(very low), 2(low), 3(moderate), 4(good), 5(very good)
Livestock breeds	Suckled Cow Breed		Qual.	3	1(Composite Autochthonous Cattle breed), 2(Foreign cattle breed), 3(Crossbreed)
Economics	Gross profit / LU (euro€)	GP	Quant.		

Gross profit without total
subsidies / LU (euro€) GP-TSb Quant.

*AWU (*Annual work unit*)

Table 1: Variables selected for the 1st cluster analysis on farm type

In the second field, a socio-economic typology was developed for the profile of the farm owner, in order to analyze its capacity, decision-making and design of practices for the development and improvement of the management level of its holding (Table 2).

Thematic Unity	Variable	Type	Number of classes	Formulation
Farmer demographics	Age of farmer	Qual.	3	
	Family status	Qual.	3	1(Single man), 2(couple without children), 3(couple with children)
	Farmer succession	Qual.	2	Yes/No
Arable Land use	Level of farmer education	Qual.	4	1(University), 2(Technological Institute), 3(High School), 4(Primary School)
	Cultivated agricultural area (ha)	Quant.		
	Category of cultivated feedstuffs	Qual.	5	1(Only cereal grains-CG), 2(Only hay & silage-HS), 3(Both CG & HS, but CG economic value > HS economic value), 4(Both CG & HS, but HS economic value > CG economic value), 5(Nothing)
Economics	Estimated value of cultivated feedstuffs (€)	Quant.		
	Cost of purchased feedstuffs /LU (€)	Quant.		
	Gross income / LU (€)	Quant.		

Table 2: Variables selected for the 2nd cluster analysis of farmer's type

The multivariate statistical techniques used in this study was hierarchical cluster analysis. In hierarchical cluster analysis the algorithm used was based on Ward method and Euclidean distances (Norusis 2011). The selection of the number of clusters is usually done by empirical criteria, although some statistical criteria have been developed (Everitt et al. 2011). The study of the cluster analysis dendrogram is the basic tool to determine the number of groups that will result from the analysis. Finally, univariate techniques, such as one-way ANOVA and Tukey (post-hoc tests), were used to investigate the differences between different typologies, in a significance level $p < 0.05$.

The main indicator used in the technical and economic examination of suckler cow holdings to highlight the differences between clusters was the gross profit, which is the imprinting of the monetary value of the productive factors (Papanagiotou 2008). This indicator is the result of deducting from the annual gross income the annual variable costs at the holding level.

RESULTS

Initially, total gross income was estimated for both 66 holdings and per cow (LU), (Table 3). Data in Table 3 relate to the financial year 2014, but corresponding data were collected in the questionnaire for

the 2013 financial year. In 2013, the average production value for the 66 holdings reached €64,032 per holding, which is at the same level as the 2014. The percentage of subsidies in the gross income reaches 30.6%. The estimation of the total variable costs for the year 2014 highlighted in Table 4.

2014	Average value of 66 holdings (€)	Average value per cow (€)
Gross income from sales of fattened calves	63,330.67	682.81
Gross income from sales of purchased-fattened calves	2,069.70	22.31
Total subsidies	28,822.73	310.76
Total gross income	94,223.19	1,015.88

Table 3: Total gross income of 66 holdings.

Types of expenses (2014)	Average value of 66 holdings (€)	Average value per cow (€)
Purchase cost of fertilizers and seeds	2,512.12	27.09
Cost of purchased feedstuffs	39,611.21	427.07
Cost of rented arable land	500.00	5.39
Cost of annual electricity consumption	1,238.63	13.35
Purchase cost of fuel-lubricant-transport	3,656.06	39.42
Purchase cost of fattened animals	689.39	7.43
Purchase cost of veterinary medicines	530.12	5.72
Cost of rented pastureland	151.66	1.64
Cost of seasonal workers	2,100.02	22.64
Short-term borrowing interest	2,804.41	30.24
Total variable costs	53,793.62	579.99

Table 4: Total variable costs of 66 holding

The average gross profit of the 66 holdings is calculated by subtracting the average total variable costs from the average total gross income shown in Tables 3 and 4 respectively. This calculation shows that the gross profit of the sample is on average for the financial year 2014 of €40,429.57 per holding and €435,79 per cow (LU). According to Table 3, subsidies accounted for 71.3% of gross profit.

The results of first typology showed that suckler cow farms in Central Macedonia region can be classified into eight clusters [C1(n=9), C2(n=14), C3(n=3), C4(n=24), C5(n=9), C6(n=3), C7(n=2) & C8(n=2)]. The main characteristics of the clusters are shown in Table 5. A further classification concerning the farming system highlights four principal farming systems and a diversified one.

Characteristics	Clusters							
	C1 (n=9)	C2 (n=14)	C3 (n=3)	C4 (n=24)	C5 (n=9)	C6 (n=3)	C7 (n=2)	C8 (n=2)
Herd size	small	large	medium	medium	medium-large	large	very large	medium
Farming system characterization	semi-extensive	semi-extensive	semi-intensive	semi-intensive	intensive	intensive	intensive	semi-intensive

Pasture availability	high	medium	very high	medium	low	low	low	high
Exploitation of labour	low	medium	high	low	high	high	high	low
Modernization score	semi-modernized	traditional	semi-modernized	semi-modernized	modernized	semi-modernized	modernized	modernized
Cow productivity	medium	low	high	medium	high	low	high	low
Dependence on subsidies	high	high	low	high	low	low	low	low
Profitability	very low	low	medium	medium	no profit	with damage	medium-high	high
Veterinary & husbandry support	high	high	high	low	low-medium	χαμηλή-μεσαία	high	very high
Pastureland safety	dangerous	unsafe-dangerous	safe-unsafe	safe	unsafe	very safe	safe	safe
Genetic material	adapted	improved	adapted-improved	mainly adapted	mainly improved	unimproved	adapted-improved	improved

Table 5.: Classification of the farming type clusters.

The first system is represented by the *semi-extensive* C1 and C2 with low structural and productive levels, mainly based on the exploitation of mountainous pastures. This system illustrates the most diverging trend of extensification in the suckler herd linked to land resources. Family labour and low or medium stocking rate are important factors that allow the future existence of this system. Genetic material seems to be adapted to farm management practices. Therefore, farms of these clusters show a low profitability only due to the contribution of subsidies. It seems that direct subsidies have not improved the productivity of this farming system.

The second system represented by the most numerous and *semi-intensified* C4 is the dominant type of farming systems as it achieves satisfactory economic results and becomes more viable despite its lack of grazing areas. However system viability strongly depends on subsidies. That strong dependence hinders the future competitiveness and sustainability of C4 farms unless they improve the efficiency of work and infrastructure and use the know-how of specialist scientists.

C3 and its branch C7 constitute the third type of *semi-intensive* farming system. Its main difference from the previous system is the high availability of herbaceous pastures that makes the land factor

non-limiting. These holdings have increased the scale of their activities by optimizing labour efficiency and cow productivity. Although they have met the lowest dependence on subsidies, they failed to combine it with a better income because of the high operating cost resulting from the increased farming size.

The fourth farming system expressed by the *intensive* C5 and its branch C6 faces difficulties to achieve its viability, with or without subsidies, due to the complete lack of grazing area.

The C8 represents a mixed and diversified farming system that is mainly based on purchased calves fattening that cannot be considered as a pure suckler cow breeding system.

The second typology developed in this study has revealed six main types of breeders [F1(n=10), F2(n=12), F3(n=6), F4(n=30), F5(n=6) & F6(n=2)] which occupied mainly on calves fattening. The main characteristics of the clusters are presented in Table 6. In the sample of this study, only one is *hobby-farmer* and keeps his animals for recreational and demonstration purposes. The above types respond relatively well to the characteristics of the breeders model developed by Burton & Wilson (2006). Based on the analysis of these researchers the basic separation of farmers can be made in (1) farmers exclusively engaged in cattle breeding, (2) *multifunctional* farmers (3) *traditional* farmers and (4) *diversified* farmers.

The majority of suckler cows farmers in the Central Macedonia region, regardless the size of the holding and the owned land, did not adopt the diversification of farms, preferring to maintain their traditional breeding orientation as in F4 (n = 30) separated from other breeders as *traditional* (3).

F3 and F5 breeders are exclusively engaged in suckler cow farming, and if they do not adopt rational management practices, they will hardly achieve prospect of sustainability.

F1, F2 and F6 farmers can be described as multifunctional, with the latter having adopted a completely different production model and considered diversified.

Characteristics	Clusters					
	F1 (n=10)	F2 (n=12)	F3 (n=6)	F4 (n=30)	F5 (n=6)	F6 (n=2)
Age of farmer	young- middle aged	young	middle aged	middle older	aged- young	young
Family status	unmarried	married children	+ married children	+ married children	+ unmarried	married children
Farmer succession	no	yes	no	60%yes/40%no	no	yes
Educational level	low	middle	low	low	middle	high
Category of cultivated feedstuffs	Cereals > Hay+Silage	Hay+Silage	Hay+Silage > Cereals	Cereals > Hay+Silage	-	Hay+Silage
Arable land	large	medium	small	medium	-	large
Cost of purchased	low	low	high	medium	medium	high

feedstuffs							
Estimated value of cultivated feedstuffs	high	medium	low	low	-	high	
Total gross income	high	medium	medium	medium	low	very high	

Table 6: Classification of the farmers' clusters.

DISCUSSION-CONCLUSION

The relationship between farmer type and farming type

The results showed (Table 7) statistically significant dependence between the breeder type and breeding type ($\chi^2(49) = 70.82, p = 0.022 < 0.05$).

Farming systems		Farmer types			
		Multifunctional farmers (n=22)	Farmers exclusively engaged in breeding (n=12)	Traditional farmers F4 (n=30)	Diversified farmers F6 (n=2)
Semi-extensive (n=23)	C1+ C2n	10	3	10	0
	%	45,5%	25%	33,3%	0,0%
Semi-intensive (n=5)	C3+ C7n	1	0	4	0
	%	4,5%	0%	13,3%	0,0%
Semi-intensive (n=24)	C4n	8	2	13	1
	%	36,4%	16,7%	43,3%	50,0%
Intensive (n=12)	C5+ C6n	3	7	2	0
	%	13,6%	58,3%	6,7%	0,0%
Diversified (n=2)	C8n	0	0	1	1
	%	0,0%	0%	3,3%	50,0%

Table 7: Final table of correlations between farmer types and farming systems.

The traditional middle-aged farmers of the F4 group that apply the semi-intensive C4 farming system are the most numerous farmers- farming system combination (n = 13). This combination greatly relies on meeting the nutritional needs of livestock in grazing, while a significant part of the variable costs is directed to purchased feedstuffs because self-produced feeds, that are mainly concentrate feeds, are a small part (about 20%) of complementary to grazing feedstuffs. This combination, which shows good gross income and gross profit with the participation of subsidies, in a possible future loss of subsidies should increase the size of the herd to continue to provide adequate income to the farmer and his family.

The second combination (n = 10) where traditional middle-aged farmers of the F4 group are associated with the application of semi-intensive systems mainly C2 and less C1 does not seem able to become viable unless it improves the low productivity of cows and its infrastructure because it is vulnerable to future changes on subsidies system.

Another option for traditional farmers in the F4 group (n = 4) is the application of a semi-intensive system (C3 and C7) to a large-scale herd. This is the implementation of the proposed future development of the 1st combination, which achieves good gross profitability per female reproductive animal (LU) and without subsidies.

Most multifunctional young farmers of the F1 + F2 groups (n = 10) are associated with the semi-intensive systems of the C1 + C2 groups. Despite the fact that most of the animal feed is self-produced, it does not seem to have an impact on profitability as Group C1 has a very low performance on labour factor, and C2 has very low cow productivity. If these two very critical parameters are improved, then this farmer type-farm type combination can become viable without the participation of subsidies.

The combination of multifunctional young farmers (n = 8) with the application of medium sized semi-intensive farming system represented by C4 cluster, has a great prospect of sustainability in a future wider application framework in the majority of suckler cow holdings. Multifunctional farmers, especially those of F2 cluster who have probably ensured their succession in the profession, and have a relatively good educational level if (a) change the type of feedstuffs they produce, (b) optimize cow productivity through improved genetic material, and (c) with the guidance of experienced technical consultants, in the future will achieve very satisfactory financial results without subsidies.

Finally, farmers who are only engaged in suckler cows breeding such as those of F3 + F5 groups and have intensified their farming system (C5 + C6 groups) cannot ensure their sustainability at this time due to the low availability of pastures and the high purchase cost of almost all supplementary feedstuffs.

The economic data and results of the combinations of both the farmer type and the farming system are illustrated in Figure 1.

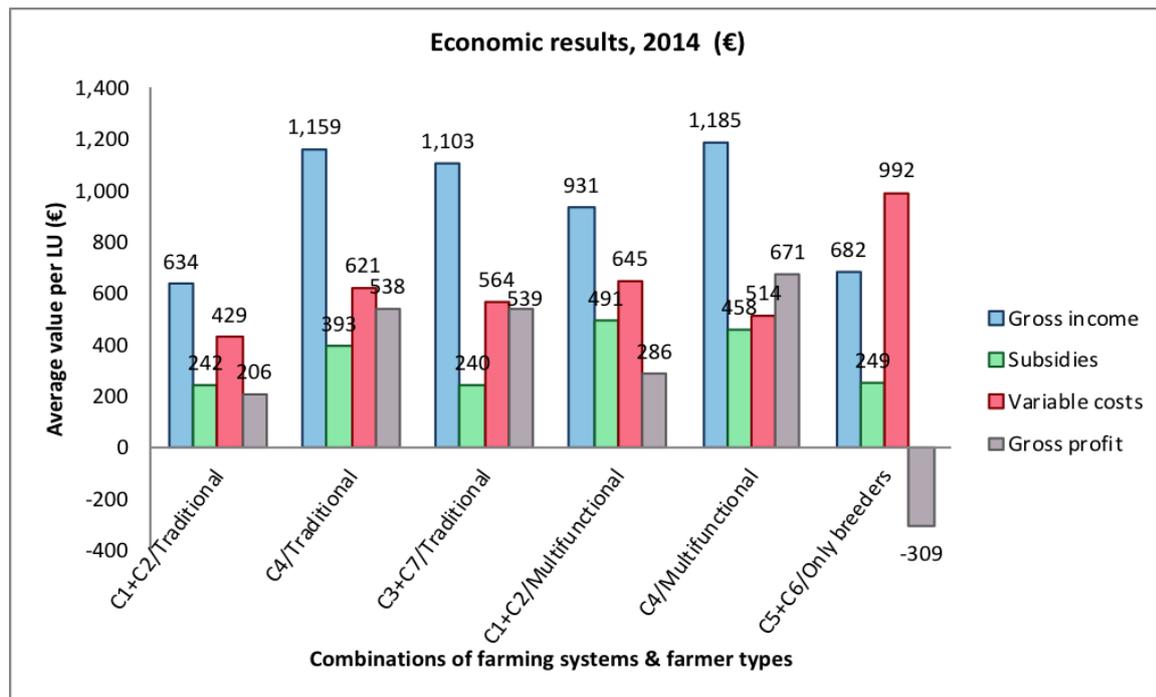


Figure 1: Final table of correlations between farmer types and farming systems.

* C1+C2= semi-extensive systems

** C4, C3+C7= semi-intensive systems

*** C5+C6= intensive systems

REFERENCES

- Acosta-Alba, I.S., Lopez-Ridaura, S., van der Werf, M.G., Leterme, F., Corson, M.S. (2012). Exploring sustainable farming scenarios at a regional scale: an application to dairy farms in Brittany. *J Clean Prod.* 28: 160-167.
- Aggelopoulos, S., Pavlodi, A., Tselempis, D., Soustas, K. (2011) : Financing Agricultural Holding: Evaluation of the Measure 'Setting up of Young Farmers' Based on the Rural Development Programme of Greece 2007–2013. *J. of Environmental Protection and Ecology*,12:(4), 1985.
- Aggelopoulos, S., Tsiouni, M., Pavlodi, A., Mitsopoulos, I. (2014): Zootechnical and economical profile of sheep and goat farms. *J. of Environmental Protection and Ecology*, 15: (4), 1786.
- Alemu, A.W., Amiro, B.D., Bittman, S., MacDonald, D., Ominsk, K.H. (2016). A typological characterization of Canadian beef cattle farms based on a producer survey. *Can J Anim Sci.* 96: 187–202.
- Bernués, A., Riedel, J.L., Asensio, M.A., Blanco, M., Sanz, A., Revilla, R., Casasús, I., (2005). An integrated approach to studying the role of grazing livestock systems in the conservation of rangelands in a protected natural park (Sierra de Guara, Spain). *Livest. Prod. Sci.* 96: 75–85.
- Bernués, A., Ruiz, R., Olaizola, A., Villalba, D., Casasús, I. (2011). Sustainability of pasture-based livestock farming systems in the European Mediterranean context: synergies and trade-offs. *Livest Sci.* 139: 44-57.
- Burton, R.J.F., Wilson, G.A. (2006). Injecting social psychology theory into conceptualisations of agricultural agency: towards a 'postproductivist' farmer self-identity. *J. Rural Stud.* 22: 95–115.
- Choisis, J.P., Thévenet, C., Gibon, A. (2012). Analyzing farming systems diversity: a case study in south-western France. *Spanish Journal of Agricultural Research* 10: 605-618
- Daskalopoulou, I., Petrou, A. (2002). Utilising a farm typology to identify potential adopters of alternative farming activities in Greek agriculture. *J Rural Stud.* 18: 95-103.
- Emtage, N., Hernbohn, J., Harrison, S. (2006). Landholder typologies used in the development of natural resource management programs in Australia – A review. *Aust Journal Environmental Management* 13: 79–94.

- Emtage, N., Hernbohn, J., Harrison, S. (2007). Landholder profiling and typologies for natural resource-management policy and program support: potential and constraints. *Journal Environmental Management* 40: 481–492.
- Everitt, B.S., Landau, S., Leese, M., Stahl, D. (2011). *Cluster analysis*. Chichester: John Wiley & Sons.
- Gelasakis, A.I., Valergakis, G.E., Arsenos, G., Banos, G. (2012). Description and typology of intensive Chios dairy sheep farms in Greece. *J. Dairy Sci.* 95: 3070–3079.
- Gibon, A., Sibbald, A.R., Flamant, J.C., Lhoste, P., Revilla, R., Rubino, R., Sorensen, J.T. (1999). Livestock farming systems research in Europe and its potential contribution for managing towards sustainability in livestock farming. *Livest Prod Sci* 61: 121-137.
- Karagiannis, G., Sarris, A. (2002). Direct subsidies and technical efficiency in Greek agriculture. Paper presented at the X Congress of the European Association of Agricultural Economists Congress, Zaragoza.
- Kitsopanidis GI. 2005. Viability and profitability of extensive beef cattle farming under present conditions in Greece. In: *Animal production and natural resources utilization in the Mediterranean mountain areas*. EAAP. 115:401–405.
- Kostrowicki, J. (1977). Agricultural typology concept and method. *Agricultural Systems* 2: 33–45.
- Madry, W., Mena, Y., Roszkowska-Madra, B., Gozdowski, D., Hryniewski, R., Castel, J.M. (2013). An overview of farming system typology methodologies and its use in the study of pasture-based farming system: a review. *Spanish Journal of Agricultural Research* 11:(2), 316-326
- Martin-Collado, D., Soini, K., Mäki-Tanila, A., Toro, M.A., Diaz, C. (2014). Defining farmer typology to analyze the current state and development prospects of livestock breeds: The Avileña-Negra Ibérica beef cattle breed as a case study. *Livestock Science*, 169: 137–145.
- Milan, M.J., Bartolome, J., Quintanilla, R., Garcia-Cachan, M.D., Espejo, M., Herraiz, P.L., Sanchez-Recio, G.M., Piedrafita, J. (2006). Structural characterisation and typology of beef cattle farms of Spanish wooded rangelands (dehesas) *Livestock Science*, 99: 197– 209.
- Norusis, M.J. (2011): *IBM SPSS Statistics 19. Statistical procedures companion*. Upper Saddle River N.J.: Prentice Hall.
- Papanagiotou, E. (2008). *Animal Production Economics*. Grafima Publ. Thessaloniki (in Greek)
- Ruiz, F.A., Castel, J.M., Mena, Y., Camuñez, J., González- Redondo, P. (2008). Application of the technico-economic analysis for characterizing, making diagnoses and improving pastoral dairy goat systems in Andalusia (Spain). *Small Ruminant Res* 77: 208-220.
- Soini, K., Díaz, C., Gandini, G., deHaas, Y., Lilja, T., Martín-Collado, D., Pizzi, F., consortium, EURECA, Hiemstra, S.J. (2012). Developing a typology for local cattle breed farmers in Europe. *J Anim Breed Genet.* 129: 436–447.
- Solano, C., Leon, H., Pérez, E., Herrero, M. (2001). Characterising objective profiles of Costa Rican dairy farmers. *Agricultural Systems* 67: 153-179.
- Sollenberger, L.E., Moore, J.E., Allen, V.G., Pedreira, C.G.S. (2005). Reporting Forage Allowance in Grazing Experiments. *Crop Science* 45, 896–900.

ONLINE NEWS RECOMMENDATIONS CREDIBILITY: THE TIE IS MIGHTIER THAN THE SOURCE

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ABSTRACT

In recent years, news consumers have become increasingly exposed to news items shared by their friends on different social networking sites (SNS). In this paper, we wish to examine the perceived credibility of these shared news content – specifically, as a function of tie strength and perceived credibility of the media source from which the content originated.

We utilized a between-subjects design. The Facebook account of each participant (N=217) was analyzed. Based on this analysis, our participants were shown a fictitious Facebook post that was presumably shared by one of their Facebook friends with whom they had either a strong social tie (experiment group), or a weak social tie (control group). All recipients were then asked about their perceptions regarding the news source (from which the item presumably originated), and their perception regarding the credibility of the presented item.

Our findings indicate that the strength of the social tie between the sharer of the item and its recipient mediates the effect of the credibility perception regarding the news source, and (1) the perceived item credibility; as well as (2) the likelihood of searching for additional information regarding the topic presented in the shared item. The relevancy of these results is discussed.

Keywords: Credibility, Social networking sites, Social network analysis, News consumption, Information search, Experiment, Quantitative analysis, Influence

INTRODUCTION

News consumption has changed dramatically with the rise of online social networking sites. A 2017 Pew Research Center survey found that two-thirds of US adults report receiving their news from their SNS-based social ties (Shearer and Gottfried, 2017). In other words, this way, news reaches individuals via their SNS feed, from diverse social ties rather than directly from a large media organization. The most popular platform for receiving news recommendations is Facebook, with 45% of US adults reporting that they receive news specifically from social ties (Shearer and Gottfried, 2017). Clearly, when news is spread via SNS ties, a new factor is introduced into the process of credibility assessment. An interplay between the credibility of the social tie sending the news item and that of the

original source of the news item comes into effect. The analysis of this interplay can illuminate various situations and decisions made regularly by contemporary news readers on SNS. For example, it explores how online SNS users judge the credibility of a news item when there is a clash between their trust in the news media source and that of the social tie sharing the news recommendation. The analysis of this type of situation can teach us a great deal about contemporary processes of news credibility evaluation.

Importantly, understanding SNS news credibility evaluation is highly timely in light of the growing awareness of the spread of questionable information on SNS. A recent study identified that a great part of the news shared and recommended on SNS falls under the definition of fake news (Frier, 2017). A recent study further showed that the average American adult saw several fake news stories around the time of the election, with just over half of those who recalled seeing them indicating they believed them (Allcott and Gentzkow, 2017). In light of the increasing interest in the evaluation of fabricated items in the political realm, we designed an experiment analyzing the credibility assessment of news item – while specifically focusing on the effect of the person sharing the content has over the perception of the credibility of the shared content.

Furthermore, the study aims to extend our understanding of the impact of the credibility assessment process on future actions and behavior. Thus, we also examined the participants' motivation to seek further information about the issue raised in the recommended news item. Such behavior would indicate that the issue raised the curiosity of the participants and might have even affected their beliefs. This part of the analysis contributes to the search for the link between information exposure and online behavior. It also sheds light on the interplay between information seeking and news credibility (e.g., Silverman, et al., 2016).

THE INTERPLAY BETWEEN INFORMATION SOURCES AND TRUST: FROM TRADITIONAL MEDIA TO SNS

The question of the role of source credibility in news credibility assessment has preoccupied scholars since the two World Wars' propaganda days (Honey, 1985; Messinger, 1992) through the golden age of traditional media (Bucy, 2003; Pornpitakpan, 2004) and well into the contemporary so-called web 2.0 era (Kenski, Jamieson, Flanagin, & Metzger; Westerman, Spence, & Van Der Heide, 2014). Early studies of source credibility identified several features as playing an important role in determining the source credibility, these include: the sources' perceived expertise and trustworthiness (Hovland, Janis, & Kelley, 1953); journalists' knowledge, education, intelligence, social status, and professional achievement (Hass, 1981; McGuire, 1985); and perceived source motivation (Harmon and Coney, 1982; McGinnies and Ward, 1980; Roy Dholakia and Sternthal, 1977).

In contrast, several studies found that variables predicting credibility are more likely to be associated with the receiver rather than with source features. Gunther (1992) found that respondents' own group identification — whether religious, national, or political — proved to be the strongest predictor of their perceptions of media credibility (see also Salmon, 1986; Sherif and Hovland, 1961). Similar studies found that other demographic variables such as age, education, and gender mediated perceived channel credibility (Abel and Wirth, 1977; Gunther, 1992; Johnson and Kaye, 1998; Westley and Severin, 1964).

However, these sender-versus-receiver models are now being challenged with the addition of several other elements and mediators in the news spread process. In online social networks in particular, users are constantly exposed to news recommendations in their news feed (Amichai-Hamburger & Hayat, 2017). This new form of news reception and consumption often takes the form of routine news recommendations from the recipient online social ties. These ties range from strong ties such as a close family member or friend to weak ties such as a distant work colleague or a distant family member. When assessing the items' credibility, the receivers can assess both the legitimacy of the news source, which is often part of the so-called old or traditional news media, as well as the extent to which he trust the person sharing the content (Hayat, HersHKovitz, & Samuel-Azran, 2018). Thus, studies suggest that credibility assessment of news items shared on SNS requires new research methods and approaches addressing not only the credibility of the traditional media source but also the credibility of the SNS tie sharing the news item (e.g., Hayat, HersHKovitz, & Samuel-Azran, 2018; Johnson and Kaye, 2014). This body of work has played a major part in the design of our study.

Indeed, so far, the few studies addressing this call have provided several new insights on the importance of social ties in the news credibility assessment process. Turcotte, York, Irving, Scholl, & Pingree (2015) found that when the person sharing the news item is considered by the receiver as an opinion leader, the trustability level of the item is amplified, as is the desire to search for further information from the news organization that originally published the item. Another study found that credibility is enhanced when the content is shared publicly on the sharer's Facebook "wall" (rather than as a private message), and when the messenger poses a question relevant to the issue when sharing the content (Oeldorf-Hirsch, 2011). In 2013, Xu examined the issue of source credibility in the news aggregation platform Digg, and identified that the receipt of a news item via a social recommendation was the primary factor influencing its perceived credibility and likelihood that the receiver would click and open the news item. More recently, Anspach (2017) found that endorsements and discussions were consumed, shared and endorsed more significantly when they came from

friends or family members (i.e., a strong social tie) in comparison to other contacts, and they were hardly shared or endorsed when received from un-known individuals.

Our study adds an important component to these analyses by focusing on the impact of tie strength (weak versus strong) on the perceived credibility of a news item. Particularly, it pays special attention to the *impact of the interplay between the tie strength's credibility and the credibility assigned to the traditional news media source on the evaluation of the news recommendation*.

As early as 1973, Granovetter famously noted that social networks are comprised of a combination of weak ties, which should be thought of as "acquaintances", and strong ties which can be regarded as "friends". The question of the interplay between weak/strong ties and source credibility perception is not trivial, as both types of ties contribute different types of information (Putnam, 2000). Notably, Putnam identified that weak ties primarily allow exposure to information that is not yet known and might broaden the receivers' horizons, whereas strong ties are associated with providing emotional and social support – thus highlighting the importance of information received by weak ties.

In contrast, though, recent research has shown that weak ties are evaluated as dispensable and lacking value (Krämer, Rösner, Eimler, Winter, & Neubaum, 2014). Furthermore, another recent study found that SNS users are more likely to unfriend or unfollow weak ties than strong ties (John and Dvir-Gvirsman, 2015). Given this recent evidence, we may deduce that information gained from weak ties will be granted less attention and consideration compared to information provided by strong ties. Hence, our first research hypothesis is as follows:

H1: The stronger the social tie between the recipient and the person sharing the content, the higher the perceived credibility of the content.

Furthermore, we hypothesize that attitudes toward the traditional media source are less predictive of perceived credibility, when the content is shared by an individual with whom the recipient has a strong social tie. On the other hand, attitude toward the media is more predictive of perceived credibility, when the content is shared by an individual with whom the recipient has a weak social tie. Hence, our second hypothesis is:

H2: There will be an interaction between the strength of the social tie and the recipient's attitude toward the media source portraying the content and predicting the perceived credibility attributed to the presented content.

INFORMATION SEEKING AND SOURCE CREDIBILITY

As noted, following the source credibility evaluation analysis, the study moves to examine the participants' motivation to search for further information as a result of the exposure to the shared news item. This segment of the study aims to contribute to analyses of the way source credibility

assessments affect information behavior. This issue became relevant in the 1980s and 1990s with the decreasing trust in traditional news sources (Ladd, 2011, 2013). Analyses of source credibility of traditional media began to identify that high trust in a news source can guide partisan political behavior. One notable example is a study that found a significant effect of the introduction of the Fox News Network in 1996 on the vote share in Presidential elections between 1996 and 2000. The study identified that Republicans gained higher percentage points in the towns that broadcast Fox News and claimed that Fox News affected voter turnout, thus linking between high trust in Fox News and political behavior (DellaVigna and Kaplan, 2007). An additional study also identified a strong link between those watching Fox News and beliefs, finding a strong link between Fox News adherence and higher belief that weapons of mass destruction were found in Iraq during the 2003 war (Kull, Ramsay, & Lewis, 2003).

In the SNS era, the analyses of the interplay between behavior and news trust shifted to other measures of analysis, such as online news consumption behavior (e.g., Hayat and Samuel-Azran, 2017; Hayat, Samuel-Azran, & Galily, 2016), and information seeking patterns. The most relevant example for the latter deals with the assessment of credibility of news recommendations made by SNS opinion leaders, and how such credibility assessment affects information seeking of further items from the same news outlet (Turcotte, et al., 2015). The study found significant correlation between the perceived credibility of an opinion leader sharing an item and the recipient's tendency to search for additional information from the news outlet from which the item originated. The opposite effect was found amongst recipients who perceived the sharer of the content as a poor opinion leader. Accordingly, our third research hypothesis is as follows:

H3: The stronger the social tie with the person sharing the content, the more likely the recipient is to seek additional information regarding the topic presented.

Furthermore, we hypothesize that the attitude toward the traditional media source is less predictive of an individual's likelihood of searching for additional information when the content is shared by an individual with whom the recipient has a strong social tie. On the other hand, attitude toward the traditional media source is more predictive of an individual's likelihood of searching for additional information when the content is shared by an individual with whom the recipient has a weak social tie. Hence, our fourth hypothesis is:

H4: The interaction between the strength of the social tie with the person sharing the content, and the recipient's attitude toward the media source portraying the content and predicting the likelihood of searches for additional information regarding the presented content.

THE CONTEXT OF THE CASE STUDY: AL JAZEERA ENGLISH IN ISRAEL

Before describing our research method, we wish to better contextualize the case study at hand. As the study probed Israeli students' assessment of an Al-Jazeera English item on the Boycott, Divestment and Sanctions (BDS), it is important to mention that Al-Jazeera English has been broadcasting on Israeli satellite provider YES, one of Israel's two main television providers, since its November 2006 launch. Interestingly, the channel is located on the channel list in the same place as the other leading English international news channels (e.g., CNN , Fox News, BBC World and Sky News) rather than in the Arab stations section, thus conferring upon it the same level of institutional legitimacy as other international news channels. Interestingly, Israel has carried Al-Jazeera, in English and Arabic, when its entrance to other markets, including the US and the Canadian markets, was highly challenging (Samuel-Azran, 2016; Samuel-Azran and Hayat, 2017). These factors highlight Israel's openness to accepting it as a legitimate news source. However, it is also important to mention that at the same time many Israeli viewers are highly suspicious of Al-Jazeera , perceiving it as extremely pro-Palestinian and inherently anti-Israeli (Azran, Lavie-Dinur, & Karniel, 2012).

Next, the decision to design a mock article regarding an attempt of BDS activists to block Israeli student exchanges with a US university was aimed to raise interest amongst participants. This is an issue that is bound to interest Israeli students, and is most likely familiar to them, as it serves as a hotbed for pro- and anti-Israel activists. BDS activists have had many successes in anti-Israel actions in the US in the last few years, such as influencing leading artists to cancel their concerts in Israel, protesting vociferously in academic institutions and frequently gaining headlines. This highlights the viability of BDS attempts to ban student exchange with Israeli institutions. Marquette University was selected due to the fact that it is relatively unknown in Israel, making it difficult for the participants to guess the item's credibility.

METHODOLOGY

Sample

Participants in this study were Israeli and international undergraduate students in a private college in the center of Israel (N=217), all of whom had an active Facebook account. Data collection was conducted during February 2017.

Procedure and manipulation

As part of the research questionnaire, participants were presented with a fictitious Facebook status, presumably shared by one of their actual Facebook friends, reporting a story related to BDS (Boycott,

Divestment and Sanctions). The title of the item was: "Student supporters of the BDS movement at Marquette University call to stop all student-exchange programs with Israeli universities".

As part of the recruitment and preparation process for the experiment, participants were asked to become Facebook "friends" with a dedicated study account. After the participants became "friends" of the account, and following their formal consent, we ran a script that collected data from the participants' Facebook profile. Specifically, for each participant and for each of the participants' Facebook friends we counted the **number of mutual friends** the two have, and selected one of the participants' friends with who he had the highest number of mutual friends. This approach is inspired by the model presented by Gilbert and Karahalios (2009), using information that is available via the participants' Facebook profile. Additionally, our script chose for each participant another, random friend (from their Facebook friends list), defined as a 'random tie'.

Finally, the participants were randomly assigned into two groups. The only difference between the groups was in the tie strength of the person who presumably shared the content on Facebook (as presented on the research questionnaire). The participants in the "strongest tie" condition group (n=74) received a version of the questionnaire in which the sharer had the strongest tie strength with them (as calculated by our script); the participants in the second group (n=74) received a version of the questionnaire in which the sharer was a random Facebook friend of theirs.

Measurement

Perceived Item Credibility (dependent variable). Based on the work of Flanagin and Metzger (2007), this variable is comprised of five items: **trustworthiness**, **believability**, **accuracy**, **completeness**, and **unbiasedness**. Each item was measured using a 7-point Likert scale (Cronbach's $\alpha=0.86$). The overall credibility score was calculated as the average of these items (M=2.68, SD=0.72, N=215).

Seek Additional Information (dependent variable). Based on Borah (2014), this variable is comprised of five items: **Seek more information supporting your own side of the issue**, **Seek more information supporting the other side of the issue**, **Seek more information that offers a balanced view on the issue**, **Seek more opinions supporting your own side of the issue**, and **Seek more opinions supporting the other side of the issue**. Each item was measured using a 7-point Likert scale (Cronbach's $\alpha=0.75$). The overall credibility score was calculated as the average of these items (M=2.12, SD=0.37, N=215).

Demographics (background variables). **Age** and **gender** were reported by all participants (N=217). Age range was 19-27 (M=22.12, SD=3.71). Overall, there were 152 females (70%) and 65 males (30%).

Tie Strength (independent variable). To measure the strength of tie between the information recipient (the participant) and the information sharer, we used the **Inclusion of Other in Self Scale** (Aron, Aron, & Smollan, 1992). This visual assessment tool presents participants with seven pictures, each of

which includes two circles—representing the "self" and "the other"— that overlap at different levels, ranging from totally separated (1) to almost fully overlapping (7). The participants are asked to mark the picture that best describes their current relationship with the other person, giving the value for this variable ($M=3.61$, $SD=1.64$, $N=217$).

Perceived Channel Credibility (independent variable). Based on the work of Gaziano and McGrath (1986), this variable is comprised of 12 items: whether the media source is **fair, unbiased**, accurate, factual, **tells the whole story, respects people's privacy, watches out after people's interests, is concerned about the community's well-being, separates fact and opinion, can be trusted, is concerned about the public interest, has well-trained reporters**. Each item was measured using a 7-point Likert scale (Cronbach's $\alpha=0.81$). The results were translated into a score by adding up the ratings of each of the 12 items ($M=23.63$, $SD=7.53$, $N=217$).

Data analysis

We used four regression models to test our hypotheses (see Table 1). We first examined whether perceived tie strength and perceived channel credibility indeed predicted the perceived credibility of the presented item (Models 1). We then examined whether there was an interaction between perceived tie strength and perceived channel credibility in predicting the perceived credibility of the presented item (Model 2). We followed the same procedure to examine whether perceived tie strength, and perceived channel credibility indeed predicted the likelihood of searching for additional information regarding the topic presented (Models 3). We then examined whether there was an interaction between tie strength and perceived channel credibility in predicting the likelihood of searching for additional information regarding the topic presented (Model 4).

The Durbin-Watson statistic test was used to investigate the assumption of independence. Normal probability (P-P) plots were used to investigate the normality of error terms. Homoscedasticity was tested by observing the scatter plot of the residuals and the predicted value. These checks identified no violations of regression assumptions. All statistical tests were one-tailed, and a significance level of $p<0.01$ was set for all analyses.

To facilitate the interpretation of the statistical interaction, all continuous variables used in our model were standardized (Dawson, 2014). To calculate the statistical power of this study to reject false null hypotheses, we conducted a post-hoc statistical power test (Faul, Erdfelder, Buchner, & Lang, 2009). With six predictors in the regression analysis, an observed R^2 of 0.17 (see Table 1), a sample size of 217 and $\alpha = .05$, the test results indicated an observed power of 1.

Model 1 (see Table 1) indicates that tie strength is positively correlated with the perceived credibility of the presented item $\beta = .33$, $t(207) = 7.21$, $p < .05$. In other words, the strength of the tie our participants had with the friend who presumably shared the content positively affected their

perception regarding the credibility of the shared content (a finding which supports H1). Furthermore, perceived channel credibility is also correlated with the perceived credibility of the presented item, $\beta = .23$, $t(207) = 5.752$, $p < .05$. In other words, participants' perceptions regarding the credibility of the channel from which the presented message originated, positively affected their perception regarding the credibility of the shared content.

Model 2 examines whether there is an interaction between tie strength with the person sharing the content and perceived channel credibility. Interaction effects represent the combined effects of variables on the criterion or dependent measure (in our case, on perceived content credibility). When an interaction effect is present, the impact of one variable (in our case, tie strength) depends on the level of the other variable (in our case, perceived channel credibility). There is indeed significant support for interaction between tie strength and perceived channel credibility over the perceived credibility of the content, as we can see in Models 2: $\beta = -.207$, $t(207) = -6.4$, $p < .05$.

The interaction plot, depicted in Figure 1, suggests that high tie strength with the person sharing the content yielded higher perceived credibility when channel credibility was low. The effect of high tie strength was negligible when channel credibility was high. Both slopes were significant ($P < .05$). Thus, our second hypothesis was supported.

Model 3 (see Table 2) indicates that tie strength is correlated with the likelihood of searching for additional information regarding the presented item, $\beta = .23$, $t(207) = 7.24$, $p < .05$. In other words, the strength of the tie between participants and the friend who presumably shared the content positively affected the likelihood of their searching for additional information about the shared content. Thus, our third hypothesis was supported.

Furthermore, perceived channel credibility is also correlated with the likelihood of searching for additional information about the presented item, $\beta = .291$, $t(207) = 5.64$, $p < .05$. In other words, our participants' perceptions regarding the credibility of the channel from which the presented message presumably originated positively affected the likelihood of their searching for additional information regarding the shared content.

Model 4 examines whether there is an interaction between tie strength with the person sharing the content, and perceived channel (AJE) credibility. There is indeed significant support for interaction between tie strength and perceived channel credibility over the likelihood of searching for additional information as we can see in Models 4: $\beta = -.115$, $t(207) = -5.872$, $p < .05$.

The interaction plot, depicted in Figure 2, suggests that high tie strength with the person sharing the content yielded higher likelihood of searching for additional information when the channel credibility was low. The effect of high tie strength was negligible when channel credibility was high. Both slopes were significant ($P < .05$). Thus, our fourth hypothesis was supported.

Table 1: Standardized variables included in regression model predicting perceived credibility (N=217)

	<i>Model 1</i>			<i>Model 2</i>		
	β	SE	t	β	SE	t
<i>Age (years)</i>	.002	.000	1.243	.002	.000	1.682
<i>Gender (Male=1)</i>	.060	.049	1.861	.068	.050	2.364
<i>Facebook activity</i>	.266	.076	6.754	.243	.063	6.586
<i>Perceived channel credibility</i>	.233	.051	5.752*	.213	.048	5.513*
<i>Tie strength</i>	.328	.039	7.211*	.311	.032	7.071*
<i>Perceived channel credibility X Tie strength</i>				-.207	0.42	-6.397*
<i>Adjusted R2</i>			.13			.17

Note. Since all continuous variables were standardized, β s for continuous predictors correspond to standardized regression coefficients.

* $p < .05$, ** $p < .01$

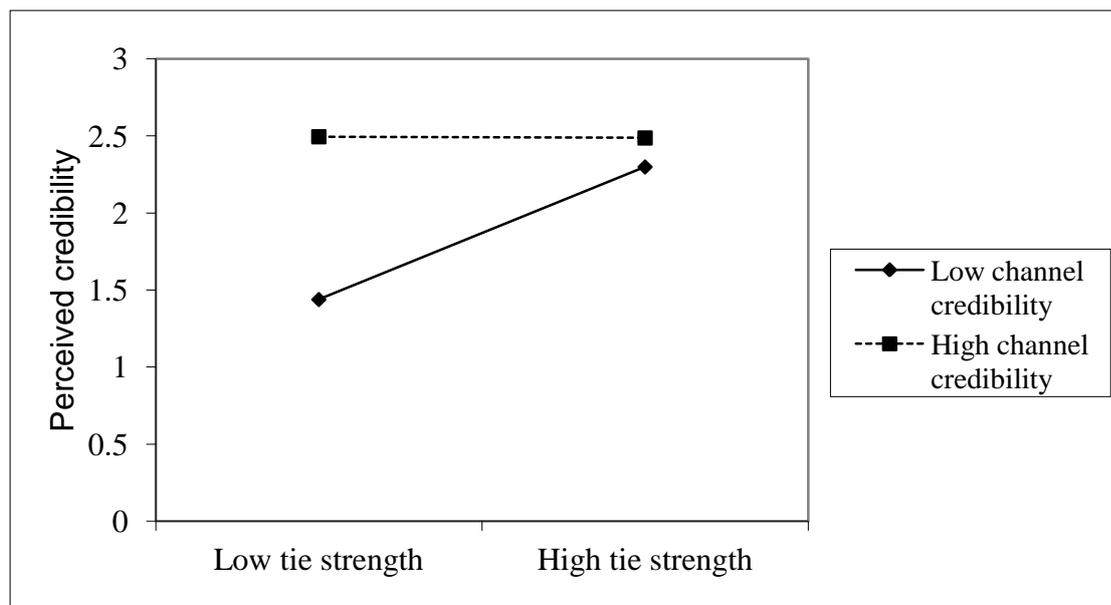


Figure 1: Interaction effect of tie strength and perceived channel credibility on the perceived credibility of the presented content (N=217).

Table 2: Standardized variables included in regression model predicting likelihood of searching for additional information (N= 217)

	<i>Model 3</i>			<i>Model 4</i>		
	β	SE	T	β	SE	t
<i>Age (years)</i>	.002	.000	1.741	.002	.000	1.442
<i>Gender (Male=1)</i>	.055	.000	1.751	.054	.000	1.968
<i>Facebook activity</i>	.213	.063	7.742	.216	.059	7.331
<i>Perceived channel credibility</i>	.291	.051	5.641*	.321	.038	5.924*
<i>Tie strength</i>	.228	.032	7.237*	.213	.032	7.041*
<i>Perceived channel credibility X tie strength</i>				-.115	0.21	-5.872*
<i>Adjusted R2</i>			.09			.11

Note. Since all continuous variables were standardized, β s for continuous predictors correspond to standardized regression coefficients.

* $p < .05$, ** $p < .01$

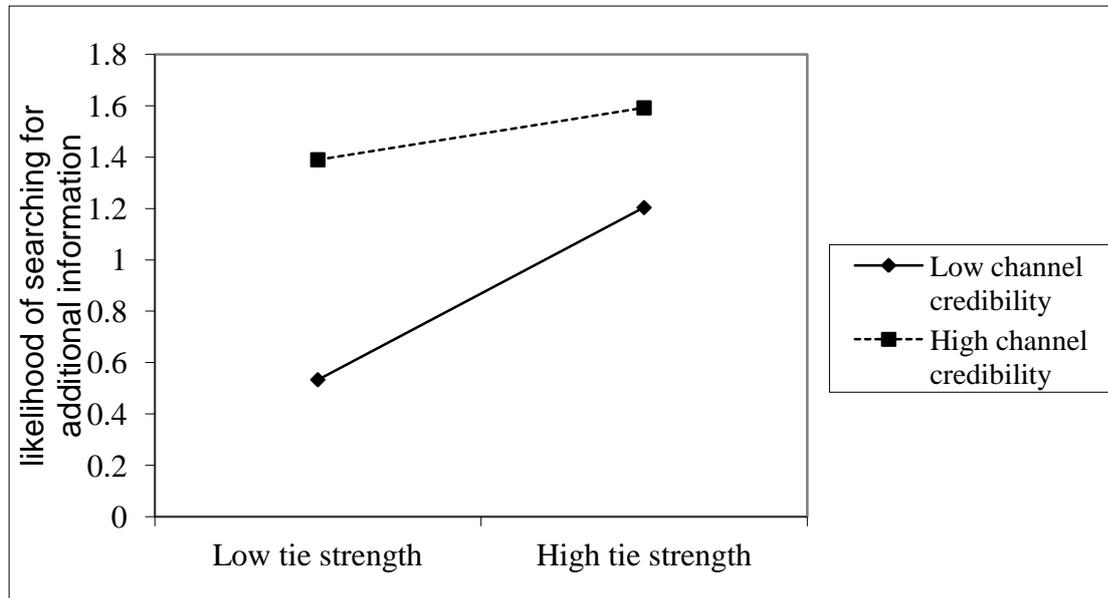


Figure 2: Interaction effect of tie strength and perceived channel credibility on the likelihood of searching for additional information about the presented content (N=217).

DISCUSSION

The study examined the interplay between the perceived credibility of a news source (with AJE serving as a case study) and that of sharers of a news recommendation item on Facebook, with special emphasis on the impact of strong versus weak ties within one's network. We designed an experiment in which participants evaluated the credibility of a news recommendation that seemed to emanate from the participants' actual Facebook ties, thus mimicking a real-life scenario. The analysis found that both attitude towards media and tie strengths predicted credibility assessment scores, with stronger trust in the news source (AJE) and stronger tie with the Facebook friend sharing the news recommendation leading to higher credibility assessments. This was true regardless of the participants' characteristics, such as gender, level of education and Facebook activity level.

However, a more interesting finding is that when the participants received the news recommendation from a strong tie within their network, their negative attitudes toward AJE were less predictive of their credibility assessment. This finding illustrates the superiority of strong ties over traditional media networks in credibility assessment of news recommendations. Strong ties have the potential of authenticating news recommendations, including fake news, by contributing to their

perceived credibility. These findings strengthen various former analyses revealing the dramatic power of recommendations by SNS members recommending news to validate and strengthen the credibility of news recommendations (Anspach, 2017; Oeldorf-Hirsch, 2011; Turcotte, et al., 2015). Our findings highlight that in addition to opinion leaders (Turcotte, et al., 2015), strong ties can be highly instrumental in affecting the perceived credibility of a shared news item. The influence of strong ties is in fact more important in the evaluation of an item's credibility than that of the traditional news source portraying the item.

The findings have relevance for source credibility studies and media studies in general, indicating the further decline in credibility and status of traditional news sources. In an age when so many people receive their news via friends, tie strength is more meaningful than the credibility perception of the traditional media source. From a wider perspective, these findings add to the mounting evidence regarding the decreasing credibility of traditional media sources in the last three decades (e.g. Ladd, 2013). While Ladd identified that the 1970s marked a peak in media trust and the 1990s marked a sharp decline in public trust in the media, our analysis identifies another layer of deterioration in the trust in traditional media: The reputation of a strong tie surmounts the reputation of a media channel (despite its various gatekeepers, including editors and reporters, a global spread and endless resources to verify and authenticate news) and plays a more central role in credibility evaluation. . These findings are worrying for news media managers evaluating their contemporary reputation, highlighting the potency of peer-to-peer communication.

The study also contributes to contemporary analyses of fake news credibility evaluation, demonstrating the ability of interested bodies to deliver and spread fake news in SNS with high potency. The findings indicate that a viral item shared by many Facebook members is highly likely to gain credibility due to the likelihood it will be shared by at least some strong ties. These findings thus offer a partial explanation for the high success of fake news in SNS (e.g., Silverman, et al., 2016).

For information studies, the analysis also illustrates that SNS-shared content that is considered credible can guide behavior, specifically the search for further information about the issue. In this respect, our findings support the findings of Turcotte, et al. (2015), one of the only former analyses examining the link between news trust on SNS and the tendency for information-seeking behavior. The scholars found that news that is perceived credible (following submission by opinion leaders) leads to more information searches for content originating from the same media outlet that portrayed the message. Turcotte et al. and our study's combined findings indicate that trusted SNS members can be highly potent in guiding behavior and mobilizing other SNS members.

Our findings are hampered by three main limitations. First, the Facebook friends did not actually share the content. Furthermore, the presumably shared item was fabricated. While this is a common

practice in assessing perceptions regarding SNS content, specifically regarding content credibility and inclination to look for additional information (e.g., Turcotte, et al., 2015), future studies should employ other approaches (e.g., interviews) to further validate the interplay between the various constructs. Second, the survey used in this study was paper-based. The shared content was presented to our participants as an image. Future studies should aim to replicate the findings using online surveys, in which the shared content would be presented on a computer screen. Lastly, the topic of the fabricated content was very specific (BDS-related content, relating to a specific university in the US). Future studies should aim at examining the relevance of our findings within the context of additional knowledge domains.

Given the availability of large scopes of online data, future studies might consider validating the findings using unobtrusive behavior measures that are indicative of credibility assessment (e.g., the opening of links provided in the shared message), and searching patterns (thus providing a stronger measure of participants' active choices to read more about the topic at hand). This type of research will enable the validation of the findings regarding the effect of tie strength and channel credibility, on credibility assessment and the likelihood of further information-seeking in real-world settings.

CONCLUSIONS

Researchers have long recognized the paramount importance of the perceived credibility of the channel from which a message has originated (Harmon and Coney, 1982; McGinnies and Ward, 1980; Roy Dholakia and Sternthal, 1977). Recent work has shown that when being exposed to online content, online readers' most trusted source of information was 'a person like myself' (Edelman, 2018; Harris and Dennis, 2011). We believe that those findings, combined with our findings, can be leveraged to supplement our understanding regarding the importance of the interplay between social tie strength and perceived source credibility. These valuable determinants can be instrumental when examining both perceived credibility of the examined content and likelihood of searching for additional information. As such, this study offers one of the first empirical evidence for the important role played by social tie strength in the rapidly growing realm of contemporary news consumption.

REFERENCES

- Abel, J. D., & Wirth, M. O. (1977). Newspaper vs. TV credibility for local news. *Journalism quarterly*, 54(2), pp. 371-375.
- Allcott, H., & Gentzkow, M. (2017). Social media and fake news in the 2016 election. *Journal of Economic Perspectives*, 31(2), pp. 211-236.
- Amichai-Hamburger, Y., & Hayat, T. (2017). Social Networking. *The International Encyclopedia of Media Effects*
- Anspach, N. M. (2017). The new personal influence: How our Facebook friends influence the news we read. *Political Communication*, 34(4), pp. 590-606.

- Aron, A., Aron, E. N., & Smollan, D. (1992). Inclusion of other in the self scale and the structure of interpersonal closeness. *Journal of Personality and Social Psychology*, 63(4), p 596.
- Azran, T., Lavie-Dinur, A., & Karniel, Y. (2012). Accent and Prejudice: Israelis' Blind Assessment of Al-Jazeera English News Items. *Global Media Journal: Mediterranean Edition*, 7(2)
- Borah, P. (2014). The hyperlinked world: A look at how the interactions of news frames and hyperlinks influence news credibility and willingness to seek information. *Journal of Computer-Mediated Communication*, 19(3), pp. 576-590.
- Bucy, E. P. (2003). Media credibility reconsidered: Synergy effects between on-air and online news. *Journalism & Mass Communication Quarterly*, 80(2), pp. 247-264.
- Dawson, J. F. (2014). Moderation in management research: What, why, when, and how. *Journal of Business and Psychology*, 29(1), pp. 1-19.
- DellaVigna, S., & Kaplan, E. (2007). The Fox News effect: Media bias and voting. *The Quarterly Journal of Economics*, 122(3), pp. 1187-1234.
- Edelman, R. (2018). Edelman Trust Barometer. Retrieved Date from http://cms.edelman.com/sites/default/files/2018-02/2018_Edelman_TrustBarometer_Executive_Summary_Jan.pdf.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods*, 41(4), pp. 1149-1160.
- Flanagin, A. J., & Metzger, M. J. (2007). The role of site features, user attributes, and information verification behaviors on the perceived credibility of web-based information. *New Media & Society*, 9(2), pp. 319-342.
- Frier, S. (2017, October 30th). [Facebook Stumbles With Early Effort to Stamp Out Fake News.].
- Gaziano, C., & McGrath, K. (1986). Measuring the concept of credibility. *Journalism quarterly*, 63(3), pp. 451-462.
- Gilbert, E., & Karahalios, K. (2009). Predicting tie strength with social media. *Proceedings of the SIGCHI conference on human factors in computing systems*.
- Granovetter, M. S. (1973). The strength of weak ties. *American Journal of Sociology*, pp. 1360-1380.
- Gunther, A. C. (1992). Biased press or biased public? Attitudes toward media coverage of social groups. *Public Opinion Quarterly*, 56(2), pp. 147-167.
- Harmon, R. R., & Coney, K. A. (1982). The persuasive effects of source credibility in buy and lease situations. *Journal of Marketing Research*, pp. 255-260.
- Harris, L., & Dennis, C. (2011). Engaging customers on Facebook: Challenges for e-retailers. *Journal of Consumer Behaviour*, 10(6), pp. 338-346.
- Hass, R. G. (1981). Effects of source characteristics on cognitive responses and persuasion. *Cognitive responses in persuasion*, 2
- Hayat, T., Hershkovitz, A., & Samuel-Azran, T. (2018). The independent reinforcement effect: diverse social ties and the credibility assessment process. *Public Understanding of Science*, pp. 1-17. doi:<https://doi.org/10.1177/0963662518812282>
- Hayat, T., & Samuel-Azran, T. (2017). "You too, Second Screeners?" Second Screeners' Echo Chambers During the 2016 US Elections Primaries. *Journal of Broadcasting & Electronic Media*, 61(2), pp. 291-308.
- Hayat, T., Samuel-Azran, T., & Galily, Y. (2016). Al-Jazeera Sport's US Twitter followers: sport-politics nexus? *Online information review*, 40(6), pp. 785-797.
- Honey, M. (1985). *Creating Rosie the Riveter: class, gender, and propaganda during World War II*: Univ of Massachusetts Press.
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion; psychological studies of opinion change*.
- John, N. A., & Dvir-Gvirzman, S. (2015). "I Don't Like You Any More": Facebook Unfriending by Israelis During the Israel-Gaza Conflict of 2014. *Journal of Communication*, 65(6), pp. 953-974.
- Johnson, T. J., & Kaye, B. K. (1998). Cruising is believing?: Comparing Internet and traditional sources on media credibility measures. *Journalism & Mass Communication Quarterly*, 75(2), pp. 325-340.
- Johnson, T. J., & Kaye, B. K. (2014). Credibility of social network sites for political information among politically interested internet users. *Journal of Computer-Mediated Communication*, 19(4), pp. 957-974.
- Kenski, K., Jamieson, K. H., Flanagin, A., & Metzger, M. J. *Digital Media and Perceptions of Source Credibility in Political Communication*.
- Krämer, N. C., Rösner, L., Eimler, S. C., Winter, S., & Neubaum, G. (2014). Let the weakest link go! Empirical explorations on the relative importance of weak and strong ties on social networking sites. *Societies*, 4(4), pp. 785-809.
- Kull, S., Ramsay, C., & Lewis, E. (2003). Misperceptions, the media, and the Iraq war. *Political Science Quarterly*, 118(4), pp. 569-598.
- Ladd, J. M. (2011). *Why Americans hate the media and how it matters*: Princeton University Press.

- Ladd, J. M. (2013). The era of media distrust and its consequences for perceptions of political reality. *New directions in media and politics*, pp. 24-44.
- McGinnies, E., & Ward, C. D. (1980). Better liked than right: Trustworthiness and expertise as factors in credibility. *Personality and Social Psychology Bulletin*, 6(3), pp. 467-472.
- McGuire, W. J. (1985). Attitudes and attitude change. *Handbook of social psychology*, 2
- Messinger, G. S. (1992). *British propaganda and the state in the First World War*: Manchester University Press.
- Oeldorf-Hirsch, A. (2011). *Engagement with news content in online social networks*: The Pennsylvania State University.
- Pornpitakpan, C. (2004). The persuasiveness of source credibility: A critical review of five decades' evidence. *Journal of applied social psychology*, 34(2), pp. 243-281.
- Putnam, R. D. (2000). *Bowling alone: America's declining social capital Culture and politics* (pp. 223-234): Springer.
- Roy Dholakia, R., & Sternthal, B. (1977). Highly credible sources: Persuasive facilitators or persuasive liabilities? *Journal of Consumer Research*, 3(4), pp. 223-232.
- Salmon, C. T. (1986). Perspectives on involvement in consumer and communication research. *Progress in communication sciences*, 7, pp. 243-268.
- Samuel-Azran, T. (2016). *Intercultural Communication as a Clash of Civilizations: Al-Jazeera and Qatar's Soft Power*: Peter Lang.
- Samuel-Azran, T., & Hayat, T. (2017). Counter-hegemonic contra-flow and the Al Jazeera America fiasco: A social network analysis of Al Jazeera America's Twitter users. *Global Media and Communication*, 13(3), pp. 267-282.
- Shearer, E., & Gottfried, J. (2017). *News Use Across Social Media Platforms 2017*. Pew Res Cent
- Sherif, M., & Hovland, C. I. (1961). Social judgment: Assimilation and contrast effects in communication and attitude change.
- Silverman, C., Strapagiel, L., Shaban, H., Hall, E., & Singer-Vine, J. (2016). Hyperpartisan Facebook pages are publishing false and misleading information at an alarming rate. *Buzzfeed News*
- Turcotte, J., York, C., Irving, J., Scholl, R. M., & Pingree, R. J. (2015). News recommendations from social media opinion leaders: Effects on media trust and information seeking. *Journal of Computer-Mediated Communication*, 20(5), pp. 520-535.
- Westerman, D., Spence, P. R., & Van Der Heide, B. (2014). Social media as information source: Recency of updates and credibility of information. *Journal of Computer-Mediated Communication*, 19(2), pp. 171-183.
- Westley, B. H., & Severin, W. J. (1964). Some correlates of media credibility. *Journalism quarterly*, 41(3), pp. 325-335.

DOES THE SIGNAL GAP INDICATE A GROWING RISK OF ECONOMIC RECESSION?

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ABSTRACT

This paper attempts to find a lead-time indicator which would, in advance and at a certain probability level, provide an indication of the economic evolution approaching a recession stage. For such an indicator of a slowdown in the economic performance (expressed by the GDP growth rate), we could take the difference between two key macroeconomic indices: the unemployment rate and the inflation rate. We will call this difference the signal gap in this paper. The goal of the present paper is thus to verify whether decreasing values of the signal gap might be viewed as a signal of approaching recession in the growth dynamics, expressed by the GDP growth rate. Quarterly data of the Czech Republic in the years 1996 through 2018 have been used for verification of our observations.

Keywords: signal gap, unemployment rate, inflation rate, gross domestic product, time series analysis

INTRODUCTION

The existence of the economic cycle is one of the inherent facts of today; economists and the society as a whole are aware of it and take it into their considerations. Of course, despite of this awareness, the phenomenon of economic crises and recessions is a major complication in the life of the society. That is why one of the most demanded tools required from theoretical economists, statisticians and econometricians is a method that would provide us with an indication of a coming recession, regardless of whether methods enabling at least partial signalling are based on theoretical or empirical findings.

The goal of the present study is, on the basis of analysing empirical data, to find an index that would, at a certain level of probability, indicate that the economic evolution is beginning an approach to the recession/crisis stage of the cycle. A sign of a coming recession might be implied by the mutual relationship (a difference) between two key macroeconomic indices: the unemployment and inflation rates. The national-economic nature of both of them is, however, also closely related to the microeconomic sphere and, in the final effect, to behaviour of households as the sector through which about one-half of the GDP passes.

Both the unemployment and inflation rates are among the significant macroeconomic indices and we need not emphasise their importance. Both of them are subject to statistical inference organised by the national statistical offices worldwide; their methodologies (cf. below) are comparable on an international scale. Each of them is also viewed as an index whose values (observed monthly or quarterly) sensitively respond to changes in the economic situation, i.e., the stages of the economic cycle. A recession (or even a crisis) is always manifested by a high value of the unemployment rate, which only slowly gets back after the beginning of recovery. On the contrary, the inflation rate is, as a rule, low during a recession, while economic growth is accompanied by growing prices, i.e., a growing inflation rate. Having these observations in mind, we clearly see that if these two indices are approaching each other, i.e., the gap between them is decreasing (approaching zero), the economy is "overheating" – the economic growth is getting to its apex, after which slowdown or recession must inevitably come. We will call the signal gap the difference between those two indices.

The goal of the present paper is to verify the hypothesis that, if the signal gap values go down to their minimum, it indicates an apex of the economic growth (expressed by the GDP growth rate), and the recession stage is coming. With the aid of methods of time series analysis, we will further estimate the lead time by which the minimum precedes the coming recession. Quarterly data of the Czech Republic in the years 1996 through 2018 (source: Czech Statistical Office) will be used to verify this hypothesis.

THEORETICAL BASIS

The relationship between the unemployment and inflation rates may be one of the most discussed issues in economics; this relationship is visualised by the so-called Phillips curve, which expresses the cause-and-effect dependency of the inflation rate, as the dependent variable, on the unemployment rate, as the independent variable. A. W. Phillips (Phillips, 1958) originally derived a relationship between the wage and unemployment rates, Only later was this relationship expressed in the form of the so-called Phillips price curve, i.e., the relationship between the inflation and unemployment rates. Incidentally, I. Fisher's study dated 1926 (cf. Fisher, 1973) already pointed out a possible cause-and-effect relationship between the inflation and unemployment rates.

This empirically corroborated cause-and-effect relationship led the economic policy creators to simplified conclusions that unemployment might be controlled by supporting demand, thus regulating the increase in prices and keeping the inflation rate within the expected limits. The relative stability of prices after WWII and the high rates of economic growth due to the after-war boom, accompanied by low values of the unemployment rate, led to a loss of concerns with respect to a high value of the inflation rate. A turning point came in the 1970s (the time period of the oil price shock, changes in the structure of the labour market, the growing productivity of work, the expansion of information

technologies, and the introduction of inflation targeting) when one of the most important economic relationships, sometimes even viewed as a law, ceased to prevail. The reasons for that development were summed up by, in particular, M. Friedman (Friedman, 1968) and E. Phelps (Phelps, 1967). They showed that unemployment is caused by a number of economic processes and cannot be affected by mere changes in the aggregate demand. The importance of the Phillips curve has also been diminished by a change in the behaviour of central banks, based on inflation expectations. These expectations cause significant deformations of the relationship between the unemployment and inflation rates; in fact, the expected value of the inflation rate affects the behaviour of economic subjects so that the actual inflation rate is, to a great degree, determined by that behaviour. Nevertheless, M. Friedman and E. Phelps have admitted that the relationship expressed by the Phillips curve is valid on a short-term scale, but is accompanied by growing values of the inflation expectations.

Later – (Atkeson and Ohanian, 2001) or (Lansing, 2002) – doubts were cast on the possibility to predict the inflation rate on the basis of the unemployment rate even on a short-term scale. Atkeson and Ohanian have proved that it is inexact and unsuitable to predict the inflation rate on the basis of the unemployment rate and that such an approach may only randomly bring good results (in backward verification).

The economic policy creators' ability to influence the development of unemployment and prices is rather limited. Regarding the inflation rate, the primary issue is that of targeting this index's value by the central bank. The success rate of such targeting is given not only by the measures applied (which need not always be sufficiently efficient or may even go against the original intention of the respective measure; let us mention, for example, currency interventions), but also by the developments of the international economy, which a central bank's influence is unable to reach. As for the decision-making sphere's ability to regulate the unemployment rate, the situation is somewhat more complicated. Social measures may alleviate the impacts of high unemployment, but do not usually eliminate the causes for its occurrence. Re-qualification and other direct stimuli will only be reflected in decreasing unemployment rates on a medium-time scale, i.e., not immediately.

Quick changes in economic conditions seen in the most recent decades show that the Phillips curve relationship, which was derived statistically, based on observations made in the British economy from the mid-19th to mid-20th centuries, is not easy to apply to the conditions of the up-to-date global economy, which is subject to quick changes. Moreover, we must also consider the statistical nature of the inflation and unemployment rates as such. The methodology for statistical surveys concerning the developments in prices and unemployment have, since the time when Phillips' original work was published, been significantly changed several times. Such changes have also influenced the values of

the indices, interpretations of such values, and their ability to reflect the same reality as decades ago (cf. Hindls and Hronová, 2015).

Another relationship expressed in the form of a law in economic theory is Okun's Law (cf., e.g., Samuelson and Nordhaus, 2010), which defines a relationship between the unemployment rate and a decrease in production. According to that theory, there is inverse linear proportion between the decrease in production and the difference between the actual and potential values of the unemployment rate. This relationship is logical because economic growth is always (even if with a certain time lag) reflected in decreasing unemployment. However, the proportion between the unemployment rate and a decrease in production is not and cannot be given and constant in time. It changes depending on the stage of the economic cycle, economic conditions prevailing in the given country, and other factors.

Despite the reservations we have presented above with respect to the universal validity of basic economic relationships derived from empirical observations, we can formulate a hypothesis that developments in unemployment and prices are sensitive indicators of the changes in the economic cycle stages. If we transform this economic formula onto a relationship between economic indices, we can expect that the mutual relationship between the unemployment and inflation rates (expressed by a difference between those two values, called a signal gap in the present text) to be an indicator of a change in the economic growth dynamics, expressed by the GDP growth rate.

Certain theoretical considerations also support the idea of using the relationship between the developments in unemployment and prices as a sensitive indicator of a change in the economic cycle stages. In general, a long-term decrease in the unemployment rate gradually leads to a lack of labour force, which in turn brings pressure for wage increase in both the corporate and public sectors. Employers (including the government) must, sooner or later, yield and agree with the wage increase within their collective bargaining. The increase in wages causes an increase in demand, growing retail turnover, and consequently growing prices and growing inflation rate. Because of the slowness in the unemployment decrease, the growth of the inflation rate need not be hasty; nonetheless, it will sooner or later, make the central bank moderately increase the interest rates, possibly even repeatedly. In parallel, corporation managements try to partly compensate by technological progress for the lacking labour force; however, this effort may have results only after some time and will not save the central banks from the necessity to operatively increase interest rates. In other words, the unemployment rate value slowly goes down; at the same time, for the above-described reasons, the inflation rate is growing and the signal gap's value is also decreasing.

The subsequent development is more or less straightforward: the increasing interest rates slow down the economic growth, prices of securities are somewhat decreased, by which access to outside financial

resources is made more difficult – especially the financing of investments, but also of operations, is concerned. Simultaneously, a moderate decrease in the GDP growth rate cannot reduce the recently achieved level of wages and salaries, whose increase has begun to be too high with respect to the actual productivity of work; and this aspect further slows down the economic performance.

In a sense, a "vicious circle" occurs, whose outcome is clear: a change in the economic cycle stage. Statisticians and econometricians thus face a task to find the lead-time measure, for which the decreasing value of the signal gap begins to indicate that the economic cycle stage is beginning to change; more specifically, look for a model for such behaviour with the aid of time series analysis.

METHODOLOGY OF OUR ANALYSIS

If we are to verify the hypothesis formulated above, we must first identify and define the indices and their contents and periodicity so that they best correspond to the economic theoretical assumptions and their values reflect the ever-changing conjunctural development in the time period under consideration. We must also decide about the length of the time period to be considered to meet, on the one hand, the formal conditions for application of the methods used in the time series analysis and, on the other hand, the factual requirements for adequate demonstrability and reasoning about the classical stages of the economic cycle. The last problem our analysis has to resolve is to identify the lead time by which the signal gap, or rather the change thereof, precedes the corresponding change in the economy. The definitions of the indices and the subsequent analysis will be based on the data of the Czech Republic, which are available on the Czech Statistical Office's website (cf. www.czso.cz); from the methodological point of view, these indices are comparable on the international scale.

The indices entering the calculations of the signal gap values are the inflation and unemployment rates, the values of which we observe quarterly. The inflation rate is, in general, defined as the relative increase corresponding to the index of consumer prices. The quarterly inflation rate equals the percentage change in the price level in the given quarter as compared with the immediately preceding one. Actually, it is calculated as a ratio between the basic index of consumer prices in the actual quarter and the basic index in the immediately preceding quarter; the basis is the same for both those quarters (namely, the basis in the Czech Republic is the average value of 2015).

The unemployment rate is, in general, defined as a ratio between the number of unemployed people and the number of economically active people (i.e., a sum of the numbers of unemployed and employed people). In our analysis, we have used the so-called general quarterly unemployment rate, based on the definition of an unemployed person according to the conditions given by the International Labour Organisation – ILO. Our data concerning unemployment in the Czech Republic come from the Labour Force Sample Survey arranged by the Czech Statistical Office.

The economic evolution within stages of the economic cycle is documented by the GDP quarterly growth rate, which is a relative increase in the GDP value from the preceding to the actual quarter; the values are seasonally adjusted. The corresponding GDP values are expressed in the chain-linked prices of 2010.

When selecting the length of the quarterly time series, we have encountered several formal issues: in the Czech statistics, we do not have at our disposal time series of aggregate indices that would be as long as those available in most western countries; moreover, the Czech economy underwent an extensive transformation of ownership relationships and tools for economy control in the early 1990s. We have finally selected the period from 1996 to 2018 (with quarterly observations, the length of the series is nearly 100).

This length is not only suitable for the tools we have used for stochastic modelling of the time series, but also sufficient for manifestations of the economic cycle stages occurring in the Czech economy in that period of time. They, for example, include the slowdown of the Czech Republic's economic growth in the mid-1990s due to the post-transformation shock; the accelerated dynamics of the Czech economy starting at the turn of the millennia (and culminating between 2005 and 2007); serious consequences of the worldwide crises in 2008-2009 and again in 2011-2013; the recovery lasting until 2017; and the subsequent slowdown in the Czech economy's performance which we could see starting at the beginning of 2018.

The described stages implicitly reflect the development stages of the world economy (the fall of East-Asian economies in the late 1990s, overheated prices of American technological securities at the beginning of the millennium as the first omen and, at the same time, the hidden cause for the worldwide economic crisis which actually came in 2008), the fiscal irresponsibility seen from 2001 to 2013, etc. Even though many of those symptoms did not stem from the Czech economy (as already stated above), they had serious consequences on it, and we must allow for their effects in the subsequent analysis of the relationship between the signal gap values and the GDP growth.

Our analysis has been carried out on the data of the Czech Republic. Once again: the Czech Republic is not a country that would, in general, stand at the root of economic crises and it is unlikely to be a source from which the causes for global crises would be coming. It is rather an "importer of crises"; and as a small, open economy it often feels their consequences more deeply and, as a rule, for a longer time than the countries, or group of countries in which the crises were born. Let us just recall the most recent worldwide crises of 2008–2009 and 2011-2013. Despite the mentioned facts, even this small economy may encounter isolated occurrences of economic slowdown, whether for internal causes (such as in 1997–1998 and, most likely, nowadays) or causes of a deeper nature imported from outside of the Czech Republic territory (the crisis of 2008–2009).

We have used the cross correlation function (CCF) to verify the hypothesis that there is a certain time lag by which the signal gap value (as the lead-time index) precedes a change in the GDP growth rate; this time lag must be identified and confirmed by the relevant tests. The CCF is defined for stationary time series and its advantage is that it measures not only the intensity, but also the direction of the mutual linear dependency between two time series. From this function's values we can derive the time lags in the time series to be analysed.

Let us denote the time series to be analysed by X_t and Y_t ; the CCF is then defined at k as the covariance of X_t and Y_{t+k} for $k=0, \pm 1, \pm 2, \dots$, divided by a product of the standard deviation values of both series:

$$\rho_{XY}(k) = \frac{\gamma_{XY}(k)}{\sigma_X \sigma_Y}, \quad (1)$$

where σ_X and σ_Y are the standard deviation values for the series X_t and Y_t (respectively). It is clear that $\rho_{XY}(k) = \rho_{YX}(-k)$ holds. In other words, in addition to the intensity of the dependency, the CCF also identifies its direction. That is why we have to calculate the CCF values for both positive and negative values of k . Of course, we do not know the covariance and standard deviation values in practice. We must therefore replace them with their sample counterparts in the cited formula – cf. Wei (2006) in more detail.

If we identify the time lag in the linear dependency of both series, we can express this dependency and the time lag within the framework of a dynamic regression model. This type of model is capable of describing relationships between time series at different moments of time (that is, inclusive of the time lag); due to this feature they are similar to regression models; at the same time their assumption is that the dependent time series is governed by an ARIMA stochastic model. The model is formulated as follows:

$$Y_t = c + v_0 X_t + v_1 X_{t-1} + v_2 X_{t-2} + \dots + v_K X_{t-K} + \frac{1}{(1 - \phi_1(B))(1 - \Phi_1(B^L))} \varepsilon_t, \quad (2)$$

where the meanings of the symbols are described in detail in Box, Jenkins and Reinsel (1994) or Wei (2006).

RESULTS OF OUR ANALYSIS

Our analysis for the signal gap as an indicator of a coming recession (or crisis) is based on graphically depicting the time evolutions of the quarterly values of the selected indices, i.e., the general unemployment rate, inflation rate and GDP growth rate – cf. the chart in Figure 1. This chart helps us identify the time segments in which the curves of the unemployment and inflation rates touch on each other. Namely, the following time periods are concerned:

- the beginning of 1996; there was a record value of economic growth in the Czech Republic in 1995 (with a year-to-year GDP growth rate of 6.1%), which was clearly above the capacity of the Czech economy because the economic transformation processes had not been completed yet. The signal gap value of 0.1 percentage point is a good indicator of an overheated economy and the coming crisis. In 1997 and 1998 the GDP in the Czech Republic went down by 0.6% and 0.3% (respectively);
- the break of the years 1997 and 1998, when the inflation rate, due to the extraordinary restrictive measures applied in the fiscal and currency policies, jumped up to 5% in the 3rd quarter of 1997 and the 1st quarter of 1998 from the last year's 1.2% or 1.6% (respectively). It went down to 1.6% in the 4th quarter of 1997, and to 0.7% in the 2nd quarter of 1998. In this instance, the low signal gap values (0.0 percentage points and 0.9 percentage points) were non-recurring – they were caused by the state interventions in the economy, aimed at mitigating the growing deficit of the state budget and foreign trade, and averting the fall of the economy. These interventions were reflected by price jumps in the said quarters. It means that these isolated small values of the signal gap cannot be viewed as a trend indicating a coming recession;

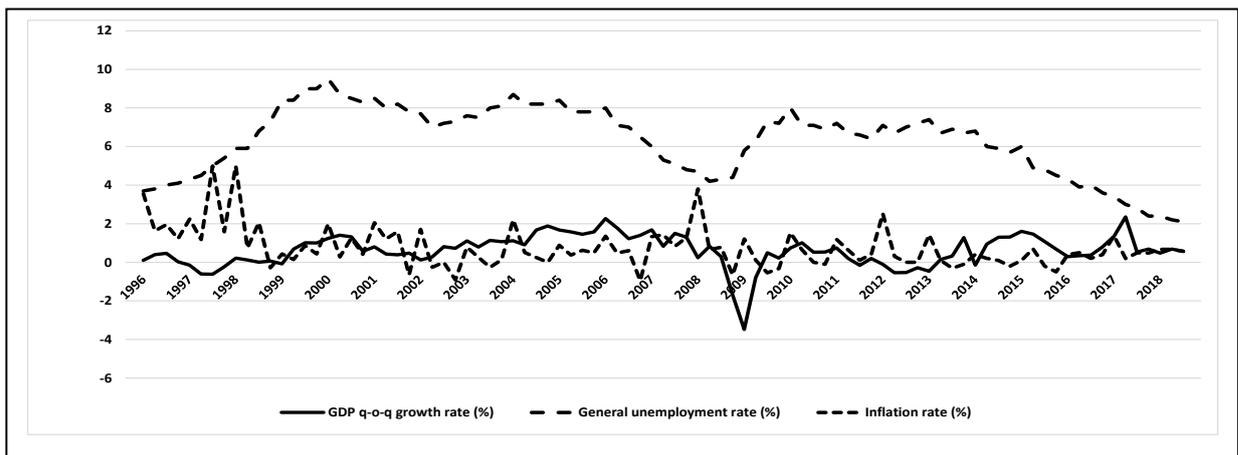


Figure 1. *Time evolution of selected national economy indices in the Czech Republic*

- the beginning of 2008, when the signal gap values were, during 2007, decreasing to 0.9 percentage points in the first quarter of 2008. This trend in the signal gap values (a decrease in five consecutive quarters) can, in this instance, be viewed as an indicator of a coming recession. In other words, the period from the end of 1998 to the end of 2006 is a period of economic growth in the Czech Republic, which is also illustrated by the large signal gap values, namely, between 5 and 8.6 percentage points; a similar trend can be seen in the period of 2010–2016 (cf. Figure 2);

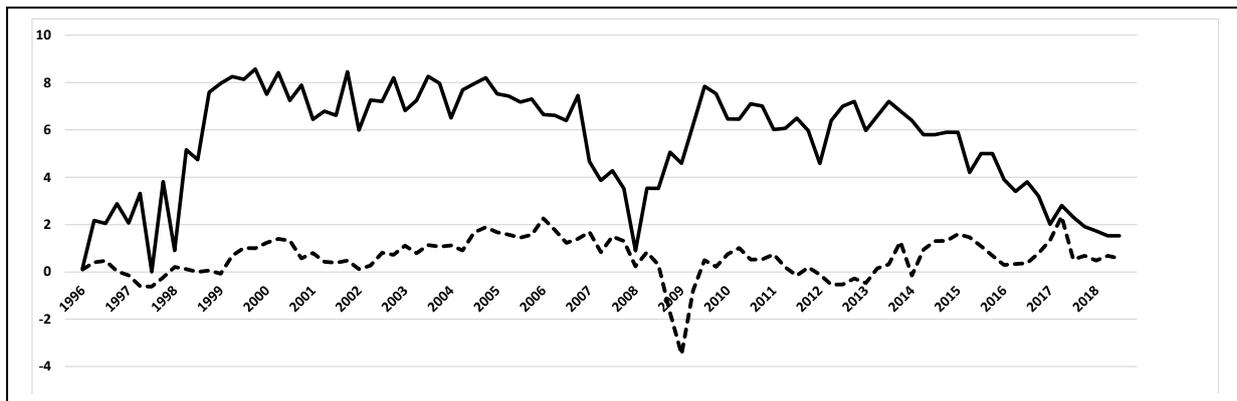


Figure 2. Relationship between signal gap and GDP growth rate (an example of the Czech Republic)

- the year 2018 – from the 3rd quarter of 2017, the Czech economy shows a slowdown of its growth with an average quarter-to-quarter rate of 0.6%); the signal gap values again tend to a decrease in five consecutive quarters. The Czech economy is getting to the limit of its growth capacity (the unemployment rate has been below 3% and the inflation rate below 1%); hence we can expect that a recession will come. In what time (measured by a number of calendar quarters) can the beginning of that recession (or crisis) be expected? The model described below provides an answer to this question.

We have used the above-mentioned CCF to verify the time lag. Both of these series have to be stationarised to enable us to use the CCF. Taking the usual seasonal differences has achieved this goal. The CCF values for the stationarised series are shown in the following Figure. The values of the series are significantly linearly dependent at points X_{t-4} and Y_t , where X_t is the signal gap series and Y_t is the series of the GDP quarterly growth rate. Since we are working with quarterly data series, this time lag represents four quarters. In other words, the series of signal gap values predicts a change in the GDP growth rate series with a lead time of four quarters, that is, one calendar year. We can thus estimate the change in the GDP growth rate one year ahead on the basis of the behaviour of the signal gap series.

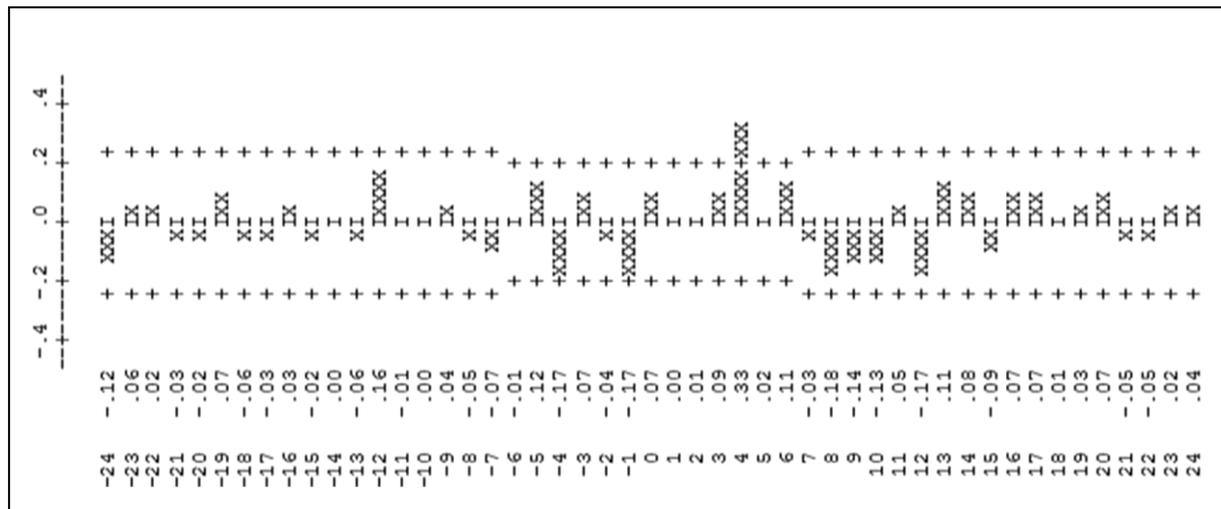


Figure 3. CCF Values

We can describe this relationship by a linear regression model

$$Y_t = 0.1973 X_{t-4} + (1 - 0.4174B)(1 - 0.7191^4)\varepsilon_t, \tag{3}$$

where Y_t is the series of the GDP quarterly growth rate after the current and seasonal differentiating, X_t the series of the signal gap quarterly values after the current and seasonal differentiating, and ε_t is the standard white noise. Both the CCF values and the model itself show an apparent time lag of four units (in our case, this means four quarters, i.e., one calendar year). This fully confirms our hypothesis that the signal gap values at time t significantly influence the values of the GDP growth rate series at time $t+4$. The random component ε_t is governed by a seasonal process of moving averages (SARIMA (0,1,1) x (0,1,1)). Our calculations unambiguously imply that, with the aid of the CCE and the said model, we are able to predict the values of the GDP growth rate series by four quarters ahead. The four-quarter time lag enables us to directly substitute the signal gap values into the model, thus obtaining the estimates for the future values of the GDP growth rate series. One advantage of this model is the fact that the X_t input values have been calculated from actual data, i.e., they are not just estimates, as is usual within standard utilisation of dynamic regression models. As a matter of course, the resulting prediction error is then far smaller. This model has successfully passed all stages of verification, whether by residual analysis or other adequate tests (the unit root, homoscedasticity, and Dickey-Fuller tests).

The results of the analysis are unquestionably important as one of the possible ways of knowing the phases of the business cycle. Effort to anticipate a slowing growth in the economy ahead is one of the permanent goals of research. The initial hypothesis that the decreasing value of the signal gap may be an indicator of the incoming recession was on the data of the Czech Republic, ie the country that has experienced significant turbulence over the last thirty years. The time series model used shows that the upcoming reversal in economic development is predictable in advance of four quarters, following the

monitoring of the signal gap. We will continue to research that the signal gap is capable of indicating changes in the business cycle.

CONCLUSIONS

Economic evolution is, in each country, a result of many significant economic factors. Statistical indices are used to express such factors in a formal, quantitative format. The unemployment and inflation rates are, undoubtedly, among indices considered the most important when monitoring the conjunctural development. The difference between the values of these indices, called the signal gap in this paper, tends to zero at the apex of the economic cycle, when the economy has exhausted the resources for its continuing growth, followed by a slowdown in the economic growth and occurrence of a recession (possibly even a crisis).. Using the quarterly data of the Czech Republic in the years 1996 through 2018, this paper shows that, in a period in which the Czech economy has undergone substantial turbulences, the hypothesis is valid. At the same time, we can see a model explaining the time lag of recessions after the signal gap value's approaching zero. At the same time, we can see in the Czech Republic's data that the zero (or close to zero) signal gap values isolated in time may have been caused by non-recurrent (e.g. fiscal or taxation) measures introduced by the government and influencing the price jumps in the respective quarters. Such non-recurrent values (not representing a trend prevailing in several consecutive quarters) cannot be viewed as indicators of coming recessions. Our analyses based on the CCF values and the dynamic regression models have shown that a recession occurs four quarters after occurrence of a minimum in the signal gap values. In our future research, we would like to verify the validity of our conclusions for the economies in other developed countries.

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REFERENCES

- Atkeson, A. and Ohanian, L.E. (2001), "Are Phillips Curves Useful for Forecasting Inflation?" FR Minneapolis Quarterly Review (Winter), pp. 2-11.
- Box, G.E.P., Jenkins, G.M. and Reinsel, G.C. (1994), Time series analysis, forecasting and control, Third edition, Prentice-Hall, Inc. Englewood Cliffs, New Jersey.
- Ferreira Lopes, C.E. and Cross, N.J.G. (2017), "New Insights into Time Series Analyses", A&A, Vol. 604, A121.
- Fox, J. (2016), Applied regression analysis and generalized linear models, Sage Publications, London.
- Fisher, I. (1973), "A Statistical Relation Between Unemployment and Price Changes", International Labor Review, 1926, reprinted as: I Discovered the Phillips Curve. In: Journal of Political Economy, Vol. 81, No. 2, pp. 496-502.

- Friedman, M. (1968), "The Role of Monetary Policy", *American Economic Review*, Vol. 58, pp. 1–17.
- Hindls, R. and Hronová, S. (2015), "Unemployment and inflation rates in the years of economic turbulences or do the Phillips curve relationships still hold?", in: 8th Annual Conference of the EuroMed Academy of Business, EuroMed Press, Verona, pp. 861–870.
- Lansing, K.J. (2002), "Can the Phillips Curve Help Forecast Inflation?", *FRBSF Economic Letter*, No 2002-29, October 4.
- Phelps, E.S. (1967), "Phillips Curves, Expectations of Inflation, and Optimal Unemployment Over Time", *Economica*, Vol. 34, pp. 254–281.
- Phillips, A.W. (1958), "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957", *Economica*, Vol. 25, pp. 283-299.
- Samuelson, P.A. and Nordhaus, W.D. (2010), *Economics*, 19th ed., McGraw-Hill/Irwin, Boston.
- Wei, W.W.S. (2006), *Time series analysis – Univariate and multivariate methods*, Pearson, Addison Wesley Publishing, New York.
- Woodward, W.A., Gray, H.L. and Elliott, A.C. (2012), *Applied Time Series Analysis*, CRC Press.

PROFITABILITY AND WINE PRODUCTION COMPANIES DURING TEN YEARS: WHAT'S THE ISSUE?

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ABSTRACT

This paper focuses on the situation in Italy with specific reference to wine producer during the period of global economic crisis. It aims to analyze their profitability structure, in a ten year period (2008-2017), in relation to the different geographical areas. At this end, the study focuses on three research questions: what is the actual situation and what the trend has been in the last ten years in the various Italian geographic areas; if there are differences between geographic area and if these differences are statistically significant. The trend analysis and analysis of variance (ANOVA) have been used starting from secondary data on AIDA database (at the end 289 wine production companies). The profitability structure is assessed using two ratios: ROA and ROE. The findings show that the profitability structure of energy suppliers have not been substantially affected by the crisis in any geographic area. Moreover this factor produces statistically significant differences in the profitability structure of wine companies.

Keywords: Italian wine production Companies; Global Crisis; Finance; ROA; ROE.

INTRODUCTION

This paper is aimed at analyzing wine companies in Italy. In particular, the objective is to analyze the profitability situation during and after the global financial crisis of 2008. This analysis was conducted with reference to the different geographic areas in which Italy is divided. Furthermore, a comparison was also made with the entire sector that produces beverages, including the production of wine. To this end, three questions of re-search have been asked:

- 1) What was the profitability trend of wine producing companies in the different geographical areas of the Italian territory?
- 2) Are there differences between the different geographic areas?
- 3) Are these differences statistically significant if present?

With regard to these research questions, as many hypotheses have been asked. The first hypothesis (H1) is that the crisis triggered by the financial system has not affected the profitability of wine producing companies by virtue of the strong brand of these companies and a very loyal clientele

(Sellers-Rubio, Mas-Ruiz and Sancho-Esper, 2018; Castro, Giraldi, 2018; Pereira, 2016; Drennan, Bianchi, Cacho-Elizondo, Lourier and Guibert, Proud, 2016; Iovino, 2012; Iovino, 2014; Iovino, 2015; Iovino and Migliaccio, 2016; Iovino and Migliaccio, in press b). The second hypothesis (H2) is that there are differences between the different geographical areas in which the Italian territory is divided and the last hypothesis (H3) is that these differences are significant from the statistical point of view.

At this end, the profitability dynamics is assessed using two ratios: ROA (operating profit / total assets) and ROE (net income/equity); the period considered is the decade from 2008 to 2017; trend analysis and analysis of variance (ANOVA) have been used.

In the following sections a review of literature on energy companies is presented. Thereafter the methodology, results and implications are discussed.

LITERATURE REVIEW NOTES

Following is a brief literature review of the main studies on crisis and wine companies.

Yu and Lindsay (2016), analyze the effects of the global financial crisis on the export performance of wine companies. The results show that there is a negative effect of the crisis on exports and they are also influenced by the previous export performances of these companies.

Simon-Elorz, Castillo-Valero and Garcia-Cortijo (2015), verify the possible competitive strategies that the wine companies of the Castilla-La-Mancha area can adopt for the period 2004-2010. They use a model to verify financial performance in relation to some variables such as age and size. Furthermore, they monitor the effects of the economic crisis on the results of these companies.

Giuliani, Lorenzoni and Visentin (2015), use a case study of the Italian wine industry in order to verify the relative responses to crisis situations. The results demonstrate the decisive role of knowledge and practices in what can be defined as a true renaissance of the wine industry. Added to this is the role of preconditions.

Fabbrizzim, Sacchelli, Menghini and Bernetti (2015) use a case study to investigate policies and strategies to alleviate the effects of the economic crisis. The case study is related to Tuscany, a region of central Italy. The results highlight various policies and managerial activities that can improve the performance of local wine companies. Among them are cooperation, long-term associations and the ability to obtain funds.

Idsardi and Cloete (2013) analyse the effects of financial crises on a global level. To this end they use the case study of wine and fruit imports in South Africa. The analysis was conducted with reference to a period of 28 years. The results show that economic crisis also have positive effects on the results of wine and fruit companies.

Masset and Weisskopf (2010) analyse the effects of the diversification of wine companies through the fine wine during times of crisis. The analysis covers the period 1996-2009. The results show that a balanced portfolio through the presence of fine wine determines a reduction in volatility and an increase in added value.

Duquesnois, Gurău and Le Roy (2010) analyse the responses of wine producers during times of crisis. The research is conducted on a sample of companies from the Languedoc-Roussillon region, south of France. The results show that the strategies chosen to deal with the crisis are a combination of niche and differentiation. These strategies do not lead to revenue reduction.

RESEARCH METHODOLOGY

Data collection and sample characteristics

To our aims, secondary data on AIDA database has been used. To analyse the profitability situation, two ratios, ROA (operating profit / total assets) and ROE (net income/equity), have been chosen. The last ten years after liberalization, i.e. 2008-2017 had been considered. The sample was made up of the Italian wine production companies, that is 696 wine production firms. Then we have chosen only the companies that had all the values for both ratios analysed for all the years considered. At the end the sample was made up of 289 companies. Successively, different groups have been identified using as discriminating factor, the geographic area. About this three clusters were identified: north, centre and south according to conventional classification of Italian regions. The geographic distribution of the sample was the next: 57% in the North group, 19% in the Centre and 24% in the South ones. To identify the wine production companies we have used the statistical classification of economic activities (*NACE rev. 2*).

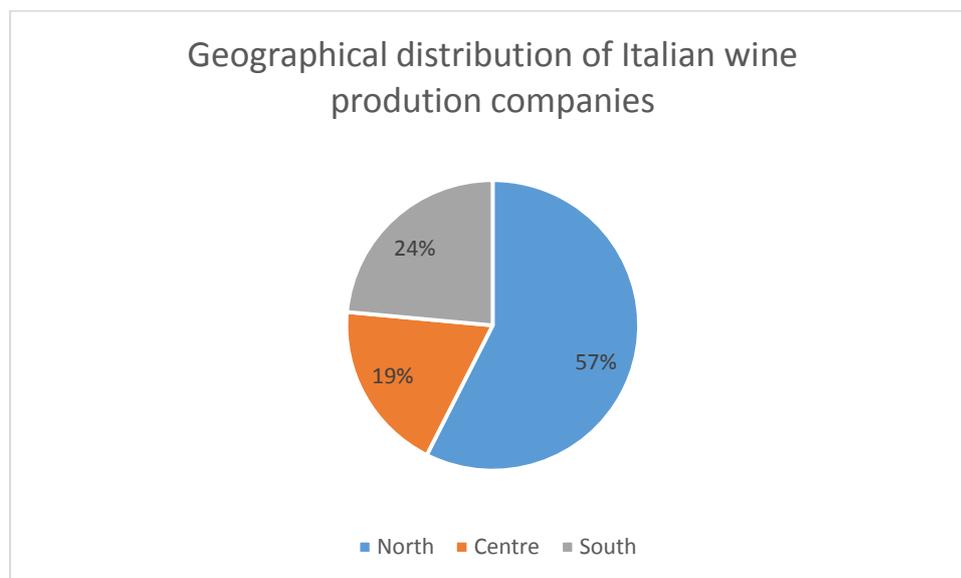


Figure 1 – Source: our elaboration - geographic distribution of Italian wine production companies



Figure 2 – Source: our elaboration - market distribution of Italian beverage producer companies

Method

First of all we analysed data's trend in the period 2008/2017 for each ratio and group. Then using the analysis of variance (ANOVA) we assessed the differences of means between groups the response variable means at the different factor levels.

The null hypothesis states that all population means (factor level means) are equal while the alternative hypothesis states that at least one is different. In our case, the independent variables were the geographic localization while the dependent variables were the ratios. We chose ANOVA one-way type, because two variables were analysed separately (Iovino and Migliaccio 2019).

RESULTS AND DISCUSSION

Trend analysis

ROA (operating profit / total assets) is an index of profitability. It expresses the return in terms of operating profitability of the total assets invested. This means checking the capacity of the characteristic management, that is the typical activity of the company, to remunerate the total investments made in the company. Therefore, it is certainly positive that this index fulfils values as high as possible. During the ten years analysed the value of this index is between 2.48% and 4.89% if the geographical distribution is taken into consideration. If instead, we consider the belonging to the sector this value is between 3.70% and 5.17%. Figures n. 3 and 4 show that the ROA value is quite high in all the years analysed. This happens both for all geographical areas and for the wine market compared to the general beverage production market. The highest value recorded in the north in 2015, while the lowest value is recorded in the centre in 2009. The values of the northern companies are higher in all ten years analysed compared to those of the southern firms and of the centre that keep lower and lower.

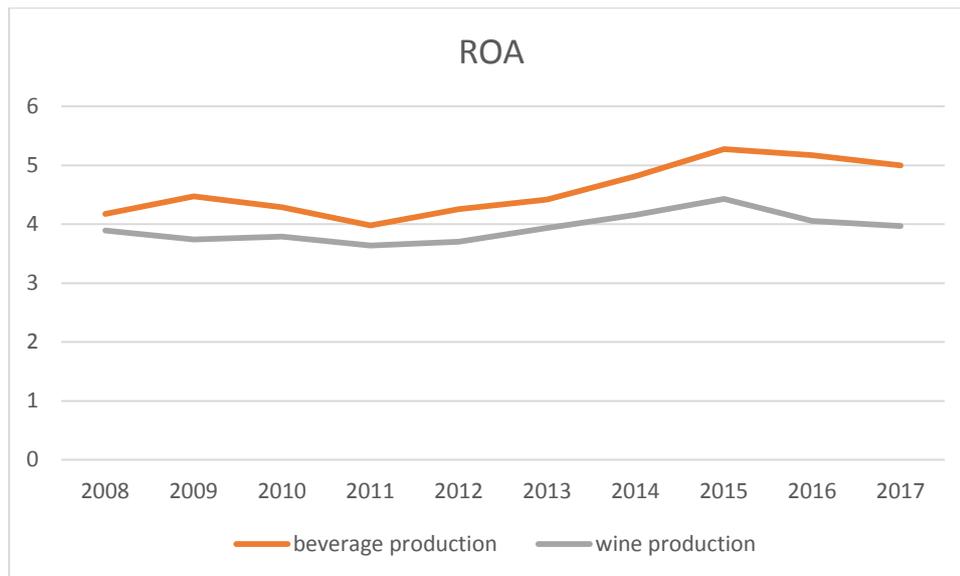


Figure 3 – Source: our elaboration - Trend of ROA according to belonging market

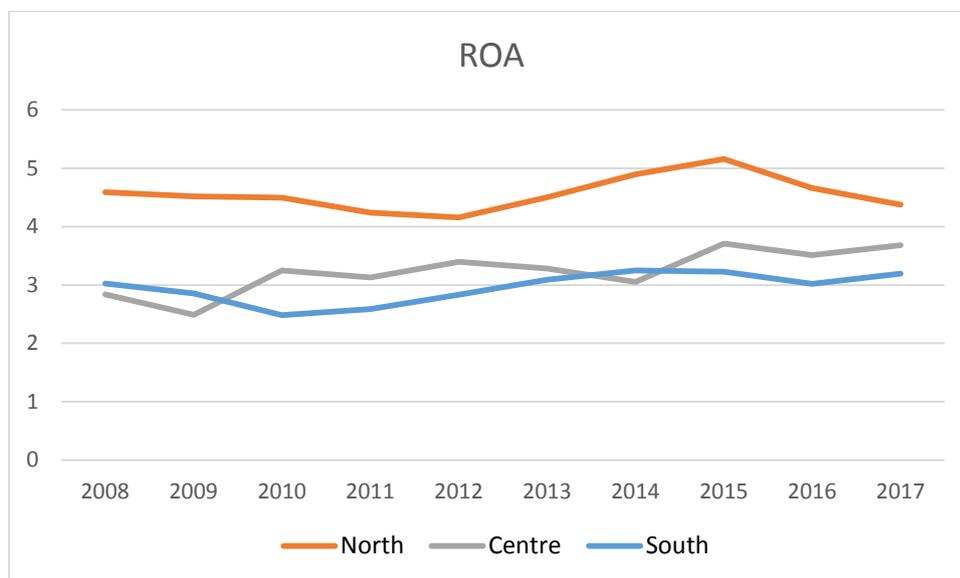


Figure 4 – Source: our elaboration - Trend of ROA according to geographic localization

ROE is the index of the overall profitability of the company. It is given by Net income / Equity. It expresses the ability of net income to remunerate the total invested equity. This also takes into account the incidence of profits or losses deriving from operations other than the typical management of the company, ie financial, extraordinary and non-specific management. Like the other profitability ratios, even a positive ROE with the highest possible value is desirable on the part of the company. In the years analyzed, the ROE always assumes positive values. This expresses a constant positive profitability despite the period of crisis. The values fluctuate between 0.20% and 8.7% if we consider the different geographical location. If, on the other hand, the wine market alone is compared with the overall beverage production sector, the values range from 3.96% to 8.41%. The corporate values of the center are constantly except in the last three years analyzed below those of companies in the center

and north. The latter, as in the case of ROA, record the values that are constantly higher in all the ten years analyzed. In fact, the lowest value is recorded by the enterprises of the center in 2013 equal to 0.20% the highest one from the northern enterprises in 2010 (fig. 5-6).

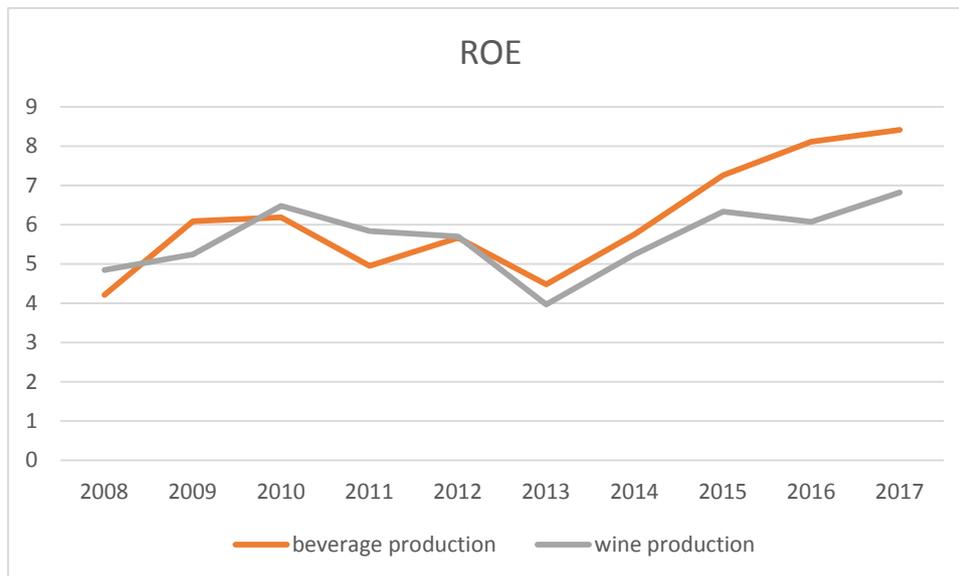


Figure 5 – Source: our elaboration - Trend of ROE according to belonging market

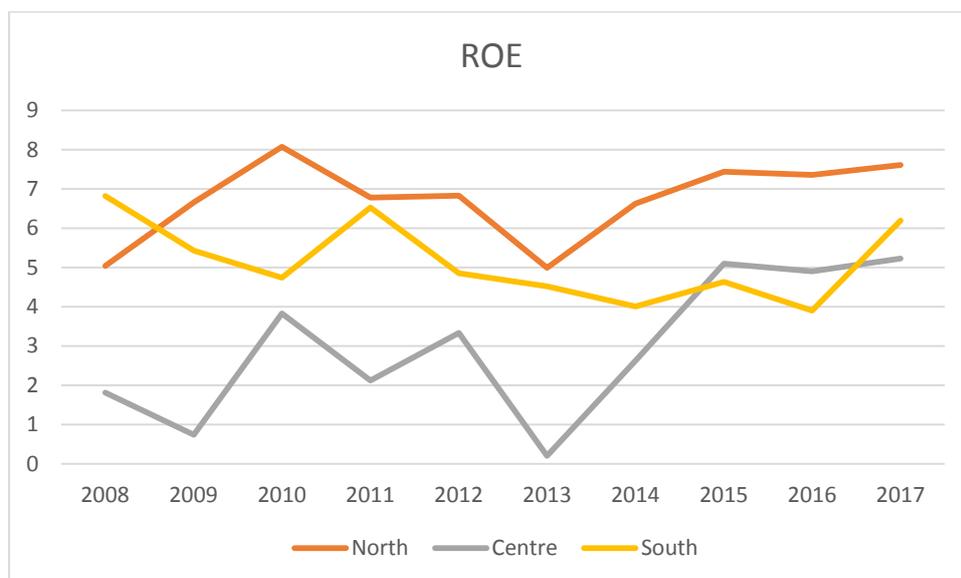


Figure 5 – Source: our elaboration - Trend of ROE according to geographic localization

Therefore from what emerges from the trend analysis The values of both indices are always positive in all the ten years analysed. This analysis also shows that these values for both indices did not undergo substantial reductions during the years of the crisis. The wine-producing companies have not seen their profitability reduced during one of the most difficult periods globally from a financial point of view. The trend is substantially stable in the case of ROA. This is by referring to the different geographical areas and by comparing the entire sector with the wine production business. It is also possible to note that in recent years there has also been a certain increase in values. The stability of the

ROA over time implies the ability of these companies to maintain the profitability of the characteristic management and therefore of the typical business activity unchanged over time. The core business of wine producers therefore did not suffer the effects of the crisis. The ROE trend is on the contrary, very variable over the ten years analysed. It presents substantial reductions, but also strong growth during the analysed period. Such an extremely variable trend also characterized by strong growth even during the most acute years of the crisis does not therefore appear to be due to the repercussions of the global financial crisis. These changes are certainly attributable to the changes in income and charges from operations other than the typical, primarily the financial one (Iovino, F., in press a, b). The latter was intuitively affected by the financial crisis. However, the ROE is always positive over the ten years with very satisfactory values. Therefore, the profitability, both in relation to the total of the investments made and in relation to the only capital invested, remains constantly over the years of the crisis, always at adequate levels. In this way, companies are also able to borrow money from third parties and remunerate them. This therefore makes it possible to exploit the financial leverage of third-party capital and push the return on capital out of that of the invested capital. We can therefore state that the crisis has not substantially affected the profitability of wine-producing companies. Therefore the hypothesis H1 is substantially verified. Even the H2 hypothesis is verified as there are substantial differences in the performance of both indices in the three different geographical areas in which Italy is divided. The wine market follows the same trend as the entire beverage production sector. This is probably due to the fact that it alone represents 61% of it. *Analysis of variance*

About ROA, Table 1 shows the results of the analysis, assuming the geographic area as independent variable. There is a statistically significant difference between groups ($F(2,27) = 73.31808$, $p = 1.22537E-11$), in fact $F < F_{crit}$ (p value < 0.05).

Source of variation	SS	df	MS	F	P-value	F crit
Between groups	14.68138	2	7.340692	73.31808	1.22537E-11	3.354131
Within groups	2.703271	27	0.100121			
Total	17.38465	29				

Significant level at 0,05

Table 1. ROA - Analysis of variance with geographical localization as independent variable

The null hypothesis must be reject and the alternative ones must be accept. There is therefore a statistically significant difference between the ROA values recorded in the three different geographical areas.

Source of variation	SS	df	MS	F	P-value	F crit
Between groups	70.91631	2	35.45816	19.93116	4.82461E-06	3.354131
Within groups	48.03385	27	1.779032			
Total	118.9502	29				

Significant level at 0,05

Table 2. ROE - Analysis of variance with geographic localization as independent variable

The results of ANOVA applied to ROE are shown in table 2. It indicates a statistically significant difference between groups ($F(2,27) = 19.93116$, $p = 4.82461E-06$), in fact $F > F_{crit}$ ($p \text{ value} < 0.05$).

We have to reject the null hypothesis. Thus, there is a statically significant difference between groups (see tables 2), as trend analysis has shown.

The results of statistic analysis show that the hypothesis H3 of this research, previously described, is tested with regard to ROA and ROE if we consider the geographic localization. There is therefore a substantial difference between the profitability of the three geographical areas.

CONCLUSIONS

It is possible to affirm that the hypotheses posed are substantially verified. In fact, the profitability of wine-producing companies is not affected by the crisis that has occurred since 2008. In addition, there are differences between the different geographical areas and these differences are statistically significant. In fact, ROA appears to have a substantially constant trend over the ten years analysed. In fact, over time there has also been a slight increase, especially in the last three years. This trend characterizes this index in all geographical areas, but also if we only compare the wine production market with respect to the overall beverage production sector. Both the trend analysis and the ANOVA confirm the existence of differences between the different geographical areas (Iovino, in press b). The best performances are from companies in the north of the country. Wine producers are therefore able to maintain the profitability of their operations unaltered despite the difficult financial conditions. ROE shows a more variable trend over the years. However, its values are always positive and high except for a few years and in particular for the companies of the centre. Also in this case there are differences between the different geographical areas. This is evidenced both by the trend analysis and by the ANOVA. Wine companies are therefore able to contain the effects of changes in income and expenses of other operations (Iovino, in press c).

The paper has several limitations which also constitute the prospects for future research. In fact, only two profitability ratios were considered. Furthermore, only those companies of which the values of the two indices were available for all the years considered were taken into consideration. It is evident that these are the companies that manage to survive over time, also having the best results (Iovino and

Migliaccio, 2018a, 2018b, in press a). The future research guidelines will be aimed at considering a multiplicity of indices, not only ritualistic, but also financial. Moreover, companies belonging to different countries may also be compared, also seeking to explore the role exercised by different types of variables in determining the financial performance of these companies.

REFERENCES

- Castro, V.A. and Giraldo, J.D.E. (2018), "Shared brands and sustainable competitive advantage in the Brazilian wine sector", *International journal of wine business research*, Vol. 30, No. 2, pp. 243-259.
- Drennan, J., Bianchi, C., Cacho-Elizondo, S., Louriero, S., Guibert, N. and Proud, W. (2016), "Examining the role of wine brand love on brand loyalty: A multi-country comparison", *International journal of hospitality management*, Vol. 49, No. Aug, pp. 47-55.
- Duquesnois, F., Gurău, C. and Le Roy, F. (2010), "Wine producers' strategic response to a crisis situation", *International Journal of Wine Business Research*, Vol. 22, No. 3, pp.251-268.
- Fabbrizzi, S., Sacchelli, S., Menghini, S. and Bernetti, I. (2015), "Coping with the economic crisis in agriculture: an analysis of the Tuscany (Italy) premium quality wine area and strategies for impact mitigation", *New Medit*, Vol. 14, No. 3, pp. 61-72.
- Giuliani, A.P., Lorenzoni, G. and Visentin, M. (2015), "New Wines in New Bottles: The "Renaissance" of the Italian Wine Industry", *Industry And Innovation*, Vol. 22, No. 8, pp. 729-752.
- Idsardi, E.F. and Cloete, P.C. (2013), "A historical perspective of the link between economic recessions and agricultural trade performance : the case of South Africa's fruit and wine exports", *Agrekon*, Vol. 52, No. 4, pp. 43-65.
- Iovino, F. (2012), "Le scelte delle politiche di marketing delle imprese energetiche", *Management delle utilities*, 4, pp. 23-35.
- Iovino, F. (2014), "L'internet marketing nelle imprese energetiche: il caso di un'impresa elettrica romana", *Mercati e competitività*, 3, pp. 141-161.
- Iovino, F. (2015), "Relationship marketing by Energy companies", *Review of International comparative management*, Vol. 16, No. 5, pp. 558-573.
- Iovino, F. (2019), "The Financial Sustainability Of Water Companies: The Italian Case", in Dukic, G., Clifford, J., Atkinson, D., *Book of Proceedings 42nd International Scientific Conference on Economic and Social Development, ESD 2019, London, UK, 12-13 June, 2019, ESD 2019, London, UK, 12-13 June, 2019, Varazdin Development an Entrepreneurship Agency, Varazdin, Croatia/Pearson College London, London, /UK/ University North, Koprivnica, Croatia/ Faculty of Management University of Warsaw, Warsaw, Poland/ Faculty of Law, Economics and Social Sciences Sale – Mohammed V University in Rabat, Morocco*, pp. 146-153.
- Iovino, F. (in press, a), "The profitability of water companies during ten years", in *Economics & Management: How to Cope With Disrupted Times, Conference Proceedings, 3rd International Scientific Conference on Economics and Management -EMAN 2019, Ljubljana, Slovenia, March 28th, All in One Print Center, Belgrade*.
- Iovino F. (in press, b), "Generation energy companies and its financial dynamics during ten years", in *Conference Proceedings 12th Annual Conference of the Euromed Academy of Business, "Business Management Theories and Practices in a Dynamic Competitive Environment ", 18-20 September 2019, Thessaloniki, Greece*.
- Iovino F. (in press, c), "Profitability structure of travel agencies and tour operators during ten years", in *Conference Proceedings 12th Annual Conference of the Euromed Academy of Business, "Business Management Theories and Practices in a Dynamic Competitive Environment ", 18-20 September 2019, Thessaloniki, Greece*.
- Iovino, F. and Migliaccio, G. (2016), "E-marketing by energy companies", in "Innovation, Entrepreneurship and Digital Ecosystems", *Book of Conference Proceedings 9th Annual Conference of the Euromed Academy of Business, 14-16 September 2016, Warsaw, Poland, Euromed Press, 1036-1048*.
- Iovino, F. and Migliaccio, G. (2018a), "Profitability dynamics of tourism companies during the crisis period (2007-2015)", in Vrontis D., Weber Y., Tsoukatos E. (Eds), *Research Advancements in National and Global Business. Theory and Practice, Conference readings book proceedings, 11th Annual Conference of the EuroMed, Valletta, Malta, September 12th-14th, EuroMed Press, Cyprus*, pp. 663-677.
- Iovino, F. and Migliaccio, G. (2018b), "Financial dynamics of tourism companies, travel agencies and tour operators, during the crisis period", in *Economics & Management: How to Cope With Disrupted Times*,

- Conference Proceedings, 2nd International Scientific Conference on Economics and Management -EMAN 2018, Ljubljana, Slovenia, March 22th, All in One Print Center, Belgrade, pp. 693-702.
- Iovino, F. and Migliaccio, G. (2019, a), "Energy companies and sizes: An opportunity? Some empirical evidences", *Energy Policy*, Vol. 128, May 2019, pp. 431-439, DOI: 10.1016/j.enpol.2019.01.027,
- Iovino, F. and Migliaccio, G. (2019, b), "Financial Dynamics of Energy Companies During Global Economic Crisis", *International Journal of Business and Globalisation*, Vol. 22, n. 4, pp. 541-554. (doi: 10.1504/IJBG.2019.10011698).
- Iovino, F. and Migliaccio, G., (in press, a), "Mobile marketing and strategy by energy companies", *International journal of Public Sector and Performance Management*.
- Masset, P. and Weisskopf, J.P. (2010), "Raise your Glass: Wine Investment and the Financial Crisis", Available at SSRN: <https://ssrn.com/abstract=1457906> or <http://dx.doi.org/10.2139/ssrn.1457906>.
- Pereira, B.A.D. (2016), "The new wave of wine brands", in Aurand, J.M., *BIO Web of Conferences*, Vol. 7, No. UNSP 03010, 39th World Congress Of Vine And Wine, Bento Goncalves, Brazil, Oct 24-28, 2016, DOI: 10.1051/bioconf/20160703010.
- Sellers-Rubio, R., Mas-Ruiz, F. and Sancho-Esper, F. (2018), "Firm reputation, advertising investment, and price premium: The role of collective brand membership in high-quality wines", *Agribusiness*, Vol. 34, No. 2, pp. 351-362.
- Simon-Elorz, K., Castillo-Valero, J.S. and Garcia-Cortijo, M.C. (2015), "Economic Performance and the Crisis: Strategies Adopted by the Wineries of Castilla-La Mancha (Spain)", Vol. 31, No. 1, pp. 107-131.
- Yu, Y. and Lindsay, V. (2016), "Export Commitment and the Global Financial Crisis: Perspectives from the New Zealand Wine Industry", *Journal Of Small Business Management*, Vol. 54, No. 2, pp. 771-797.

GENERATION ENERGY COMPANIES AND ITS FINANCIAL DYNAMICS DURING TEN YEARS

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ABSTRACT

The financial crisis was a global crisis, which affected the whole world. This paper focuses on the situation in Italy with specific reference to generation energy companies. It aims to analyse their financial structure, in the period during the crisis and after liberalization processes (2008-2017), in relation to the business market as a discriminating factors. At this end, the study focuses on three research questions: what is the actual situation and what the trend has been in the last 10 years in the various business markets; if there are differences between business markets and if these differences are statistically significant. The trend analysis and analysis of variance (ANOVA) have been used starting from secondary data on AIDA database (at the end 287 generation energy companies). The financial structure is assessed using two ratios: the Debt/Equity Ratio and Quick Ratio. The findings show that the financial structure of generation energy companies has been affected by the crisis in the different business market in different way, due to other processes. Moreover these two factors produce statistically significant differences in the financial structure of generation energy companies.

Keywords: Energy Companies; Finance; Debt/Equity Ratio; Quick Ratio; Generation.

INTRODUCTION

The paper analyses the financial dynamics of energy production companies in Italy. In particular, data relating to the 2008-2017 period will be taken into account. This period refers to the analysis of the period during and after the global financial crisis coinciding with the complete liberalization of the energy market in Italy, but also in Europe. The analysis will be conducted in relation to the aforementioned period by referring to the different geographical areas in which the country is disinclined.

To this end, three fundamental research questions will be asked:

- 1) What are the characteristics of the trends of the financial indices published in the period considered?
- 2) Are identifiable differences between the two different businesses?
- 3) Are the identified differences statistically significant?

The H1 hypothesis is that the global financial crisis has not affected the financial performance of energy production companies due to the processes of opening up the energy market (Iovino, 2012; Iovino, 2014; Iovino, 2015). The hypothesis H2 is that there are differences between the two businesses; H3 hypothesis is that these differences are statistically significant. In this sense, the financial structure is evaluated using two financial indices: debt / equity ratio (debt / equity) and the quick ratio (liquidity assets / current debt). The analysis of these indices was carried out for the 2008-2017 period, 10 years; a trend analysis and ANOVA (one-way) was then used.

LITERATURE REVIEW NOTES

Below are some studies on the analysis of the performance of energy companies by international literature.

Marti-Ballester (2017) checks how the financial performance of energy companies is conditioned by the use of sustainable energy systems. The conclusions of the research suggest a positive impact in the short term. Furthermore, the paper indicates useful suggestions for an increase in performance even in a long-term time horizon.

Guo et al.'s study (2016) highlights the role of the characteristics of top managers on the performance of Chinese energy companies. The study shows positive impacts the higher the level of education.

Qin's study (2014) is related to the financial decisions of Chinese listed energy companies. The paper highlights the existence of a link between financial indices and indices relating to the capital structure of companies.

Patari and Sinkkonen (2017) try to understand the most critical aspect for the financial performances of energy companies. The results show that their activity is little known. Therefore, the priority element is to give more ample space to the key elements both tangible and intangible.

Eyüboğlu and Çelik conduct research on the financial and profitability ratios of 13 Turkish energy companies. The analysis is conducted for the period 2008-2013. The study proposes a ranking of the analyzed companies.

Schisani and Caiazzo's study (2016) investigate the effects of Italian political unification and the related effects on energy companies. The research focuses on the companies of Naples and indicates the characteristics of stronger companies. This is the result according to this study of improvements in the financial markets and in the progress of technology.

Khurana and Banerjee (2015) analyse Indian energy companies following the adoption of the Electricity Act. The objective of the study is to verify the financial and operational performance of these companies in the period 2003-2011. The report provides a useful overview of the crisis period, but also with possible future scenarios.

Li et al.'s study (2016) examines how the internationalization and diversification strategies affect the performance of Chinese energy companies. The research underlines that the best choice is to expand the products offered to its customers and at the same time move towards a strategy of refocusing on the core business.

Anderloni and Tanda's study (2017) analyses the stock performance of green energy companies. The study verifies that there is no substantial difference in the share values of renewable energy companies compared to fossil fuels.

Ren and Li provide useful suggestions so that the financial strategy will allow the Chinese energy system to pursue adequate results in terms of profitability as well as sustainability.

METHODOLOGY

Data collection and sample

In order to answer our research questions and verify the hypotheses posed, secondary data of the AIDA database have been used. The financial dynamics of Italian energy production companies was analysed using two indices, debt / equity ratio (debt / equity) and quick ratio (liquid assets / current liabilities). The ten years after liberalization and during the period of the global financial crisis, i.e. 2008-2017 had been considered. The sample was made up of energy suppliers, that is 287 generation energy firms. Thus, two different groups were identified, since the business market was used as a discriminating variable. The geographic distribution of the sample was the next: 65% in the North group, 21% in the Centre and 14% in the South ones. To identify the belonging market a specific section was assigned to each energy generators according to statistical classification of economic activities (*NACE rev. 2*), and they were grouped in two groups: electricity market and gas market.

According to the business discriminating factor, the sample consisted of 98% energy generators of electricity market and 2% energy suppliers belonging gas market.

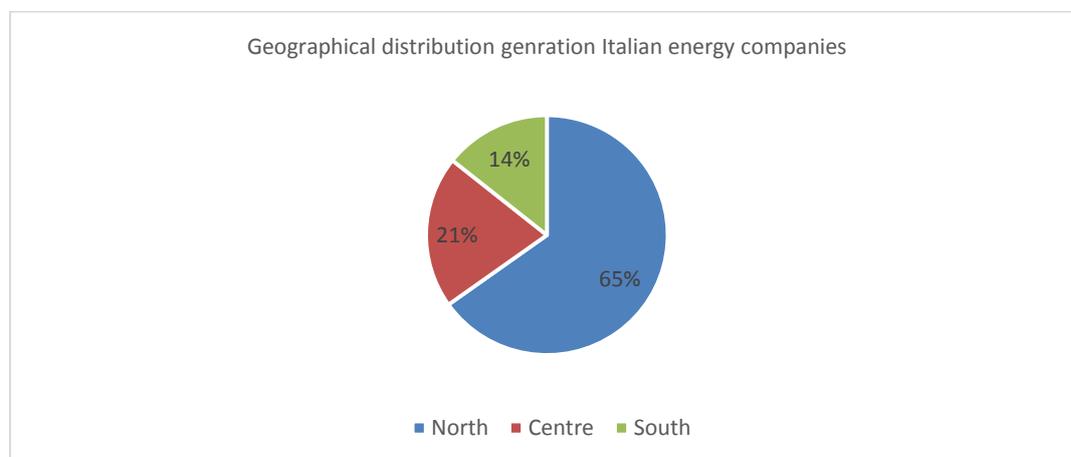


Figure 1 – Source: our elaboration - geographic distribution of Italian generation energy companies

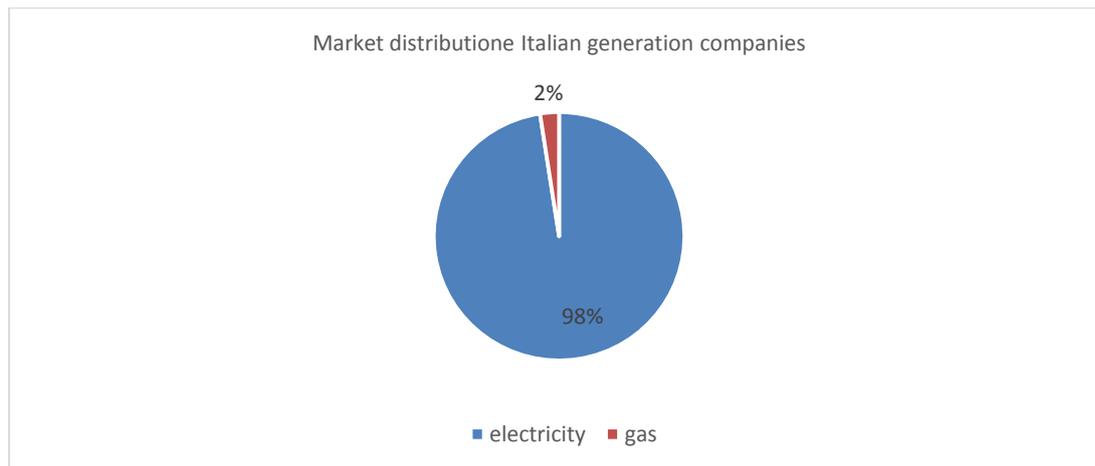


Figure 2 – Source: our elaboration - market distribution of Italian generation energy companies

Method

First of all a trend analysis was performed for the 2008/2017 period for each index and group. In order to assess any significant differences or not between the different ANOVA groups (one-way) it was used.

ANOVA (one-way) is useful when there are at least two variables to be analysed and these are verified separately. In our case the independent variable consists of the various indices, while the dependent variable is the market to which it belongs. The null hypothesis states that all values are equal to each other. The alternative hypotheses state that at least one value is different from the others (Iovino, in press).

RESULTS AND DISCUSSION

Trend analysis

The debt / equity ratio is a type of debt ratio and indicates the portion of third-party capital relative to own capital. It is obvious that to adequately assess the financial structure of a company it is necessary to consider a plurality of financial indices. An optimal value of this index is equal to 2. This means that the total of the third-party means is equal to twice the own capital. It is obvious that if the cost of third-party capital is lower than the issue of new shares, the company will have the advantage of increasing the use of credit, rather than acquiring other means from the shareholders of the company. The value of this index varies between 0.442857142857143 and 12.4162096774194 considering as belonging to the different market, electricity and gas respectively. Figures 3 shows that over the ten years analysed there is a clear difference in the values assumed by this index between the two markets, electricity and gas. In fact, except for 2008, the values of the two markets clearly diverge. In fact, while in the case of gas there is a substantially stable trend over the years, and around substantially the equilibrium value, the trend in the case of electricity is different. In fact, except for

2011, in which the debt / equity assumes a value exactly equal to that of equilibrium, 2, in all the other years of the decade analysed it assumes very high values. In fact, the maximum value of 12.4162096774194 is registered in 2010. However, also the other years are characterized by very high values to then assume a decreasing trend starting from 2015. In fact, in 2017 the value of the debt / equity in the electricity sector is around 4.

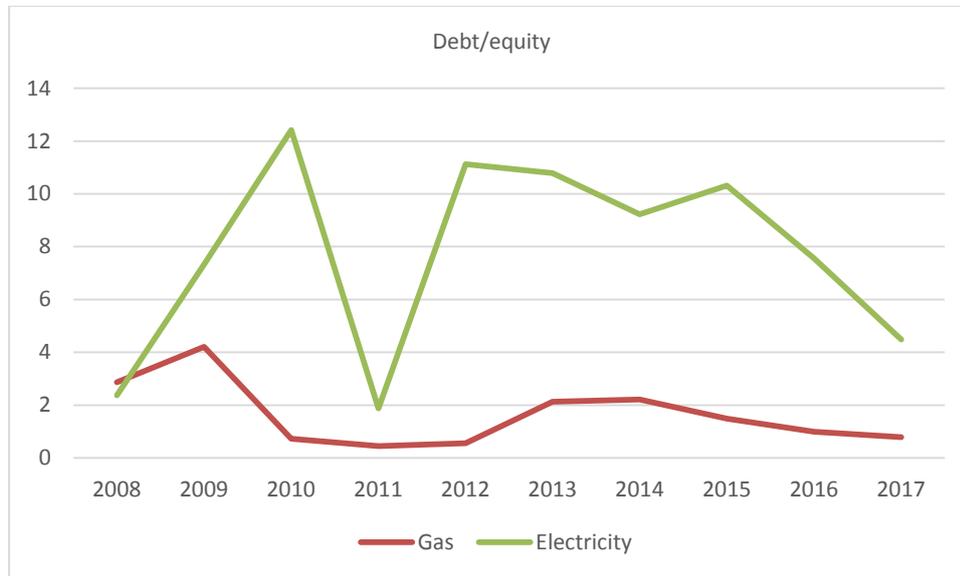


Figure 3. Trend of debt/equity ratio according to market; Source: our elaboration

The quick ratio or acid test ratio expresses the capacity of the impresas to meet short-term commitments to third parties using only the liquid assets, i.e. the short-term case and credits excluding the stock. It is obvious that a high value of this index is a positive signal. However it should remain around a maximum value of 1. The trend analysis (fig. 4) shows a situation of excellent liquidity. The values range from a minimum of 0.858571428571429 to a maximum of 1.80539285714286 during the ten years analysed. The maximum value is recorded for electricity in 2017, while the minimum value is brought back by gas in 2008. The electricity trend is substantially increasing over time. The gas market appears to be more stable during the analysed period, but then it recorded a substantial growth starting from 2014. The electricity business values are starting from 2010 ever higher than those of the gas business. Therefore, the best liquidity is that of the electricity business, even though it brings the gas business values substantially always close to those of equilibrium.

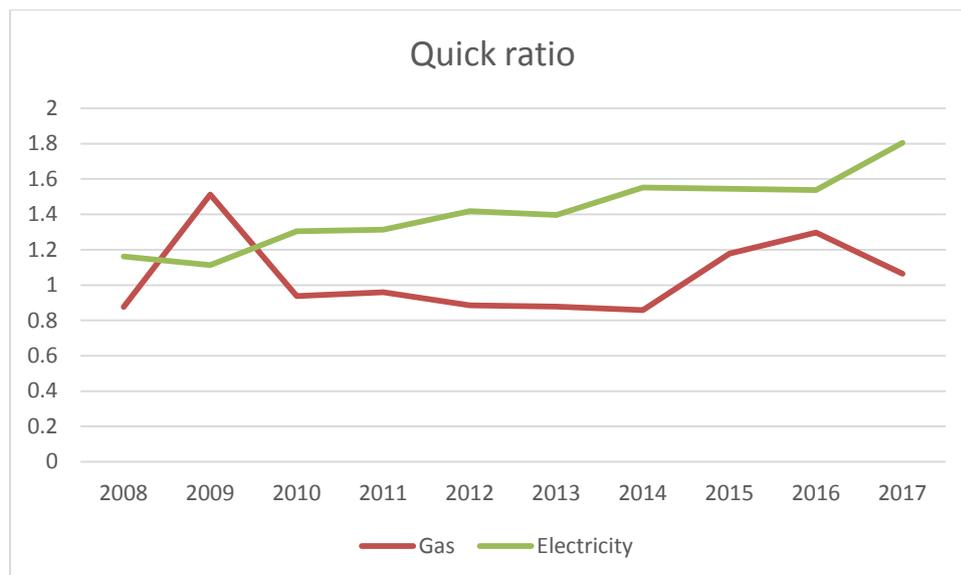


Figure 4. *Trend of quick ratio according to market; source: our elaboration*

Considering the results of the trend analysis, it is possible to state that the H1 hypothesis is partially verified. In fact, the trend of the debt / equity ratio has risen since 2008 with regard to electricity. While the trend for gas is substantially stable for the entire period analysed. The same considerations can be made with regard to the quick ratio. However, while the growing debt / equity trend for electricity indicates a serious risk situation, the case for the quick ratio is different. In fact, in this last case the quick ratio for electricity is substantially higher with the passing of years until 2017. The case of gas is different, so the trend appears stable, with an increase only starting from 2014. Therefore, hypothesis H2 is substantially verified, i.e. there are differences between the two businesses, electricity and gas. These differences are evidenced by the different index trends analysed over the 10 years (2008-2017). The gas business for infrastructural reasons appears to be more stable than that of electricity, which tends to suffer the most positive effects, but also negative ones deriving from environmental conditions (Iovino and Migliaccio, 2019, b; Iovino and Migliaccio, 2019, a; Iovino and Migliaccio, in press a). Liberalization has positive effects, see the trend of the quick ratio, but also the negative ones linked to the financial crisis that characterized that period.

Analysis of variance

Anova (one-way) for the debt / equity ratio shows in table 1 the relative results of the partnership as an independent variable. The table shows the presence of statistically significant differences between the two businesses. Indeed, $(F(1,18) = 24.196931,45, p = 0.000111)$, in fact $F > F_{crit}$ (p value < 0.05).

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	10	16.42714	1.642714	1.480472
Row 2	10	77.5019	7.75019	13.93523

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	186.5063	1	186.5063	24.19693	0.000111	4.413873
Within Groups	138.7413	18	7.707849			
Total	325.2476	19				

Significant level at 0,05

Table 1. Debt/equity ratio - Analysis of variance with belonging as independent variable

The null hypothesis must therefore be rejected and the alternative hypotheses accepted.

The same result is achieved in the case of the quick ratio, as shown in table 2. It shows the results of the ANOVA considering once again the belonging business as an independent variable.

SUMMARY

Groups	Count	Sum	Average	Variance
Row 1	10	10.44857143	1.044857143	0.04844
Row 2	10	14.14957143	1.414957143	0.042375

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.68487005	1	0.68487005	15.08281	0.001088	4.413873
Within Groups	0.817331801	18	0.045407322			
Total	1.502201851	19				

Significant level at 0,05

Table 2. Quick ratio - Analysis of variance with belonging sector as independent variable

In fact, if the business market is considered as independent variable the results, set out in Table 2, indicate a statistically significant difference between groups ($F(1,18) = 15.08281$, $p = 0.001088$), in fact $F > F$ crit (p value < 0.05).

Thus, ANOVA confirms what results from the trend analysis and therefore the hypothesis H3 is fully verified. There are therefore statistically significant differences between the two businesses, electricity

and gas. For structural and technological reasons, these businesses are significantly different also in the results concerning the financial structure and its relative dynamics (Iovino, 2019).

CONCLUSIONS

In conclusion we can say that the hypotheses put forward are substantially verified, albeit differently between the two businesses and indices. In fact, the debt / equity ratio of electricity undergoes a sharp increase during the period of the crisis coinciding with the start of complete liberalization of the electricity market. Otherwise, the gas market does not see significant changes in this index during the period analysed. The case of the quick ratio is different, for which values tend to be positive and with a growing trend in both businesses. So in this last case, both in the case of electricity and gas, the global financial crisis did not have a significant impact on the value of this index. In fact, companies still manage to achieve positive results by virtue of the processes of opening up the energy market. However, it is evident from both the trend analysis and the ANOVA that there is a difference between the two businesses for both indices. Moreover, this difference is statistically significant. All this then confirms that the financial dynamics reflect the various infra-structural characteristics of the two businesses.

The paper is not without limitations. In fact, only two indexes of the possible financial type have been used. Furthermore, only the companies whose values are available for the period considered were considered. So we are talking about the companies that manage to obtain the best results in the period considered (Iovino and Migliaccio, 2018a, 2018b, in press a). Quin-di, future research lines, are constituted by considering a multiplicity of indices, also of a different nature from the financial one, as well as more Countries starting from the European ones in which the liberalization processes took place in a unitary way due of the various European directives. Further extensions of the research also relate to considerations relating to countries in the U.S. area, Latin America and Asia.

REFERENCES

- Anderloni, L. and Tanda, A. (2017), "Green energy companies: Stock performance and IPO returns", *Research in International Business and Finance*, Vol. 39, Part A, January, pp. 546-552.
- Eyüboğlu, K. and Çelik, P. (2017), "Financial Performance Evaluation of Turkish Energy Companies with Fuzzy AHP and Fuzzy TOPSIS Methods", *Business and Economics Research Journal*, Vol. 7, No. 3, pp. 21-37.
- Guo, D., Chen, H. and Long, R. (2016), "Who reports high company performance? A quantitative study of Chinese listed companies in the energy industry", *SpringerPlus*, Vol. 5, No. 2041, pp. 1-20.
- Iovino, F. and Migliaccio, G. (2016), "E-marketing by energy companies", in "Innovation, Entrepreneurship and Digital Ecosystems", *Book of Conference Proceedings 9th Annual Conference of the Euromed Academy of Business*, 14-16 September 2016, Warsaw, Poland, Euromed Press, 1036-1048.
- Iovino, F. (2012), "Le scelte delle politiche di marketing delle imprese energetiche" *Management delle utilities*, 4, pp. 23-35.

- Iovino, F. (2014), "L'internet marketing nelle imprese energetiche: il caso di un'impresa elettrica romana", *Mercati e competitività*, 3, pp. 141-161.
- Iovino, F. (2015), "Relationship marketing by Energy companies", *Review of International comparative management*, Vol. 16, No. 5, pp. 558-573.
- Iovino, F. (2019), "The Financial Sustainability Of Water Companies: The Italian Case", in Dukic, G., Clifford, J., Atkinson, D., *Book of Proceedings 42nd International Scientific Conference on Economic and Social Development, ESD 2019, London, UK, 12-13 June, 2019, ESD 2019, London, UK, 12-13 June, 2019, Varazdin Development an Entrepreneurship Agency, Varazdin, Croatia/Pearson College London, London, /UK/ University North, Koprivnica, Croatia/ Faculty of Management University of Warsaw, Warsaw, Poland/ Faculty of Law, Economics and Social Sciences Sale – Mohammed V University in Rabat, Morocco*, pp. 146-153.
- Iovino, F., (in press), "The profitability of water companies during ten years", in *Economics & Management: How to Cope With Disrupted Times, Conference Proceedings, 3rd International Scientific Conference on Economics and Management -EMAN 2019, Ljubljana, Slovenia, March 28th, All in One Print Center, Belgrade*.
- Iovino, F. and Migliaccio, G. (2018a), "Profitability dynamics of tourism companies during the crisis period (2007-2015)", in Vrontis D., Weber Y., Tsoukatos E. (Eds), *Research Advancements in National and Global Business. Theory and Practice, Conference readings book proceedings, 11th Annual Conference of the EuroMed, Valletta, Malta, September 12th-14th, EuroMed Press, Cyprus*, pp. 663-677.
- Iovino, F. and Migliaccio, G. (2018b), "Financial dynamics of tourism companies, travel agencies and tour operators, during the crisis period", in *Economics & Management: How to Cope With Disrupted Times, Conference Proceedings, 2nd International Scientific Conference on Economics and Management -EMAN 2018, Ljubljana, Slovenia, March 22th, All in One Print Center, Belgrade*, pp. 693-702.
- Iovino, F. and Migliaccio, G. (2019, a), "Energy companies and sizes: An opportunity? Some empirical evidences", *Energy Policy*, Vol. 128, May 2019, pp. 431-439, DOI: 10.1016/j.enpol.2019.01.027,
- Iovino, F. and Migliaccio, G. (2019, b), "Financial Dynamics of Energy Companies During Global Economic Crisis", *International Journal of Business and Globalisation*, Vol. 22, n. 4, pp. 541-554. (doi: 10.1504/IJBG.2019.10011698).
- Iovino, F. and Migliaccio, G., (in press, a), "Mobile marketing and strategy by energy companies", *International journal of Public Sector and Performance Management*.
- Khurana, M. and Banerjee, S.G. (2015), *Beyond the crisis. The financial performance of India's power companies, World Bank Studies, Washington D.C.*
- Li, Q., Wang, W., Lou, Y., Cheng, K. and Yang, X. (2016), "Diversification and Corporate Performance: Evidence from China's Listed Energy Companies", *Sustainability*, Vol. 8, No. 983, pp. 1-17.
- Martí-Ballester, C.P. (2017), "Sustainable energy systems and company performance: Does the implementation of sustainable energy systems improve companies' financial performance?", *Journal of Cleaner Production*, Vol. 162, September, pp. S35-S50.
- Pätäri, S. and Sinkkonen, K. (2014), "Energy Service Companies and Energy Performance Contracting: Is there a need to renew the business model? Insights from a Delphi study", *Journal of Cleaner Production*, Vol. 66, 1 March, pp. 264-271.
- Qin, Q. (2014), "Research on Financing Decisions and Capital Structure of Chinese Energy Companies", in *Proceedings of International Conference on Humanity and Social Science (ICHSS), Guangzhou, Peoples Republic of China, 2014*, pp. 175-178.
- Ren, J. and Li, C. (2011), "Dynamic Optimization of Financial Strategy in the Electric Power enterprise", in *Proceedings of the 2011 international conference on engineering and risk management, Fields Inst, Toronto, Canada*, pp. 119-122.
- Schisani, M.C. and Caiazzo, F., (2016), "Networks of power and networks of capital: evidence from a peripheral area of the first globalisation. The energy sector in Naples: from gas to electricity (1862-1919)", *Business History*, Vol. 58, No. 2, pp. 207-243.

PROFITABILITY STRUCTURE OF TRAVEL AGENCIES AND TOUR OPERATORS DURING TEN YEARS

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ABSTRACT

The global economic crisis affected on several geographic areas in several countries. This paper tries to understand the effects of the crisis on Italian tourism firms. In particular, it aims to verify the profitability structure, in the period during and after the crisis (2008-2017), in relation to two discriminating factors. In fact, three research questions have been posed: what was the trend in the last ten years in the different Italian geographic areas and business markets; if there are differences between business markets and geographic area and if these differences are statistically significant. The trend analysis and analysis of variance (ANOVA) have been used starting from secondary data on AIDA database (at the end 91 firms). The profitability structure is evaluated using two ratios: ROS and ROI. The findings suggest that the profitability structure of travel agencies and tour operators have been affected by the crisis in any geographic area and business market. Furthermore, these two factors show significant differences in the profitability structure of tourism companies.

Keywords: Italian Tourism Companies; Global Crisis; Finance; ROI; ROS.

INTRODUCTION AND MOTIVATION: AIMS AND STRUCTURE OF THE PAPER

The paper aims to investigate the situation of Italian tourism companies during and after the global financial crisis of 2008. The analysis will be conducted in particular with reference to travel agencies and tour operators and in relation to different geographical areas.

In this sense, three key questions are asked:

- 1) What have been the trends in the different geographical areas and in the different business markets over the last ten years?
- 2) Are there differences between the results of the different geographical areas and the different businesses?
- 3) Are any differences statistically significant?

As for the research questions, as many hypotheses are posed. The first hypothesis (H1) is that the income structure of tourism businesses has not been conditioned by the financial crisis due to their

resilience (Iovino, 2018; Biggs et al., 2012; Cochrane, 2010; Iovino, and Migliaccio, 2018a; Iovino and Migliaccio, 2018, b; Luthe and Wyss, 2014). The second hypothesis post (H2) is that there are differences between the results of the different geo-geographical areas and the different markets analysed; the last hypothesis (H3) is that these differences are statistically significant. To this end, the income structure is evaluated using two different indexes: ROI (operating profit / operating assets) and ROS (operating profit / net sales). This analysis was conducted in relation to the 2008-2017 period and in this sense trend analysis and ANOVA were used.

THEORETICAL BACKGROUND

Different authors have been interested in the issue of tourism companies and the effects of the crisis on their general trend.

Ersan et al. (2019) analyse the effects of European political uncertainty on the stock returns of tourist companies listed on the STOXX Europe 600 Travel & Leisure Price Index. The analysis is performed by analysing the data for a period of 20 years. The results of the survey show a negative effect on the stock returns of tourism businesses due to the uncertainty of European as well as global policy. Furthermore, the assessment of political uncertainty has a greater predictive power than that deriving from the use of other macroeconomic variables.

Kubickova et al. (2019) analyse the effects of the 9/11 terrorist attack and the 2008 global financial crisis on hotel room demand. Their focus is on Costa Rica and Honduras. The analysis shows that the two crises have a different impact in each country is more negative in Costa Rica. The 2008 crisis has indeed a greater impact on the hotel industry in both countries. Furthermore, many other factors have an effect on this market. Among them, the transport system, the level of development of the segment, the institutional development shows that they have an effect on how the hotel market is able to respond to a crisis.

Brown et al. (2019) perform a quantitative analysis of hotel resilience in the face of natural crises. Data are obtained through interviews with managers from two tourist destinations in New Zealand. These authors take into consideration several factors with respect to which the resilience of hotels is implemented with respect to natural disasters. Attention is focused on Wellington and Hawke Bay. The factors evaluated are not only economic, but also cultural, social, human, psychological and natural. Particular attention is paid to the role of workers. The analysis shows how hotels have a good resilience of hotels and highlights areas of future research including research on budgeting activities.

Moradi and Paulet (2019) analyse the effects of the euro crisis on a sample of companies belonging to 6 different European countries and 4 different sectors including tourism. The authors show that some factors including growth, profitability, taxation and the euro crisis are negatively correlated. Instead,

other factors including size (Iovino and Migliaccio, 2019), tangibility of assets and volatility of earnings are positively correlated. In particular, the tourism sector has a greater impact from the euro crisis than other sectors under investigation.

Podhorodecka (2018) checks the effects of the global financial crisis on tourism in 17 islands whose economy is based on tourism. The study verifies that the territories react differently, in particular with regard to tourism spending, employment in tourism and the overall flow of tourists.

Mecca et al. (2018) verify the effects of the Brazilian economic crisis on tourism considering a particular tourist destination. The analysed destination is a consolidated destination, i.e. Gramado. The analysis is aimed at checking whether there has been a reduction in tourism in the period 2014-2017. There are various data collected in reference to this location, among them the flow of tourists, the occupation declared in tourism, the average number of visitors, revenues from the sale of local events. The survey shows that the locality does not suffer the general negative effects of the economic crisis. On the other hand, an increase in tourism is recorded, proving that a consolidated destination has not been affected by the serious economic crisis in the country.

Ivanov et al. (2018) investigate the effects of the 2015 refugee crisis on the tourism of 4 Greek islands. The study finds that the refugee crisis has had a very negative impact on the tourism of these islands. In fact, the image of the hotels on the islands has deteriorated considerably. The reaction of the entrepreneurs in the sector is to focus on cutting prices and costs and on numerous marketing activities rather than reducing the number of people employed.

As is evident, therefore, it has not sufficiently developed an analysis of the effects of the financial crisis in the tourism sector, using a perspective that mainly takes into account the financial performance of these companies.

For this reason, it was decided to investigate the performance of some financial indicators to verify if there were significant effects on the financial situation of the companies, or if the firm management was able to face the detrition in the economic situation maintaining the profitability balance of tourism companies also using the new tools including those offered by digital transformation (Iovino, 2012; Iovino, 2014; Iovino, 2015; Iovino and Migliaccio, 2016; Iovino and Migliaccio, in press, b).

RESEARCH METHODOLOGY

Data collection and sample characteristics

In order to answer the search questions secondary data from the AIDA database have been used. In order to analyze the profitability of the companies, two indices, ROI (operating profit / operating assets) and ROS (operating profit / net sales) were chosen. Ten years during and after the Ipa crisis

were considered, i.e. 2008-2017. Only companies whose data was available for both indices in all 10 years analyzed were considered. The sample consisted of 91 companies, travel agencies, tour operators and agencies and tour operators at the same time. Subsequently, different groups were identified by means of two discriminating factors, the market to which they belong and the geographical area. With regard to the second factor, three clusters have been identified: north, center and south. The geographical distribution of the companies belonging to the sample is the following: 54.95% in the north, 31.87% in the center and 13.18% in the south. With regard to the relevant market, three clusters have been identified using the ATECO classification: 791 - Activities of travel agencies and tour operators. The groups identified are: travel agencies, tour operators and travel agencies and tour operators at the same time.

The second discriminating factor identifies 59, 34% of companies that are agencies and tour operators at the same time, 36.26% of agencies and 4.39% of tour operators.

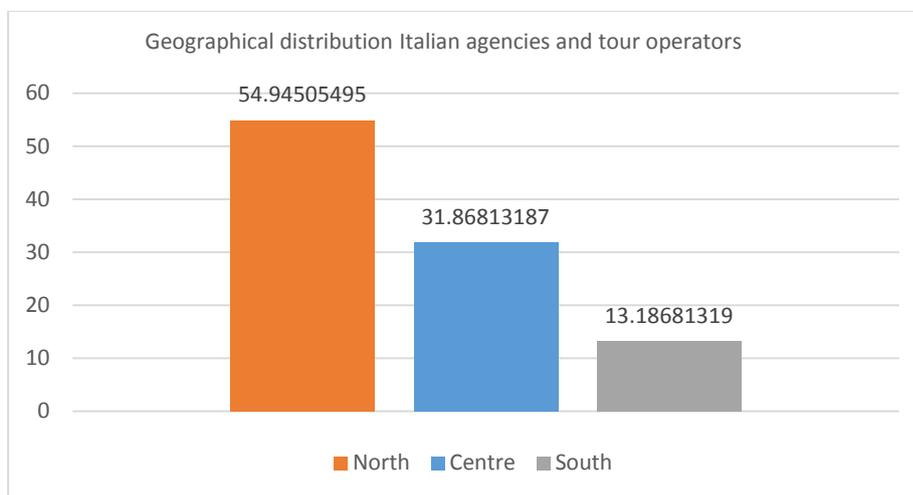


Figure 1 – Source: our elaboration - geographic distribution of Italian tourism energy companies

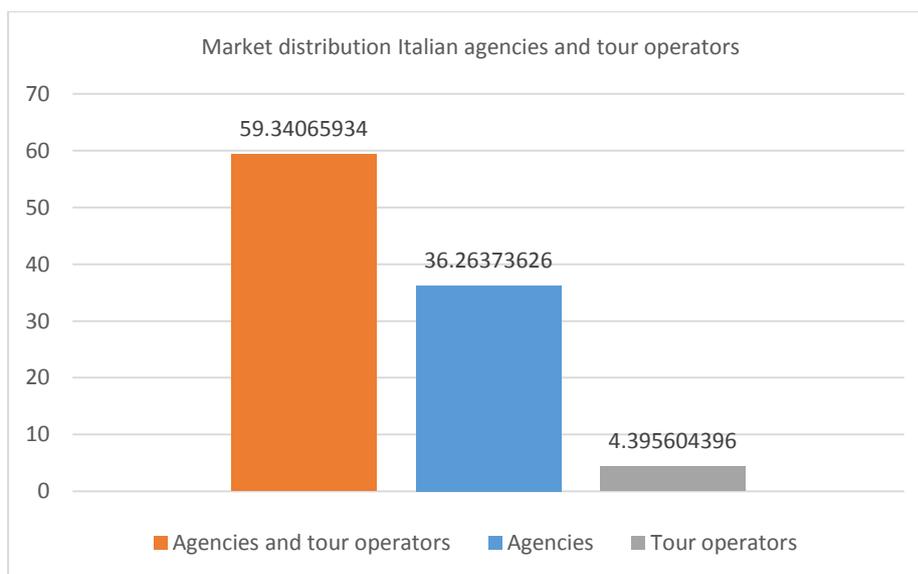


Figure 2 – Source: our elaboration - market distribution of Italian tourism companies

Method

First of all, an analysis of the trends relating to the 2008-2017 period for each group and ratio was conducted. Subsequently, the ANOVA (one-way) variance analysis made it possible to verify any differences between the values belonging to the different groups. The null hypothesis is that all the population values are equal. The alternative hypothesis is that there is at least one different value belonging to the analysed groups. In our analysis, the dependent variable is constituted by the geographical location, but also by the market to which it belongs. ANOVA (one-way) was chosen, because the two factors were analysed separately and because there are at least two variables (Iovino, in press, b).

RESULTS AND DISCUSSION

Trend analysis

ROS is an index of profitability equal to operating profit / net sales. It expresses the percentage of operating income, that is, deriving from the characteristic management that remains from the net sales made. To evaluate the profitability, it must be considered together with other profitability ratios. This value is naturally positive as high as possible. According to the geographic location it assumes values between 0.62 and 4.62. If instead we consider the market to which they belong, the values fluctuate between 0.45 and 3.19. Figures 3 and 4 show very variable values in all geographic areas and in all markets. Positive peaks were recorded in 2016 if we consider the geographical location and in 2014 and 2016 if we consider the market to which they belong.

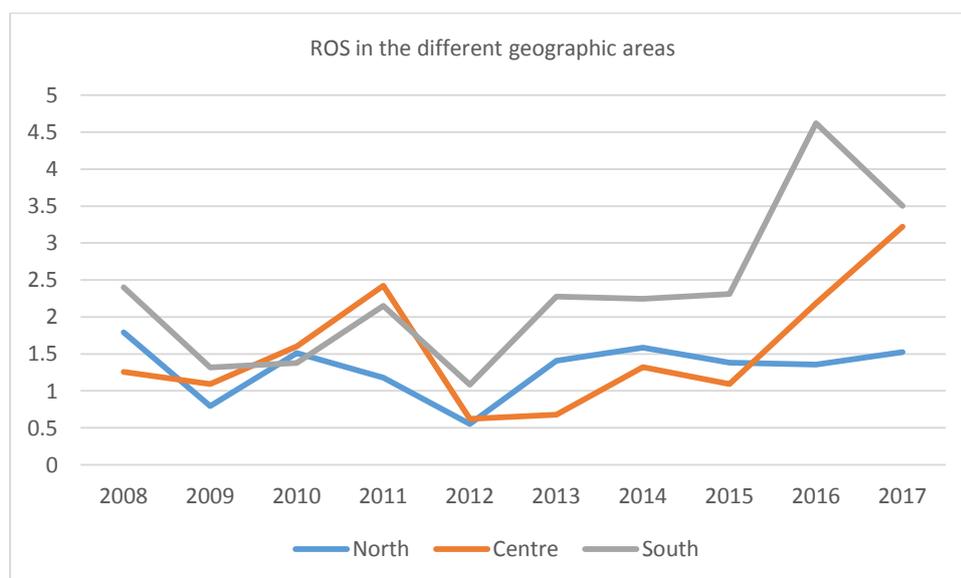


Figure 3. Trend of ROS according to geographic localization, Source: our elaboration

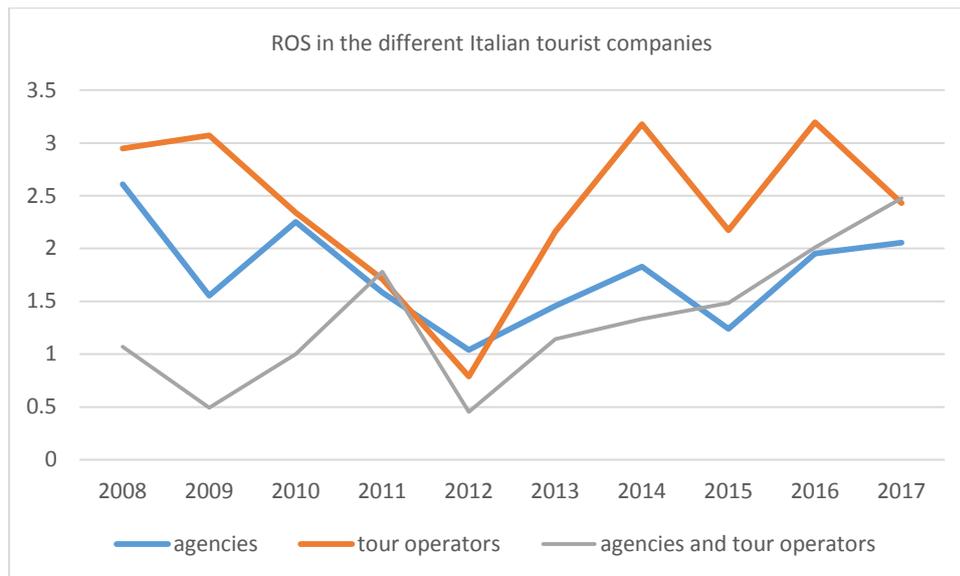


Figure 4. Trend of ROS according to market, Source: our elaboration

ROI is given by the relationship between operating profit and invested operating capital (Iovino, in press, a). It sets the percentage that returns in the form of operating income of the capital invested in operational operations, that is, typical of the company. Its positive value is certainly a value as high as possible. Figures 5 and 6 show how in the case of ROS this index assumes quite variable values during the analysed decade. If we consider the geographical location values are between 1.87 and 9.9. If we consider the market to which we belong, these values are between 1.36 and 10.12. ROI peaked in 2010 with a succession of very variable values if we consider the geo-geographical localization. Instead, if we consider the market of belonging, the peak was registered in 2008 in co-incidence with the beginning of the crisis. Even in the case of the market of belonging, the values are quite variable (Iovino, 2019).

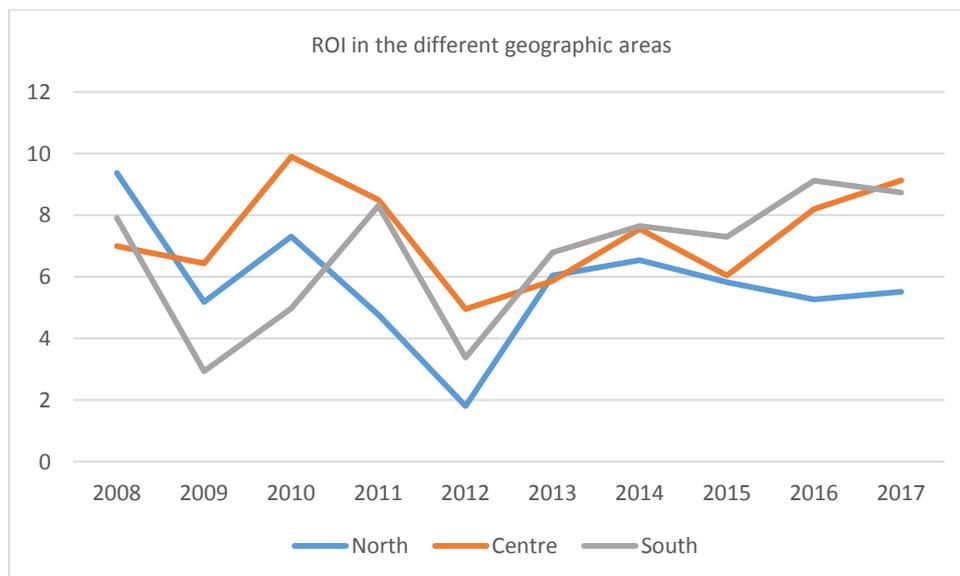


Figure 5. Trend of ROI according to geographic localization, Source: our elaboration

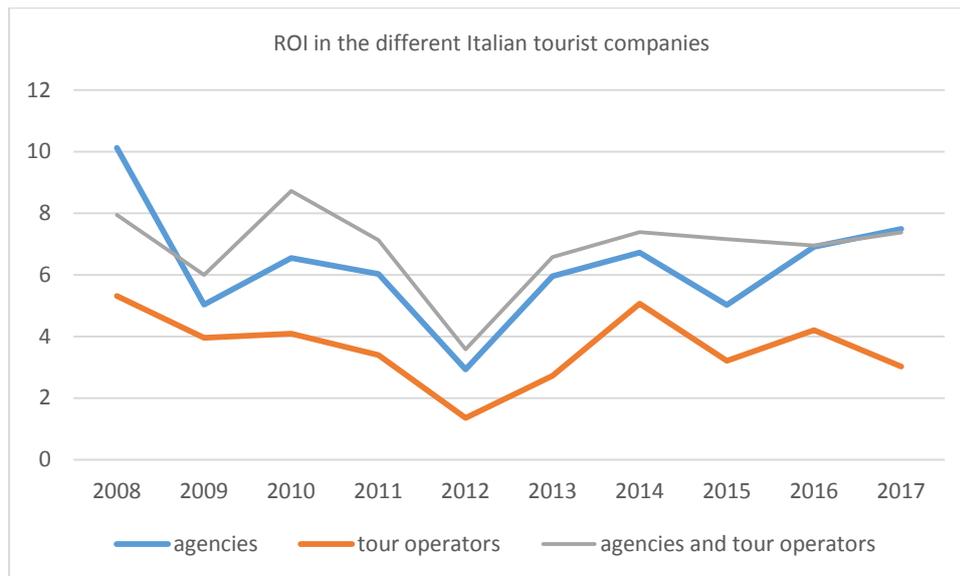


Figure 6. Trend of ROI according to market, Source: our elaboration

The values of the two indices testify to a good profitability. The ROI values are higher than those of the ROS. This testifies to the ability of the investment to be renumbered more than sales. However, in the case of both indices the values are extremely positive. Therefore, although there are negative peaks, profitability remains positive and good in all 10 years analysed. However, the values are very variable and even decreasing. This means that the crisis has affected the income structure of these businesses. This has occurred most with regards to ROS. This variability appears to affect all the markets analysed, but also all the geo-geographic areas. Therefore, H1 is therefore not verified. The crisis has affected all geographical areas and different markets. H2 appears to be verified, because the trend appears to be different in the different geographical areas and in the analysed markets.

Analysis of variance

With regard to ROS, Table 1 shows the results of ANOVA using geographical location. There is a statistically significant difference between the groups. Indeed, $F(2,27) = 4.365645$, $p = 0.022764$, and therefore $F > F_{crit}$ with $p \text{ value} < 0.05$.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5.680436	2	2.840218	4.365645	0.022764	3.354131
Within Groups	17.56576	27	0.650584			
Total	23.2462	29				

Significant level at 0,05

Table 1. ROS - Analysis of variance with geographical localization as independent variable

Therefore, based on the results of table 1 the alternative hypothesis must be considered, while the null hypothesis must be rejected. This also happens in the case where the membership market is considered an independent variable. In fact, from table 2 it results that there is a statistically significant

difference between the groups considered. Indeed, $F(2,27) = 7.244525$, $p = 0.003029$ and therefore $F > F_{crit}$ with p value < 0.05

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5.848225	2	2.924113	7.244525	0.003029	3.354131
Within Groups	10.89803	27	0.403631			
Total	16.74625	29				

Significant level at 0,05

Table 2. ROS - Analysis of variance with belonging sector as independent variable

Instead, in the case of ROI when we consider the geographical location as an independent variable, there is no statistically significant difference as shown in Table 3. Indeed, $F(2,27) = 1.749455$, $p = 0.193007$, and therefore $F < F_{crit}$ with p value > 0.05 . Table 4 shows the results relating to the ROI when considering the relevant market as an independent variable. In this case, unlike the previous one, there is a statistically significant difference. Indeed, $F(2,27) = 13.34057$, $p = 9.35E-05$ and therefore $F > F_{crit}$ and $p < 0.05$.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	12.86146	2	6.430729	1.749455	0.193007	3.354131
Within Groups	99.24786	27	3.675847			
Total	112.1093	29				

Significant level at 0,05

Table 3. ROI - Analysis of variance with geographical localization as independent variable

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	59.73112	2	29.86556	13.34057	9.35E-05	3.354131
Within Groups	60.44493	27	2.238701			
Total	120.176	29				

Significant level at 0,05

Table 4. ROI - Analysis of variance with belonging market as independent variable

So the results of ANOVA tell us that the H3 hypothesis is fully tested as far as ROS is concerned. There are statistically significant differences both in the different geographic areas and in the different business areas. Instead, the H3 hypothesis is partially verified regarding the ROI. In fact, there is a statistically significant difference between the different markets analysed. Instead, this difference does not appear to be present when the various geographical areas are considered. Thus, belonging to different markets appears to be the pre-dominant factor in determining differences in the income results of the companies analysed. Instead, the geographical factor appears to have a more contained effect in determining the profitability of these companies (Iovino and Migliaccio, 2019).

CONCLUSIONS

It is possible to state that the hypotheses are partially verified. In fact, the tourism companies analysed are affected by the crisis in their profitability. Furthermore, there are differences and such differences are also statistically significant. In fact, the ROS appears to have a decreasing trend starting from 2008. Moreover, it is quite variable over time. Differences appear between the different geographical areas, but also between different businesses. This is confirmed by the ANOVA which highlights the presence of statistically significant differences. Also in the case of ROI the trend of profitability according to the trend analysis is quite variable with a reduction starting from 2008. However, subsequently there are peaks in increase and decrease. Furthermore, there is a certain difference between the different geographical areas and the angled businesses. The ANOVA confirms a statistically significant difference between the different businesses, while there is no difference between the different geographical areas of the country. Tour operators appear to be the type of company that best understands the company in terms of sales. Instead, when considering the overall profitability of the operational management, the companies that simultaneously carry out the two activities are analysed to obtain the best performances. This means that in the case of tour operators the income from sales is absorbed by the costs of operational management. Relatively to the geographic areas the southern enterprises have the best results as far as ROS is concerned. Instead, businesses in the centre regions get the best results with regards to ROI. Thus, the companies that carry out activities in an integrated manner are able to obtain a superior profitability compared to the companies that carry out the two activities separately. The paper has several limitations which also constitute the prospects for future research. In fact, only two profitability ratios were considered. Furthermore, only those companies of which the values of the two indices were available for all the years considered were taken into consideration. It is evident that these are the companies that manage to survive over time, also having the best results (Iovino and Migliaccio, 2018a, 2018b, in press a). The future research guidelines will be aimed at considering a multiplicity of indices, not only ritualistic, but also financial. Moreover, companies belonging to different countries may also be compared, also seeking to explore the role exercised by different types of variables in determining the financial performance of these companies.

REFERENCES

- Biggs, D., Hall, M.C. and Stoeckl, N. (2012), "The resilience of formal and informal tourism enterprises to disasters: reef tourism in Phuket, Thailand", *Journal of Sustainable Tourism*, Vol. 20, No. 5, pp. 645-665, DOI: 10.1080/09669582.2011.630080.
- Brown, N.A., Rovins, J.E., Feldmann-Jensen, S., Orchiston, C. and Johnston, D. (2019), "Measuring disaster resilience within the hotel sector: An exploratory survey of Wellington and Hawke's Bay, New Zealand hotel staff and managers", *International Journal of Disaster Risk Reduction*, Vol. 33 No. 2, pp. 108-121, DOI: 10.1016/j.ijdr.2018.09.014.

- Ersan, O., Akron, S. and Demir, E. (2019), "The effect of European and global uncertainty on stock returns of travel and leisure companies", *Tourism Economics*, Vol. 25 No. 1, pp. 51-66. <https://doi.org/10.1177/1354816618792398>
- Iovino, F. and Migliaccio, G. (2016), "E-marketing by energy companies", in "Innovation, Entrepreneurship and Digital Ecosystems", Book of Conference Proceedings 9th Annual Conference of the Euromed Academy of Business, 14-16 September 2016, Warsaw, Poland, Euromed Press, 1036-1048.
- Iovino, F. (2012), "Le scelte delle politiche di marketing delle imprese energetiche" *Management delle utilities*, 4, pp. 23-35.
- Iovino, F. (2014), "L'internet marketing nelle imprese energetiche: il caso di un'impresa elettrica romana", *Mercati e competitività*, 3, pp. 141-161.
- Iovino, F. (2015), "Relationship marketing by Energy companies", *Review of International comparative management*, Vol. 16, No. 5, pp. 558-573.
- Iovino, F. (2018), "Financial dynamics of lodging companies during ten years: a comparison between hotels and other lodging companies", *African Journal hospitality, tourism and leisure*, Vol. 7, Special Issue No. 6, pp. 1-13.
- Iovino, F. (2019), "The Financial Sustainability Of Water Companies: The Italian Case", in Dukic, G., Clifford, J., Atkinson, D., Book of Proceedings 42nd International Scientific Conference on Economic and Social Development, ESD 2019, London, UK, 12-13 June, 2019, ESD 2019, London, UK, 12-13 June, 2019, Varazdin Development an Entrepreneurship Agency, Varazdin, Croatia/Pearson College London, London, /UK/ University North, Koprivnica, Croatia/ Faculty of Management University of Warsaw, Warsaw, Poland/ Faculty of Law, Economics and Social Sciences Sale – Mohammed V University in Rabat, Morocco, pp. 146-153.
- Iovino, F., (in press), "The profitability of water companies during ten years", in *Economics & Management: How to Cope With Disrupted Times*, Conference Proceedings, 3rd International Scientific Conference on Economics and Management -EMAN 2019, Ljubljana, Slovenia, March 28th, All in One Print Center, Belgrade.
- Iovino, F. and Migliaccio, G. (2018a), "Profitability dynamics of tourism companies during the crisis period (2007-2015)", in Vrontis D., Weber Y., Tsoukatos E. (Eds), *Research Advancements in National and Global Business. Theory and Practice*, Conference readings book proceedings, 11th Annual Conference of the EuroMed, Valletta, Malta, September 12th-14th, EuroMed Press, Cyprus, pp. 663-677.
- Iovino, F. and Migliaccio, G. (2018b), "Financial dynamics of tourism companies, travel agencies and tour operators, during the crisis period", in *Economics & Management: How to Cope With Disrupted Times*, Conference Proceedings, 2nd International Scientific Conference on Economics and Management -EMAN 2018, Ljubljana, Slovenia, March 22th, All in One Print Center, Belgrade, pp. 693-702.
- Iovino, F. and Migliaccio, G. (2019, a), "Energy companies and sizes: An opportunity? Some empirical evidences", *Energy Policy*, Vol. 128, May 2019, pp. 431-439, DOI: 10.1016/j.enpol.2019.01.027,
- Iovino, F. and Migliaccio, G. (2019, b), "Financial Dynamics of Energy Companies During Global Economic Crisis", *International Journal of Business and Globalisation*, Vol. 22, n. 4, pp. 541-554. (doi: 10.1504/IJBG.2019.10011698).
- Iovino, F. and Migliaccio, G., (in press, a), "Mobile marketing and strategy by energy companies", *International journal of Public Sector and Performance Management*.
- Ivanov, S. and Stavrinoudis, T.A. (2018), "Impacts of the refugee crisis on the hotel industry: Evidence from four Greek islands", *Tourism Management*, Vol. 67, August, pp. 214-223, DOI: 10.1016/j.tourman.2018.02.004.
- Kubickova, M., Kirimhan, D. and Li, H. (2019), "The impact of crises on hotel rooms' demand in developing economies: The case of terrorist attacks of 9/11 and the global financial crisis of 2008", *Journal of Hospitality and Tourism Management*, Vol. 38, No. 3, pp. 27-38, DOI: 10.1016/j.jhtm.2018.10.002
- Mecca, M.S., Bregolin, M., de Paula, A.T., Vieira, L.T. and Neto, R.D. (2018), "Rosa Dos Ventos", *Turismo e Hospitalidade*, Vol. 10, No. 4, pp. 653-672, DOI: 10.18226/21789061.v10i4p653.
- Moradi, A. and Paulet, E. (2019), "The firm-specific determinants of capital structure - An empirical analysis of firms before and during the Euro Crisis", *Research in international business and finance*, Vol. 47, No. 1, pp. 150-161, DOI: 10.1016/j.ribaf.2018.07.007
- Podhorodecka, K. (2018), "Tourism economies and islands' resilience to the global financial crisis", *Island Studies Journal*, Vol. 13, No. 2, pp. 163-184, DOI: 10.24043/isj.43.

NETWORK-BASED INCUBATORS: AN INTRODUCTION TO THE CASE OF I2C AND RESEARCH AGENDA

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ABSTRACT

There is a general consensus that the most important factor for start-up success is a well-organized network. Recent works have highlighted the role played by incubators in embedding a company within networks. In this work we aim at contributing to the literature on business incubators by focusing on network-based incubators. We introduce the case of Invention 2 Innovation Center (I2C), a new university-based incubator of Huntsville (AL), which is a key player of the entrepreneurship ecosystem of the region. I2C's success factors are based on the implementation of a robust selection process to support and nurture start-ups, the delivering of support services and resources for entrepreneurs and start-ups and the building of strategic and symbiotic relationships with entrepreneurship focused communities, venture accelerators, public-private organizations, investors, mentors, service providers and strategic partners. We highlight how I2C's entrepreneurial networks serve as catalysts, thus accelerating new venture creation which ultimately drives innovation and economic development within the community region. Finally, we provide an agenda for future research based on a systematic literature review of managerial studies dealing with the issue of incubators by means of bibliometrix, a unique tool in the R language for comprehensive bibliometric analyses, followed by a content analysis focusing on network-based incubators.

Keywords: Networked-based Incubators; I2C; Performance Measures

INTRODUCTION

In an environment where uncertainty is the main feature, entrepreneurship is an important research field as it involves the detection and exploitation of new opportunities, this way sustaining social and economic development (Iscaro et al., 2017). In this environment, Business incubators (BIs) play a key role as they help starting ventures by providing access to several services and resources.

Business incubators are popular entities established around the world to stimulate and support new business creation. "Business incubators nurture young firms, helping them to survive and grow during

the start-up period when they are most vulnerable" (Aernoudt, 2004, 127). The American National Business Incubation Association defines business incubation as a dynamic process of firm development (Aernoudt, 2004). Since the opening of the first Incubator in 1959, The Batavia Industrial Center, commonly known as the first U.S. business incubator, established in Batavia, N.Y., the concept, the offer and the defining structure of BIs have faced severe transformations.

It must be observed that BIs have experienced two important changes, which have led them from the first to the third generation (Bruneel et al., 2012), as shown in Figure 1 (Iscaro et al. 2017). First generation of incubators (1970s/1980s) provided infrastructures. The advantage for incubatees was the possibility of saving money for those costs difficult to sustain in the start-up phase. Hence the value offered by the first type of incubators was related to their ability to control scarce tangible resources (Boschetti et al., 2003). At the end of the 1980s the second generation of incubators emerged. As the main obstacle for successful start-ups was the lack of business competencies, incubators started offering intangible 'knowledge-based' resources in addition to tangible ones. With the hectic diffusion of entrepreneurship, the third-generation incubators (mid 1990s) understood the importance of networking for incubatees (Bruneel et al., 2012). If in the second generation resources were owned by the incubators, which provided something within their value chain, in the third generation, incubators offer resources and competencies not necessarily owned, often outside their value chain (Boschetti et al., 2003). Indeed today the value lies in the network, in the relational capital an incubator can rely on (Iscaro et al., 2017).

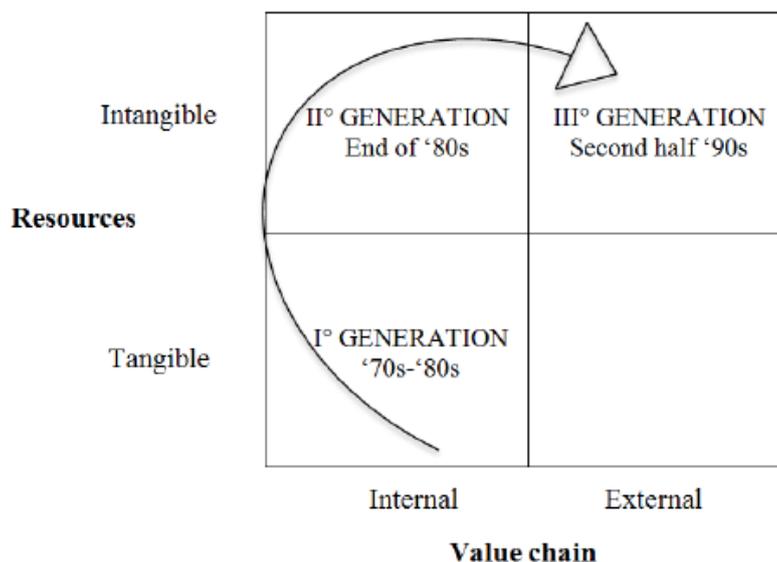


Figure 1. The evolution of Incubators (Iscaro et al., 2017. Adapted from Boschetti et al., 2003)

As a result of this evolution, the most common definitions of incubators usually describe as their core offering either intangible or tangible assets. We generally find shared office space rented at favorable rates and shared support services that reduce overhead costs as tangible assets and professional business support, advice and mentoring, and professional and trade networking as intangible assets. The literature has analyzed each of these aspects but there is currently a general consensus that the most important factor for start-up success is a well-organized network (Bennett et al., 2017, Haapasalo and Ekholm, 2004). Hence, recent work has shifted the focus of research “on the role played by incubators as a mechanism for embedding a company within networks” (Bennett et al., 2017) recognizing that the entrepreneurial literature emphasizes that access to networks is essential for start-ups and small companies.

In this work we aim at contributing to the literature dealing with the issue of business incubators with a focus on network-based incubators.

The paper is structured as follows. In section 1 we conduct a brief literature review on the issue of networked-based incubators, focusing on the identification of suitable performance measures. Section 2 illustrates the entrepreneurial ecosystem of Huntsville (AL). Section 3 focuses on the role of the Invention 2 Innovation Center (I2C) in the Huntsville ecosystem and Section 4 presents the experience and specific characteristics of the I2C as a network-based incubator. It is the new university-based incubator of Huntsville, which - though young - is already a key player of the entrepreneurship ecosystem of the region. The choice of the case study was due both to the characteristics of the incubator and to its geographical location as a prerequisite for the development of useful inter-organizational relationships and networks. Indeed Huntsville is not only the center for rocket-propulsion research in the US but also a vibrant and active economic ecosystem, named by Forbes 2018 as 107th best place in USA for business and careers and awarded by Moody’s Investors Service and Standard & Poor’s Rating Services for the robust economy, solid budgetary performance and strong institutional framework. Huntsville hosts four main Universities and one of the world’s leading science and technology business parks (the Cummings Research Park), with a combination of Fortune 500 companies, local and international high-tech enterprises, US space and defense agencies.

Extensions for future research follows in Section 5.

THE NETWORKED-BASED INCUBATORS

Recent years have seen the emergence of a new incubator model, the “networked incubator” (Bollingtoft and Ulhoi, 2004). It helps start-ups to develop their network meant as a set of nodes (actors, which can be of a different type – e.g., large firms, small firms, universities, government – or

organizational levels – e.g., firms, divisions, projects, individuals) connected by ties (relationships – e.g., friendship, cooperation, power, exchanges) (Eveleens et. al, 2017).

It has been observed that the network of relationships of a firm profoundly influences its conduct and performances (Gulati et al., 2000).

In a knowledge-based economy authors emphasize the cognitive relevance of networks, due to interorganizational knowledge sharing and division of cognitive labour (Appleyard, 1996; Rullani, 2004). To be a source of competitive advantage, the dynamic processes of organizational learning must go beyond the boundaries of individual firms (Dyer and Nobeoka, 2000): if properly managed - through the creation of a strong group identity and the adoption of effective coordination rules - a network is an organizational unit able to recombine and generate knowledge better than the single firm. In contexts characterized by complex and continuously and rapidly evolving cognitive structures, the locus of innovation resides outside the firm and within inter-organizational networks (Powell, Koput and Smith-Doerr, 1996).

Authors suggest that firm effects of network participation also depend on the occupied network position and the characteristics (strength and embeddedness) of the relationships¹ (Eveleens et. al, 2017; Granovetter, 1973; Uzzi, 1997). On the one hand, a central position and strong relationships can enhance performance because of information, power, learning and resource advantages, on the other hand, they could limit performance, as they are costly to maintain and can blind the business to new ideas and developments (Eveleens et. al, 2017). Uzzi (1997) and Duyster and Lemmens (2003) warn about the dangers inherent in too strongly cohesive ties, mainly concerning the risk of 'overembeddedness', limiting firm innovative capacity by fueling non-productive redundancy. These risks find empirical evidence, for example, in the study by Hoang and Rothaermel (2005), showing that a partner-specific experience does not contribute to managerial learning being negatively associated with future alliance success.

Network-Based Incubators: Assessment Measures

Considering the key role and the large amounts of money invested in incubators by governments, universities, research institutions, municipal agencies and other interested stakeholders, the question of the return of investments has been raised. Thus the evaluation of incubator performance has attracted great attention (Bergek and Norrman, 2008).

The traditional model of measuring success in any type of business organization is often as direct as reading a profit and loss statement (Aerts et al., 2007), but the development of common performance measures (PMs) and measurement systems (PMSs) has been a debated topic for many decades (Vanderstraeten and Matthyssens, 2010) and it still is. Researchers in the BIs literature stress the

¹ Social network analysis allows the analytical study of the structure and characteristics of a network.

importance of performance evaluation. As Vanderstraeten and Matthyssens (2010) highlight, not only incubator managers, but also companies managers can benefit from robust and shared incubator PMs and PMSs for resources allocation and physical location decision. Moreover, also government-related organizations such as the European Commission has been using incubator PMs and PMSs for resource allocation and benchmark. However, today there is no yet a common standard to measure incubator performance (Phan et al., 2005). Indeed, the incubators literature for many decades has proposed and used different measures. Existing studies are heterogeneous, with different methodological approaches and focused on different measures. Some studies explore the impact of incubators at the individual firm level while others assess the impact at a macroeconomic level. Additionally, some frameworks rely on several dimensions to provide a more comprehensive picture of incubators' performance (Hausberg and Korreck, 2018). As a result of such a rich and not standardized literature, we have several measures used to evaluate the success of BIs.

Mian (1994) proposes one of the first frameworks for assessing the performance of incubators, identifying 13 key characteristics: the origin of facilities, the incubator objective, organizational design, governance, tenant performance reviews, institutional support, staffing, funding resources, technologies targeted, personal traits of tenant entrepreneurs, strategic operational policies, services and their value added, as well as the survival and growth of tenant firms. Tenant employment, incubation period, tenant success rate, local retention of graduates, added value of incubator services, incubator size and occupancy rate, jobs created and firms graduated were measures proposed by Allen and McCluskey (1990). The European Commission (2002) stressed the importance of firm survival rates as indicator of the performance of incubators. Smilor (1987) identifies ten factors for the success of the incubator system: on-site business expertise, access to financing and capitalization, in-kind financial support, community support, entrepreneurial network, entrepreneurial education, perception of success, selection process for tenants, tie to a university, and concise program milestones with clear policies and procedures. Most studies assess incubators' performance in terms of new venture creation, growth and survival rate of new businesses relying on quantitative data from questionnaires (Eveleens et al., 2017). Many researchers have also focused the attention on the importance of the tenants screening process to determine the success of the incubators, as it is an important component in the incubation process (Hausberg and Korreck, 2018).

It is also important to notice that researchers, who want to assess the performance of incubators, face several challenges. One difficulty is related to the problem of getting good and reliable data, as entrepreneurs are often hesitant in sharing information, do not keep good records, or tend to be too self-referential when providing information. In addition start-ups are not required to report their performance to public shareholders, making it difficult to obtain data. Moreover, start-up experience

changes in time, making essential for data quality the moment at which the performance is measured (Eveleens et al., 2017).

The networked-based incubation literature is in line with the most general ones as it considers start-up performances, incubators management characteristics and impact on the external macro environment as key PMs.

Eveleens et al. (2017) propose two main elements that need to be measured in order to assess the networked-based incubators success: the start-up performance (which is one of the most used dependent variable in the literature) and the network itself. They classify the key measures of the start-up performances in 4 main categories: general objective measures, incubation-specific objective measures, general subjective measures and incubation-specific subjective measures (Tab. 1). In addition, considering the crucial role of the network for the success of the start-ups and, in turn, of the incubators, the authors focus on the two basic elements that compose its structure and need to be measured: nodes and ties. As mentioned above, nodes are actors involved (firms, divisions, universities, governments, or individuals). Ties represent the type of relationship among actors (Tab. 2).

Incubatees Performance	GENERAL OBJECTIVE MEASURES	Success, survival, firm size, firm growth in terms of sales, profit and employment, and total of funds obtained
	INCUBATION-SPECIFIC OBJECTIVE MEASURES	Firm graduation from the incubator and number of lifted obstacles
	GENERAL SUBJECTIVE MEASURES	Anticipated survival, success, market or business performance, achievement of entrepreneurial goals, estimation of growth, competitive performance, estimated sales, performance compared to competitors, estimation of profit, and satisfaction with the return on assets
	INCUBATION-SPECIFIC SUBJECTIVE MEASURES	Advancement in the incubation process from initiation to Commercialization

Tab 1. Performance Measures (Adapted from Eveleens et al., 2017)

Network	ACTORS INVOLVED	Incubation manager, mentors, researchers, universities, informal investors, venture capitalists, consultants, and service providers
	TYPE OF RELATIONSHIP	The content, the formality, the strength of the relationships, the form of relationship communication, and whether it is an incubator-internal or incubator-external relationship

Tab 2. Incubators Network (Adapted from Eveleens et al., 2017)

THE ENTREPRENEURIAL ECOSYSTEM OF HUNTSVILLE (AL)

Huntsville (AL) is also known as the Rocket City, as its main economic influence is derived from aerospace and military technology. Redstone Arsenal, Cummings Research Park (CRP), and NASA's Marshall Space Flight Center represent the main hubs for the area's technology-driven economy. Huntsville is the center for rocket-propulsion research in the US. Beyond aerospace, Huntsville has a vibrant and active economic ecosystem. Forbes 2018 named Huntsville as 107th best place in USA for business and careers¹. Two of the nation's top credit rating agencies assigned the City of Huntsville their highest scores in May 2019. Moody's Investors Service and Standard & Poor's Rating Services awarded the robust economy, solid budgetary performance and a strong institutional framework. Huntsville is also a hub for education and research with 4 main Universities (Alabama A&M University, University of Alabama in Huntsville, Calhoun Community College and Oakwood University) and the Cummings Research Park (CRP), the second largest research park in the country and the fourth largest in the world. CRP is one of the world's leading science and technology business parks, with a combination of Fortune 500 companies, local and international high-tech enterprises, US space and defense agencies. CRP is the home of nearly 300 companies, almost 27,000 employees and 11,500 students. In such a dynamic ecosystem, entrepreneurship thrives. Indeed, entrepreneurship and innovation play a critical role in the City of Huntsville's economic diversification strategy. The **Business Relations Office** has developed a report² on **Huntsville's Entrepreneurship Ecosystem** that highlights the many organizations that support innovation and entrepreneurship. More in detail, the Advisory Council on Innovation and Entrepreneurship of the City of Huntsville has built a "guide" of the entrepreneurship actors in the community, with the purpose of identifying the many assets available for entrepreneurs. The guide classifies the actors of the ecosystem based on their main offer and it presents six sections: education (e.g. schools and universities), meet-ups (e.g.

¹ <https://www.forbes.com/places/al/huntsville/>

² For the complete report see <https://3jzi0q2zthm01oqpx2h96lz1-wpengine.netdna-ssl.com/wp-content/uploads/2018/10/Entrepreneur-ecosystem-prototype-v-8-103018.pdf>

3. Lowe Mill¹: Lowe Mill ARTS & Entertainment is America's largest independent center for the arts. With over 120 working artists, small businesses, restaurants, and live performance venues, this space is home for music, art, and culture businesses.
4. Rocket Hatch²: through networking events, their CO.STARTERS program, their Will This Fly competition, and more, Rocket Hatch encourages collaboration and sustains ideas and businesses from the ground up.
5. Invention to Innovation Center (I2C)³: a regional initiative that fosters, promotes, and accelerates commercialization of technology-based ventures through incubation, co-working, mentorship, funding, strategic support and more.

Thus in Huntsville there is a multitude of factors that can promote entrepreneurship (Wilton and Toh, 2012) and the presence of innovation centers that create the necessary link among all the involved actors, which is crucial to stimulate the creation of an effective innovation ecosystem (Ferraris and Grieco, 2015).

In this context we focus our attention on the I2C, as it is the only University-Based incubator of the ecosystem. With key nodes and strong ties in its network, it is able to converge in one place all the 6 elements of the entrepreneurship ecosystem.

THE ROLE OF I2C IN THE ECOSYSTEM

The I2C serves as regional resource for emerging tech companies through leadership and support of entrepreneurial initiatives throughout north Alabama and south-central Tennessee 15 county region where entrepreneurs can ideate, collaborate and build companies that are scalable and investable – in a vibrant and dynamic environment that supports and stimulates co-creation and open innovation. I2C focuses on venture acceleration, mentorship, programming and incubation – with an emphasis on establishing pathways and facilitating collaborations with other entrepreneurial ecosystems.

Any incubation initiative needs an anchor to sustain operational stability, deliver programming, provide strategic support and develop entrepreneurial competencies for its incubatees and the larger ecosystem. The odds of success rise dramatically with a university playing that role - both strategically and financially - through creation of physical infrastructure and support systems necessary for new venture creation.

¹ <http://www.lowemill.net>

² <http://www.rockethatch.org>

³ <https://www.uah.edu/i2c>

The need for rapid and disruptive innovation has prompted an urgent push by universities to focus on applied research - a large majority actively seeking commercialization pathways through their respective tech-transfer offices. Presence of an innovation focused incubator on campus performs a dual role - serving as platform to actively pursue spin off opportunities fueled by university Intellectual Property and led by students, faculty etc. and 2) acting as catalyst for entrepreneurs and start-ups to leverage university centric resources as a result of participating in the incubation program. Thus university anchors tied to an incubation initiative lead to opportunities that enable public-private partnerships, deal flow, educational and research collaborations, mentorship, talent sourcing and funding access, all of which contribute towards the creation of a robust entrepreneurial ecosystem.

The establishment of the I2C as the only “regional and university based” innovation initiative in North Alabama is a win-win for the community and the 15-county entrepreneurial ecosystem that it supports. The strategic advantages for aspiring entrepreneurs and start-ups to leverage UAH (University of Alabama in Huntsville) resources through the I2C opens avenues to explore synergies and collaborations spanning several key areas including opportunities to partner with faculty and students on spin offs, collaborative/sponsored research, grant funding, talent acquisition through internships and consulting projects, commercialization and IP support and use of university’s physical resources including special purpose facilities, labs, equipment and related capabilities which can accelerate innovation and technology development.

I2C’s success factors depend on the following:

- Implementing a robust selection process to support and nurture start-ups that will help attract quality deal flow, assess resource allocation and identify early wins within its portfolio.
- Delivering support services and resources for entrepreneurs and start-ups, including space, mentoring, programming, education, access to capital etc., which will help accelerate new venture creation.
- Establishing collaborations and connectivity locally, regionally, nationally and globally. This includes a concentrated effort on building strategic and symbiotic relationships with entrepreneurship focused communities, venture accelerators, public-private organizations, investors, mentors, service providers and strategic partners who will help companies flourish.

THE I2C AS A NETWORK-BASED INCUBATOR

The evolution of successful entrepreneurial ecosystems (Bay Area, Boston, NYC, Austin and others) is a result of two main drivers: university serving as anchors and industry serving as partners. These form the core/hub of a dynamic ecosystem wheel. The spokes are resources - programmatic, funding, business/strategic services and others. Successful alignment is a result of connectivity and

collaboration between the “hubs and spokes” and ultimately, establishing “networks/pathways” with other ecosystems to create a broader impact. Through the establishment of I2C, the region stands poised to expand its entrepreneurial footprint by establishing collaborations strategic to its mission to include a robust experience for its ecosystem in the areas of programming, mentorship, services and access to capital. The data below in Tab 3 combines metrics of I2C and its 17 virtual and on-site companies since inception of the program in Q1, 2018.

Metrics	As of 1st Sept, 2018
Total amount of investment capital raised	\$275,000
Past fiscal year business sales	\$250,000
Total business sales	\$425,000
Total # of jobs created or retained	12
Total # of technical assistance meetings	53
Total # of mentoring & coaching sessions	34
Total # of meetings with potential investors	9
# of new product launched / under development	16

Tab 3. I2C performance data

I2C’s entrepreneurial networks serve as catalysts, which help accelerate new venture creation which ultimately drives innovation and economic development within the community/region. I2C’s resources (both infrastructure and programmatic) are unique to this region thus presenting an opportunity to nurture, develop and expand a tech-based ecosystem by leveraging the collective strength of ecosystem as a whole.

I2C is leader in the formation of Innovate Huntsville, a collaboration and celebration of the entrepreneurial ecosystem in North Alabama. Innovate Huntsville is represented by 11 organizations (including I2C) who are dedicated to bringing entrepreneurs, and innovators together with local resources to build momentum and opportunity around Huntsville’s vibrant entrepreneurial ecosystem.

Through this collaboration, the partnering organizations work together to collectively provide the following services and support to this regional entrepreneurial ecosystem: Co-working, community and collaboration.

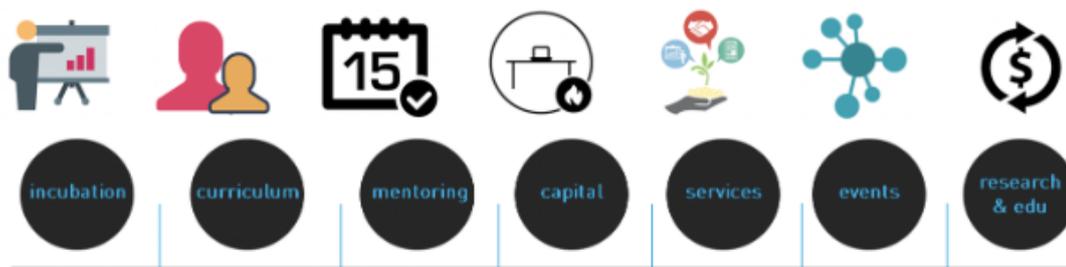


Figure 3. Innovate Huntsville Services

This organized network represents a powerful framework that leverages best practices, resources, expertise and strategic support from participating organizations, which share the common mission of championing entrepreneurship and venture acceleration in the region.

Other relevant I2C partnerships encompass program development with Hacking for Defense (H4Di) to introduce the Lean Startup curriculum for Spring 2020 semester, Trellis an immersive workshop series focusing on Corporate Innovation, The Civil-Military Innovation Institute (CMI2) to build an innovative workforce optimized to advance national security technologies in support of the National Security Innovation Network (NSIN), Soft Landing Program in partnership with InBIA (a global non-profit with over 2,200 members that lead entrepreneurship support organizations in 62 countries), European Space Agency through the Huntsville Chamber of Commerce for Aerospace startups under the Space Exploration Masters Program and North Alabama International Trade Association (NAITA), a business-driven organization committed to increasing knowledge, interest, and activity in international trade in North Alabama, to establish similar programs to incubate foreign technology startups, European Innovation Academy's Innovation Accelerator program and the NSF I-Corps SBIR Phase Zero program with Georgia Tech.

FUTURE RESEARCH

The work is still in its initial phase. As a second step we will conduct a systematic literature review (SLR).

Indeed the ample number of scientific managerial publications dealing with the issue of incubators makes it useful to adopt a SLR to keep up with the state of art of literature.

When the large amount of contributions results in voluminous and fragmented research streams, hampering the ability to accumulate knowledge and actively collect evidence through a set of previous research papers, a suitable activity of literature review assumes a crucial role in synthesizing past research findings and advance a line of research. Scholars use different qualitative and quantitative techniques to understand and organize earlier research findings. Among these, bibliometrics introduces a systematic, transparent and reproducible review process based on the statistical measurement of scientific activity, thus generating a comprehensive overview of extant research (Aria and Cuccurullo, 2017).

For our research aim, we will conduct a systematic literature review of managerial studies dealing with the issue of incubators by means of bibliometrix, a unique tool developed by Aria and Cuccurullo (2017) in the R language for comprehensive bibliometric analyses, providing a wide variety of statistical and graphical techniques supporting the following activities:

1. Data collection: bibliometrix supports the sub-stage of data loading and conversion to R data frame;

2. Data Analysis, articulated in three sub-stages: a Descriptive analysis of a bibliographic data frame; b Network creation for bibliographic coupling, co-citation, collaboration, and co-occurrence analyses; c Normalization;

3. Data visualization: a Conceptual structure mapping; b Network mapping.

The SLR by means of bibliometrix will be followed by a content analysis focusing on network-based incubators, leading to the generation of research propositions.

Finally we will test theory in encounter with practice conducting and in-depth analysis of the I2C characteristics and network.

REFERENCES

- Aerts, K., Matthyssens, P. and Vandenbempt, K. (2007), "Critical role and screening practices of European business incubators", *Technovation*, Vol. 27, No. 5, pp. 254-267.
- Allen, D. N., and McCluskey, R. (1990), "Structure, policy, services, and performance in the business incubator industry", *Entrepreneurship Theory and Practice*, Vol. 15, No. 2, pp. 61-77.
- Appleyard, M. M. (1996), "How Does Knowledge Flow? Interfirm Patterns in the Semiconductor Industry", *Strategic Management Journal*, Vol. 17, pp. 137-154.
- Aria, M., and Cuccurullo, C. (2017), "Bibliometrix: An R-tool for comprehensive science mapping analysis", *Journal of Informetrics*, Vol. 11, No. 4, pp. 959-975.
- Bennett D., Yábar D.PB., and Saura J.R. (2017), "University Incubators May Be Socially Valuable, but How Effective Are They? A Case Study on Business Incubators at Universities". In: Peris-Ortiz M., Gómez J., Merigó-Lindahl J., Rueda-Armengot C. (eds) *Entrepreneurial Universities. Innovation, Technology, and Knowledge Management*. Springer, Cham.
- Bergek, A. and Norrman, C., (2008), "Incubator best practice: A framework", *Technovation*, Vol. 28, No. 1-2, pp. 20-28.
- Bollingtoft, A., and Ulhoi, J. P. (2005), "The networked business incubator--leveraging entrepreneurial agency?", *Journal of Business Venturing*, Vol. 20, No. 2, pp. 265-290.
- Bruneel, J., Ratinho, T., Clarysse, B., and Groen, A. (2012), "The Evolution of Business Incubators: Comparing demand and supply of business incubation services across different incubator generations", *Technovation*, Vol. 32, No. 2, pp. 110-121.
- Dyer, J. H., and Nobeoka, K. (2000), "Creating and managing a high-performance knowledge-sharing network: the Toyota case", *Strategic Management Journal*, Vol. 21, pp. 345-367.
- Duysters, G., and Lemmens, C. (2003), "Alliance group formation. Enabling and constraining effects of Embeddedness and social capital in strategic technology alliance networks", *International Studies of Management & Organization*, Vol. 33, No. 2, pp. 49-68.
- Ferraris, A. and Grieco, C. (2015), "The role of the innovation catalyst in social innovation – an Italian case study", *Sinergie Italian Journal of Management*, Vol. 33, No. 97, pp.127-144.
- Granovetter, M. S. (1973), "The Strength of Weak Ties", *The American Journal of Sociology*, Vol. 78, No. 6, pp. 1360-1380.
- Gulati, R., Nohria, N., and Zaheer, A. (2000), "Strategic networks", *Strategic Management Journal*, Vol. 21, No. 3, pp. 203-215.
- Haapasalo, H., and Ekholm, T. (2004), "A profile of European incubators: A framework for commercialising innovations", *International Journal of Entrepreneurship and Innovation Management*, Vol. 4, No. 2-3, pp. 248-270.
- Hausberg, J. P., and Korreck, S. (2018), "Business incubators and accelerators: a co-citation analysis-based, systematic literature review", *The Journal of Technology Transfer*, Vol. 1, No. 26, pp. 1-26.
- Hoang, H., and Rothaermel, F. (2005), "The effect of general and partner-specific alliance experience on joint R&D project performance", *Academy of Management Journal*, Vol. 48, No. 2, pp. 332-345.
- Phan, P.H., Siegel, D.S., and Wright, M., (2005), "Science Parks and Incubators: Observations, Synthesis and Future Research," *Journal of Business Venturing*, Vol. 20, No. 2, pp. 165-182.

- Powell, W., Koput, K., and Smith-Doerr, L. (1996), "Interorganizational collaboration and the locus of innovation: networks of learning in biotechnology", *Administrative Science Quarterly*, Vol. 41, No. 1, pp. 116–145.
- Rullani, E. (2004), *Economia della conoscenza. Creatività e valore nel capitalismo delle reti*, Roma: Carocci.
- Smilor, R.W. (1987), "Managing the incubator system: critical success factors to accelerate new company development", *IEEE Transactions on Engineering Management*, Vol. 34, No. 3, pp.146–155.
- Uzzi, B. (1997), "Social structure and competition in interfirm networks: The paradox of embeddedness", *Administrative Science Quarterly*, Vol. 42, No. 1, pp. 35–67.
- Vanderstraeten, J., and Matthyssens, P. (2010), Measuring the performance of business incubators: A critical analysis of effectiveness approaches and performance measurement systems, In ICSB world conference proceedings (p. 1), International Council for Small Business (ICSB).
- Voisey, P., Gornall, L., Jones, P., and Thomas, B. (2006), "The measurement of success in a business incubation project", *Journal of Small Business and Enterprise Development*, Vol.13, No. 3, pp. 454-468.
- Wilton, W. and Toh, W. (2012), "Determinants of entrepreneurship: a framework for successful entrepreneurship", *World Review of Entrepreneurship, Management and sustainable Development*, Vol. 8, No. 3, pp.285–296.

DEVELOPING ATTRACTING DESTINATIONS FOR GENERATION Z BASED ON DESIRED DESTINATION COMPONENTS

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ABSTRACT

Generation Z is the youngest adult consumer tourist, and knowledge of its perceptions of desired destination components is of extreme value for destination marketing managers. Therefore, this paper presents the product of field research concerning what tourists (potential or actual) of Generation Z perceive as desirable or essential components of a destination that generates a favorable image. A literature review combined with qualitative research produced 42 destination image components, that were rated by individuals belonging in the Generation Z cohort. Social media and specifically Facebook have been adopted to collect data, obtaining in this matter 258 questionnaires. Data analysis incorporated descriptive statistics, factor analysis in order to produce a smaller set of variables, and in later proceed to segmentation analysis. In this way, twelve factors were produced which were treated as new variables and cluster analyzed. K-Means cluster analysis yielded three groups of Generation Z's perception of destination image components which are desired or not by them.

Keywords: Generation Z cohort; Destination image; Destination components; Tourism; Marketing; Segmentation; Tourism marketing management

INTRODUCTION

Prior research identifies the significance of destination image in influencing destination choice (Prebensen 2007; Chen and Hsu, 2000; Baloglu and McCleary, 1999). It also recognizes that it is essential for tourist satisfaction (Lee et al., 2014; Prayag and Ryan, 2012) and loyalty (Prayag and Ryan, 2012). Milman and Pizam (1995) assert that if the image of a destination is not favorable by tourists, they will not visit it, except in the case that this visit to the specific destination is unavoidable.

Gallarza et al. (2002) postulate that destination image is subjective and due to its subjectivity, it is imperative for marketing managers to be knowledgeable of the variables that consist the desired destination image of actual and potential tourists (Buhalis, 2000). Furthermore, researchers acknowledge that travel behavior is influenced by the generational cohort that the individual belongs in (Chung et al. 2016; Alegre and Pou, 2004).

Generational cohorts are people that are born in the same time zone, at similar places (Kupperschmidt, 2000; Mannheim, 1972), and have lived the same catalytic events (Lester et al., 2012) that shaped their behavior (Parry and Urwin, 2011). Generational cohorts differ from generations since the latter refers only to people born in the same year range of approximately 20-25 years (Tung and Comeau, 2014).

Under this concept, this paper has as its purpose to segment the Greek Generation Z cohort based on what cognitive and affective components synthesize the desired destination image as perceived by them.

This study contributes to the academic tourism literature on destination image in the following manners. 1) previous studies on destination image are mostly focused on a specific destination and the perception towards it. This study investigates the destination variables that tourists consider as necessary for synthesizing a (favorable) destination image in order to include it in their set of choices. 2) there is a lack of studies on the Generation Z cohort tourists (born 1995 and after), a cohort that has entered the workplace and are the future consumers. 3) while there is an abundant number of studies regarding perception, formation, and evaluation of a destination image, there are very few studies that concern generational cohorts and destination image (Huang and Lu, 2017; Zhang et al., 2017; Chung et al., 2016). 4) lastly, to our knowledge a handful of studies exist on destination image and the Generation Z tourist cohort.

LITERATURE REVIEW

In order for a travel for tourism to happen, at first the potential tourist has to answer to the “if” there will be a vacation at all question, and in following the “where” it will occur question (Crompton, 1977 in Um and Crompton, 1990) i.e., which destination will be chosen. In the “where it will take place” phase, the different destinations compete to be included in the potential tourists' choice set (Gartner, 1994), with the perceived destination image being one of the determining choice factors (Buhalis, 2000). Consequently, destinations with a strong, favorable image have a greater chance to be chosen (Hunt, 1975; Milman and Pizam, 1995).

A destination image refers to perceptions or/and impressions, or/ and beliefs that one holds towards a destination (Fakeye and Crompton, 1991; Crompton, 1979; Hunt, 1975). There are mainly two different approaches regarding the destination image. Traditionally, authors consider that it is composed of two components: the cognitive and affective component (e.g., Baloglu and McCleary, 1999; Moutinho, 1987) or three components: the cognitive, affective, and conative (e.g., Chen and Phou, 2013; Gartner, 1994). Additionally, authors consider that the holistic (overall) impression should be taken into

account when measuring destination image (Tasci and Gartner, 2007). The cognitive component has to do with the (evaluation of/feelings towards) physical, actual properties of the destination and the affective component involves subjective evaluations and feelings towards the destination (Baloglu and McCleary, 1999). Lastly, the conative component refers to the behavioral aspect -intention deriving from the cognitive and affective image of the destination (Prayag, 2007; Gartner, 1994).

There is an abundance of prior research confirming that image research is vital for destinations with plethora focusing solely on the cognitive variables (e.g., Peña et al., 2012), while others use both, the cognitive and affective dimension (e.g., Kim et al., 2019). Moreover, some use the cognitive, affective, and conative components of destination image (e.g., Stylos et al., 2017), while others use the holistic image (Stylos et al., 2016; Michaelidou et al., 2013). Furthermore, there is a generous number of studies referring to segmentation analysis (e.g., Kamenidou et al., 2015; Leisen, 2001) and tourists' characteristics and effects on destination image (Beerli and Martín, 2004).

In addition to the above, vast bulk of research regards destination branding (Ekinci, 2003); motivation (Phillips and Jang, 2007); information sources (Kavoura and Stavrianeas, 2015), choice criteria (Kamenidou et al., 2009); and expectation (Vitouladiti, 2013). Also, there is a great volume of studies on tourist's behavioral intentions (e.g., Chen and Tsai, 2007); satisfaction (Joppe et al., 2001); and loyalty (Chen and Phou, 2013; Zhang et al., 2014). Another aspect well researched is tourist's recommendation of a destination (Inan et al., 2011); as well as the beforementioned relationships (e.g., Chi and Qu, 2008).

Whereas there are countless publications on tourism studies, relatively few exist as regards generational cohorts and tourism, which though is an emerging topic in the tourism marketing domain (e.g., Swanson and Cavender, 2019; Confente and Vigolo, 2018; Chung et al., 2016; Desivilya et al., 2015;), while even fewer exist regarding tourism and the Generation Z cohort (e.g. Self et al., 2019; Haddouche and Salomone, 2018) pointing out that in tourism destination studies, generational cohorts are an understudied issue. Additionally, studies that deal with destination behavior and Generation Z (which is the focus of this paper) are rare (Skinner et al., 2018; Qi and Leung, 2018; Sá, 2017). Rare are likewise, studies dealing with perceived destination image, which is also the issue of this research (Zhang et al., 2017; Chung et al., 2016; Fabšík, 2013). Lastly, to the author's knowledge, a handful of studies deal with the perception of a destination image and the Generation Z cohort.

Zhang et al., (2017) compared the tourist destination image (TDI) of different generations (generation decades of the 1950s, 1960s, 1970s, 1980s, and 1990s). Their results revealed significant differences and some regularity, that is, the earlier the generation is, the higher the TDI evaluation is. Huang and Lu (2017) studied amongst other issues, China's potential outbound tourist destination evaluation criteria from a five-generational point of view (n=4047). The five generations were: The Firm Communist

Generation (FCG), the Lost Generation (LG), the Reform and Opening-up Generation (ROG), the Only-child Generation (OG). Chung et al. (2016) investigated the destination image of 350 Mainland Chinese tourists visiting Taiwan (i.e., cross-strait tourism) across four generations (Republican, 1930-1950; Consolidation, 1951-1960; Cultural Revolution, 1961-1970; and Social Reform, 1971+). Fabšík (2013) investigated if there is a gap between the communicated and perceived image regarding Slovakia and Czech tourists, targeting generation Y tourists (n=140).

Specifically, as regards to destination image and the generation Z cohort tourist, two studies were found in the context of destination tourism and Generation Z cohort. Qi & Leung (2018) studied the Chinese generation Z cohort traveling behavior towards Kenya as they measured the "perceived importance of nine dimensions of destination related information", i.e., natural resources, general infrastructure, tourist infrastructure, tourist leisure and recreation, culture, history and art, political and economic factors, natural environment, social environment, and atmosphere of Kenya (based on Beerli and Martin, 2004 dimensions). They found that the Generation Z cohort rated as most important the "natural resources" and "natural environment" dimensions, while they rated as the least important the "Leisure and recreation information" dimension. They state that their results show, that the perceived destination image has an impact on the perceived importance of the destination information. Lin and Huang (2017) incorporated the construct of perceived value (functional, social, and emotional value) to examine the factors that influence the tourism decisions of Chinese students as tourists belonging in the generation Z cohort (n=405).

METHODOLOGY

Literature review combined with qualitative research (n=8 depth interviews) generated forty-two destination image components which were included in the final questionnaire. As regards the field research questionnaire, the question referring to destination components was stated as "which of the following components do you consider as important for the formation of a desirable destination image in order for the destination to be chosen" (5-point Likert-type scale: 1= completely unimportant, to completely important). A non-probability sampling method was used to obtain data. This research targeted population in the Greek Generation Z cohort. The Greek Generation Z cohort consists of individuals born 1995-2009 (McCrindle and Wolfinger, 2010) in Greece, and the year of the research (2017) these people were 18-22 years of age.

The research tool was developed in google docx form, to be forwarded via the internet and specifically via Facebook and e-mail; employing convenience and snowball sampling. By this procedure, 258 valid answered questionnaires were gathered that were used in the analysis. The SPSS ver.24 was

employed, and the statistical analysis encompassed percentages and mean scores (MS), factor and cluster analysis, as well as chi-square and crosstabulation tests.

RESULTS

Sample profile

44.2% of the sample were males and 55.8% females, with participants' age as follows: 9.3% were 18 years old; 26.4% were 19 years old; 32.6% were 20 years old and 17.8% and 14.0% were 21 and 22 years old respectively (percentages regard the year 2017, when the research has taken place). Respondents were single (99.2%) with secondary education (81.0%) being university students in the majority (79.1%) and with a net monthly family income up to 1500.00 euros (86.7%). Additionally, 29.3% had at least one family member fired from May 2010, when the memorandum of understanding was signed, and 4.0% had no family member currently working, due to the economic recession that the country is experiencing.

Perceived important components of a destination image

From the 42 components evaluated as important or not by the Generation Z cohort to produce a desirable destination image, none had as a Mean Score (MS) >4.51 . The statements with the highest evaluation were that it must be an "exciting destination" and is/has "beautiful place/landscape" with $MS=4.35$ and $MS=4.33$ respectively. Moreover, the element with the lowest evaluation was "Free camping (camping in a non-campsite environment)" with an $MS < 2.00$.

K-means cluster analysis- profile of clusters

Exploratory Factor (Principle Component Analysis) with varimax rotation was performed on the 42 destination image items. The analysis produced 12 factors ($KMO=0.656$; $BTS=2531.862$; $df=861$; $p=0.000$), explaining 69.42% of Total Variance (TV). The number of factors was defined with the >1.0 eigenvalue criteria (Kaiser, 1958) and all factor loadings exceeded the 0.4 loading criteria (Ford et al., 1986).

Table 1 presents the produced factors, their eigenvalues, total variance explained (TVE); Cronbach α of the factor, and Mean Factor Score (MFS). Total Cronbach α of the scale was $\alpha=0.828$, and as one may observe, three factors resulted in low reliability (<0.500).

a/a factor	Factor name	N of items	TVE (%)	Eigenvalue	Cronbach a	MFS
1st	Infrastructure	8	11.34	6.95	0.861	4.10 (0.66)
2nd	Sightseeing	6	8.30	4.46	0.838	3.28 (0.76)
3rd	Exciting destination	3	6.52	3.28	0.827	4.23 (0.65)
4th	Famous and "in" place	3	6.36	2.19	0.774	2.74 (0.95)
5th	Nightlife and safety at night	4	5.83	2.14	0.638	3.59 (0.79)
6th	Food and Restaurants	2	5.20	1.97	0.821	3.96 (0.83)
7th	3s: Sea, Sun, and Sand	4	5.18	1.71	0.661	3.96 (0.63)
8th	Value for money	2	5.18	1.47	0.857	3.98 (0.91)
9th	Activities	3	4.11	1.44	0.468	3.54 (0.71)
10th	Family destination	2	4.02	1.32	0.545	2.78 (0.97)
11th	Locals, festivals, and free camping	3	3.98	1.17	0.395	2.89 (0.75)
12th	Exotic place	2	3.41	1.06	0.308	3.47 (0.80)

Table 1. *Derived factors of perceived important destination image components*

The 12 dimensions extracted through factor analysis were handled as new variables. K-means cluster analysis was performed to group the cohort of Gen Z-ers with similar perceptions of the destination image components. Table 2 presents the derived clusters, the number of subjects in each group, and the Final Cluster Centers (FCC). Additionally, ANOVA tests revealed that all clusters are statistically different in all cases (F-value and significance in Table 2).

a/a factor	Factor name	Cl.1 N=52	Cl.2 N=146	Cl.3 N=60	F	Sig.
1st	Infrastructure	4.47	4.24	3.45	57.542	0.000
2nd	Sightseeing	3.35	3.42	2.86	13.050	0.000
3rd	Exciting destination	4.53	4.27	3.88	16.052	0.000
4th	Famous and "in" place	3.29	2.43	3.03	23.092	0.000
5th	Nightlife and safety at night	4.38	3.22	3.82	66.324	0.000
6th	Food and Restaurants	4.60	4.01	3.28	48.490	0.000
7th	3S: Sea, Sun and Sand	4.54	3.86	3.69	38.167	0.000
8th	Value for money	4.56	4.21	2.93	93.544	0.000
9th	Activities	4.10	3.46	3.26	25.911	0.000
10th	Family destination	2.13	3.25	2.20	55.454	0.000
11th	Locals, festivals, and free camping	3.21	2.81	2.82	5.923	0.003
12th	Quiet/calm place	3.38	3.63	3.17	7.897	0.000

Table 2. *Gen Z-ers segmentation based on perceived importance of destination image components*

Chi-square and crosstabulation tests were used to observe if the three clusters and the Generation Z cohorts' socioeconomic and demographic characteristics (gender, age, income, profession, number of family members working and fired) have a statistically significant difference. Results revealed that five socioeconomic and demographic characteristics of participants produced statistically significant differences. These are 1) gender ($\chi^2=13.380$; $p=0.001$); 2) profession ($\chi^2=23.879$; $p=0.002$); 3) number of family members producing an income ($\chi^2_{10}=27.323$; $p=0.002$); 4) number of family members fired after the memorandum of understanding ($\chi^2_6=19.391$; $p=0.004$); and 5) income ($\chi^2_{10}=22.743$; $p=0.012$). On the other hand, three as expected did not 1) age ($\chi^2_8=10.502$; $p=0.232$); marital status ($\chi^2_2=6.652$; $p=0.088$); and education ($\chi^2_6=8.765$; $p=0.187$).

Cluster N.1 "Adventurous and economic rational Gen Z-ers". The 1st group is the most demanding since 7 out of 12 factors have MFS>4.00. This segment considers that a favorable destination image consists of the following dimensions: Infrastructure; Exciting destination; Nightlife and safety at night; Food and Restaurants; 3S: Sea, Sun and Sand; Value for money; and Activities. For a favorable destination image four dimensions are indifferent to them, i.e., sightseeing; famous or "in" place; "quiet/calm place"; and "Locals, festivals, and free camping". Lastly, one dimension is not at all important for them for a destination to be evaluated as favorable, i.e., "Family destination". This segment consists of women (69.2%); 20 years old (34.6%), all single (100.0%); secondary education (80.8%), university students (88.5%), with a family net monthly income up to 1000.00 euros (46.1%). This segment has the least number of family members producing income as compared to the other segments, with one family member producing an income (42.3%), while it has the biggest number of fired persons (50.0%).

Cluster N.2 "Excitement - seekers and economic rational Gen Z-ers". The 2nd group considers that a favorable destination image consists of the following four dimensions (FCC>4.00), i.e. infrastructure, visiting an exciting destination, good food, and restaurants, all with a good cost-benefit ratio. This group is also indifferent to sightseeing; if the destination is considered as famous or "in"; if it is a "quiet/calm destination"; about the locals' behavior, festivals, and free camping. They too consider unimportant a destination that is intended for families. This segment has almost equally men and women; 19 (28.8%) and 20 years old (34.2%), all single (100.0%); secondary education (81.5%), being university students (75.3%) and having the largest percentage of unemployed (17.8%). The Gen Z-ers in this group have family net monthly income being in two groups: ranging from 1000.01-1500.00 euros (25.0%) and 1500.01-2000.00 euros (31.9%). Additionally, 63.4% of the cluster has 2 or three family members producing an income and 22.5% that have at least one family member losing his/her job after May 2010 (when the memorandum of understanding was signed).

Cluster N.3 "Excitement seekers and 3S Gen Z-ers". This segment has all FCC<4.00 and >2.00. It considers that a favorable destination image consists of the following two dimensions (FCC>3.51): an exciting

destination with satisfactory and safe nightlife. The other destination image components are of indifferent importance ($MS < 3.00$ and $MS > 2.51$). One dimension is not critical at all ($MS < 2.50$): family destination.

This segment has mostly men (63.3%) and with the age groups almost equally divided (ranging from 17% to a maximum of 26%). This segment is the one that has divorced participants (3.3%). Participants have a secondary education (80.0%) and are in majority university students (80.0%), while this cluster has the largest percentage of public employees (10.0%). The Gen Z-ers in this group have family net monthly income being in two groups: ranging between 600.01-1000.00 euros (30.0%) and 1000.01-1500.00 euros (26.7%), with 60.0% and 3.3% having one member and five family members respectively producing an income.

DISCUSSION-CONCLUSION

This paper had as its aim to segment Gen Zers ($N=258$) based on destination image components. In order this to be achieved a 42-item question referring to the components producing a favorable destination image was rated. The elements with the highest rating were "exciting destination" and is/has "beautiful place/landscape". Regarding segmentation based on these ratings, K-means cluster analysis with preceding factor analysis (PCA with varimax rotation) produced three groups of the Greek Generation Z cohort. ANOVA tests (from cluster analysis) revealed that in all cases the three groups are statistically different as regards the 12 dimensions cluster analyzed and examined. Lastly, chi-square and crosstabulation test, revealed the socioeconomic and demographic synthesis of each group.

The above findings are partially consistent with previous findings regarding destination image and the Generation Z cohort. Qi and Leung (2018) found that for the Chinese generation Z cohort important components of a destination was the "natural resources" and "natural environment" dimensions, while they rated as the least important the "Leisure and recreation information" dimension.

It is crucial for destination marketing managers to be knowledgeable of the variables that consist of a favorable image for future tourists and to adjust their image accordingly. These findings are very valuable for destination marketers since if they want to target this market, they have to focus on the desired by them elements of the destination and emphasize upon them during their communication campaign. Thus, the findings of this research can help destination marketing managers as well as the local tourist authorities in designing and implementing suitable communication strategies for targeting potential tourists of the Generation Z cohort.

LIMITATIONS - DIRECTIONS FOR FURTHER RESEARCH

This research has some inevitable limitations which could generate guidelines for future research. 1) Forty-two items of destination image components were rated, which arose from the literature review and the qualitative study. Though, other variables could be of importance that are not included in the questionnaire. 2) It focused on one Greek generational cohort, i.e., the Generation Z. 3) A non-probability sampling method was employed for data collection, being restrictive of generalizability of findings. 4) The sample obtained was quite small, though adequate for the study as well as for the statistical analysis implemented.

Even if this research has the limitations mentioned, it is substantial because it provides with an understanding of tourist behavior and destination image perception of a generational cohort that is understudied.

REFERENCES

- Alegre, J., and Pou, L. (2004), "Micro-economic determinants of the probability of tourism consumption", *Tourism Economics*, Vol. 10, No. 2, pp. 125-144
- Baloglu, S. and McCleary, K.W. (1999), "A model of destination image formation", *Annals of Tourism Research*, Vol. 26, No. 4, pp. 868-897
- Beerli, A. and Martin, J.D. (2004). Tourists' characteristics and the perceived image of tourist destinations: a quantitative analysis– a case study of Lanzarote, Spain, *Tourism Management*, Vol. 25, Vol. 5, pp. 623-636.
- Buhalis, D. (2000). Marketing the competitive destination of the future. *Tourism Management*, Vol. 21, No. 1, pp. 97-116
- Chen, C. F. and Phou, S. (2013), "A closer look at destination: Image, personality, relationship and loyalty", *Tourism Management*, Vol. 36, pp. 269-278.
- Chen, C. F., and Tsai, D. (2007), "How destination image and evaluative factors affect behavioral intentions?", *Tourism Management*, Vol. 28, No. 4, pp. 1115-1122.
- Chen, J. S., and Hsu, C.H.C. (2000), "Measurement of Korean Tourists' Perceived Images of Overseas Destinations", *Journal of Travel Research*, Vol.38 No.4, pp. 411–416.
- Chi, C.G.Q. and Qu, H. (2008), "Examining the structural relationships of destination image, tourist satisfaction and destination loyalty: An integrated approach", *Tourism Management*, Vol. 29, No. 4, pp. 624-636.
- Chung, J.Y., Chen, C.C., and Lin, Y.H. (2016), "Cross-strait tourism and generational cohorts", *Journal of Travel Research*, Vol. 55, No. 6, pp. 813-826.
- Confente, I., and Vigolo, V. (2018), "Online travel behaviour across cohorts: The impact of social influences and attitude on hotel booking intention", *International Journal of Tourism Research*, Vol. 20, No. 5, pp. 660-670
- Crompton, J. L. (1977). A Systems Model of the Tourist's Destination Selection Decision Process with Particular Reference to the Role of Image and Perceived Constraints, Unpublished Doctoral Dissertation, Texas A&M University, in Um, S. and Crompton, J.L. (1990), "Attitude Determinants in Tourism Destination Choice", *Annals of Tourism Research*, Vol. 17, No. 3, pp. 432-448.
- Desivilya, H., Teitler-Regev, S., and Shahrabani, S. (2015), "The effects of conflict on risk perception and travelling intention of young tourists", *EuroMed Journal of Business*, Vol.10, No. 1, pp. 118-130.
- Ekinci, Y., (2003), "From destination image to destination branding: An emerging area of research", *E-review of Tourism Research*, Vol. 1, No. 2, pp.1-4.
- Fabsik, M. (2013), "Perceived and communicated image", Master Thesis in International Tourism Management Irem Onder, Vienna, Austria.
https://www.modul.ac.at/uploads/files/Theses/Master/Thesis_-_2013_-_MSC_Fabsik.pdf
- Fakeye, P. C. and Crompton, J. L. (1991), "Image differences between prospective, first-time, and repeat visitors to the Lower Rio Grande Valley", *Journal of Travel Research*, Vol. 30, No. 2, pp.10-16.

- Ford, J. K., MacCallum, R. C. and Tait, M. (1986). The application of exploratory factor analysis in applied psychology: A critical review and analysis. *Personnel Psychology*, 39, No. 2, pp. 291-314.
- Gallarza, M.G., Saura, I.G., and Garcia, H.C. (2002), "Destination image: Towards a conceptual framework", *Annals of Tourism Research*, Vol. 29, No. 1, pp. 56-78.
- Gardiner, S., Grace, D. and King, C. (2014), "The generation effect? The future of domestic tourism in Australia", *Journal of Travel Research*, 53, No. (6), pp. 705-720.
- Gartner, W. C., (1994), "Image formation process", *Journal of Travel & Tourism Marketing*, Vol.2, No. 2&3, pp. 191-216.
- Haddouche, H., and Salomone, C. (2018), "Generation Z and the tourist experience: tourist stories and use of social networks", *Journal of Tourism Futures*, Vol. 4, No. 1, pp. 69-79.
- Huang, Q. and Lu, Y. (2017), "Generational perspective on consumer behavior: China's potential outbound tourist market", *Tourism Management Perspectives*, Vol. 24, pp. 7-15.
- Huang, Q. and Lu, Y. (2017), "Generational perspective on consumer behavior: China's potential outbound tourist market", *Tourism Management Perspectives*, Vol. 24, pp. 7-15.
- Hunt, J.D. (1975), "Image as a factor in tourism development", *Journal of Travel Research*, Vol. 13, No. 3, pp. 1-7
- Inan, E. A., Akinci, S., Kiyimalioglu, A., and Akyurek, M. S. (2011). "Kruvaziyer Turizminde Turistlerin Tavsiye Niyetlerinde Destinasyon Imajinin Etkisi/The Impact of Destination Image on Recommendation Among Cruise Passengers", *Ege Akademik Bakis*, Vol. 11, No. 3, pp. 487-497.
- Joppe, M., Martin, D. W., and Waalen, J. (2001), "Toronto's image as a destination: a comparative importance-satisfaction analysis by origin of visitor", *Journal of Travel Research*, Vol. 39, No. 3, pp. 252-260.
- Kaiser, H. F. (1958), "The Varimax Criterion for Analytic Rotation in Factor Analysis", *Psychometrika* Vol. 23, No.3, pp.187-200.
- Kamenidou, I., Mamalis, S. and Priporas, C. V. (2009), "Measuring destination image and consumer choice criteria: The case of Mykonos Island" *Tourismos: An International Multidisciplinary Journal of Tourism*, Vol. 4, No. 3, pp. 67-79
- Kamenidou, I., Mamalis, S. and Priporas, C.V. (2015). Segmentation based on evaluation of a clubbing destination: Ayia Napa. In 8th Annual Conference of the EuroMed Academy of Business, Innovation, Entrepreneurship and Sustainable Value Chain in a Dynamic Environment, September 16-18, Verona, Italy (pp. 936-948), September.
- <http://emrbi.org/wp-content/uploads/2015/09/euromed2015%20book%20of%20proceedings-2015-09-08.pdf>
- Kavoura, A., and Stavrianeas, A. (2015), "The importance of social media on holiday visitors' choices—the case of Athens, Greece", *EuroMed Journal of Business*, Vol.10, No. 3, pp. 360-374.
- Kim, S., Stylidis, D., and Oh, M. (2019), "Is perception of destination image stable or does it fluctuate? A measurement of three points in time", *International Journal of Tourism Research*. <https://doi.org/10.1002/jtr.2273>
- Kupperschmidt, B. R. (2000), "Multi-generation employees: Strategies for effective management", *The Health Care Manager*, Vol. 19, pp. 65-76.
- Lee, B., Lee, C.K. and Lee, J. (2014), "Dynamic nature of destination image and influence of tourist overall satisfaction on image modification", *Journal of Travel Research*, Vol. 53, No. 2, pp. 239-251.
- Leisen, B. (2001), "Image segmentation: the case of a tourism destination", *Journal of Services Marketing*, Vol. 15, No. 1, pp. 49-66.
- Lester, S. W., Standifer, R. L., Schultz, N. J., and Windsor, J. M. (2012), "Actual versus perceived generational differences at work: An empirical examination", *Journal of Leadership & Organizational Studies*, Vol. 19, No. 3, pp. 341-354.
- Lin, L. P., and Huang, S. C. (2017), "Modeling Chinese post-90'2 tourism loyalty to the ex-rival state using the perceived value approach", *Tourism and Hospitality Management*, Vol. 24, No. 1, pp. 1-18.
- Mannheim, K. (1972), "The problem of generations", In P. G. Altbach & R. S. Laufer (Eds.), *The new pilgrims: Youth protest in transition* (pp. 101-138). New York: David McKay.
- McCrinkle, M. and Wolfinger, E. (2010), "The ABC of XYZ: Understanding the Global Generations", University of New South Wales Press Ltd, Sydney, chapter 1 "Generations defined".
- http://mccrinkle.com.au/resources/whitepapers/McCrinkle-Research_ABC-01_Generations-Defined_Mark-McCrinkle.pdf
- Michaelidou, N., Siamagka, N.T., Moraes, C. and Micevski, M. (2013), "Do marketers use visual representations of destinations that tourists' value? Comparing visitors' image of a destination with marketer-controlled images online", *Journal of Travel Research*, Vol. 52, No. 6, pp. 789-804.
- Milman, A., and A. Pizam, (1995), "The Role of Awareness and Familiarity with a Destination: The Central Florida Case", *Journal of Travel Research*, Vol. 33(Winter), pp. 21-27.
- Moutinho, L. (1987), "Consumer Behaviour in Tourism", *European Journal of Marketing*, Vol. 21, No. 10, pp. 5-44

- Ohja, H. and Pramanick, M. (2009), "Effects of age on intensity and priority of life needs", *Journal of the Indian Academy of Applied Psychology*, Vol. 35, No.1, pp. 131-136
- Parry, E. and Urwin, P. (2011), "Generational differences in work values: A review of theory and evidence", *International Journal of Management Reviews*, Vol. 13, No. 1, pp. 79-96.
- Pena, A.I.P., Jamilena, D.M.F. and Molina, M.A.R. (2012), "Validation of cognitive image dimensions for rural tourist destinations: A contribution to the management of rural tourist destinations", *Journal of Vacation Marketing*, Vol. 18, No. 4, pp. 261-273.
- Pennington-Gray, L., Kerstetter, D.L. and Warnick, R. (2002), "Forecasting travel patterns using Palmore's cohort analysis", *Journal of Travel & Tourism Marketing*, Vol. 13, No. 1&2, pp. 125-143.
- Phillips, W. and Jang, S. (2007), "Destination image and visit intention: Examining the moderating role of motivation", *Tourism Analysis*, Vol. 12, No. 4, pp. 319-326.
- Prayag, G. (2007), "Exploring the relationship between destination image and brand personality of a tourist destination: an application of projective techniques", *Journal of Travel and Tourism Research*, Vol. 2 (Fall), pp. 111-130.
- Prayag, G., and Ryan, C. (2012), "Antecedents of tourists' loyalty to Mauritius: The role and influence of destination image, place attachment, personal involvement, and satisfaction", *Journal of Travel Research*, Vol. 51, No. 3, pp. 342-356.
- Prebensen, N.K., (2007), "Exploring Tourists' Images of a Distant Destination", *Tourism Management*, Vol. 28, No.3, pp. 747-756.
- Qi, S. and Leung, R. (2018), "The Search for Kenya: How Chinese-Speaking Generation Z Does Its Online Travel Planning", In: *Information and Communication Technologies in Tourism* (pp. 106-116). Springer International publishing, Cham.
- Sa, A.M.N.C.S. (2017), "Hotel Management and the generational impact of Millennials and iGen", *Escola Superior de Hotelaria e Turismo do Estoril, Estoril Portugal*.
https://comum.rcaap.pt/bitstream/10400.26/19722/1/2017.04.007_.pdf
- Self, T.T., Gordon, S., and Jolly, P.M. (2019), "Talent management: a Delphi study of assessing and developing GenZ hospitality leaders", *International Journal of Contemporary Hospitality Management*.
<https://www.emeraldinsight.com/doi/pdfplus/10.1108/IJCHM-11-2018-0915>
- Skinner, H., Sarpong, D. and White, G. R., (2018), "Meeting the needs of the Millennials and Generation Z: gamification in tourism through geocaching", *Journal of Tourism Futures*, Vol. 4, No. 1, pp. 93-104.
- Stylos, N., Bellou, V., Andronikidis, A. and Vassiliadis, C. A. (2017), "Linking the dots among destination images, place attachment, and revisit intentions: A study among British and Russian tourists", *Tourism Management*, Vol. 60, pp. 15-29.
- Stylos, N., Vassiliadis, C. A., Bellou, V., and Andronikidis, A. (2016), "Destination images, holistic images and personal normative beliefs: Predictors of intention to revisit a destination", *Tourism Management*, Vol. 53, pp. 40-60.
- Swanson, J. R., and Cavender, R. (2019), "Generational perceptions of prosperity on the niche tourism island destination of Ikaria, Greece", *International Journal of Tourism Anthropology*, Vol. 7, No. 1, pp. 40-59.
- Tasci, A.D. and Gartner, W.C. (2007), "Destination image and its functional relationships", *Journal of Travel Research*, Vol. 45, No. 4, pp. 413-425.
- Tung, L.C., and Comeau, J.D. (2014), "Demographic Transformation in Defining Malaysian Generations: The Seekers (Pencari), The Builders (Pembina), The Developers (Pemaju), and Generation Z (Generasi Z)", *International Journal of Academic Research in Business and Social Sciences*, Vol. 4, No. 4, pp. 383-403
- Um, S. and Crompton, J.L. (1990), "Attitude Determinants in Tourism Destination Choice", *Annals of Tourism Research*, Vol. 17, No. 3, pp. 432-448.
- Vitouladiti, O. (2013), "The comparison of secondary and primary tourism destination image: Serving as a bridge between expectation and experience and guiding effective marketing and management strategies", *Tourismos: An International Multidisciplinary Journal of Tourism*, Vol. 8, No. 1, pp 53-91.
- Zhang, G., Wu, J. and Zhou, J. (2017), "Do generation gaps lead to differences in the tourism destination image? Evidence from China". *Tourism Tribune*, Vol. 32, No. 2, pp. 53-64.
- Zhang, H., Fu, X., Cai, L. A. and Lu, L. (2014), "Destination image and tourist loyalty: A meta-analysis". *Tourism Management*, Vol. 40, pp. 213-223.

FOSTERING SUSTAINABILITY IN TOURISM SUPPLY CHAINS: A QFD DECISION FRAMEWORK

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ABSTRACT

The aim of this study is to present a Quality Function Deployment (QFD) decision framework that recognizes the interrelationship between sustainable service design decisions and supplier evaluation and selection decisions and lines up the efforts of all members of a tourism supply chain to create common value, setting the foundation for sustainable development. By taking into consideration service quality and sustainability criteria, the proposed framework facilitates decision-making within the context of Sustainable Supply Chain Management. Towards this end, the proposed QFD framework is deployed in 4 phases (Houses of Quality – HOQ) and works on two levels. At first level it facilitates the sustainable design of tourism services, by incorporating social and environmental sustainability considerations as well as quality parameters, accrued from the “Voice of the Customer”, while at a second level it provides guidance on supplier evaluation and selection procedures. Moreover, an extension of QFD method based on Decision Analysis and Multicriteria methods, the QFD-LP-GW-Fuzzy AHP methodological approach, is employed within the proposed decision framework to enhance the effectiveness of the traditional QFD method in capturing and prioritizing uncertain and subjective judgments. Results from the implementation of the QFD framework, concerning the realization of the first phase (first HOQ), are presented.

Keywords: QFD, Sustainability, Tourism Supply Chains, QFD-LP-GW-Fuzzy AHP

INTRODUCTION

The key to create value for customers and other stakeholders in tourism supply chains lies in the adoption of the principles and practices of sustainability in all supply chain activities i.e. service design, procurement management, service production management, delivery-distribution management and reverse logistics management (Edgell, 2016; Sigala, 2008). The present study focuses

on sustainable service design, which encompasses the establishment of tourism experience standards and procedures that meet environmental, social and economic criteria, as well as the evaluation and selection of suppliers according to sustainability principles.

In particular, the production of sustainable services requires sustainable approaches in the design and development of services throughout their entire lifecycle, from their conception to withdrawal (Maxwell and Van der Vorst, 2003). Usually, the Triple Bottom Line context is incorporated into the design process; hence the design is constrained by environmental, social and economic considerations (Elkington, 1998). In this fashion, a balance is accomplished between environmental protection, social equity and economic prosperity of organizations. Still, traditional service requirements, like customer requirements, translated into quality parameters and technical specifications, should also be taken into account. Therefore, the aim of a sustainable service design should be the production and provision of services that satisfy both traditional service specifications and sustainability criteria.

Moreover, since, the tourism industry is a mosaic of services, provided by various tourism actors coming from lodging, dining, transportation, event management sector etc., cooperative schemes should be developed to achieve alignment of actors into common sustainability policies throughout the value chain (Budeanu, 2009). In this respect, tourism service organizations have to incorporate environmental and social values into their supplier selection policies in order to move toward sustainable development (Azadnia, Saman and Wong, 2015).

Thus, this paper proposes the incorporation of sustainability parameters into service design and supplier evaluation and selection processes, along with the alignment of sustainable service design decisions with supplier evaluation and selection decisions. More specifically, the purpose of this paper is to present a decision framework for designing tourism services and for evaluating and selecting suppliers within the context of sustainable Supply Chain Management. Toward this direction a Total Quality Management and Marketing Management tool -the Quality Function Deployment method (QFD)- combined with quantitative methods from Operational Research (such as Multicriteria Decision Analysis methods, Fuzzy Logic theory and Linear Programming) is employed (QFD-LP-GW-Fuzzy AHP). The proposed decision framework incorporates simultaneously the "Voice of the Customer" and sustainability criteria, while recognizes the interdependence between sustainable service design decisions and supplier evaluation and selection decisions and aligns them, ensuring consistency in the service design process.

THE QFD DECISION FRAMEWORK

QFD is a well-established method that offers a structured framework to design and develop high quality products/ services, by providing a mechanism for translating the "Voice of the Customer"

(WHATs) into product/ service specifications (HOWs), from conceptual design to production and provision (Akao, 1990; Dror and Sukenik, 2011; Zare Mehrjerdi, 2010). In this fashion, it focuses on what customers deem important and ensures that the final product/ service conforms to the technical specifications set by the cross-functional team (Ahmed and Amagoh, 2010). QFD is accomplished through a series of visual planning matrices, the “Houses of Quality (HOQ)”, which provide detailed guidance throughout the product/ service development process (Cohen, 1995). Like a chain, each HOQ is closely related to its preceding and following HOQ. This implies an interrelated set of steps, since the outcome of each HOQ serves as input for its succeeding HOQ in determining priorities in the subsequent design and planning efforts, embracing different aspects of design and development.

This study proposes a QFD decision framework that lines up the efforts of all members of a tourism supply chain to create common sustainable value. The particular framework is designed to provide pragmatic guidance to tourism organizations for deploying sustainable services of high quality. The required phases for the implementation of the proposed methodological framework as a supply chain management tool, aiming at improving the quality and sustainability of services provided by hotels is illustrated in Figure 1. Specifically, a QFD planning process, comprising four interrelated phases -HOQs- to accommodate service design and supplier evaluation and selection decisions, is developed. In this respect, the proposed QFD framework begins with obtaining the “Voice of the Customer” regarding hotel selection criteria that influence customer satisfaction. Thus, the first phase (HOQ 1) concerns the specification and ranking of customer’s criteria for selecting hotels, their translation into hotel management aspects and the prioritization of hotel management aspects in line with hotel selection criteria. It should be mentioned that selection criteria includes both traditional and sustainability criteria. In the second HOQ the ranked hotel management aspects are utilized as input data in order to identify sustainable hotel practices and estimate their priorities. In the third HOQ the specified sustainable hotel practices and their weights determine the proper supplier selection criteria. Then, the prioritized supplier selection criteria are employed to identify in the fourth HOQ the supplier that share with the hotel, common sustainability values. Essentially, the fourth HOQ serves as a supplier evaluation and selection tool. The results of completing the first HOQ are presented in the next section.

Finally, in this paper the extended QFD methodological approach developed by Kamvysi *et al.* (2014) is employed within the proposed QFD framework, integrating QFD with LP-GW-Fuzzy AHP. QFD-LP-GW-Fuzzy AHP provides a systematic procedure to capture the actual “Voice of the Customer” (WHATs) and to accurately translate it into design decisions (HOWs) (Kamvysi *et al.*, 2014). It exploits Fuzzy AHP’s strengths to handle vagueness and

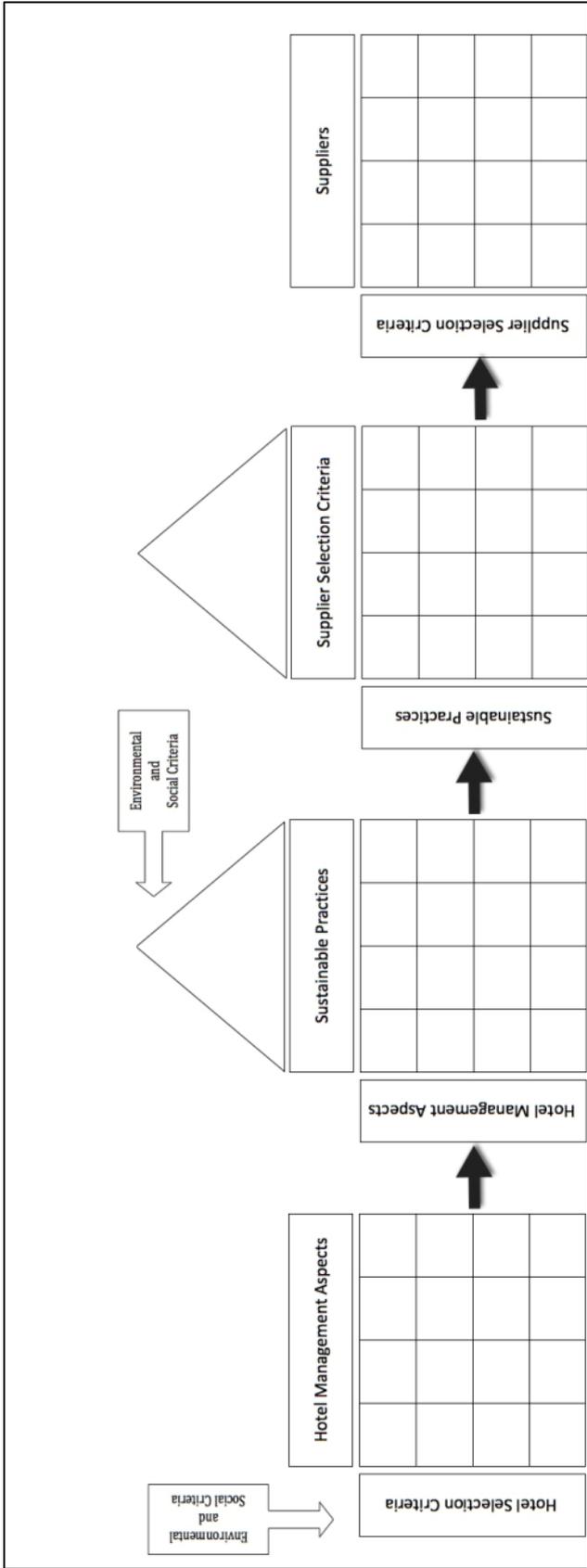


Figure 1. The proposed QFD decision framework

subjectivity of human judgments, improving the value of QFD's incoming information and subsequently capturing the true customer requirements. AHP, a versatile and widely used decision-making method (Ho, 2008), effectively supports decision-making by offering a comprehensive, systematic and rational framework to rank a set of alternatives in the presence of multiple and conflicting criteria (Saaty, 1990), while fuzzy logic fosters the integration of incomplete information, qualitative data, non-obtainable information, and partially ignorant facts into the decision-making process (Bozdag, Kahraman and Ruan, 2003). Then, the LP- GW-Fuzzy AHP utilizes the principles of linear programming to generate weights of alternatives using the values from AHP comparison matrices, replacing the eigenvalue method (EV) in the computation of the priority vector of "HOWs" and improving the hitherto inaccurate prioritization of "HOWs". A key feature of the LP-GW-Fuzzy AHP methodology is that it solves only one LP model for deriving priority vectors from comparison matrices and does not require normalization of the derived weights thus avoiding rank reversal. Finally, due to the assurance regions constraints of the LP model, LP-GW-Fuzzy AHP takes advantage of all available information from comparison matrices and estimates final weights that are consistent with decision makers' subjective judgments (Wang, Chin and Poon, 2008).

THE PROCESS FOR COMPLETING THE FIRST HOQ

Following the proposed QFD decision framework, the first HOQ links the "Voice of the Customer" with hotel management decisions, taking both customers' preferences and hotel managers' knowledge and judgments into account. Particularly, it involves the identification and ranking of hotel selection criteria (WHATs) and subsequently the prioritization of hotel management aspects (HOWs) in accordance with the specified hotel selection criteria. This first phase can be perceived as the primary driver of the entire QFD framework, since capturing what customers want is the most important step in designing sustainable services of high quality.

The hotel selection criteria, including environmental and social responsibility, that influence customer satisfaction, are obtained from an extensive review of the relevant literature and from hotel booking and review websites (Li, Ye and Law, 2013; Millar, Mayer and Baloglu, 2012; Qu, Ryan and Chu, 2000; Ramanathan, 2012; Ramanathan and Ramanathan, 2011; Zhou *et al.*, 2014). Affinity diagrams were utilized to group selection criteria and as a result seven categories were obtained: Room/ Hotel amenities, Location, Conformance-Encounter Quality, Quality and Variety of Food & Beverages, Price and Perceived Value, Environmental Responsibility and Social Responsibility. Whereas a focus group consisted of experts helped to classify hotel management aspects into five main categories, namely, Physical-Property Management, Food and Beverages Management, People Management, Process Management and Communication Management.

In order to estimate the priorities of the hotel selection criteria a survey was conducted. The survey instrument was a self-administered questionnaire utilizing short, clear and easy to understand questions. Data was collected from a total of 169 respondents, who had selected a 3, 4, and 5 star hotel during the time of their travel. The surveyed travelers had spent at least two nights in a hotel the previous twelve months. The first section of the questionnaire contained the demographic questions, while the second section asked the respondents to compare each pair of hotel selection criteria and to express their preferences by utilizing the usual 9-point AHP scale, being aware of its matching linguistic variables (Table 1). Then the LP-GW-Fuzzy AHP methodology was employed to obtain the priorities of the selection criteria. The analytic description of how to integrate LP-GW-Fuzzy AHP with QFD is beyond the scope of this paper.

After ranking selection criteria, a survey was carried out to fill the relationship matrix of the HOQ, which display the degree of relationship between each selection criterion and the corresponding hotel management aspect. Data were collected by conducting structured interviews with a cross-functional team of senior hotel managers. Senior managers were asked to evaluate the importance of hotel management aspects regarding selection criteria by utilizing the usual 9-point AHP scale. Finally, the LP-GW-Fuzzy AHP methodology was used to produce the relative and final weights of hotel management aspects.

Linguistic variables	AHP Scale
Equally important	1
Intermediate	2
Moderately more important	3
Intermediate	4
Strongly more important	5
Intermediate	6
Very strongly more important	7
Intermediate	8
Extremely more important	9

Table 1. AHP scale

RESULTS

LP-GW-Fuzzy AHP produced a priority score for each of the hotel selection criteria, making it possible to rank them in order of importance. The results show that the most important criterion is "Price and Perceived Value", with a percentage priority of 24.40%, followed by "Room/ Hotel Amenities", with a priority of 19.58% (Table 2). The third selection criterion in ranking is "Location", with a percentage priority of 18.87%. "Conformance-Encounter Quality" follows with a priority of

17.20%. The Environmental and Social Responsibility criteria were assigned relative low importances among the respondents, whereas the “Quality and Variety of Food & Beverages” was found to be the criterion with the lowest preference value, at 6.38%.

Hotel Selection Criteria (WHATs)	QFD-LP-GW- Fuzzy AHP Priorities	Ranking
Price and Perceived Value	24.40%	1
Room/ Hotel Amenities	19.58%	2
Location	18.87%	3
Conformance-Encounter Quality	17.20%	4
Social Responsibility	6.93%	5
Environmental Responsibility	6.64%	6
Quality and Variety of Food & Beverages	6.38%	7

Table 2. *Priorities of hotel selection criteria and their ranking*

Hotel Management Aspects (HOWs)	QFD-LP-GW-Fuzzy AHP Final Weights	Ranking
Physical Property Management	37.67%	1
Process Management	23.12%	2
Food & Beverages Management	15.99%	3
People Management	14.41%	4
Communication Management	8.82%	5

Table 3. *Final weights of hotel management aspects and their ranking*

Relevant literature offers support to the findings. In particular, in the work of Lockyer (2005) and Caber and Albayrak (2014) “Price and Perceived Value” was also assessed as the most important criterion when choosing a hotel. Moreover, the low-preference for the criterion “Environmental Responsibility” is justified, because, according to Kasim (2004) and Yeh *et al.* (2003), customers do not take into consideration environmental criteria when deciding between hotels, even though they are more informed and aware of environmental issues. In general, a discrepancy is noticed between what customers want and what they actually decide. For example, Chia-Jung and Pei-Chun (2014) found that while tourists express their preference for luxury rooms and personal toiletries, at the same time they are willing to accept reduced service quality for the sake of environmental practices. In addition, Tilikidou and Delistavrou (2015) concluded that although tourists express their intention to stay at a green hotel, they scarcely book a room at a green hotel.

Furthermore, the completion of the relationship matrix with the relative weights of management aspects indicates that for each selection criterion there are many management aspects that could be fulfilled (Figure 2). The final weights of hotel management aspects are calculated by multiplying the priorities of hotel selection criteria with relative weights of management aspects. The derived final weights of management aspects are provided in the last row of the HOQ (Figure 2). The ranking of management aspects is displayed in Table 3.–“Physical Property Management” is found to be the aspect with the highest weight, 36.67%, indicating where to concentrate efforts first. The next two aspects in ranking are “Process Management” and “Food & Beverages Management” with priorities of 23.12% and 15.99% respectively. The remaining management aspects are classified in the following order: “People Management” (14.41%) and “Communication Management” (8.82%).

Hotel Selection Criteria	Hotel Selection Criteria Priorities %	Hotel Management Aspects				
		Physical Property Management	Food & Beverages Management	People Management	Process Management	Communication Management
Conformance-Encounter Quality	17.20	0.0668	0.0918	0.4045	0.3981	0.0388
Price & Perceived Value	24.40	0.4469	0.0835	0.0417	0.3436	0.0843
Room/ Hotel Amenities	19.58	0.6643	0.1016	0.0650	0.1153	0.0539
Quality & Variety of Food & Beverages	6.38	0.0403	0.6368	0.0990	0.1832	0.0408
Location	18.87	0.2779	0.2202	0.1729	0.1643	0.1647
Environmental Responsibility	6.64	0.5539	0.1954	0.0399	0.0833	0.1275
Social Responsibility	6.93	0.4946	0.1259	0.1441	0.1167	0.1186
Final weights %		37.67	15.99	14.41	23.12	8.82

Figure 2. The first HOQ

CONCLUSIONS AND FURTHER RESEARCH

This paper presents work in progress on lining up tourism service design decisions with supplier evaluation and selection decisions under the umbrella of Sustainable Supply Chain Management. The novelty of this paper lies in the idea to propose a decision framework that aligns the efforts of all members of a tourism supply chain to create common value, setting the foundation for sustainable development. Having as a starting point the actual “Voice of the customer” and as ultimate goal service quality, satisfaction of both intermediate and final customers (consumer) and sustainability along the tourism supply chain, a review of the traditional sustainable service design process is achieved. In this respect, the contribution of this work is the development of a QFD decision

framework that facilitates the sustainable management of tourism supply chains by providing guidance on service design and suppliers' assessment and selection decisions through a systematic procedure that incorporates as restrictions the "Voice of the Customer" and environmental and social responsibility criteria.

Although there are numerous applications of QFD in the service sector, it has not been previously utilized for assessing and selecting suppliers in the service industry in general and in tourism in particular. In addition, a QFD methodology framework that links service design decisions with supplier rating and selection decisions is introduced for the first time. Moreover, the incorporation of sustainability criteria, like environmental and social responsibility criteria, in the process of evaluating and selecting suppliers, is not often found in the literature. Finally, the role of sustainability and sustainable supply chain management in tourism sector has not yet been studied extensively.

The future research project concerns the implementation of the proposed QFD decision framework as supply chain management tool to improve the quality and sustainability of services provided by a chosen tourism organization, strengthening its competitive position. The hotel, on which the proposed methodological framework will be applied, will be selected according to its attitude towards sustainability and sustainable Supply Chain Management.

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REFERENCES

1. Akao, Y. (1990), *Quality Function Deployment: Integrating Customer Requirements into Product Design*, Productivity Press, Cambridge, MA.
2. Ahmed, S., and Amagoh, F. (2010), "Application of QFD in product development of a glass manufacturing company in Kazakhstan", *Benchmarking: An International Journal*, Vol. 17 No. 2, pp. 195-213.
3. Azadnia, A. H., Saman, M. Z. M., and Wong, K. Y. (2015), "Sustainable supplier selection and order lot-sizing: an integrated multi-objective decision-making process", *International Journal of Production Research*, Vol. 53 No. 2, pp.383-408.
4. Budeanu A. (2009), "Environmental supply chain management in tourism: The case of large tour operators", *Journal of Cleaner Production*, Vol. 17 No. 16, pp.1385-1392.
5. Bozdag, C. E., Kahraman, C., and Ruan, D. (2003), "Fuzzy group decision making for selection among computer integrated manufacturing systems", *Computers in Industry*, Vol. 51 No. 1, pp. 13-29.
6. Caber, M., and Albayrak, T. (2014), "Does the importance of hotel attributes differ for senior tourists? A comparison of three markets", *International Journal of Contemporary Hospitality Management*, Vol. 26 No. 4, pp. 610-628.
7. Chia-Jung, C. and Pei-Chun, C. (2014), "Preferences and willingness to pay for green hotel attributes in tourist choice behavior: The case of Taiwan", *Journal of Travel & Tourism Marketing*, Vol. 31 No. 8, pp. 937-957.

8. Cohen, L. (1995), *Quality function deployment: how to make QFD work for you*, Addison-Wesley, Reading, MA.
9. Dror, S., and Sukenik, Y. (2011), "A strategic service quality framework using QFD", *Total Quality Management & Business Excellence*, Vol. 22 No. 10, pp. 1057-1070.
10. Edgell Sr, D. L. (2016), *Managing sustainable tourism: A legacy for the future*, Routledge, London, UK.
11. Elkington, J. (1998), Partnerships from cannibals with forks: The triple bottom line of 21st-century business, *Environmental Quality Management*, Vol. 8 No. 1, pp. 37-51.
12. Ho, W. (2008), "Integrated analytic hierarchy process and its applications—A literature review", *European Journal of operational research*, Vol. 186 No. 1, pp. 211-228.
13. Kamvysi, K., Gotzamani, K., Andronikidis, A., and Georgiou, A. C. (2014), "Capturing and prioritizing students' requirements for course design by embedding Fuzzy-AHP and linear programming in QFD", *European Journal of Operational Research*, Vol. 237 No. 3, pp. 1083-1094.
14. Kasim, A. (2004), "Socio-environmentally responsible hotel business: Do tourists to Penang Island, Malaysia care?", *Journal of Hospitality & Leisure Marketing*, Vol. 11 No. 4, pp. 5-28.
15. Li, H., Ye, Q., and Law, R. (2013), "Determinants of customer satisfaction in the hotel industry: an application of online review analysis", *Asia Pacific Journal of Tourism Research*, Vol. 18 No. 7, pp. 784-802.
16. Lockyer, T. (2005), "The perceived importance of price as one hotel selection dimension", *Tourism Management*, Vol. 26 No. 4, pp. 529-537.
17. Maxwell, D., and Van der Vorst, R. (2003), "Developing sustainable products and services", *Journal of Cleaner Production*, Vol. 11 No. 8, pp. 883-895.
18. Millar, M., Mayer, K. J., and Baloglu, S. (2012), "Importance of green hotel attributes to business and leisure travelers", *Journal of hospitality marketing & management*, Vol. 21 No. 4, pp. 395-413.
19. Qu, H., Ryan, B., and Chu, R. (2000), "The importance of hotel attributes in contributing to travelers' satisfaction in the Hong Kong Hotel Industry", *Journal of Quality Assurance in Hospitality & Tourism*, Vol. 1 No. 3, pp. 65-83.
20. Ramanathan, R. (2012), "An exploratory study of marketing, physical and people related performance criteria in hotels", *International Journal of Contemporary Hospitality Management*, Vol. 24 No. 1, pp. 44-61.
21. Ramanathan, U., and Ramanathan, R. (2011), "Guests' perceptions on factors influencing customer loyalty: An analysis for UK hotels", *International Journal of Contemporary Hospitality Management*, Vol. 23 No. 1, pp. 7-25.
22. Saaty, T. L. (1990), "How to make a decision: the analytic hierarchy process", *European journal of operational research*, Vol. 48 No. 1, pp. 9-26.
23. Sigala, M. (2008), "A supply chain management approach for investigating the role of tour operators on sustainable tourism: the case of TUI", *Journal of Cleaner Production*, Vol. 16 No. 15, pp. 1589-1599.
24. Tilikidou, I., and Delistavrou, A. (2015), "Preferring green and rejecting "unethical" hotels", *EuroMed Journal of Business*, Vol. 10 No. 3, pp. 285-296.
25. Wang, Y. M., Chin, K. S., and Poon, G. K. K. (2008), "A data envelopment analysis method with assurance region for weight generation in the analytic hierarchy process", *Decision Support Systems*, Vol. 45 No. 4, pp. 913-921.
26. Yeh, P. H., Tsai, C. F., and Huan, T. C. (2003), "Tourists' environment protection behavior and their decision on choosing the green hotel", *Journal of Environment and Management*, Vol. 4 No. 2, pp. 61-82.
27. Zare Mehrjerdi, Y. (2010), "Quality function deployment and its extensions. *International Journal of Quality & Reliability Management*", Vol. 27 No. 6, pp. 616-640.
28. Zhou, L., Ye, S., Pearce, P. L., and Wu, M. Y. (2014), "Refreshing hotel satisfaction studies by reconfiguring customer review data", *International Journal of Hospitality Management*, Vol. 38, pp. 1-10.

LEARNING AS AN OUTCOME OF DYNAMIC CAPABILITIES IN CASE OF STRATEGIC RENEWAL

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ABSTRACT

According to existing literature, learning occupies several roles within the dynamic capability (DC) perspective which are far from clear, while many gaps and contradictions appear to exist between the organizational learning (OL) and the resource-based views in the case of significant changes of the organization such as the strategic renewal. The purpose of this study is to shed some more light on learning as a portion of DCs' framework and to add to the relatively little cross-fertilization of the two perspectives regarding the drivers of strategic renewal. The empirical context was provided by XLfurniture, formerly one of the leading chair manufacturers in Greece. A study of the last four decades of the life of the company and of its three efforts of strategic renewal, shows *how* utilization of XLfurniture's DCs resulted in significant learning outcomes leveraging exploration and exploitation, which are the basic learning elements according to the OL theory, and provides insights into *why* learning can be treated as an outcome of exercising DCs, explicating the importance of the learning consequence and how this may contribute to the further refinement of the existing and the creation of new capabilities. Using the extended case method, the study advances DC theory by exploring learning, a poorly -so far- addressed consequence in DC theory, confronting it with an empirical case. Besides its theoretical and empirical contribution to DC literature, the study is among the few ones to attempt some integration across the DC and OL perspectives in strategic renewal research.

A study of the last four decades of the life of the company provides rich insights of learning as a DC outcome, showing

Keywords: learning, dynamic capabilities, strategic renewal, organizational learning theory, exploration, exploitation, outcome, resource-based view, case study

INTRODUCTION

Dynamic capabilities (DCs) arguably have captured attention among scholars and managers since they are supposed to offer a route to competitive advantage under conditions of change, a vexing goal that

according to Helfat & Peteraf (2009) constitutes the virtual Holy Grail of strategic management. For more than 20 years now, DC research is evolving to a degree to be today treated as an institutionalized field of its own, although it frequently draws on related literatures such as organizational learning or evolutionary economics. Dynamic capability refers to the ability of a firm to renew itself in the face of a changing environment (Teece, et al., 1997) by changing its set of resources (Eisenhardt and Martin, 2000). Helfat et al. (2007) defined dynamic capabilities (DCs) as “the capacity of an organization to purposefully create, extend, or modify its resource base” (p. 1) in a practiced and patterned manner. Dynamic capabilities literature underscores that DCs are fundamentally concerned with change and learning (Winter, 2003). Firms revitalize, redeploy or even replace their current organizational attributes (Agarwal and Helfat, 2009), explore and learn new ways of using their core competences and even alter their competitive approaches. A distinguishing feature of the DC approach is the emphasis of DCs on strategic change which in turn necessitates insight on how organizations develop and integrate new resources and capabilities; this is where organizational learning (OL) theory comes in (Zollo and Winter, 2002).

Learning is considered a highly multifaceted phenomenon (Argote, 1999). Within the organizational learning literature, it is the capability of an organization to process knowledge, i.e., the ability to create, acquire, transfer and integrate knowledge and, also, to modify the behavior to reflect the new cognitive situation (Jerez-Gomez, et al., 2005). As identified by March (1991), the higher-level learning is typically conceptualized as involving a tension between the exploration of new learning and the exploitation of what has already been learned. OL literature refers to exploration and exploitation as significant outcomes; exploration enables the organization moving outside the current boundaries with new knowledge and practices, while exploitation facilitates the creation of mechanisms to support firms develop what has been learned through feedback (Easterby-Smith and Prieto, 2008; Zollo and Winter, 2002). Scholars have approached learning mainly as an operational process of obtaining information and converting it into knowledge (Franco & Haase, 2009) or of detecting and correcting errors (van Grinsven & Visser, 2011) while Eisenhardt & Martin (2000) suggest that learning processes enable dynamic capabilities to become more salient.

In the broader resource-based literature, learning has been considered mainly as a dimension as proposed by Teece et al., (1997) or it has been explored as a contributor to the emergence of dynamic capabilities (Zollo and Winter 2002; Birkinshaw et al. 2016). According to Schilke’s et al. (2018) systematic review of the current state of the DCs, there are two small but quite interesting streams of research; one explores learning as an antecedent of dynamic capabilities and another as a consequence of dynamic capabilities next to resource-base change. In the last case, learning includes learning outcomes, such as new knowledge-based resources, improved operational routines, a variety of new of

significantly improved activities and acquisition of new knowledge or skills (Easterby-Smith & Prieto, 2008). Within the DC perspective, such knowledge is mainly strategic, institutionalized on the non-human facets of organizations, such as organizational systems, structures, procedures, and routines (Alegre et al., 2013) while groups and teams of the organization test their applicability and incorporate the most viable in the generation of new products and processes (Nonaka and Takeuchi, 1995).

When firms transform their competitive advantages and their core capabilities to suit them, then we refer to strategic renewal (Flier et al., 2003). The resource and DC perspective describe strategic renewal as resulting from firms' efforts to reconfigure their resource bases. DCs, such as new product development (e.g. Danneels 2002), firm collaborations (Smart et al. 2007) and market sensing are then associated with strategic renewal. According to the learning perspective based on the organizational learning theory (March, 1991), strategic renewal requires organizations to explore new ways while simultaneously exploiting what they have already learned (Crossan and Berdrow, 2003). Combining the above-mentioned perspectives, the emphasis of dynamic change necessitates insight into how capabilities enable the development and integration of new resources and capabilities and it is the *very actual issue of organizational learning* (Zollo and Winter, 2002).

Strategic renewal involves changes to the 'resource patterns of business' (Stopford and Baden-Fuller 1994, p. 522), or according to Floyd and Lane (2000), the firm's core capabilities which are associated with a considerable level of turbulence. According to the behaviourist approach, learning takes place in response to changes in the environment (Crossan, Lane and White, 1999) while according to the DC stream (Teece et al. 1997), strategic or otherwise, organizational renewal is associated with environmental dynamism (Teece et al., 1997), no matter its type and density, including the context of business alteration due to various reasons and occasions (Helfat and Winter, 2011).

It is quite evident that learning occupies several roles within the DC perspective which are far from clear while many contradictions appear to exist between the learning (Crossan et al. 1999) and the resource perspective (Augier and Teece, 2009) in the case of significant changes of the organization such as the strategic renewal. The purpose of this study is therefore to shed some more light on the relationship between learning specifically as an outcome of the utilization of dynamic capabilities and to add to the relatively little cross-fertilization of the two perspectives (DC and OL) regarding the drivers of strategic renewal.

Overall, this study contributes to research on dynamic capabilities, strategic renewal and organizational learning. It is among the very first efforts to study learning as an outcome (consequence) of DCs and among the few ones to attempt some integration across the DC and OL perspectives in strategic renewal research indicating the relevant gaps in existing literature. According to Schmitt et al. (2018), so far, past strategic renewal studies have used an "either/or" (learning or resource) perspective.

For the purposes of the research, the extended case method (Yin, 1989), was used which draws on a detailed study of a case to extend current theory. The empirical context was provided by XLfurniture, formerly one of the leading chair manufacturers in Greece. The research focused on learning as an outcome of the company's DC utilization in several efforts of strategic renewal of the company.

Thus, the major contribution of the present study is its empirical support of its suggestion that under the lens of both the DC and the organizational learning perspective, the changes of the organizational structure, infrastructure, the systems and technology that underpin the organization's activities and the creation of a subsequently new learning culture (Pemberton et al., 2001) can be considered significant learning outcomes of the utilization of dynamic capabilities especially in cases of strategic renewal.

METHOD

The study relies on the extended case method which uses an in-depth historical analysis of a single firm to reconceptualize, build, and extend theory (Danneels, 2011). The extended case method thus involves constant cycling between theory and data to help provide novel accounts on DCs and strategic renewal as a response of the firm to market and technological changes over a protracted period. In our study, we focus on the market and technology sensing (Protogerou et al., 2012), alliancing (Schilke, 2014) and New Product Development (NPD) (Danneels, 2008) dynamic capabilities within XLfurniture over multiple years. The time span extends to almost four decades using both interviews and secondary data. Time is a very important consideration in DC research, given that change is the essence of the phenomenon. The focal period of interest is 1980 to 2018. The study period starts in 1980 when the company changed from a plain regional woodworking company to a chair and table production organization addressing the national market. It continues with a strategic renewal in 2003 when the company turns from craft to mass production and internationalization (times of prosperity), another one in 2012 to face the severe socioeconomic crisis in Greece (turbulent times) as an effort to survive.

The case study was developed together with the current CEO of the company Mr Karagiannis who is the second-generation entrepreneur of XLfurniture. With the help of the former generation (two partners) and based on corporate and public archives (e.g. administrative documents, reports, internet and press news), an event timeline was constructed. Extensive archival data on the wood and furniture industry in general, market and technology trends and the socio-economic environment in Greece and Europe was also collected. In addition, information was triangulated with information from other interviews where possible (such as customers, collaborators and member of the industry chamber). The study started with the dynamic capabilities' literature, which after confrontation with the case, led into literatures about distinct areas such as strategic renewal, and organizational learning.

A BRIEF HISTORY OF XLFURNITURE

The company was established in 1964 in the city of Larissa (Greece) as a small woodworking business by three friends. It occupied a space of only 100m² and produced custom-made furniture under the name of “Xyloviotechniki” for the local market as one of the many wood-workshop that manufacture custom-made furniture. In 1968 it is relocated in a new space of 500m² and starts manufacturing woodworks for outfitting buildings within the region of Thessaly. In 1980 the management sees a strategic direction that had the potential to determine their long-term competitiveness and performs a strategic renewal: it turns to the systemized production of wooden seats and tables instead of custom-made furniture removing and replacing key functions in the firm. One of the three partners left the company due to the risk of the new investments in chair making machinery, production systemization, as well as of management methods to achieve the volumes needed to cover the national market. The company is relocated in new privately-owned installations of 1500m² under a new name “XYLOVIOTECHNIKI KARAGIANNIS-KERMELIOTIS O.E.” which reflected the local business culture of the 80s; the names of the two partners and the area of expertise. The decade of the 90s signals the rapid growth of Xyloviotechniki. The philosophy of continuous technological renewal and market sensing supports incremental changes such as new equipment in a space of 6500m² and development of processes and company departments such as the sales and the economic department that make the company the leader at national level.

That was the time for the next strategic renewal of the firm; in 2003, one year before the Olympic games in Athens, Greece enjoys prosperity and markets are promising. The two partners invest in mass production, brand strategy and internationalization starting with the commercial aspects (the first sales were in Cyprus and Germany). They transform the plant into a modern fully equipped one of 10.000m² with cutting edge technology and adapt “European successful business models” as father Mr Karagiannis narrates. To address the global markets, they participate at international trade shows and start working on network and channel creation. They also change the company’s name since the eponymous company name “gave the perception that the business was a two-persons show! Times changed! First, we wanted locals to trust us! It was not the same for going international. The name should be easy to spell no matter if the client was an Arab or a German!” Mr Karagiannis Senior mentioned. Furthermore, the new name should be more general than just chairs and tables, exercising some foresight about how the business might expand. It took almost four years and a significant amount of money to change the name to XLFurniture.

However, in 2008 the financial crisis hits Greece as well as the rest of the world. It was the beginning of the long-lasting Greek government-debt crisis, also known as the Greek Depression. Widely known in the country as The Crisis, it reached the populace as a series of sudden reforms and austerity measures

that led to impoverishment and loss of income and property. Even today, the Greek economy suffers the longest recession of any advanced capitalist economy, overtaking the US Great Depression. Between 2008 and 2016 more than 50% of the Greek furniture producers bankrupt (IOBE, 2017) while the survivors downsize and face severe economic problems. In 2010, XLfurniture started to lose money; the beginning of three difficult years. Within the crisis, and with the company running deeply in the red, a new strategic renewal takes place in 2012. The company approaches IKEA and discusses the option to become a major supplier in Greece. "We faced liquidity problems mostly due to the instability of the Greek markets. IKEA was an attractive customer. On the other hand, we were aware of the risk; IKEA would exclude all our small customers. The decision was not easy." remembers Mr Karagiannis. The company fulfilled IKEA's requirements and becomes the major customer of XLfurniture. "The partnership was fruitful for both parts."

In the beginning of 2017 the company enters the market of contract woodworking projects and bespoke furniture building a new competitive advantage on affordable flexibility to cater for any commercial project of any size. The strategy is to build on the strength of the design and technological capabilities of the XLfurniture and its channels while sourcing products from third-party manufacturers. "Market signals indicate emerging markets of contract woodworking in our islands, and abroad; for example, in Cyprus, UAE and Germany. We have significant equipment to produce parts in massive ways – pay attention please! I said parts, wooden parts! Not chairs or tables. We can use the valuable knowledge, skills and capabilities that IKEA taught us. It is a promising area which can further enable profitable leverages of all our resources." In the beginning of 2019, the company survives and opens new market segments in several countries. "Excelling in the production of wooden parts as well as our capabilities such as networking, subcontracting and new product development supports our vision to turn to a variety of wooden products besides furniture. We have already produced parts of wooden bicycles and toys. Smart products are already in our NPD department."

FINDINGS

The above story shows that XLfurniture attempted strategic renewal of different types and for different reasons. In sum, the company can be viewed as having four basic historical periods which link to its strategic renewals and the subsequent transformations and reconfigurations of its capabilities: in 1980, the firm turned from a small handicraft woodworking workshop to an SME with a fully equipped plant factory which was gradually improving through a series of regular adaptations to changes (*the industrialization years - 23 years*); in 2003 the company went international with subsequent changes in strategy, resources and capabilities (*the internationalization years – 10 years*); and the *IKEA - alliance years* (5 years). It is quite interesting to observe that the periods between strategic renewals are getting

gradually shorter and almost following a geometric progress ($l=0.5$). This indicates the role and significance of the environmental dynamism; the first 23 years are characterized by stability and slow paces of technology changes while the years especially after 2007 are the crisis and recession years; the environment became very hostile and turbulent while market and technology change rates accelerated. The company did not attempt a major transition into other categories or industries (cf. Danneels, 2002) to secure survival and growth within the vulnerable Greek entrepreneurial landscape. Findings regard the forms and types of strategic renewal, the DCs at the distinct periods of the company's life, and the types of learning as an outcome of the DCs' utilization. The data indicate a gradual development of the dynamic capabilities as well as their further refinement between strategic renewals. Furthermore, they support the suggestion that DCs are fundamentally concerned with change and learning (Winter, 2003).

First Strategic Renewal (the industrialization years)

For several decades (almost until 2000), slow growth and relative stability characterized the wood and furniture industry, with a small percentage of imported furniture (mainly Italian), new products introduced on a regular basis, and with only gradual changes in consumer demands. On the other hand, the decade of 90s and early 00s enjoys prosperity, with high levels of profitability, thanks to the protected domestic market and relatively benign market conditions. The strategic transformation of 1980 was brought about through the removal of key functions of the former woodworking business at operational level (technology towards chair and table making is completely different than general furniture manufacturing), and markets (individuals become secondary target groups with corporate customers to become the primary one). Additionally, incremental renewal occurred through a series of regular adaptations to changes such as the acquisition of new equipment, the implementation of routines and the advanced administrative management that made the company a leader at national level.

During these years of stability and prosperity, the company uses the linear model of production replicating existing designs of products to significant volumes. "We had a small number of codes. People and especially companies were not interested in variety then." Consequently, there was no NPD capability while no types of alliances were mentioned. However, the two partners recall their visits at national shows to gather market information as well as their informal ways of watching national competitors. Furthermore, they would keep long-lasting relationships with the big customers who would further inform them on offers of their rivals. Best information would be retrieved during a dinner with the client. The two partners had further a very good sense of technology. In order to build the industrial building and the chair / table plant, they are almost obliged to learn a lot about the relating technology. The philosophy of continuous technological renewal, as mentioned above advanced technology sensing further.

This first strategic renewal followed by incremental renewals for more than 20 years establishes XLfurniture as a chair making leader at national level. During this period, technology and market sensing are gradually developed: investments in the systemized industrialized production of wooden seats and tables are essentially investments in exploitation. The company had developed significant technical capabilities that leveraged its knowledge of woodworking. It is a classic example of Levinthal and March's (1993) definition of exploitation as 'the use and development of things already known'. Learning as an outcome of technology and market sensing can be also viewed as knowledge exploration in Levinthal and March's (1993) definition of exploration as 'the pursuit of new knowledge of things that might come to be known'. Moving from craft to industrial production requires knowledge combinations from multiple technical disciplines such as production systemization and introduction of management methods.

For the company in the 90s, the temptation to focus resources and efforts on exploitation was dominant. Market and -mainly - technology DCs target learning outcomes, such as new knowledge-based resources, new information and communication systems, improved operational routines, a variety of new or significantly improved activities and acquisition of new knowledge or skills (Table 1). The creation of the sales and economic departments are results of this learning outcome including the set of elementary management principles which was an innovation for the furniture sector for the domestic market. By 2000, the company has adopted and developed principles of assembly-line manufacturing orientation, and big-series production, principles of management and leadership investing in technology, standardization of production and skilled labour and, thus, turning from a craft-based firm to volume producer.

Second Strategic Renewal (the internationalization years)

At the start of the second period, in 2003, one year before the Olympic games in Athens, Greece enjoys prosperity and markets are promising. However, the invasion of Chinese products in 2004 and the increasing globalization of the furniture industry resulted in entirely new challenges for the national market, with consumers increasingly evaluating products in terms of cost and early delivery rather than quality and credibility alone. Having received the signs of pressure in domestic market, XLfurniture attempts a proactive punctuated change, a new transformation of its core capabilities, breaking its path dependence to ensure its long-term survival. The final market requires chairs to produce new models faster and with a better quality/price ratio against the high labour cost (e.g. compared to China or Slovakia). XLfurniture develops its own sophisticated balance of exploration and exploitation dimensions within the firm: transformation of both technology- and market-related resources and capabilities, automation, New Product Development (NPD) capability, brand building, development of a capability in collaboration with other firms, and internationalization.

Investing in automation, the firm improves further the technological sensing capability which can be considered a significant aspect of exploitation of both resources and capabilities. Standardization of production was related to minimization of costs, advances in production and logistics management, an introduction to waste reduction and safety issues. Indicatively, the successful introduction and further development of Computer Integrated Manufacturing (CIM, which combines Computer Assisted Manufacturing (CAM) and Computerised Numerical Control (CNC) machines) can be considered a significant both exploration and exploitation learning outcome of technology sensing dynamic capability.

In parallel, the company starts thinking on the development of new products. The entrepreneurs make their first contacts with the Wood and Furniture Design and Technology Department (WFDT); they hire two furniture designers and develop NPD processes including market research, market segmentation, pilot design and consumer tests. Much new knowledge is generated at this stage. XLfurniture learns how to sense changing tastes, emerging needs, competitors' innovative products and their novel approaches at global level. They further become sensitive in the emerging trends such as globalization, ergonomics, functionality, eco-issues and mass customization. Competing with the prices of Asian (mainly Chinese) imports, the company advanced design and use of novel materials as the core means of differentiating their products, changing their competitive approach to counterbalance the price advantage of the Asian or IKEA-type products. This means new knowledge too: from function to form, from material to color and finishing, from aesthetics to functionality.

In order to cope with the difficulties, XLfurniture develops constant collaboration with the WFDT Department on several issues such as new designs and quality controls in the certified laboratory as well as periodical ones with external designers. Its new designs lead to bigger market acceptance and a rise in profits. NPD DC development leads to other types of collaboration, too; the firm works closely with suppliers of new materials and technology and soon they turn to foreign suppliers for more advanced options. Utilization of NPD dynamic capability has significant learning exploration consequences; XLfurniture starts moving outside its current boundaries with new knowledge and practices and feels confident to get out of the national borders. NPD becomes one of the core mechanisms by which the firm creates, integrates, recombines and sheds its resources. Additionally, the firm developed a capability in managing collaborations and starts creating the alliancing dynamic capability which can be considered a significant exploration outcome (McNamara and Baden-Fuller, 1999).

Learning how to develop a collaboration with a foreign company, XLfurniture moved on from simple international sourcing to exporting and distribution. To address the global markets, they participate at international trade shows and start working on network and channel creation. This further leads to the

development of advanced ICT solutions and the search for, and adoption of more mature purchasing and distribution methods. XL furniture develops the vision to become a leading export power. In this context, the company develops a transnational network and enters the markets of both developing and industrialized nations such as Cyprus, Balkans, Sweden, Germany, Holland, England, Belgium, Dubai, Japan, USA and Australia. The combination of NPD and internationalization created further exploration outcomes related to the facilitation of the organization to move outside the current boundaries by brand development, while the relevant exploitation outcomes are related to the creation of the necessary mechanisms to add value to the products (Daneels, 2011). Brand building took almost four years and it was related to development of a shared culture across the firm.

In this period, exploitation learning can be considered mainly as an outcome of the market and technology sensing DCs utilization and experience. In the same vein, exploration learning appears to be the consequence of the newly developed NPD and alliancing DCs' utilization. It appears that learning orientation becomes a core outcome of all DCs utilization at this phase of the company: the chance to learn becomes an important criterion in the company's effort to enter new markets. The company - almost unintentionally- develops informal routines of learning and mastering new knowledge and skills by both exploitation of existing resources and capabilities as well as by exploration advancing its knowledge sources. Collaborative ties had been formed with academia and several suppliers and these ties were viewed as central to the future of the firm. The firm develops a learning culture, based upon a clear and shared vision, questioning existing practice on a permanent basis. Furthermore, the employees are empowered to participate actively in proposing changes and ideas.

Third Strategic Renewal (the IKEA years)

The long-lasting severe Greek recession places further pressure on XL-furniture to address its poor financial performance. According to Huff, Huff and Thomas (1992) shocks are needed to engineer change; with significant losses and liquidity problems, the management decides a reactive strategic renewal. Discussions with IKEA took two years including the selection period which lasted almost a year. "We were the only furniture company in Greece mapped by IKEA. It was actually IKEA's mapping report that made us think of this alternative". IKEA's policy consists of a broad spectrum of criteria, including: price, capacity, access to raw material, performance, reliability, financial situation, attitudes, management style, and the potential to work with IKEA on a long-term basis, in addition to the criteria within IWAY and CoC. XLfurniture fulfilled the whole spectrum and delivered the first order in late 2013.

Collaboration with IKEA appears indeed to be a turning point in XLfurniture's history. The firm improves and advances its dynamic capabilities, enabling the development and integration of new resources and capabilities and indicating the very actual issue of organizational learning (Zollo and

Winter, 2002). DCs support organizational change and result to a combination of exploration and exploitation; market and technology sensing and NPD capabilities facilitate the development and further refinement of mechanisms to support what had been learned through feedback during the former strategic renewal: "IKEA's strategy gradually upgraded us in terms of production and technological capabilities, such as formal control processes over product quality, cost development and performance standards" (IWAY). A major issue is the fact that due to IKEA, the company introduced the learning routines. "It was only then that we realized the importance of formal processes and learning. And it was the very first time that we came across auditing and auditing reports".

A significant issue was the upgrade of the company's technological capabilities through establishing business relations and several kinds of technological support in regard of new product and process technologies. Upgrade regarded the operational capabilities, including the basic manufacturing skills, establishment of quality control procedures, inclusion of employees on sharing common experiences, as well as maintenance and procurement capacities. Additionally, technology sensing became more advanced in regard of more organized expansion of capacity, acquisition and integration of external technologies and relevant skills and innovative capabilities. The major outcome of the utilization of technology sensing was according to Mr Karagiannis "technology learning".

NPD and design activity became a well-defined and disciplined process. "We are proud to say that we can design for IKEA's free range - the limited edition (not a part of regular collection) products which IKEA introduces in its collection for exclusivity in the ongoing collection. We contact initial research, public survey and analyses. We also learned that it is better to devote time in specifying manufacturing detail planning than trying to fix things when producing!" XLfurniture appears to revitalize and even replace their current organizational attributes, exploring and learning new ways of using their core competences. The firm developed routines to observe and adopt the best practices in its sector and change practices based on customer (IKEA) feedback. Exploitation of former learning from exercising NPD and sensing DCs provides an excellent framework for the exploration of new knowledge. The ability to design for IKEA led to a regular mapping of the consequences of changing market demand in terms of new products and services and of the changing shifts in the market.

However, the major changes appear in the learning outcomes from the utilization of the alliancing dynamic capability (ADC) which are of both exploitative and explorative nature. Collaboration with IKEA initiated a process of information and knowledge interaction creating a basis for learning. Indicatively, XLfurniture had to unlearn and learn several patterns and make various changes such as its decision-making for the IKEA projects; the project team sometimes needed to be ratified by several layers of management. This initially created some nagging and slowed the project, however it offered excellent opportunities to learn the management of alliances with large firms. "It was only then that we

realized the importance of learning and communication”, says Mr Karagiannis. Supported by IKEA, the firm develops courses, training programs and other forms of communication; for example, information about the IKEA standards or courses for employees in connection with IWAY updates. It is interesting to highlight the significance of learning as an outcome as it is considered a way to improve the quality of knowledge and skills. Indicatively, a collaboration with the WFDT Department in the development of smart furniture for disabled people commercially failed; however, it was treated as a source of knowledge which could pay off later.

The company does not rest in IKEA’s initiatives. It develops its own platforms and training system: “We realized that our own employees did not have a common language, they did not share our vision and our values, there was no common frame of reference.” It can be therefore assumed that XLfurniture learned the need of establishing its own organizational culture favorable for learning and communication, besides the establishment of routines and processes. The developing culture is based upon a clear and shared vision, within which both individual and organizational learning and knowledge are valued highly. Furthermore, existing practice is always questioned, and this results mainly from the audits established by IKEA. Experimentation with new approaches is encouraged, since the company designs “free range” products for the markets of Germany, Russia, Australia and Japan. Towards this direction and after discussions with IKEA, the company decided last year to integrate sustainability values including information and training as well as building knowledge on sustainability issues.

Learning the management of alliances supported the firm to recognize and learn the gaps in its own knowledge bases, stimulating the managerial processes of both exploration and exploitation. In this vein, the alliancing DC introduced a procedure for mapping supply chains’ strategies and tools. Furthermore, the learning of developing collaboration and dialogue with external actors became fundamental for the learning process since these actors were considered significant sources of knowledge in their own areas, strengthening the networking capability, subcontracting and participation in several types of collaborations. “We adopted several forms of communication, such as technical descriptions and instructions and we produced our own specifications of demands, as well as other code and control documents”.

The management initiated a learning process to obtain closer integration with downstream activities and better control its distribution channels. The process includes ways to map, work with and control subcontractors and other partners, and this facilitates the company’s decision to enter another segment of the market. The objective is to enlarge their market share and provide their customers with supplementary services based on learning experience, an improved image and the reputational benefits of working with IKEA. New strategic alliances such as subcontracting (outsourcing), research and

development consortiums, innovation or project-based networks, clusters, memorandums of understanding, and similar are now reachable and achievable including new and current partners. However, this ability to form new or additional alliances is a form of exploitation Lavie and Rosenkopf (2006), since these relationships enable the extension of a firm's current knowledge base.

Learning outcomes		
1st strategic renewal	2nd strategic renewal	3rd strategic renewal
Elementary Management & leadership principles Information and communicational systems Technological capabilities Brand culture establishment Acquisition of new skills and new knowledge Principles of assembly-line manufacturing orientation, and big-series production, Technology, standardization of production and skilled labour	Management and leadership principles Learning Culture (informal routines) Knowledge, information and communicational systems (ICT) Technological capabilities Quality processes (informal) Brand culture establishment First steps in the creation of an organizational learning culture (Creation of a vision, Employee involvement, Quality vision) Acquisition of new skills and new knowledge Standardization Automation – CIM (CAD-CAM) New Product Development processes Design capability Emerging capability in collaboration Internationalization	“Technology learning” Alliancing dynamic apability Training & education: On-going training in QWAY, IWAY electronic communication systems management Improved operational capabilities: Quality systems (QWAY), CSR-programs (IWAY), Production planning, maintenance, Labour standards, Environmental policies Improved adaptive capability: Radically new product technologies to IKEA, Adapted and new products to existing customers, Adapted and new products to new customers Improved innovative capabilities: Generation of innovative product concepts, New own-designed products for local customers, New own-designed products for the export market Technological and managerial capabilities Advanced Management systems and leadership principles Learning Culture (on-going training) Knowledge, information and communicational systems, Organizational learning culture: clear and shared vision, employee involvement, Quality principles and procedures Acquisition of new skills and new knowledge Formal communication forms (e.g. technical descriptions and instructions, code and control documents) Performance measurement & reporting

Table 1. *Learning outcomes*

For almost five years, IKEA is the major customer of XLfurniture absorbing 70% of its production. Working with IKEA meant adapting to a number of new management systems and new routines, experiment with new business models while also continuing to work with the old models, and this has created organizational and managerial challenges while DCs development and utilization has resulted in several learning outcomes. In 2017, the company reconfigured its core capabilities, with a strong emphasis on enhancing productivity, flexibility and administrative efficiency. The firm turned also to the market of contract woodworking projects and bespoke furniture for residential, business and commercial buildings and interior-exterior spaces taking advantage of the emerging needs of such products in Cyprus, its strong alliancing capability, its core competencies as well as its former visibility in Cyprus. The strategy is to build on the strength of the design and technological capabilities of the

XLfurniture and its channels while sourcing products from third-party manufacturers (an ADC learning outcome). “Market signals indicate emerging markets of contract woodworking in our islands, and abroad; for example, in Cyprus, UAE and Germany. We have significant equipment to produce parts in massive ways – pay attention! I said parts, wooden parts! Not chairs or tables. We can use the valuable knowledge, skills and capabilities that IKEA taught us. It is a promising area which can further enable profitable leverages of all our resources.”

In the beginning of 2019, the company survives and opens new market segments in several countries. “Excelling in the production of wooden parts as well as our capabilities such as networking, subcontracting and new product development supports our vision to turn to wood-based novelty. We have already produced parts of wooden bicycles and toys.” Furthermore, Mr Karagiannis today refocuses the organization once more on “shaping the future,” resulting in a wave of innovations such as smart furniture and circular-economy based solutions.

DISCUSSION

During almost half century, strategic renewal for XLfurniture regarded gradual transformation of its core capabilities associated with competitive advantage with several implications across its organizational levels and certain changes in its path dependence to ensure the firm’s long-term survival. The strategic renewals in 1980, 2003 and 2012 provoked the company to modify its products and its markets, remove and replace key functions and alter several other aspects of its strategy and organization, as seen above. Incremental proactive strategic renewals advanced further technological strategies, routines and market approaches comprising incremental adjustments to the core business of the company.

This study examined the learning outcomes of DCs utilization by XLfurniture as created and developed between successive strategic renewals purporting to advance DC theory and to support it by an empirical case. The purpose was accomplished in several ways: First, by exploring a consequence dimension of DCs besides the much-discussed performance and resource changes issues (Schlike et al., 2018), the study has provided a rich understanding of learning as a DC outcome, in other words, *how* dynamic capabilities result in learning. It has also provided insights into *why* learning can be treated as an outcome of exercising DCs explicating the importance of the learning consequence and how this may contribute to the further refinement and institutionalization of capabilities (Agarwal and Helfat, 2009).

Second, this study related the DC theory to other areas of conceptual and substantive inquiry and more precisely purported an integration across the Dynamic Capabilities and Organizational Learning perspectives in Strategic Renewal research against the “either/or” (learning or resource) perspective. It

further shows and clarifies relationships among concepts that are relevant to understanding dynamic capability but that have remained partially connected in disparate literatures, such as exploration and exploitation of the OL literature and the antecedents of strategic renewal. Therefore, the study adds in the existing efforts to build theoretical bridges across the learning and resource perspectives on strategic renewal. Although the OL literature has been identified as a candidate for further enriching the DC perspective (Zollo and Winter, 2002), there is scant empirical evidence on the relationships among the elements of organizational learning in within the dynamic capabilities' framework.

Third, it empirically grounds the still rather elusive dynamic capability theory through examining in great detail how a firm committed successful strategic renewals exploring new ways while simultaneously exploiting what already learned as consequences of its dynamic capabilities. Forth, this study advances the exploration of the temporal dynamics of strategic renewal under a DC perspective adopting a processual perspective while, according to Schmitt et al. (2018), prior empirical studies frequently took a rather static approach. The study indicates that environmental dynamism impacts the timing of strategic renewal while its DCs and the learning outcomes have a role in its performance. It appears that strong learning outcomes enable existing DCs' upgrade or new DCs creation, facilitate the questioning and breaking of old routines as well as the challenge of emerging ones, and therefore prepare the organization for a new strategic renewal which appears to be necessary even within stable environments.

Firms develop and use their dynamic capabilities to undertake specific forms of strategic renewal (Agarwal and Helfat 2009). XLfurniture started with mediocre technology sensing and rudimentary market sensing. However, these just emerging DCs resulted in significant learning outcomes leveraging exploration and exploitation. In Nonaka's view, the development of capabilities involves a process of the conversion of tacit knowledge into explicit in an effort to create new knowledge and integrate efficiently the existing one. This is evident in the XLfurniture case; there is a gradual creation of new knowledge which is then embedded and dynamically exploited. The second strategic renewal is characterized by a rapid improvement of the sensing DC and the gradual development of NPD while the alliance DC is at its very prime. However, learning outcomes of the DC utilization are significant in both exploitation and exploration terms. The firm develops a learning culture, based upon a clear and shared vision, questioning existing structures, knowledge and practice on a permanent basis. The emergence of the alliancing dynamic capability can be considered a significant exploration outcome (McNamara and Baden-Fuller, 1999) posing the question of the role of learning as DC antecedent. The third strategic renewal adds further to DC development as well as the learning outcomes. The new learning-oriented infrastructure of XLfurniture consists of systems and technology that underpin its activities, learning culture and structure. Indicatively, the investments in information and

communications technology, and networking facilitate the ability of both individuals and the organisation to augment their intelligence by accelerated learning. In this sense, the alliancing dynamic capability results in exploration engaging in upstream activities of the value chain, with the creation and learning of new knowledge and capabilities.

The evolution of the firm's strategic renewal activities supports the existence of path dependency (Kwee et al., 2011). Previous strategic renewal activities and their performance outcomes influence the firm's subsequent renewal activities (Volberda and Lewin 2003). Therefore, this study contributes also towards a better understanding of strategic renewal's complex nature, adding significant empirical evidence by offering a longer time horizon which allowed for a more fine-grained understanding of 'when', and 'why' companies perform strategic renewals and 'how' these evolve. It further adds to the conceptual work done so far to fruitfully integrate different theoretical perspectives and research contexts and namely DC, OL and strategic renewal areas.

According to population ecology, major changes to an organization's core competences are similar 'to creating a new organization' (Hannan and Freeman, 1984, p. 159). Crisis led to the collaboration with IKEA and this becomes a turning point in XLfurniture's history. The relationship between crisis and capability in organizations has not been sufficiently studied. In this study, it appears that a crisis can be a critical point in capability creation when in a nurturing environment and thus further research on the crisis issue is suggested. The study contributes also to SMEs' literature; it empirically supports suggestions on the existence of DCs in small and medium firms and especially those of a mature sector strengthening the emerging stream that argues that the DC perspective is equally appropriate for traditional, mature market contexts where established organizations need to challenge routines, question resources and reconstruct capabilities.

Despite its limitations as a single case study, some managerial implications can reasonably be drawn. First, virtually every organization faces the dilemma of engaging in strategic renewal or continue as it is no matter the consequences. According to the findings, firms that have developed and nourish DCs can easier perform successful strategic renewals. Firm executives need to identify their current DCs and assess their learning outcomes. A focal question should be addressed regarding the potential of the different exploration–exploitation combinations, since both explorative and exploitative learning processes are needed to drive strategic renewal. Further research can help researchers and practitioners clarify the DC-based learning processes that drive strategic renewal underlying firms' long-term survival and prosperity.

Summarizing, the study aimed at contributing to dynamic capability research by shedding light on how dynamic capabilities result in learning as a significant outcome within the context of strategic renewal. Under the lens of both the DC and the OL perspective, the changes of the organizational

structure, infrastructure, technology and DCs that underpin the organization's activities and the creation of a subsequently new learning culture (Pemberton et al., 2001) can be considered significant learning outcomes of the DC utilization especially in cases of strategic renewal. Researchers and practitioners alike are strongly encouraged to think more carefully about different learning outcomes since different DCs are needed in different settings, whereabouts in the organization these capabilities should be held, and how they affect organizational learning over time and not necessarily within a strategic change context. These insights on the nature of learning outcomes of dynamic capabilities may help established SMEs to improve their track record of successfully adapting to the fragile and vulnerable environment. Furthermore, these learning processes may contribute to the further refinement and institutionalization of the dynamic capabilities (Agarwal and Helfat 2009), since learning appears to hold three roles in the DC framework which are not well distinguished (Schilke et al., 2018). In this vein, the present study encourages mainly the exploration of learning as a DC antecedent as it is empirically indicated by the findings that learning outcomes support the creation of DCs; this coincides with relevant theoretical considerations such as Helfat et al.'s (2007, p. 3) suggestion that DCs 'arise from prior learning'.

The study challenges researchers of multiple areas such as the resource-based, dynamic capabilities, organizational learning theory and strategic renewal perspectives. However, further multiple case and filed research could reveal whether the XLfurniture case is unique (Yin, 1989) or one of many cases which support this study's arguments.

REFERENCES

- Agarwal, R. and Helfat, C.E. (2009). "Strategic renewal of organizations". *Organization Science*, Vol. 20, No 3, pp. 281–293.
- Argote, L. (1999), *Organizational learning: Creating, retaining, and transferring knowledge*. Kluwer Academic, Boston, MA.
- Augier, M. and Teece, D.J. (2009). "Dynamic capabilities and the role of managers in business strategy and economic performance". *Organization Science*, Vol. 20, No 6, pp. 410–421.
- Birkinshaw, J., Zimmermann, A., & Raisch, S. (2016). How do firms adapt to discontinuous change? Bridging the dynamic capabilities and ambidexterity perspectives. *California Management Review*, 58(4), 36-58.
- Crossan, M.M. and Berdrow, I. (2003). "Organizational learning and strategic renewal", *Strategic Management Journal*, Vol. 24, No10, pp. 1087–1105.
- Crossan, M.M., Lane, H.W. and White, R.E. (1999). "An organizational learning framework: from intuition to institution", *Academy of Management Review*, Vol. 24, No 4, pp. 552–537.
- Danneels, E. (2002). "The dynamics of product innovation and firm competences", *Strategic Management Journal*, Vol. 10, pp. 1095–1121.
- Danneels, E. (2008), "Organizational antecedents of second order competences", *Strategic Management Journal*, Vol. 29, No. 5, pp. 519–543.
- Danneels, E. (2011). "Trying to become a different type of company: Dynamic capability at Smith Corona", *Strategic Management Journal*, Vol. 32, No.1, pp. 1-31.
- Easterby-Smith, M., & Prieto, I. M. (2008), "Dynamic capabilities and knowledge management: An integrative role for learning?", *British Journal of Management*, Vol. 19, No. 3, pp. 235–249.

- Eisenhardt, K. M., & Martin, J. A. (2000), "Dynamic capabilities: What are they?", *Strategic Management Journal*, Vol. 21, No.10/11, pp 1105–1121.
- Flier, B., Van Den Bosch, F.a.J. and Volberda, H. (2003). "Coevolution in the strategic renewal behaviour of British, Dutch and French financial incumbents: interaction of environmental selection, institutional effects, and managerial intentionality", *Journal of Management Studies*, Vol.40, No 15, pp. 2163–2187.
- Floyd, S.W. and Lane, P.J. (2000). "Strategizing throughout the organization: managing role conflict in strategic renewal", *Academy of Management Review*, Vol. 25, No 2, pp. 154–177.
- Franco, M., & Haase, H. (2009). "Entrepreneurship: an organisational learning approach." *Journal of small business and enterprise development*, Vol.16, No.4, pp. 628-641.
- Hannan, M.T. and Freeman, J. (1984). "Structural inertia and organizational change", *American Sociological Review*, Vol. 49, No 1, pp. 149–164.
- Helfat, C. E., & Peteraf, M. A. (2009), "Understanding dynamic capabilities: Progress along a developmental path", *Strategic Organization*, 7(1): pp. 91–10.
- Helfat, C. E., & Winter, S. G. (2011), "Untangling dynamic and operational capabilities: Strategy for the (n)everchanging world", *Strategic Management Journal*, 32(11): 1243–1250.
- Helfat, C. E., & Peteraf, M. A. (2003). "The dynamic resource-based view: Capability lifecycles". *Strategic management journal*, 24(10), pp. 997-1010.
- Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M. A., Singh, H., Teece, D. J., & Winter, S. G. (2007.), *Dynamic capabilities: Understanding strategic change in organizations*. Malden, MA: Blackwell.
- Huff, J.O., Huff, A.S. and Thomas, H. (1992). "Strategic renewal and the interaction of cumulative stress and inertia". *Strategic Management Journal*, Vol.13, No.1, pp. 55–75.
- IOBE, 2017, Ο τομέας μεταποίησης στην Ελλάδα. Τάσεις και προοπτικές
- Jerez-Gomez, P., Cespedes-Lorente, J., & Valle-Cabrera, R. (2005). "Organizational learning capability: a proposal of measurement". *Journal of business research*, 58(6), pp. 715-725.
- Kwee, Z., Van Den Bosch, F.a.J. and Volberda, H. (2011). "The influence of top management team's corporate governance orientation on strategic renewal trajectories: a longitudinal analysis of Royal Dutch Shell plc, 1907–2004", *Journal of Management Studies*, 48, pp. 984–1014.
- Levinthal DA, March JG. (1993), "The myopia of learning.", *Strategic Management Journal*, Winter Special Issue 14, pp. 95–112.
- March, J.G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2, pp. 71–87.
- McNamara, P., C. Baden-Fuller and J. Howell (1997). "The Celltech Story: A Jewel in the Crown of the UK Biotechnology Sector", City University Business School case study
- Nonaka, I. and H. Takeuchi (1995). *The Knowledge Creating Company*. Oxford University Press, Oxford.
- Pemberton, J. D., Stonehouse, G. H., & Yarrow, D. J. (2001). "Benchmarking and the role of organizational learning in developing competitive advantage", *Knowledge and Process Management*, 8(2), pp.123-135.
- Protogerou, A., Caloghirou, Y., & Lioukas, S. (2012). Dynamic capabilities and their indirect impact on firm performance. *Industrial and Corporate Change*, 21(3), pp. 615–647.
- Saadat, V., & Saadat, Z. (2016). "Organizational learning as a key role of organizational success." *Procedia-Social and Behavioral Sciences*, 230, pp. 219-225.
- Schilke, O., Hu, S., & Helfat, C. E. (2018). "Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research", *Academy of Management Annals*, 12(1), pp. 390-439.
- Schilke, O. (2014). "On the contingent value of dynamic capabilities for competitive advantage: The nonlinear moderating effect of environmental dynamism", *Strategic Management Journal*, 35(2), pp. 179–203.
- Schmitt, A., Raisch, S., & Volberda, H. W. (2018). "Strategic renewal: Past research, theoretical tensions and future challenges", *International Journal of Management Reviews*, 20(1), pp. 81-98.
- Smart, P., Bessant, J. and Gupta, A. (2007). "Towards technological rules for designing innovation networks: a dynamic capability view. *International Journal of Operations & Production Management*, 27, pp. 1069–1092
- Stopford, J.M. and Baden-Fuller, C. (1994). "Creating corporate entrepreneurship", *Strategic Management Journal*, 15, pp. 521–536.
- Teece, D.J., Pisano, G. and Shuen, A. (1997). "Dynamic capabilities and strategic management. *Strategic Management Journal*, 18, pp. 509–534.
- Van Grinsven, M., & Visser, M. (2011). "Empowerment, knowledge conversion and dimensions of organizational learning", *The learning organization*, 18(5), pp. 378-391.
- Volberda, H. and Lewin, A. (2003). "Co-evolutionary dynamics within and between firms: from evolution to coevolution", *Journal of Management Studies*, 40, pp. 2111–2136

- Winter, S. G. (2003), "Understanding dynamic capabilities", *Strategic Management Journal*, 24(10), pp. 991–995.
- Yin, R. (1989). *Case Study Research: Design and Methods*. Sage, Newbury Park, CA.
- Zollo, M. and Winter, S.G. (2002). "Deliberate learning and the evolution of dynamic capabilities", *Organization Science*, 13, pp. 339–351.

IS THE FUTURE GENERATION OF GREEK CONSUMERS WILLING TO INVEST IN RENEWABLE ENERGY?

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ABSTRACT

Nowadays it is widely recognized that renewable energy (RE) deployment can make a substantial contribution to sustainable environmental management and climate change mitigation. In this regard, a lot depends on the decisions of the future generation on energy investments, since environmentally conscious decisions could contribute to the solution of environmental issues. Thus, the present study aims to examine via questionnaire whether current university students who are the future consumers and potential investors in energy systems are willing to make investments in renewable energy sources (RES). The sample consisted of 214 undergraduate students majoring in the Department of Forestry and Management of the Environment and Natural Resources at the Democritus University of Thrace in Greece. Results show that most respondents were willing to invest in RES in the future and would do so motivated by environmental reasons. At the same time, participants who exhibited more positive environmental attitudes were more willing to invest in RES compared to their peers with lower environmental attitudes. Finally, the understanding of the views of young individuals can enable developers and policymakers to design regulatory frameworks which will create a favorable climate for investments attracting the interest of young householders.

Keywords: Citizen investment; renewable energy investments; willingness to invest; potential investors' views; young citizens.

INTRODUCTION

Nowadays even the simplest daily activities require the consumption of energy, making energy an integral part of modern living. However, since the world population has reached 7.5 billion, the energy demand and production have skyrocketed burdening the atmosphere with greenhouse gas emissions, which have led to the most dangerous environmental issue humanity has ever faced, climate change (IRENA, 2019). In an effort to address the risk, renewable energy sources were developed, which compared to fossil fuels are not only less harmful in terms of emissions, but also involve inexhaustible

generated energy. In addition, renewable energy deployment can bring notable benefits including energy security and new jobs. Indicatively, in the year 2017 about 10.3 million of new jobs were created in this relatively new sector (IRENA, 2018).

At the same time, renewable energy sources -especially of solar and wind- are attracting major citizen investment interest across the globe and those possessing a plot of land or even a roof can invest, for instance, in a photovoltaic system and enjoy the economic benefits of their investment (Tsantopoulos et al., 2014). The rise in public investment has been aided by policy schemes with the most important being the feed-in-tariff and net-metering. In Greece, the first incentives for citizen photovoltaic system investment were enacted through Law No 3468/2006. The success of the incentives was such that the licensing procedures for some photovoltaic categories had to be suspended (JMD B 2317/2012), while the national 2020 goals for photovoltaic capacity were met much earlier (Karteris and Papadopoulos, 2013).

The Greek case can serve as an example to demonstrate that citizen participation in RES investment can accelerate the achievement of set targets and substantially contribute to the solution of environmental issues. Moreover, the case of Sweden has shown that to establish successfully legislative frameworks which correspond to the demands and concerns of citizens, public attitudes must be taken into account (Viklund, 2004). Acknowledging the important role of public opinion on the matter, a growing body of literature has examined citizen willingness to invest in renewables (Curtin *et al.*, 2019; Ebers Broughel and Hampl, 2018; Strazzeria and Statzu, 2017; Baharoon *et al.*, 2016; Tsantopoulos *et al.*, 2014). As observed, the opinion of the younger generation of potential investors has not been discovered yet. Nevertheless, such insights could make a considerable contribution to developing effective policies which will meet the expectations and demands of the coming consumers. To address this neglected research area, the objective of the present paper is to examine the willingness to invest in renewable energy among young citizens. Specifically, the study 1) investigates participants' willingness to invest in renewable energy systems, 2) examines respondents' views on reasons for installing renewable energy, 3) explores citizens' opinion on Greece's investment activity, 4) investigates whether there are statistically significant differences among participants in terms of their environmental attitudes and willingness to invest in RES and 5) identifies participants' most preferred information sources. It should be noted that the chosen sample consists of 214 students majoring in the Department of Forestry and Management of the Environment and Natural Resources at the Democritus University of Thrace in Greece. The specific university students were considered the most suitable respondents for our study for two reasons: first, they are not financially independent yet (as they are not engaged in full-time paid work yet) and second due to their studies they are familiar with topics on renewable energy and energy investments.

LITERATURE REVIEW

Acknowledging that citizens are key-players in the diffusion of renewable energy, research has exerted efforts to explore citizen investment in RES. The most notable research topics in this relatively new literature strand involve citizen willingness to invest, financial characteristics of RES investments, variables affecting investment intention, drivers and barriers to invest, as well as information sources citizens prefer for obtaining information on RES investments.

In terms of citizen willingness to invest, increased levels of investment willingness have been reported in Switzerland, Austria, Yemen, USA, Ireland, Italy and Greece (Curtin *et al.*, 2019; Ebers Broughel and Hampl, 2018; Strazzeria and Statzu, 2017; Baharoon *et al.*, 2016; Tsantopoulos *et al.*, 2014). In monetary units, the Swiss and Austrian potential investors would invest from 100 to 1000 CHF or EUR, while a remarkably high share (35%) of Swiss respondents would dedicate even 1000 to 10,000 CHF (Ebers Broughel and Hampl, 2018). Although most Irish citizens also expressed some level of willingness to invest in renewables, they preferred investments of smaller amounts with 31% of them favoring investments up to 500 EUR and only 7% demonstrating preference for investment amounts up to or more than 50,000 EUR (Curtin *et al.*, 2019). High willingness to invest was also found among Greek citizens (Tsantopoulos *et al.*, 2014).

Undeniably, the financial characteristics of RES investment can either encourage or prevent citizens from investing. Recognizing the importance of preferences, research has explored citizen views on the financial characteristics of the investment, such as feed-in-tariffs. Although this scheme attracted investors during the first years of its application, it seems that it has now become less appealing to potential investors. Indicatively, Italian citizens showed limited preference for feed-in-tariffs, but they favored other forms of subsidies and tax allowances (Strazzeria and Statzu, 2017). In addition, it was estimated that the Flemish citizen investment in RES would increase if the Flemish government continued to decrease subsidies (Beliën *et al.*, 2013). Conversely, positive attitudes to the feed-in-tariff scheme were recorded in Yemen, where the majority of participants stated that they would invest in photovoltaic panels on the roofs of their houses and shops, if this policy was enacted by the government (Baharoon *et al.*, 2016). At the same time, strong concerns about the riskiness and payback periods were observed among Irish interested investors who favored shorter holding periods, low investment risk and high annual return on investments (Curtin *et al.*, 2019).

Beside investment preferences, the profile of potential investors and variables affecting willingness to invest have been examined. In terms of age, findings are somewhat conflicting. On the one hand, it has been indicated that older citizens are less likely to consider investing (Ebers Broughel and Hampl, 2018; Strazzeria and Statzu, 2017) possibly because they are prevented from the long payback periods (Strazzeria and Statzu, 2017). Meanwhile, in the study of Curtin *et al.* (2019) older participants were

slightly more likely to invest, whereas in the study of Ribeiro *et al.* (2014) younger investors expressed more positive attitudes to RES investment compared to their older counterparts. Apart from age, high income and home ownership are positively related to RES investment (Curtin *et al.*, 2019; Ebers Broughel and Hampl, 2018) and often consist the factors determining whether citizens will invest. Additionally, the educational level seems to have a notable effect on investors since most findings have indicated that educated citizens recognized to a greater extent the benefits of the investment and presented increased levels of willingness to invest compared to the less educated participants (Ebers Broughel and Hampl, 2018; Tsantopoulos *et al.*, 2014; Ribeiro *et al.*, 2014). What is more, the place of residence (Baharoon *et al.*, 2016) and prior investment experience (Curtin *et al.*, 2019) are often positively influential to RES investment. Finally, it is significant to note that most investors were citizens with positive environmental attitudes (Baharoon *et al.*, 2016; Tsantopoulos *et al.*, 2014) and that many valued environmental reasons for adopting RES such as pollution reduction, energy conservation and climate change mitigation (Pelizzone *et al.*, 2017), but also natural resources protection (Ebers Broughel and Hampl, 2018). It can be inferred that for these environmentally conscious investors the environmental benefits override the economic prospects of investing in renewables and in this regard the importance of environmental awareness is highlighted.

Perceived barriers to RES investment consist another noteworthy area in this literature strand. As expected, the lack of financial means, such as insufficient savings and limited access to loan finance, has emerged as the most prominent obstacle (Ebers Broughel and Hampl, 2018; Curtin *et al.*, 2019). Other significant obstacles involve those of a more practical nature such as space constraints and living in condominiums where it is generally difficult to obtain permission to install panels (Strazzera and Statzu, 2017).

Another issue that should be addressed is that citizens are often inadequately informed or misinformed about the actual costs and economic features of investments in renewable energy (Ebers Broughel and Hampl, 2018; Tsantopoulos *et al.*, 2014; Ribeiro *et al.*, 2014). To alleviate this issue, policymakers and developers should employ citizens' most preferred information sources to disseminate accurate and reliable information. In this context, research findings could shed some light, since it has been found that potential investors use mainly the Internet as a source to learn more about these investments and at the same time they would prefer to receive information from "neutral" sources rather than professionals or organizations holding private interest in the investment (Strazzera and Statzu, 2017). Although the Internet is citizens' prevalent information source on investments, they also draw information from TV, radio, newspapers, information leaflets and family and friends, whereas they acquire very little information from educational establishments, banks and NGOs (Tsantopoulos *et al.*, 2014).

To conclude, although there is an unquestionable increase in the numbers of adopters and investors worldwide, more efforts are required to achieve the desired transition to a low-carbon energy system. To that end, tax incentives, regulatory stability and policy certainty (Curtin *et al.*, 2017) as well as provision of public information through the most preferred media could facilitate renewable energy deployment. Moreover, despite the substantial citizen share in RE investment, more citizens and especially those with lower income should be offered the opportunity to adopt or invest in renewables.

METHODOLOGY

The data presented in this paper consist part of a broader research which was carried out in Greece in May 2018 and aimed at discovering the awareness levels about renewable energy among undergraduate students majoring in the Department of Forestry and Management of the Environment and Natural Resources at the Democritus University of Thrace. To achieve the research objectives, a questionnaire consisting of 21 closed-ended questions was developed. To design the questionnaire, the existing literature on university students' awareness about and views on energy- and environmentally-related topics was taken into account (Çakırlar Altuntaş and Turan, 2018; Cotton *et al.*, 2016; Keramitsoglou, 2016; Karatepe *et al.*, 2012; Çoker *et al.*, 2010; Ozil *et al.*, 2008). Then, to ensure that the questionnaire would give accurate and coherent results, a pilot study was conducted on a limited scale leading to some minor changes in the formulation of certain items. Once these alterations were made, the final form of the questionnaire was ready. According to the existing regulation, every research carried out within the department must first be approved. Thus, the research received permission from the Department of Forestry and Management of the Environment and Natural Resources (File number: DUTH/DFENR/41576/1364). The followed sampling method was the multistage sampling and in line with this method the month was the first and the week was the second stage of the study. To select the month and the week, a draw was used and hence the second week of May was selected. In that week, an inventory of all courses was taken and in the following week the professors were contacted and asked to allow classroom time for the completion of the questionnaire. The participating students filled in the questionnaire at the beginning of each class period and in total 214 questionnaires were gathered. This number accounts for about 30% of all enrolled students and for about 50% of students enrolled in the five years of study, whereas it corresponds to about 70% of the students who attend exams at the end of the semester. The collected data were analyzed with the Statistical Package for the Social Sciences (SPSS) and descriptive statistics was applied to all survey variables and based on the nature of each variable further statistical tests were performed including the non-parametric Friedman test and principal component analysis. Specifically, to gain a better understanding of participants' views, the non-parametric Friedman test was performed for the multivariate "Reasons for installing RE systems"

and “Information sources”. Since the multivariate “Reasons for installing RE systems” included many variables more analysis was required and to identify factors affecting views on reasons for installing RE, factor analysis was considered appropriate. Finally, the Independent Samples t-test was performed to examine whether there were statistically important differences between participants' environmental attitudes and their willingness to invest in renewables.

RESULTS

This section proceeds as follows: first, participants' demographic characteristics are described. Then, their willingness to invest and their views on reasons for installing RES systems are presented. Afterwards, findings regarding students' opinion on Greece's investment and preferences for information sources are presented.

Sociodemographic characteristics

The questionnaire included a special section collecting information about the students' gender, year of study and parental occupational and educational level. The sample consisted of 214 students (115 male and 99 female participants). As to the year of study, second- (12.6%) and third-year (14.5%) students presented smaller participation, while the first (20.6%), fourth (24.3%) and fifth (28%) years of study were higher represented in the sample. Regarding parents' occupation, the shares of fathers (48.6%) and mothers (46.3%) working in the private and public sector were greater compared to those who were currently unemployed, freelancers and pensioners. In terms of education, students' parents were overall highly educated since a considerable proportion of fathers (36.9%) and mothers (45.3%) were degree qualified, whereas the percentage of parents having completed merely the compulsory education level was notably lower.

Respondents' views on renewable energy investment and reasons for installing RES systems.

To measure participants' willingness to invest, they were first asked whether they would themselves invest in a renewable energy system in the future (for example as homeowners). Results depicted in Table 1 show that the clear majority of students, by 85%, was willing to invest in RES in their later life.

	Frequency	Percentage (%)
Yes	182	85.0
No	32	15.0
Total	214	100.0

Table 1. *Frequency and percentages of students' willingness to invest in RES*

Afterwards, students' opinion on reasons for adopting renewable energy systems was examined. Specifically, the students evaluated various reasons for installing an RE system, such as wind energy or photovoltaics. According to the findings of the non-parametric Friedman test (Table 2), the

increased energy independence of Greece was ranked first (mean rank 8.81), followed by the reduction in pollution (mean rank 8.71) and improved air quality (mean rank 8.63).

Variables	Mean ranks
Subsidies for the purchase of RE system	6.60
Subsidies for RE system maintenance	6.88
Fixed and guaranteed income	6.86
Minimum amount of required work	4.58
Lower-risk investment for savings	6.55
Higher profitability compared to other investments	6.54
Tax exemptions due to installation cost of RE	6.47
Tax exemptions due to maintenance cost of RE	6.25
New job positions-unemployment reduction	8.03
Enhanced social prestige-entrepreneurial activity	6.07
Reduction in pollution	8.71
Improved air quality	8.63
Increased energy independence of our country	8.81
N= 214 Chi-Square= 348.169 df =12 p <0.001	

Table 2. The application of the Friedman test for ranking respondents' views on reasons for installing RE

To gain further insights into students' perceptions of reasons for installing RES systems, the performance of factor analysis was deemed appropriate. Prior to performing the analysis, the Cronbach alpha test, the Keiser-Meyer-Olkin index and Bartlett's test of sphericity verified the data adequacy. Hence, the Cronbach's alpha value was found to be 0.778, KMO value was 0.717 and Bartlett's sphericity result was found statistically significant ($\chi^2=695.757$, $df=78$, $p=0.000$). After conducting Varimax rotation for the multivariable "Reasons for installing RE systems" five factors emerged (Table 3). The first factor (PC1) included the variables "Improved air quality", "Increased energy independence of our country" and "Reduction in pollution", while the second factor (PC2) comprised "Subsidies for the purchase of RE system", "Subsidies for Re system maintenance", "Fixed and guaranteed income" and "Minimum amount of required work". The third factor (PC3) involved the variables "Lower-risk investment for savings" and "Higher profitability compared to other investments". Then, on the fourth factor (PC4) the variables "Tax exemptions due to installation cost of RE", "Tax exemptions due to maintenance cost of RE" were loaded and finally on the fifth factor (PC5) the variables "Enhanced social prestige-entrepreneurial activity" and "New job positions-unemployment reduction" were loaded.

Variables	Component				
	1	2	3	4	5
Improved air quality	0.823	-0.001	0.217	0.025	0.150
Increased energy independence of our country	0.787	0.110	0.009	0.122	0.083
Reduction in pollution	0.777	0.235	0.150	0.107	0.033
Subsidies for the purchase of RE system	0.109	0.833	-0.023	0.120	0.098
Subsidies for the maintenance of the system	0.201	0.747	0.068	0.164	0.157
Fixed and guaranteed income	0.110	0.587	0.375	-0.021	0.319
Minimum amount of work	-0.016	0.565	0.243	0.036	-0.348
Lower-risk investment for savings	0.162	0.163	0.814	0.008	-0.009
Higher profitability compared to other investments	0.126	0.017	0.808	0.096	0.153

Tax exemptions due to installation cost of RE	0.110	0.062	0.156	0.876	0.041
Tax exemptions due to maintenance cost of RE	0.108	0.183	-0.056	0.862	0.079
Enhanced social prestige-entrepreneurial activity	-0.008	0.103	0.125	0.059	0.823
New job positions-unemployment reduction	0.361	0.131	0.078	0.098	0.696

Table 3. Factor loadings after Varimax rotation for students' views on reasons for installing RE systems

Participants' opinion on Greece's investment in renewable energy

Thereafter, the survey intended to discover students' opinion on Greece's investment in renewable energy sources. As it can be seen in Table 4, almost six out of ten respondents considered that the Greek state has not invested sufficiently in RE.

	Frequency	Percentage (%)
Do not know	12	5.6
Strongly disagree	21	9.8
Disagree	107	50.0
Neither agree or disagree	56	26.2
Agree	16	7.5
Strongly agree	2	0.9
Total	214	100.0

Table 4. Frequency and percentages regarding students' degree of agreement on how much Greece has invested in RES

Differences among respondents in terms of their environmental attitudes and their willingness to invest

The t-test was next performed to examine whether there were statistically significant differences between participants' environmental attitudes and their willingness to invest in renewable energy sources. Results tabulated in Table 5 report that the students who were willing to invest in RES also exhibited friendlier environmental attitudes compared to those who were not interested in investing.

Variables	Investing in RES	n	m. v.	s. d.	T	Df	P
Total environmental attitudes	Yes	182	45.6703	6.44322	3.788	212	0.000
	No	32	40.8750	7.46929			
I am willing to switch off the lights when leaving a room or use energy efficient light bulbs	Yes	182	4.24	0.837	4.146	212	0.000
	No	32	3.53	1.135			
I am willing to recycle	Yes	182	4.18	0.762	3.392	212	0.001
	No	32	3.66	1.035			
I am willing to re-use or give my old clothes to the needy	Yes	182	4.20	0.726	3.751	212	0.000
	No	32	3.66	0.937			
I prefer products travelling short distance	Yes	182	3.52	0.890	2.334	212	0.021
	No	32	3.13	0.871			
I am willing to buy organic products	Yes	182	3.66	0.881	1.323	212	0.187
	No	32	3.44	0.982			
I turn off the tap while brushing teeth or shaving	Yes	182	4.26	0.797	2.731	212	0.007
	No	32	3.81	1.120			
I am willing to reduce the consumption of meat and	Yes	182	3.00	1.208	0.281	212	0.779
	No	32	2.94	0.840			

cured meat products									
I am willing to cover short distances on foot	Yes	182	4.05	0.985	2.710	212	0.007		
	No	32	3.53	1.135					
I am willing to use the bicycle	Yes	182	3.89	0.997	1.864	212	0.064		
	No	32	3.53	1.047					
Instead of the car I am willing to use public transport	Yes	182	3.51	1.150	0.882	212	0.379		
	No	32	3.31	1.091					
I am willing to turn the thermostat down to 18°C	Yes	182	3.30	1.122	0.365	212	0.716		
	No	32	3.22	1.070					
I prefer products with less or recyclable packaging	Yes	182	3.86	0.880	4.125	212	0.000		
	No	32	3.13	1.157					

Table 5. *T*-test results comparing students' environmental attitudes and their willingness to invest in RES in the future (*m. v.*: mean value, *s. d.*: standard deviation, *t*: *t*-test, *df*: degrees of freedom)

Respondents' preferred information sources

Next, participants' preferences for information sources were scrutinized. To that end, students assessed on a ten-point scale different media of information based on how much they used each medium daily. In view of the results (Table 6), social media, news websites and websites of particular interest were the most preferred information sources. Conversely, printed media like national and local newspapers were the least favored choices.

	Not at all									Very much
Medium of information	1	2	3	4	5	6	7	8	9	10
Family and friends	1.9	3.7	4.7	7.5	15.0	15.4	9.8	16.8	8.9	16.4
National television and radio networks	7.9	4.2	5.6	10.3	11.7	15.0	14.5	12.1	8.9	9.8
Local television and radio networks	3.6	4.7	7.9	10.3	16.8	14.0	9.8	9.8	5.6	7.5
National newspapers	22.9	9.3	12.1	10.7	13.6	12.6	7.5	5.6	4.2	1.4
Local newspapers	24.8	17.8	10.3	8.9	12.6	8.4	7.9	4.7	3.3	1.4
News websites	6.1	6.1	2.8	8.4	10.3	12.6	15.4	12.1	14.0	12.1
Websites of particular interest	2.3	3.3	3.7	5.6	9.8	11.2	14.5	14.0	19.2	16.4
Social media	1.4	0.9	0.5	2.3	12.6	11.7	13.1	17.8	19.2	20.6
Scientific publications	13.6	4.7	9.3	11.2	10.7	9.8	9.8	13.1	10.3	7.5

Table 6. Percentages regarding students' assessment of information sources

At this point, it was deemed necessary to further analyze students' ratings of information sources and hence the non-parametric Friedman test was carried out (Table 7).

Variables	Mean rank
-----------	-----------

Social media	6.88
Websites of particular interest	6.32
Family and friends	5.67
News websites	5.55
National television and radio networks	5.05
Scientific publications	4.88
Local television and radio networks	4.40
National newspapers	3.31
Local newspapers	2.95
N= 214 Chi-square= 444.363 df =8 p <0.001	

Table 7. *Hierarchy of the information sources that students use on daily basis*

According to the Friedman test results, social media were in the lead of the ranking (mean rank 6.88), followed by websites of particular interest (mean rank 6.32). It is also interesting to note that national and local newspapers received the lowest rankings (mean ranks 3.31 and 2.95, respectively).

DISCUSSION

The present study has pointed to various points that call for special attention. In this section, it is aimed to interpret and contextualize the results and draw inferences, highlight inconsistencies, compare the present findings with other research findings and detect areas for future research.

As mentioned earlier, citizen investment in RES is crucial to achieve a low-carbon society and, in this regard, it is rather encouraging that most young citizens in our sample were willing to invest in an RE system. Similarly, Tsantopoulos *et al.* (2014) indicated high levels of willingness to invest among Greek citizens while increased investment willingness was also recorded in other European countries (Curtin *et al.*, 2019; Broughel and Hampl, 2018; Strazzera and Statzu, 2017; Tsantopoulos *et al.*, 2014), suggesting that European policies and subsidies have created a favorable climate for citizen investments in the market of renewable energy.

Another point worth discussing involves participants' evaluation of reasons for installing RES. Exceeding our expectation, higher improved air quality and national energy independence, namely environmental reasons, were ranked higher than economic incentives. Hence, the young citizens appeared to be conscious about environmental issues, while their concern about air quality was highlighted. To contextualize the latter, we should note that currently in Greece heating and transportation rely mainly on fossil fuels. However, the wide use of fossils has led to high ground-level ozone concentrations and smog in big cities of Greece (European Environment Agency, 2018) causing health issues to many citizens. From this perspective, students were possibly aware that the burning of fossil fuels is harmful to public health and acknowledged that RE deployment in Greece could address this issue. Greek students' awareness about air quality was paramount to that of Malaysian university students who were found similarly conscious about the quality of the local

environment (Ahamad and Ariffin, 2018). Likewise, citizens in different countries were driven by environmental reasons to install renewables (Curtin *et al.*, 2019; Ebers Broughel and Hampl, 2018; Pelizzone *et al.*, 2017). Hence, it could be stated that pronounced environmental awareness is often what induces environmentally conscious citizens to invest in renewable energy. In this regard, the importance of developing programs aiming at raising environmental awareness among social groups as a means to address environmental issues cannot be stressed enough (Karasmanaki and Tsantopoulos, 2019).

To assist a better understanding of students' mindset regarding reasons for installing RES, the results of factor analysis should be discussed. To remind our readers, factor analysis loaded five factors affecting students' opinion on why to adopt RES. The first factor involved mainly environmentally related variables, "Improved air quality" and "Reduction in pollution", whereas on the second factor financial variables loaded, that is "Subsidies for the purchase of RE system", "Subsidies for RE system maintenance", "Fixed and guaranteed income" and "Minimum amount of required work". The third factor included the variables relative to investment: "Lower risk investment for savings" and "Higher profitability compared to other investments". The fourth factor involved explicitly the taxation related variables of "Tax exemptions due to maintenance cost of RE" and "Tax exemptions due to installation cost of RE", whereas on the fifth factor somewhat mixed variables ("Enhanced social prestige-entrepreneurial activity" and "New job positions-unemployment reduction") were loaded. The loadings of these five factors imply that the reasons motivating participants to install renewables are multifaceted and varied. Yet, it appears that young citizens had a clear and complete view of the different reasons affecting the decision-making in terms of RES installation.

Quite unexpectedly, students perceived that the Greek state has not invested sufficiently in renewable energy. This finding was surprising because Greece has met the set targets and managed to double the share of energy from renewable sources between the years 2004 and 2017 (Eurostat, 2019). Hence, more analysis is needed to understand why students kept this wrong view.

A rather meaningful comparison occurred between environmental attitudes and student willingness to invest in RES. Confirming the expectations, students presenting higher environmental attitudes were those mostly interested in investing in RE themselves in the future. This suggests that the forestry students had a good grasp not only of the ability of renewables to address environmental issues by producing lower emissions, but also of the profitability prospects of RE investments. Of course, the increased familiarity with renewables could be attributed to the knowledge on RES students have gained throughout their studies in an environmental department.

Finally, respondents' preference for information sources is also worthwhile discussing. Predominantly, students expressed a clear preference for social media and websites of particular interest. The same positive disposition toward digital media was also reported in the case of Malaysian students (Ahamad and Ariffin, 2018), but also in other case studies (Strazzera and Statzu, 2017; Tsantopoulos *et al.*, 2014), suggesting that citizens worldwide favor the digital media over their printed counterparts. This may be associated with the overall preference for digital information media which consist more convenient and accessible options. To enhance the provision of information to potential investors, policymakers and developers could use these media to disseminate information ensuring that the younger investors have easy access to information on the existing incentives and policies on renewable energy investment.

CONCLUSIONS AND IMPLICATIONS

The present survey examined a representative sample of 214 forestry students and collected via questionnaire a variety of data regarding Greek young citizens' views on RES investment. The aim was to identify whether students were willing to make investments in renewables as they are not only future consumers but also possible experts in the environmental field. In the light of our study findings, it can be inferred that the surveyed citizens expressed increased interest in RES investment and consequently were not only likely to invest in renewables later, but also to support them as future foresters. In addition, the main contribution of this study is the research gap it addresses; that is, no other study had explored the younger citizens investment intention towards renewable energy investment. Nevertheless, greater importance should be placed on their intentions since they are the future consumers and if these allocate part of their income or savings to investing in RE then significant diffusion of renewables can be expected in the following years.

In terms of policy implications, the findings of this study can be utilized by policymakers, educators and other relevant stakeholders to design effective measures aiming at increasing renewable energy investments. Since this study revealed a higher acknowledgement of the environmental rather than the financial aspects of sustainable investments, it is possible that participants were unaware of the financial gains of investing in renewables. However, it cannot be certain that investment willingness driven by environmental awareness alone will be translated into actual investment. In other words, students' positive evaluation of the reasons to invest seems to be limited only to the environmental aspect of green investments thereby neglecting the financial potential. To enhance, however, the possibility of actual investment, efforts should be made to inform students about the financial benefits of renewable investments and this could be achieved by adding more informative material in the courses included in the curricula of departments.

Another finding that certainly involves some degree of implication for policymakers and project developers is participants' clear preference for social media and websites to obtain information. Both media could be used to approach young potential investors and inform them about 'green' investments using tailored messages that resonate with younger audiences. Moreover, it is crucial to emphasize that our study focused explicitly on young individuals who are not financially independent yet and recorded an increased investment willingness. To ensure that this willingness can be realized, the policy framework should consider the profile of these young investors and provide incentives which will be especially designed for young citizens who are just setting up their household. Indicatively, "green" loans at nil or low interest rates to install a domestic renewable system or to invest in renewable energy projects could be offered. Additionally, this study has indicated that concern about the environment and its problems can affect positively the intention to invest in clean energy. Hence, it is critically important to cultivate environmental awareness among large groups of young individuals so that they will adopt an environmentally conscious behavior as future consumers. To that end, information days and other activities should be held at all educational institutions frequently and systematically enabling students to learn more on how they can contribute to the protection of the environment.

REFERENCES

- Ahamad, N. R. and Ariffin, M. (2018) 'Assessment of knowledge, attitude and practice towards sustainable consumption among university students in Selangor, Malaysia', *Sustainable Production and Consumption*, 16, pp. 88–98. doi: 10.1016/j.spc.2018.06.006.
- Çakırlar Altuntaş, E. and Turan, S. L. (2018) 'Awareness of secondary school students about renewable energy sources', *Renewable Energy*, 116, pp. 741–748. doi: 10.1016/j.renene.2017.09.034.
- Baharoon, D. A., Rahman, H. A. and Fadhl, S. O. (2016) 'Publics' knowledge, attitudes and behavioral toward the use of solar energy in Yemen power sector', *Renewable and Sustainable Energy Reviews*, 60, pp. 498–515. doi: 10.1016/j.rser.2015.12.110.
- Beliën, J. De Boeck, L., Colpaert, J., & Cooman, G. (2013) 'The best time to invest in photovoltaic panels in Flanders', *Renewable Energy*, 50, pp. 348–358. doi: 10.1016/j.renene.2012.06.047.
- Ebers Broughel, A. and Hampl, N. (2018) 'Community financing of renewable energy projects in Austria and Switzerland: Profiles of potential investors', *Energy Policy*, 123, pp. 722–736. doi: 10.1016/j.enpol.2018.08.054.
- Çoker, B., Çatlıoğlu, H. and Birgin, O. (2010) 'Conceptions of students about renewable energy sources: a need to teach based on contextual approaches', *Procedia - Social and Behavioral Sciences*, 2(2), pp. 1488–1492. doi: 10.1016/j.sbspro.2010.03.223.
- Cotton, D., Shiel, C. and Paço, A. (2016) 'Energy saving on campus: a comparison of students' attitudes and reported behaviours in the UK and Portugal', *Journal of Cleaner Production*, 129, pp. 586–595. doi: 10.1016/j.jclepro.2016.03.136.
- Curtin, J., McInerney, C. and Ó Gallachóir, B. (2017) 'Financial incentives to mobilise local citizens as investors in low-carbon technologies: A systematic literature review', *Renewable and Sustainable Energy Reviews*, 75, pp. 534–547. doi: 10.1016/j.rser.2016.11.020.
- Curtin, J., McInerney, C., Gallachóir, B. Ó., & Salm, S. (2019) 'Energizing local communities – What motivates Irish citizens to invest in distributed renewables?', *Energy Research & Social Science*, 48, pp. 177–188. doi: 10.1016/j.erss.2018.08.020.
- European Environment Agency 2018. (2018) 'Air pollution country fact sheet 2018'.

- Eurostat (2019) ENERGY FROM RENEWABLE SOURCES/ SUMMARY RESULTS SHARES 2017 <https://ec.europa.eu/eurostat/web/energy/data/shares>
- IRENA (2019) Climate Change and Renewable Energy: National policies and the role of communities, cities and regions (Report to the G20 Climate Sustainability Working Group (CSWG)), International Renewable Energy Agency, Abu Dhabi.
- IRENA (2018) Renewable Energy and Jobs - Annual Review 2018, International Renewable Energy Agency, Abu Dhabi.
- JMD B 2317/2012. Suspension of the Provision of Production Licence and Connection Offer for PV Stations (Official Gazette B 2317/10.08.2012)
- Karasmanaki, E. and Tsantopoulos, G. (2019) 'Exploring future scientists' awareness about and attitudes towards renewable energy sources', *Energy Policy*, 131, pp. 111–119. doi: 10.1016/j.enpol.2019.04.032.
- Karatepe, Y. Neşe, S. V., Keçebaş, A., & Yumurtacı, M. (2012) 'The levels of awareness about the renewable energy sources of university students in Turkey', *Renewable Energy*, 44, pp. 174–179. doi: 10.1016/j.renene.2012.01.099.
- Karteris, M. and Papadopoulos, A. M. (2013) 'Legislative framework for photovoltaics in Greece: A review of the sector's development', *Energy Policy*, 55, pp. 296–304. doi: 10.1016/j.enpol.2012.12.001.
- Keramitsoglou, K. M. (2016) 'Exploring adolescents' knowledge, perceptions and attitudes towards Renewable Energy Sources: A colour choice approach', *Renewable and Sustainable Energy Reviews*, 59, pp. 1159–1169. doi: 10.1016/j.rser.2015.12.047.
- Ozil, E. Ugursal, V. I., Akbulut, U., & Ozpinar, A. (2008) 'Renewable Energy and Environmental Awareness and Opinions: A Survey of University Students in Canada, Romania, and Turkey', *International Journal of Green Energy*, 5(3), pp. 174–188. doi: 10.1080/15435070802107025.
- Pellizzone, A. Allansdottir, A., De Franco, R., Muttoni, G., & Manzella, A. (2017) 'Geothermal energy and the public: A case study on deliberative citizens' engagement in central Italy', *Energy Policy*, 101, pp. 561–570. doi: 10.1016/j.enpol.2016.11.013.
- Ribeiro, F. Ferreira, P., Araújo, M., & Braga, A. C. (2014) 'Public opinion on renewable energy technologies in Portugal', *Energy*, 69, pp. 39–50. doi: 10.1016/j.energy.2013.10.074.
- Strazzera, E. and Statzu, V. (2017) 'Fostering photovoltaic technologies in Mediterranean cities: Consumers' demand and social acceptance', *Renewable Energy*, 102, pp. 361–371. doi: 10.1016/j.renene.2016.10.056.
- Tsantopoulos, G., Arabatzis, G. and Tampakis, S. (2014) 'Public attitudes towards photovoltaic developments: Case study from Greece', *Energy Policy*, 71, pp. 94–106. doi: 10.1016/j.enpol.2014.03.025.
- Viklund, M. (2004) 'Energy policy options— from the perspective of public attitudes and risk perceptions', *Energy Policy*, 32(10), pp. 1159–1171. doi: 10.1016/S0301-4215(03)00079-X.

CAN GRATITUDE INCREASE LOYALTY?

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ABSTRACT

Customer loyalty and its driving factors are relevant to both business enterprises and science. However, most the previous studies focused on the analysis of rational factors, such as product quality, switching costs, trust or satisfaction and their impact on consumer loyalty. However, only some of the studies explained the importance of emotional factors on the increase of consumer loyalty. The lack of knowledge of the gratitude effect on the consumer loyalty presents a research gap, and this study attempts to address it.

The study is based on the systematic analysis of the 29 selected articles from the area of psychology and sociology. The performed systematic analysis enriches the knowledge of the concept of gratitude, its causes and effect on consumer behavior. Furthermore, it helps to better understand the antecedents of the consumer loyalty.

Keywords: gratitude, customer behaviour, loyalty, marketing, personality psychology

INTRODUCTION

Customer loyalty and its driving factors are relevant to both business enterprises and science. It is no surprise that loyalty driving factors have been analysed in hundreds of scientific articles. Customer satisfaction is often identified as an inherent loyalty driving factor (Tanford, 2016; Wang et al., 2018). The link between customer satisfaction and loyalty was analysed in different business areas: retail (Schirmer et al., 2018), sporting events (Ahrholdt et al., 2017), hotels (Jani and Han, 2014), insurance sector (Picon, 2014), banking sector (Chiguvi and Guruwo, 2017), hospitality industry (Kandampully et al., 2015), etc. However, the performed meta-analysis showed that satisfaction explains from 30-40% of variation in loyalty measurement (Kumar et al., 2013) till 50-60% (Wang et al., 2018). These results show that customer satisfaction is a critical but not sufficient antecedent of customer loyalty (Dolnicar et al., 2015; Kumar, Pozza, and Ganesh 2013; Taplin, 2013).

Since satisfaction only partially explains customer loyalty, the authors also measured other variables which could have impact on customer loyalty. Such variables included trust (Hsu et al., 2012; T.T. Kim, Kim, & Kim, 2009, Schirmer et al., 2018), commitment (Lai, 2015; Baloglu et al., 2014; Schirmer et al.,

2018), switching costs (Kwortnick & Han, 2011; Picon et al., 2014), as well as perceived value, product quality, brand reputation (Pan et al., 2012; Kandampully et al., 2015). However, the causes of loyalty could not be fully explained by the said factors.

The authors have observed that long-term business-to-consumer relations may result not only from rational factors, such as product quality, switching costs or satisfaction but also from emotional factors. Gratitude is one of such emotional factors. Gratitude may work as short-term emotion or long-term feelings (Algoe, 2012, Bartlett, DeSteno, 2006; Fazal el Hasan et al., 2014; McCullough et al. 2008; Palmatier et al. 2009; Raggio et al., 2014, Tsang 2007; DeSteno and Bartlett, 2010). It has a strong effect on individuals' behaviour, their mutual relations (Palmatier et al. 2009, Huang, 2105; Raggio et al. 2014; Bartlett, DeSteno, 2006; Kolyesnykova et al. 2011; Kolyesnykova and Dodd, 2008; Watkins, 2006). Earlier studies show that gratitude can create strong relations (McCullough et al., 2008; Bartlett, DeSteno, 2006; Kashdan et al., 2009) and give financial benefit (Raggio et al. 2014, Tsang 2006a, Kolyesnykova and Dodd, 2008). Finally, some authors indicate that gratitude may also cause loyalty (Raggio et al. 2014; Socia, 2007; Fazal el Hasan et al., 2014; Palmatier et al. 2009; Morales, 2005). Meanwhile, Kim and Lee (2013) identified that it is gratitude rather than satisfaction that causes customer satisfaction in higher-level restaurants.

Earlier studies of gratitude indicate that gratitude can be manipulated in view of the individual features of each person (Watkins, 2003; McCullough et al. 2004; Kashdan et al., 2009; Tsang 2007; Kolyesnykova et al. 2011; Wood, 2009), however Huang (2015) claims that it is not clear how different factors can cause consumers' gratitude. Finally, Bock et al. (2016) claims that although customer gratitude is a growing topic of interest among scholars, the current state of the literature is problematic because there lacks a clearly accepted definition.

Therefore, the current study seeks to address some of these gaps and offers further theoretical insight and contribution into the contention that customer gratitude is an antecedent of customer loyalty. To accomplish the aforementioned objectives, we attempt to probe the effect of customer gratitude in the marketing environment via a systematic analysis of the prior literature. The systematic analysis let us collect empirical findings from individual studies for integrating, synthesizing and making sense of them. This systematic analysis will enable us to evaluate the concepts of gratitude defined by different authors and to define gratitude in the customer-seller context. Also, the analysis of earlier studies will be helpful in distinguishing the main factors which cause customers' gratitude. Finally, while individual studies typically examine the consequences of customer gratitude, the study will help evaluate a possible effect of gratitude on different types of loyalty.

METHODOLOGY OF SYSTEMATIC ANALYSIS

The systematic analysis was performed in four stages: planning; data collection, data organization and data analysis. The main question of this study was raised in the planning stage – what effect the emotion of gratitude has on the consumer's loyalty through willingness to offer gratuity in trading situations. A theoretic conceptual framework of gratitude should be obtained during the study as well as the instruments used to measure the emotion of gratitude. To this end, the study protocol was prepared, and 5 analysed positions were recorded: 1. Measurement instruments; 2. Conceptual meaning of gratitude; 3. Causes of gratitude 4. Gratuity reactions.

During the data collection stage, automatic databases are used for search of publications: Google Scholar, Scopus. The criterion of time was not applied for the selection of articles to not be distanced from the fundamental scientific sources, if any. The initial stage of scanning sources included all scientific texts (except for books and conference texts) where gratitude is analysed as a phenomenon or the impact of that phenomenon on personal behaviour is discussed. It was observed that gratitude was analysed in scientific literature from a very broad perspective, e.g. evolution, religion, medicine; therefore, for the emotion of gratitude to maximally reflect the aspects of consumer behaviour, it was decided to record the keywords *customer behaviour, marketing, personality psychology* and to use them in the search together with the meanings of gratitude.

The English language suggests a few semantic meanings of gratitude: gratitude, appreciation, thankfulness; therefore, all of the said keywords were used in the initial literature scanning stage. However, the keywords "appreciation" and "thankfulness" were given up since in symbiosis with the customer behaviour keywords they generated an excessive number of articles and led to the content that was not related to the goals of the study in any way.

After the scientific sources were decoded, the systematic review included 29 articles. Each of the selected 29 scientific articles had to meet the following qualitative criteria:

1. The goals and objectives of the study are explicitly specified and described;
2. A clear respondents' selection procedure;
3. Justified and clearly described criteria for the selection of measurement instruments;
4. The methods of analysis are properly selected and described;
5. The conclusions of the study are clear and justified.

Following the said qualitative criteria, 5 articles were removed from the selected 29 articles (see Table No 1), thus 24 articles were used for the final analysis.

Article	Reason for rejection of the article
Algoe, S. B., Haidt, J., and Gable, S. L., (2008) "Beyond reciprocity: Gratitude and relationships in everyday life". <i>Emotion</i> , Vol. 8, pp. 425–429.	The article was not indexed by Scopus database. The style of the article was publicist rather than scientific.
Rusk R.D., Vella- Brodrick D.A., Waters L., (2015) "Gratitude or Gratefulness? A Conceptual Review and Proposal of the System of Appreciative Functioning", <i>Journal of Happiness Studies</i> , Vol. 17 No.5, pp 2191-2212	In this article, a semantic analysis of the concepts of gratitude and gratefulness was conducted on the basis of systematic analysis, however the context was not related to business or its environment
McCullough, M. E., Kimeldorf, M. B., and Cohen, A. D. (2008). „An adaptation for altruism? The social causes, social effects, and social evolution of gratitude“. <i>Current Directions in Psychological Science</i> , Vol. 17, pp. 281- 284	The overview of gratitude theories which wasn't rely on qualitative or quantitative research.
McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., and Larson, D. B. (2001). "Is gratitude a moral affect?" <i>Psychological Bulletin</i> , vol. 127, 249-266.	The literature analysis was not grounded by the research results.

Table 1. Reasons for rejection of the articles.

Area of research	Number of analyzed articles
Psychology	13
Sociology	11

Table 2. The classification of the selected articles by scientific areas

METHODS OF THE RESEARCH

The systematic analysis showed that the field of research in the context of the factor of gratitude is particularly wide. The reasons of the occurrence of gratitude and the resulting behavioural outcomes may depend on many factors, such as personal traits of character, environmental factors or even diseases that an individual is suffering from. In order to answer the main question of the study, i.e. what effect the emotion of gratitude has on the consumer's loyalty through willingness to offer gratuity in trading situations, the analysis of various aspects of the research methods is of great importance since the characteristic features of consumers are the same as those of individuals in the general sense; therefore, it is important to understand not only the methods of the research but also the motives for selection for the specific instruments of the research.

The authors of the reviewed scientific sources in most of the cases used a survey, meanwhile the methodology of an experiment in the studies was very much similar in number to mixed choices of methods.

Method	Uses
Survey	10
Experiment	7
In-depth interview	1
Mixed methods	6

Table 3. Methods used in previous studies.

THE CONCEPT OF GRATITUDE

The definition of gratitude. Gratitude is not easy to define: it is measured as an emotion, attitude, moral virtue, habit, personal feature or response (Emmons, McCullough, 2003). The word "gratitude" originates from the Latin word "gratios" which means *grace, graciousness, or gratefulness* (Emmons, McCullough, 2003). The analysis of sources of literature revealed that authors who analysed different aspects of gratitude differently interpreted its concept (see Table No 1).

Algoe (2012)	Gratitude is response to the received benefit; Gratitude may be perceived as an emotion that promotes social relations.
DeSteno et al., (2010)	Gratitude is an emotional state that decreases the probability of selfish economic action, fosters trust and stable exchange, which together constitute a necessary element for social flourishing; Gratitude is an element that belongs to the social class of emotions aiming at creating a social and emotional capital and involving individuals into creation of long-term wellbeing; Gratitude is the compensator of positiveness and happiness aiming for long-term benefit rather than short-term pleasures.
Emmons et MCCullough, (2003)	Gratitude is recognizing and valuing an altruistic gift.
Fazal el Hasan (2014)	Gratitude is an emotional response to a recognised benefit received from the benefactor.
Huang (2015)	Customers' gratitude is the purchasing behaviour triggered by a sensitive duty to repeatedly use the services offered by the seller.
Kashdan et al (2009)	Gratitude is experienced when people receive something useful or pleasant.
McCullough et al. (2008)	Gratitude is a positive emotion which usually arises from the understanding that an individual received a benefit which costed

	another person's deliberate and voluntary actions; Gratitude is a pleasant emotion, but it differs from happiness as gratitude requires an assumption that an individual received benefit from another person's generosity.
McCullough et al. (2001)	Gratitude is a moral effect similar to other moral emotions, such as empathy and guilt; Gratitude is the response to moral behaviour and the motive of moral behaviour; Gratitude is understanding that the receiver accepts the benefit offered.
Palmatier et al. (2009)	Gratitude is the basic social component of human interaction which gives an emotional basis to the required behaviour; Emotional gratitude is gratitude for benefit received; Behavioural gratitude is giving response (reciprocal connection) for the feeling of gratitude.
Raggio et al. (2014)	Gratitude is a feeling arising from an individual's (recipient) understanding that the partner (benefactor) (e.g. an individual or an organisation) acted intentionally to do good to the recipient (c.f., Fredrickson, 2004, p. 150). "The feeling of gratitude" means an emotional response to this understanding.
Tsang (2006a)	Gratitude is a positive emotional reaction to the receipt of a benefit that is perceived to have resulted from the good intentions of another; Gratitude is a positively valued emotion which means that an individual appreciates the benefactor or the benefit
Tsang (2007)	Gratitude is a positive emotion experienced when an individual realises the benefit intentionally caused by another

Table 4. The definition of gratitude used in previous studies.

Gratitude is an obvious phenomenon with its own rules, expectations, and benefit (Raggio et al., 2014), and is clearly distinguished from the overall state (Bartlett et DeSteno, 2006) and from conventional constructs of behaviour, such as obligation or trust, and may independently promote expression and behaviour (Raggio et al., 2014). The researchers identified two basic aspects of gratitude: 1) emotional – occurring when an individual perceives himself/herself as a recipient for another person's efforts towards him/her; 2) behavioural – related to actions resulting from the feelings of gratitude (Palmatier et al., 2009)- It is worth discussing gratitude from these two perspectives.

Gratitude as an emotion. The definition of gratitude as an emotion is supported by many authors who analysed this phenomenon (e.g. Algoe, 2012, Bartlett, DeSteno (2006), Fazal el Hasan et al., 2014; McCullough et al. 2008; Palmatier et al. 2009; Raggio et al., 2014, Tsang 2007). DeSteno et Bartlett (2010)) define gratitude as the element of emotions intended to create a social and emotional capital, involving individuals in the creation of lasting well-being. Meanwhile, an emotion can be defined as an active response of limited duration to significant changes in the environment (McCullough, Kimeldorf, Cohen, 2008) arising from the way individuals measure objects, events, and opportunities (Kashadan et al., 2009). Not all emotions can be predicted and forecasted, however the research shows that unlike many other emotions, gratitude can be predicted (McCullough, Tsahg, Emmons, 2004; DeSteno et al., 2010). In terms of business, the possibility to predict and forecast gratitude is a very important feature of this emotion suggesting that gratitude can be used as a marketing tool to achieve various business goals. Emotions have a mediating role for behaviour (Morales, 2005) and gratitude is not an exception, which like any other emotion can influence decisions (DeSteno et al., 2010). The analysis of literature sources suggests that emotions that arise in certain environment may move into another environment and further influence decisions as long as it lasts, even if such outcomes are not related to the source of emotions (Bartlett et Desteno, 2006).

Gratitude as behaviour. Palmatier et al., (2009) observed that few marketing studies were carried out to analyse gratitude in the context of customers' behaviour. In business environment, behaviour gratitude is often related to another person's efforts, i.e. people feel angry and tend to punish those who have a negligent attitude towards their work and feel grateful and tend to award those who do their best for them (Morales, 2005). Huang, (2015) defined customer gratitude as the emotional basis of reciprocity and the main factor maintaining successful relations between buyers and sellers. Reciprocity means that what is given needs to be returned and thereby a cycle is created, (Palmatier et al., 2009); whenever gratitude comes back, the circle is considered to close and the reciprocity requirement is satisfied as the perceived possibility of ungratefulness is eliminated, (Raggio et al., 2014). Gratitude is social relations standard or credible behaviour; therefore, ungratefulness can cause considerable damage (Raggio et al., 2014). Thus, gratitude motivates people to behave proportionately after benefit is gained, which promotes prosocial behaviour and influences psychological states that support gratitude and cooperation, (McCullough et al., 2008). Consumers subconsciously realise that the seller will gain benefit if they buy in gratitude; therefore, on the one hand, buyers can perceive buying as means of gratitude and on the other hand, buying may result from the need to follow the reciprocity norms, Kolyesnykova et al. (2009).

Palmatier et al. (2009) and Bartlett et DeSteno (2006) observe that gratitude is often ignored in researches and all features of the gratitude emotion are ascribed to reciprocity. The analysis of

literature reveals that authors are not united about the moderating influence of gratitude and reciprocity on behaviour. Kolyesnykova et al., (2011) claim that gratitude may be triggered by reciprocity, meanwhile Algoe (2012), Fazal el Hasan et al. (2014) claim that gratitude is what can encourage reciprocal behaviour between the receiver and the giver. Bartlett et DeSteno, (2006) carried out a research and identified that the emotional state of gratitude encourages prosocial behaviour, while reciprocity cannot be the cause of behaviour. The content of the analysed research sources reveals that some authors (e.g. Raggio et al. (2014), Socia (2007), Tsang, (2006b), (Tsang 2007), (Watkins, 2006), Kolyesnykova et al. 2011) chose to study emotions from the opposite poles, e.g. gratitude *vs* indebtedness, obligation, guilt, anger – the results of the study in the general sense reveal that reciprocity may be both positive and negative. Thus, to this end, gratitude cannot in principle be equated to reciprocity as the situation of gratitude leads to the expectation for exceptionally positive reciprocity: the study by Watkins (2006) showed that gratitude is assessed as a positive effect, while indebtedness has mixed associations, also, gratitude is more related to altruism than to obligation; the respondents of this study said that they enjoyed the feeling of gratitude, the study by Kolyesnykova et al. (2011) revealed that the words that were usually associated with gratitude were: grateful, recognized, thankful, valued, acknowledged, positive, pleased, and honoured, meanwhile the words associated with obligation were as follows: uncomfortable, obligated, indebted, reluctant, guilty, pressured, irritated, and owing. In conclusion, like in any other situation of life, and in business terms, gratitude maintains its positive concept and can positively impact mutual relations and influence consumers' behaviour. This emotion may fill in the gap between regular (impersonal) transactions and developing, relationship-based exchange since understanding (cognitive component), experience (emotional component), and expression (behavioural component) may become stronger with gratitude (Raggio, 2014)

Gratuity reactions. The above-mentioned studies suggest that unlike in case of obligation or indebtedness, gratitude allows an individual to feel good psychologically in reciprocity situations but at the same time with the emotional duty to return the benefit received. Thus, although an individual may feel obligated affected by gratitude, this does not cause any discomfort and does not raise negative emotions or negative associations, therefore the individual's actions towards the benefactors are genuine and socially just. The results show that gratitude works through community (Grant et Gino, 2010) and causes a psychological pressure to return the pardon. (Palmatier et al. 2009), increases confidence in strangers (McCullough et al., 2008), encourages to reward the benefactor, even if it is costly (Bartlett et De Steno, 2006). The studies show that gratitude may successfully impact various business processes: an expressed (not just felt) gratitude triggers secondary (non-financial) exchange that can increase the probability of financial exchange (Raggio et al., 2014). The study carried out by

Tsang (2006a) revealed that grateful individuals tend to spend more money as gratitude to the benefactor. Kolyesnykova et Dodd (2008) related the intensity of this emotion with the amount of financial expenses claiming that greater gratitude encourages buyers to spend more money. According to Socia (2007), gratitude encourages positive response and repeated purchases. Morales (2005) observed that the feelings of gratitude motivate consumers to award the company by choosing that company instead of its competitors. Gratitude strengthens social relations and friendship, and develops the human ability to take care, encourages altruism, and, like other positive emotions, contribute to strengthening the relationship with time (Kashdan et al. 2009). Gratitude is related to building relations and can initiate a cycle to build relationship between the receiver and the benefactor (Algoe, 2012). Buyers have a better appreciation of the relations with the seller which promotes their loyalty (Fazal el Hasan, 2014). Affected by this emotion, people agree to short-term losses to receive a long-term benefit (Bartlett et DeSteno, 2006). Gratitude felt as an emotional component has an individual effect (Raggio, 2014), therefore the reactions to be triggered by gratitude in the trading environment may depend not only on the buyer but also on the qualities of each individual as different customers may feel a different level of gratitude for the same services (Fazal el Hasan et al., 2014).

Causes of gratitude. Sources of literature emphasise different causes triggering gratitude. Kashdan et al. (2009) claims that gratitude appears when people receive something useful or when they feel that somebody is doing them a favour or offering help. The study by Palmatier et al. (2009) revealed that the customers' understanding of about the sellers' goodwill, free will, and the intensity of the need felt by the customer towards the seller's certain behaviour very much promotes the feelings of gratitude. This means that gratitude may be triggered by a situation where the customer's problem is urgently resolved, e.g. the customer is planning a party and suddenly realises to have bought clothes in a wrong size – the buyer who delivers the right size of clothes or opens the shop for a short while will receive greater gratitude than the seller who offers to change the clothes on the following day using the policy of the shop as an excuse, (Fazan el Hasan et al., 2014). Efforts efficiently cause gratitude, (Morales, 2005), even simple common efforts such as consistency, honesty, reliability, openness, willingness to share and communicate, empathy can cause gratitude, however in business conditions, e.g. in B2B context, the partners' actions like "they gave us a second opportunity", "they opened a third shift to adapt to our needs" or meeting the terms even after changing the company's policy always raise the emotions of gratitude (Raggio, 2014). Algoe et Haidt (2009) also agree that gratitude is promoted by understanding that the benefactor reacts in view of the receiver's needs and preferences. In his later study, Algoe (2012) concluded that gratitude is related to both the benefit received and to the benefactor's evaluation, i.e. the higher price (in money) is paid by the benefactor, the greater gratitude is felt by the receiver; the higher the benefactor's efforts are perceived by the receiver, the more value is

attached to the benefit. Manipulation in goodwill successfully triggers gratitude (Tsang, 2007). McCullough et al. (2008) distinguished four types of information that cause gratitude: 1) the benefit offered is related to costs for the benefactor, 2) the benefit is valuable to the receiver, 3) intentions behind the benefit offered; 4) the extent to which the offered benefit is free of relative obligations. The study by Huang (2015) showed that exceptional behaviour and interpersonal communication positively impact the customer's gratitude. Gratitude is also affected by the public conditions, i.e. the more people see the benefit given, the more likely it is that gratitude will be rewarded (Kolyesnykova et al. 2009).

Socia (2007) observed that gratitude is triggered when the seller seeks it, however some authors emphasise that the situations of gratitude must be created with subtility. Benefits that everyone can receive or benefits that can be received as the competitors' offer do not cause much gratitude and do not require reciprocity: formal written rules or programs where customers receive a reward (e.g. airline loyalty points) will most probably not create reciprocity as the lack free will (Palmatier et al., 2009). If the act is based on the company's policy but not on the personal intention to offer benefit, this can be interpreted as the benefactor's mere concern of its business (Raggio et al. 2014). The results of the study carried out by Tsang (2006b) show that individuals feel much more gratitude if the benefactors demonstrated goodwill rather than an open (selfish) motive. If the customer knows that the seller works for commissions, the factor of goodwill suffers (Palmatier et al. 2009), also, if benefit is offered to the receiver as a repaid grace, this feeling is less likely to cause gratitude (Watkins et al. 2006). Something that is perceived as persuasion will not encourage the gratuity reaction, even in case the company's efforts are sincere (Morales, 2005).

Individuals may feel grateful not only for the benefit received but also for the intentions or perceived benefit (Raggio et al. 2014). It is important to note that the company's true motives are not relevant as the response is triggered not by the company's intentions but by the motives that are perceived by the consumers (Morales, 2005). Giving real benefit is not necessary: even in case the company gains benefit from the relationship, what is the most important is that the customer perceives it as something personally valuable (Raggio et al. 2014). In order to trigger gratitude, it is recommended that the Relationship Marketing Programs should include random or hidden elements as reference that the customers' interests are more important to the seller than the financial benefit received, i.e. the buyer should interpret that as well-intended actions (Fazal el Hassan, 2014). The study showed that sellers can enhance the customer's gratitude and loyalty by servicing their regular customers better compared to irregular customers, which can be done through warm and personal communication and by offering tangible benefits, e.g. free gifts and exceptional discount coupons to their customers (Huang, 2015). Businesses could increase the level of gratitude by giving more authorities to the employees, for example, by offering them a possibility to adapt the company's policy to the situation or event to

change the rules when the customer's problem needs to be resolved, to offer although small but exceptional services to the customers; in the ideal case, several random or selected elements should be left as very structured *quid pro quo* programs, usually integrated into total offers, lead to losing the opportunity to promote relationships (Palmatier, 2009).

CONCLUSION

The consistent methodological framework of the research fixed in the protocol helped to identify main research objectives, justifying the relationship between gratitude and loyalty. The study was divided into 5 major stages: 1) identify the instruments used for the study to measure the emotion of gratitude; 2) define the general concept of gratitude; 3) analyse actions that cause the emotion of gratitude; 4) identify gratuity reactions; 5) identify whether the emotion of gratitude may have impact on a consumer's loyalty through willingness to repay. The analysis and summary of the articles used in the systematic research analysis showed that quality of the 24 analyzed studies could be evaluated as high justifying that the research met all the evaluation criteria. The analyzed studies were from different research areas: psychology, sociology, politics, business and marketing. Furthermore, these multidisciplinary studies used different methodologies which confirmed the statistically significant direct and indirect relationship between the gratitude and willingness to pay back.

The systematic analysis revealed that the studies of the emotion of gratitude used questionnaires in most cases. The frequent use of this method can be explained by the fact that surveys require the least time resources from both researchers and respondents, also the obtained results are easier to process and interpret. Meanwhile, an experimental methodology is more complex and requires more preparation from researchers, greater involvement of respondents, and in some cases a more careful selection of respondents, also the data collected during an experiment is often more difficult to process and interpret. The analysis has revealed that to obtain more precise results of the study, some authors (e.g. Watkins et al. 2006; Tsang 2007; Kolyesnykova et al. 2011) used a mixed technique of study instruments: where e.g. questionnaires and an experiment are both used at the same time. Thereby, a direct manipulation of the respondent's emotion of gratitude allows to efficiently use various standard scales of studies, i.e. with boosted emotion of gratitude, participants answer the researcher's questions with more precision. Thus, it can be presumed that various methods can be used to study the situations of gratitude but the synergy of two or more techniques of studies produces more precise results.

The topic of gratitude is not popular in the context of marketing research studies. This can be explained by the fact that in cases where the concept of gratitude is not consistently analysed, this emotion can be assimilated with other factors that are more frequently analysed, e.g. satisfaction, reciprocity, and commitment by attributing the features of gratitude to the latter. But this analysis showed that

gratitude is a phenomenal element of emotions with unique characteristic features. Gratitude may be classified as both an emotion and behaviour but in both of these cases retains its positive concept. The analysis showed that, with few exceptions, (related to an individual's personal features or suffered diseases), gratitude always triggers positive behaviour towards the benefactor.

The scientific sources analysed in this study indicated different reasons that trigger gratitude. The stimuli of gratitude were identified as goodwill, economic value of the obtained benefit, value of the obtained benefit to the receiver in the general sense (e.g. the service was rendered at the time when the receiver needed it the most), perceived level of efforts, exceptional communication, free will, public conditions, etc. It is interesting to note that the benefactor's true intentions do not matter but his actions must be interpreted as sincere and targeted at the beneficiary's problem.

Standard marketing solutions often do not bring the expected result once the buyers realise that they appear on the loyalty programs for the seller's selfish goals. Meanwhile, manipulating the emotion of gratitude may be an effective marketing tool to enhance consumers' loyalty. The studies show that gratitude certainly promotes prosocial behavior, strengthens relations; grateful individuals tend to commit, return the obtained benefit, and demonstrate positive behavior towards the benefactor. The systematic analysis of literature showed that the emotion of gratitude may effect the consumer's loyalty through willingness to repay. However, the possibilities of using gratitude to enhance loyalty should be better analyzed since the analysis of literature shows that manipulation of gratitude requires subtlety; therefore, applying this emotion in marketing requires a well-considered approach.

LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH.

This conceptual analysis of the gratitude may be used as a theoretical basis for future studies analyzing gratitude in the commercial environment. The performed systematic analysis showed that wrong use of research methods or tools may cause negative emotions like feeling of debt, guilt, shame and commitment generating negative consumer reactions, instead of gratitude. Therefore, wider analysis of the gratitude would be help to better understand how this emotion can be used in order to generate positive consumer reactions towards the specific company. Furthermore, performed analysis revealed that each person has an individual level of gratitude. For this reason, future studies could provide insights into whether the persons with different levels of gratitude accept the coded marketing message in the same way.

REFERENCES

Ahrholdt, D. C., Gudergan, S. P. and Ringle, C. M. (2017), „Enhancing service loyalty: The roles of delight, satisfaction, and service quality“, *Journal of Travel Research*, Vol.56, No.4, pp. 436-450.

- Algoe, S.B. (2012), "Find, Remind, and Bind: The Functions of Gratitude in Everyday Relationships", *Social and Personality Psychology Compass* Vol. 6, No.6, pp. 455–469.
- Algoe, S. B. and Haidt, J. (2009), "Witnessing excellence in action: The "other-praising" emotions of elevation, gratitude, and admiration", *Journal of Positive Psychology*, 4, pp.105–127.
- Bartlett, M. Y. and DeSteno, D. (2006), "Gratitude and prosocial behavior", *Psychological Science*, 17, April, pp. 319-25.
- Bock, D.E., Folsch, J.A.G. and Black, W.C. (2016). „Gratitude in service encounters: implications for building loyalty“. *Journal of Services Marketing*, Vol. 30, No. 3, pp. 341-358.
- Chiguvi, D. and Guruwo, P. T. (2017) "Impact of Customer Satisfaction on Customer Loyalty in the Banking Sector", *International Journal of Scientific Engineering and Research*, Vol. 5 No.2, pp. 55-63.
- DeSteno, D., Bartlett, M., Bauman, J. and Williams, L. (2010) "Gratitude as Moral Sentiment: Emotion-Guided Cooperation in Economic Exchange", *American Psychological Association, Emotion*, Vol. 10, No. 2, 289–293.
- Emmons, R.E. and McCullough, M.E. (2003) "Counting Blessings Versus Burdens: An Experimental Investigation of Gratitude and Subjective Well-Being in Daily Life", *Journal of Personality and Social Psychology* Copyright by the American Psychological Association, Vol. 84, No. 2, 377–389.
- Fazal e Hasan, S., Lings, I. N., Neale, L. and Mortimer, G. (2014) "The role of customer gratitude in making relationship marketing investments successful", *Journal of Retailing and Consumer Services*, Vol.21, No.5, pp. 788-796.
- Grant, A. and Gino, F. (2010) "A Little Thanks Goes a Long Way: Explaining Why Gratitude Expressions Motivate Prosocial Behavior", *Journal of Personality and Social Psychology*, Vol. 98, No. 6, pp. 946–955.
- Huang, M.H. (2015) "The influence of relationship marketing investments on customer gratitude in retailing", *Journal of Business Research* Vol. 68, pp. 1318–1323.
- Jani, D., and Han, H. (2014). „Personality, satisfaction, image, ambience, and loyalty: Testing their relationships in the hotel industry“. *International Journal of Hospitality Management*, Vol.37, pp.11-20.
- Kandampully, J., Zhang, T. and Bilgihan, A. (2015). „Customer loyalty: a review and future directions with a special focus on the hospitality industry“. *International Journal of Contemporary Hospitality Management*, Vol. 27, No.3, pp. 379-414.
- Kashdan, T., Mishra, A., Breen, W. and Froh, J. (2009). Gender Differences in Gratitude: Examining Appraisals, Narratives, the Willingness to Express Emotions, and Changes in Psychological Needs. *Journal of personality* Vol.77, pp. 691-730.
- Kim, S. and Lee, J. S. (2013). „Is satisfaction enough to ensure reciprocity with upscale restaurants? The role of gratitude relative to satisfaction“. *International Journal of Hospitality Management*, Vol. 33, pp. 118-128.
- Kolyesnikova N. and Dodd T.H., (2008) "Effects of winery visitor group size on gratitude and obligation", *Journal of Travel Research*, Vol. 47, No.1, pp.104 –112.
- Kolyesnikova N., Dodd S.L. and Callison C., (2011) "Consumer affective responses to direct mail messages: The effect of gratitude and obligation", *Journal of Marketing Communications*, Vol. 17, No. 5, pp. 337–353.
- Kolyesnykova, N., Dodd, T. and Wilcox, J. (2009) "Gender as a Moderator of Reciprocal Consumer Behavior", *Journal of Consumer Marketing*, Vol.26 No.3, pp. 200 – 213.
- Kumar, V., Dalla Pozza, I. and Ganesh, J. (2013). „Revisiting the satisfaction–loyalty relationship: empirical generalizations and directions for future research“, *Journal of Retailing*, Vol.89, No.3, pp. 246-262.
- McCullough, M.E, Emmons, R., Kilpatrick, S.D. and Larson D.B (2001) "Is gratitude a moral affect", *Psychological Bulletin*, Vol. 127, No 2, pp. 249-266.
- McCullough, M.E., Kimeldorf M.B. and Cohen A.D. (2008) "An Adaptation for Altruism? The Social Causes, Social Effects, and Social Evolution of Gratitude", *Association for Psychological Science*, Vol. 17. No. 4.
- McCullough, M.E., Tsang, J.A. and Emmons, R. (2004) "Gratitude in Intermediate Affective Terrain: Links of Grateful Moods to Individual Differences and Daily Emotional Experience", *Journal of Personality and Social Psychology*, Vol. 86, No. 2, pp. 295–309.
- Morales A.C. (2005) "Giving Firms an "E" for Effort: Consumer Responses to High-Effort Firms", *Journal of Consumer Research*, Vol. 31, No. 4, pp. 806-812.
- Palmatier, R.W, Jarvis, Ch.B, Beckhoff, J. and Kardes, F. (2009) "The Role of Customer Gratitude in Relationship Marketing", *Journal of Marketing*, Vol. 73, pp.1–18 .
- Pan, Y., Sheng, S., and Xie, F.T. (2012). „Antecedents of customer loyalty: An empirical synthesis and reexamination“. *Journal of retailing and consumer services*, Vol.19, No.1, pp. 150-158.
- Picon, A., Castro, I., and Roldan, J. L. (2014). „The relationship between satisfaction and loyalty: A mediator analysis“. *Journal of Business Research*, Vol.67, No.5, pp. 746-751.

- Randle, D., Raggio, A.M., Walz, Mosumi B.G., and Folsø J.A. (2014) "Gratitude in relationship marketing: Theoretical development and directions for future research", *European Journal of Marketing*, Vol. 48 No.1/2, pp.2-24.
- Schirmer, N., Ringle, C. M., Gudergan, S. P., and Feistel, M. S. (2018), The link between customer satisfaction and loyalty: the moderating role of customer characteristics. *Journal of Strategic Marketing*, 26(4), 298-317.
- Schirmer, N., Ringle, C. M., Gudergan, S. P., and Feistel, M. S. (2018), „The link between customer satisfaction and loyalty: the moderating role of customer characteristics“. *Journal of Strategic Marketing*, Vo.26 No.4, pp.298-317.
- Socia, I. (2007) "Gratitude, Delight, or Guilt: The Role of Consumers' Emotions in Predicting Postconsumption Behaviors", *Psychology and Marketing*, Vol. 24, No.10, pp. 871–894.
- Tanford, S. (2016), „Antecedents and outcomes of hospitality loyalty: A meta-analysis“, *Cornell Hospitality Quarterly*, Vol.57, No.2, pp.122-137.
- Tsang J. (2007), "Gratitude for small and large favors: A behavioral test", *Journal of Positive Psychology*, Vol.2 No.3, pp. 157–167.
- Tsang, J.A. 2006 (a) "Gratitude and prosocial behaviour: An experimental test of gratitude", *Cognition and emotion* Vol.20, No. 1., pp. 138-148.
- Tsang, J.A. (2006) (b) „The Effects of Helper Intention on Gratitude and Indebtedness“. *Motivation and Emotion*, Vol. 30. pp.198-204.
- Wang, D., Zha, Y., Bi, G., & Chen, Y. (2018). A meta-analysis of satisfaction-loyalty relationship in E-commerce: sample and measurement characteristics as moderators. *Wireless Personal Communications*, 1-22.
- Watkins, P.C., Scheer, J., Ovnicek, M., Kolts, R. (2006) "The debt of gratitude: Dissociating gratitude and indebtedness", *Cognition and emotion*, Vol.20, No.2, pp. 217- 241.
- Watkins, P.C., Woodward, K., Stone, T., Kolts, R. (2003) "Gratitude and happiness: development of a measure of gratitude, and relationships with subjective well-being", *Social behavior and personality*, Vol. 31 No.5, pp. 431-452 .
- Wood A.M, Joseph S., Maltby J. (2009) "Gratitude predicts psychological well-being above the Big Five facets", *Personality and Individual Differences*, Vol.46, pp. 443-447.
- Wood A.M, Stewart, Stewart N., Matby J., Linley.P.A. (2008), "A Social–Cognitive Model of Trait and State Levels of Gratitude", *Emotion*, Vol. 8, No. 2, pp. 281–290.

CASH HOLDINGS, CORPORATE PERFORMANCE AND VIABILITY OF GREEK SMES

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ABSTRACT

Cash management and cash holdings have been examined in the literature as a crucial issue for corporate sustainability. Several theories have been developed trying to explain the corporate decisions on cash holdings. The scope of this study is to shed further light on this issue by examining the impact of cash holdings on the financial performance and viability of Greek corporations before and after the Greek sovereign debt crisis. We collected a large sample from Small-Medium Enterprises (SMEs) and a comparable sample from large firms operating in Greece during the period 2003-2016. Panel regression results indicated that cash holdings contribute positively to the profitability and viability of firms validating the precautionary theory of cash holdings in Greece. Before the crisis, SMEs and large firms both benefited significantly by cash holdings but after the crisis that positive impact of cash is more evident and significant for SMEs. These findings corroborate our hypotheses that during a period of limited lending (and hence financial turmoil), cash holdings (and effective cash management) could be a vital tool for sustaining SMEs viability and financial performance. The study offers useful managerial implications and contributes to the ongoing debate about the impact of cash holdings on corporate performance.

Keywords: SMEs, Cash holdings, Profitability, Viability, Greece, Crisis.

INTRODUCTION

Cash holding decisions have been considered extensively by previous studies on the field of working capital management as a mean to alleviate day-to-day operations, take advantage of investment opportunities and even overcome harsh financial conditions (Opler et al., 1999; Ozkan and Ozkan, 2004; La Rocca et al., 2018; Martínez-Sola et al., 2018). The literature on liquidity management documents that there are mainly two reasons that firms hold cash. The first reason is the transactional motive which dictates that cash holding aims at reducing transactional costs via cash payments without having to resort to external financing or liquidation of assets, both of these yield significant costs to the firm (Han and Qiu, 2007; Martínez-Sola et al., 2018). The other reason is the

precautionary motive which suggests that firms collect cash in order to cover unexpected contingencies and events. This stockpile may assist firms to overcome financing difficulties, avoid overdue payables and finance investment opportunities when they arise (Han and Qiu, 2007) even during periods of financial troubles.

In the case of smaller firms (Small-Medium Enterprises - SMEs for example), the precautionary motive for cash holding decisions is more prevalent, since SMEs face more financial frictions, have less assets, are more vulnerable to financial turmoil and face higher restrictions in financing either from money and capital markets (Almeida et al., 2004; Dewally et al., 2013; Gao et al., 2013). Also, La Rocca et al. (2018) documented that European firms that piled more cash before the crisis period were able to sustain and even improve their profitability during the European financial crisis.

The scope of this study is to shed further light on the impact of cash holding decisions on the financial performance and viability of SMEs versus large firms in Greece by considering that relation before and after the Greek sovereign debt crisis. According to a recent report by the Association of Enterprises and Industries - AEI (2017), SMEs employ the majority of the working force in the country (more than 80 per cent) and contribute significantly to the GDP (19.3 per cent net added value to the GDP in 2014). The reports by the AEI (2017) and the Economic Chamber of Greece (2018), point that access to financing was the top issue facing by SMEs during the period 2014-2017, 76 per cent of them did not raise new financing since the 65 per cent of the SMEs experienced a deteriorating or at best a stable profitability. To our knowledge, this is the first study considering the relation between cash holding and corporate performance within an economy with a majority of SMEs and facing a long-term financial crisis.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The precautionary motive of holding cash originates in the trade-off theory and suggests that cash in hand allows greater flexibility to managers and makes them able to finance potential value-enhancing investment projects when they arise or they can compete effectively with their competitors in the market. Recent empirical evidence suggests that the cash holdings impact positively on firm performance especially during periods of market imperfections. La Rocca et al. (2018) examined a sample of European firms over the period 2007-2015 and documented a positive impact of cash holdings on financial performance. Thus, firms were CFOs were able to stockpile cash were able to adhere to hearse financial conditions, take advantage of investment opportunities and further improve corporate value and profitability. Similar evidence have been provided by Dewally et al.

(2013) and Martínez-Sola et al. (2018). Thus, based on the previous discussion we can form the first hypothesis as follows:

H1: Cash holdings will have a positive impact of corporate financial performance.

The impact of cash on financial performance can be distinct based on the size of the firm. Typically, SMEs are facing higher information asymmetries and more difficulties on raising external funds and even if they can raise external funds those are associated with higher interest costs, thus they are inclined to use and hold more cash as a tool to sustain their financial viability (La Rocca et al., 2018; Pinkowitz et al., 2006). Empirical evidence from Ozkan and Ozkan (2004), Faulkender (2002) and Martínez-Sola et al. (2018) document that small firm's hold more cash since they are likely to be less diversified and more probable to experience financial distress. These characteristics lead smaller firms to hold more cash since they are not able to obtain credit in the market due to higher probability of bankruptcy and higher risk. Therefore, based on the abovementioned discussion we formulate the second research hypothesis as follows:

H2: The positive impact of cash holding on corporate financial performance will be more significant for SMEs relative to large firms.

The recent global financial crisis of 2007-2008 and the subsequent Greek sovereign debt crisis may also have affected the firm's cash levels and their decisions on cash holdings. The recession in the Greek economy resulted in a significant reduction of bank lending, leading to firms' inability to repay obligations, debt and even sustain their short-term viability. Especially, SMEs were even more vulnerable on the shock of the recent crisis. Since the majority of SMEs in Greece were financed by banking institutions, the reduction of bank lending had an immediate impact on their cash holding decisions. La Rocca et al. (2018) documented that during the financial crisis SMEs in Europe reduced their cash holdings (mainly because of their inability to lend) in order to address transactions, adhere to opportunities, a decision which had a further positive impact on their profitability. Thus, the precautionary motive of cash holding proved crucial during the crisis since it allowed cash-rich SMEs to survive the financial turmoil. Consequently, we state the third research hypothesis as follows:

H3: The positive impact of cash holding on corporate financial performance will be more significant for SMEs during the debt crisis period, relative to large firms.

DATA SELECTION PROCEDURE AND RESEARCH DESIGN

Data used in this study include non-financial firms which according to the Greek Law are obliged to prepare individual financial statements under Greek GAAP or IFRS. The sample period is divided into two sub-periods before the Greek sovereign debt crisis (from 2003 to 2010) and during the crisis period (2011 to 2016). All financial data were collected from the ICAP database. The final

unbalanced sample that was utilized in the analysis consists of 16,076 firm-year observations. In order to test the three research hypotheses and examine the impact of cash holding on corporate performance and viability, we will estimate the following panel fixed effect regression model where i denotes the firm and t the year and e is the error term:

$$FP_{it} = a_0 + a_1CRISIS_{it} + a_2CASH_{it} + a_3CRISIS_{it}*CASH_{it} + a_4SIZE_{it} + a_5LEV_{it} + a_6GROWTH_{it} + a_7NWC_{it} + a_8TANG_{it} + a_9CFO_{it} + a_{10}FIR_DIV_{it} + Year\ F.E + Industry\ F.E. + e_{it} \quad (1)$$

The dependent variable FP denotes the corporate financial performance. Following previous studies by La Rocca et al. (2018) and Martínez-Sola et al. (2018), we use two measures of financial performance, the return on assets (ROA) estimated as the ratio of earnings before interest and taxes (EBIT) to total assets which captures firms' profitability and the second measure is the Altman Z-score for private firms (Altman, 2000) capturing the likelihood of financial distress. This variable is estimated as: $Z\text{-Score} = 0.717*X_1 + 0.847*X_2 + 3.107*X_3 + 0.420*X_4 + 0.998*X_5$, where X_1 = working capital/total assets, X_2 = retained earnings/total assets, X_3 = net operating profits/total assets, X_4 = book value of equity/book value of debt and X_5 = sales/total assets. A Z-score above 2.9 indicates that the company is deemed safe, while a value below 1.23 indicates that the firm faces a high likelihood of financial distress. In other words, the higher the Z-score the more viable the firm. The CASH variable is the ratio of cash items and cash equivalents to total assets and CRISIS is a dummy variable receiving unity (1) for the Greek sovereign debt crisis period (2011-2016) and zero (0) for the pre-crisis period. Model (1) includes other control variables along with firm and year fixed effects in order to capture any impact on the regression model attributed to specific industry and annual characteristics. Model (1) will be estimated using the panel fixed effect estimation method.

EMPIRICAL RESULTS

Table 1, Panels A and B present the descriptive statistics of the sample variables for the full period as well as for the pre and post crisis periods and also after separating the sample firms between SMEs and large firms. On average the viability and profitability of sample firms improved after the crisis period since both the Z-score and ROA present a relative increase. SMEs on average present higher profitability (positive average ROA of 0.08) relative to large firms where the respective figure is negative. Moreover, CASH comprises almost the 15 per cent of total assets and this figure seem to be rather stable before and after the crisis and between SMEs and large firms. Also, LEV has increased slightly after the crisis period which is expected by the hearse financial conditions, but both SMEs and large firms finance their assets by 22 per cent from long term liabilities. In addition, GROWTH and NWC have been reduced after the crisis indicating a reduction of sale revenues and liquid assets. The same stands for dividends and tangible assets since both those variables were lower in average in the

post crisis period. Finally, SMEs seem to have on average more positive operating cash flows relative to larger firms and this is the reason why SMEs have more liquid assets since they are able to finance daily operation easily even in periods of reduced bank lending.

Table 2 presents the panel regression results from the estimation of model (1) using ROA as the dependent variable. Regarding the full sample estimation, CASH produced a positive and significant coefficient (0.043) corroborating our first hypothesis and verifies the precautionary motive of cash holdings evidenced also by previous studies (Denis and Sibilkov, 2010; La Rocca et al., 2012; 2018). Also the interaction term CRISIS*CASH produced a positive and significant coefficient (though of smaller size compared to the CASH coefficient) suggesting that even after the crisis cash holding can assist firms to survive the financial turmoil by increasing their spending on investments, a fact that is even more important during periods of financial crisis. This result is in line with evidence by La Rocca et al. (2018) and verifies our third research hypothesis (H3).

The second and third columns of Table 2 present the re-estimation of model (1) separating sample firms between SMEs and Large enterprises. The variables under interest CASH and CRISIS*CASH both produced positive and statistically significant coefficients for SMEs while on the contrary they were insignificant for the comparable sub-sample of large firms. These evidence verify H2 and H3 and are in line with previous studies from Ozkan and Ozkan (2004), Faulkender (2002) and Martínez-Sola et al. (2018) and suggest that SMEs hold more cash because they are not able to obtain credit in the market due to higher probability of bankruptcy and higher risk thus cash holdings are more valuable for SMEs relative to large firms.

Variables	FULL SAMPLE				PRE-CRISIS				POST-CRISIS			
	MEA N	ST.DE V.	MI N	MAX	MEA N	ST.DE V.	MI N	MAX	MEA N	ST.DE V.	MI N	MAX
ALTMAN	212.60	62.09	-	316.07	79.17	95.53	-	271.38	332.55	85.09	-	316.07
ROA	0.07	9.07	-	23.42	0.03	5.81	-	4.56	0.11	11.21	-	23.42
CASH	0.15	0.19	0.01	0.49	0.15	0.19	0.01	0.49	0.16	0.19	0.01	0.10
SIZE	14.10	1.69	1.00	25.32	14.20	1.56	1.00	25.25	14.03	1.77	1.53	25.32
LEV	0.22	0.54	0.00	0.74	0.20	0.56	0.10	0.45	0.23	0.53	0.00	0.74
GROWTH	-0.05	3.82	-	16.69	0.02	2.06	-	7.10	-0.11	4.62	-	16.69
NWC	0.09	0.04	-	0.15	0.11	0.03	-	0.14	0.08	0.05	-	0.15
TANG	0.31	0.29	0.00	0.83	0.32	0.29	0.01	0.83	0.31	0.30	0.00	0.61
CFO	0.07	7.19	-	18.41	0.05	3.27	-	18.41	0.08	9.46	-	18.29
FIR_DIV	0.86	13.02	0.01	13.57	0.74	5.44	0.01	7.52	0.01	20.74	0.00	13.57

Table 1, Panel A: Descriptive statistics of full sample variables, before and after the Greek debt crisis.

Variables	SMEs				LARGE FIRMS			
	MEAN	ST.DEV.	MIN	MAX	MEAN	ST.DEV.	MIN	MAX
ALTMAN	202.93	62.82	-19.02	316.07	515.83	29.39	-3.15	271.38
ROA	0.08	8.35	-3.42	23.42	-0.27	22.44	-20.68	2.16
CASH	0.15	0.19	0.01	0.15	0.15	0.24	0.01	0.49
SIZE	14.00	1.43	1.00	17.57	14.59	2.52	1.53	25.32
LEV	0.22	0.36	0.01	0.58	0.22	0.88	0.00	0.74
GROWTH	-0.07	4.09	-13.41	16.69	0.02	1.49	-2.13	8.16
NWC	0.10	3.42	-0.14	0.15	0.003	13.26	-0.12	0.03
TANG	0.31	0.29	0.00	0.83	0.37	0.32	0.00	0.74
CFO	0.07	6.95	-21.39	18.41	-0.12	12.63	-11.34	7.47
FIR_DIV	0.87	13.20	0.00	13.57	0.66	3.21	0.01	12.52

Table 1, Panel B: Descriptive statistics of sample variables, between SMEs and Large firms.

The last Table 3 presents the panel regression results from the estimation of model (1) using Altman Z-Score as the dependent variable. Regarding the full sample estimation, the CASH coefficient remains positive and highly significant verifying again the first hypothesis and suggests that firms holding more cash can improve their financial viability and reduce their distress risk. The same stands for the coefficients between SMEs and Large firms. However, the interaction coefficient CRISIS*CASH was insignificant for the full sample estimation and for the large firms sub-sample, but is positive and significant for SMEs. These findings again provide support for hypotheses H2 and H3 and document that SMEs which hold more cash on their assets could reduce their distress risk even during the crisis since they are able to finance daily operations and take advantage of investment opportunities.

CONCLUSIONS

In this study we aimed to analyse the way cash holdings impact on the profitability and distress risk of SMEs operating within a severe financial crisis environment characterized by reduced lending and investment opportunities. Empirical evidence verified all of the research hypotheses and indicated that cash holding impact positively on profitability and viability of SMEs, corroborating the precautionary motive of cash holdings (Martínez-Sola et al., 2018; La Rocca et al., 2018). Also, evidence suggest that the positive impact of cash holding on corporate financial performance is more significant for SMEs relative to large firms, especially during the sovereign debt crisis period. The findings of this study could be proved useful to managers and owners of SMEs. Holding a stock of cash and their equivalents is a valuable strategy for sustaining the ability of SMEs to finance daily operations and repay overdue obligations. Cash holdings are valuable for SMEs because they are financially constrained firms facing difficulties to raise credit and thus cash reserves provides them with the desired liquidity without having to liquidate assets or being forced to raise capital with higher costs.

REFERENCES

- Association of Enterprises and Industries - AEI (2017), "The Small-Medium Enterprises in Greece: Part I Contribution to the economy, development and challenges", Athens 2017 (in Greek).
- Almeida, H., Campello, M. and Weisbach, M.S. (2004), "The cash flow sensitivity of cash", *The Journal of Finance*, Vol. 59, No. 4, pp. 1777-1804.
- Altman, E. (2000), "Predicting financial distress of companies: Revisiting the Z-score and ZETA models", unpublished manuscript, NYU, New York.
- Campello, M., Graham, J.R. and Harvey, R.C. (2010), "The real effects of financial constraints: Evidence from a financial crisis", *Journal of Financial Economics*, Vol. 79, pp. 470-487.
- Denis, D.J. and Sibilkov, V. (2010), "Financial constraints, investment and the value of cash holdings", *Review of Financial Studies*, Vol. 23, pp. 247-269.
- Dewally, M., Shao, Y. and Singer, D. (2013), "The liquidity crisis: evidence from the US hospitality industry", *Tourism Economics*, Vol. 19, No. 3, pp. 545-563.
- Economic Chamber of Greece (2018), "Research of the Economic chamber of Greece on issuing new loans", *Economic Chronicles*, 4th semester of 2018, pp. 28-29.
- Faulkender, M.W. (2002), "Cash holdings among small businesses", Working paper SSRN, available at: <https://ssrn.com/abstract=305179>.
- Gao, H., Harford, J. and Li, K. (2013), "Determinants of corporate cash policy: Insights from private firms", *Journal of Financial Economics*, Vol. 109, pp. 623-639.
- Han, S. and Qiu, J. (2007), "Corporate precautionary cash holdings", *Journal of Corporate Finance*, Vol. 13, No. 1, pp. 43-57.
- La Rocca, M., La Rocca, T., Staglianó, R. and Cariola, A. (2012), "Detenere liquidità genera valore? Benefici, costi ed evidenze dall'Italia", *Economia & Management*, Vol. 2, pp. 73-90.
- La Rocca, M., Staglianó, R., La Rocca, T., Cariola, A. and Skatova, E. (2018), "Cash holdings and SME performance in Europe: the role of firm-specific and macroeconomic moderators", *Small Business Economics*, <https://doi.org/10.1007/s11187-018-0100-y>.
- Martínez-Sola, C., García-Teruel, P.J. and Martínez-Solano, P. (2018), "Cash holdings in SMEs: speed of adjustment, growth and financing", *Small Business Economics*, Vol. 51, pp. 823-842.
- Opler, T., Pinkowitz, L., Stulz, R. and Williamson, R. (1999), "The determinants and implications of corporate cash holdings", *Journal of Financial Economics*, Vol. 52, pp. 3-46.
- Ozkan, A. and Ozkan, N. (2004), "Corporate cash holdings: an empirical investigation of UK companies", *Journal of Banking and Finance*, Vol. 28, No. 9, pp. 2103-2134.
- Pinkowitz, L., Stulz, R. and Williamson, R. (2006), "Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis" *The Journal of Finance*, Vol. 61, No. 6, pp. 2725-2751.

Variables	FULL SAMPLE			SMEs			LARGE FIRMS		
	Coef.	t-test	p-value	Coef.	t-test	p-value	Coef.	t-test	p-value
Constant	0.193***	15.45	0.001	0.207***	14.14	0.001	0.184**	2.27	0.023
CRISIS	-0.003*	-1.79	0.074	-0.002	-1.55	0.122	-0.001	-0.24	0.808
CASH	0.043***	2.66	0.008	0.040**	2.36	0.019	0.141	1.35	0.176
CRISIS*CASH	0.024*	1.83	0.068	0.028**	2.06	0.040	-0.175	-1.40	0.162
SIZE	-0.006***	-7.98	0.001	-0.007***	-7.62	0.001	-0.006	-1.49	0.136
LEV	0.006	1.34	0.181	0.009*	1.79	0.074	-0.053**	-2.55	0.011
GROWTH	0.039***	10.63	0.001	0.039***	10.39	0.001	0.034***	3.31	0.001
NWC	-0.009**	-2.05	0.040	-0.012***	-2.62	0.009	0.049**	2.36	0.019
TANG	-0.069***	-14.98	0.001	-0.071***	-14.94	0.001	-0.032**	-2.44	0.015
CFO	0.217***	6.04	0.001	0.216***	5.77	0.001	0.228***	4.08	0.001
FIR_DIV	-0.001	-1.35	0.177	-0.001	-1.34	0.182	-0.001	-0.09	0.929
F-Stat	94.58***			90.84***			8.89***		
R2	0.231			0.232			0.269		
Observations	16076			15351			725		

Table 2: Panel regression results on the impact of cash holdings on financial performance, between SMEs and large firms.

***, **, * indicate statistical significance at the 1%, 5% and 10% significance level respectively. Dependent variable ROA.

Variables	FULL SAMPLE			SMEs			LARGE FIRMS		
	Coef.	t-test	p-value	Coef.	t-test	p-value	Coef.	t-test	p-value
Constant	-3.267**	-2.37	0.018	-0.078	-0.26	0.793	-46.344*	-1.91	0.056
CRISIS	0.077	1.31	0.190	0.137**	2.53	0.011	0.937	0.80	0.427
CASH	1.974***	3.75	0.001	1.044***	4.41	0.001	31.152*	1.65	0.100
CRISIS*CASH	-0.720	-1.22	0.222	0.051*	1.86	0.058	-40.238	-1.54	0.124
SIZE	0.191**	2.31	0.021	-0.007	-0.39	0.696	2.541**	1.96	0.050
LEV	-8.454***	-31.51	0.001	-8.128***	-43.85	0.001	-17.134***	-3.32	0.001
GROWTH	0.088	0.83	0.406	0.254***	6.87	0.001	-2.571	-1.59	0.112
NWC	13.95***	31.88	0.001	13.326***	79.79	0.001	23.45***	3.87	0.001
TANG	7.052***	34.34	0.001	6.820***	41.56	0.001	5.767**	2.48	0.013
CFO	1.335*	1.84	0.066	0.768**	2.42	0.016	10.467	0.69	0.490
FIR_DIV	0.001	0.34	0.732	0.002	0.48	0.629	-0.103	-0.22	0.828
F-Stat	709.31***			974.54***			9.51***		
R2	0.433			0.583			0.294		
Observations	16076			15351			725		

Table 3: Panel regression results on the impact of cash holdings on viability, between SMEs and large firms.

***, **, * indicate statistical significance at the 1%, 5% and 10% significance level respectively. Dependent variable ALTMAN Z-score.

A CONTEMPORARY SPORT SPONSORSHIP EFFECTIVENESS MODEL: SCALE DEVELOPMENT AND VALIDATION

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ABSTRACT

Sport sponsorship is one of the most rapidly developing means of marketing communication, and its development rate has surpassed conventional media advertising as well as promotion of sales. Corporations, on a global scale, are likely to pay out \$65.8 billion on sponsorship contracts in the year 2018 of which the largest share of funds will be spent on sports, in accordance with data provided by the world advertising research center (Handley, 2018).

Nevertheless, in spite of the substantial increase in sport sponsorship and its marketing ramifications, not much is known with regard to its effectiveness as a vehicle for marketing. The present research attempts to reveal which determinants impact sport sponsorship efficacy by proposing a theoretical model as well as to create a reliable and valid measurement scale for application in this field.

For the scope of the present research, a quantitative method was employed for scale development & validation, and a total of 3,434 questionnaires were gathered and examined by means of SPSS and AMOS. The reliability and validity of the developed dimensions of sponsorship efficacy were substantiated by the empirical examination of the theoretical model identifying the structural correlation between the proposed determinants.

Keywords: sponsorship, awareness, attitude, purchasing intentions, word-of-mouth, scale development, sport marketing.

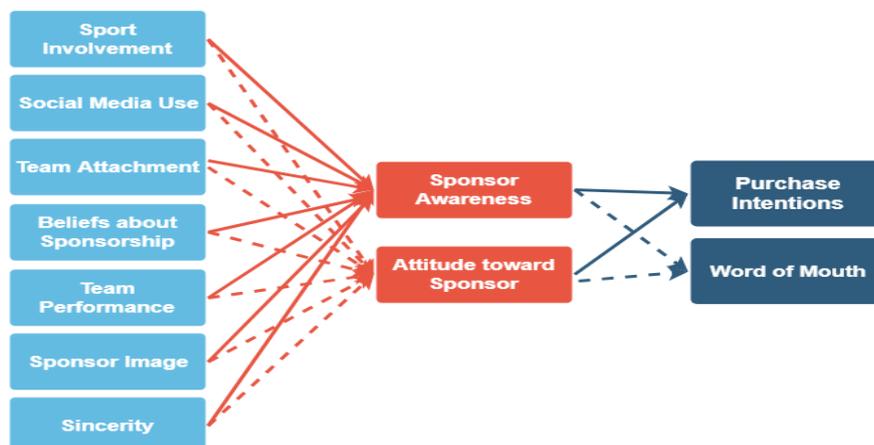
INTRODUCTION

Sport sponsorship is one of the most rapidly developing means of marketing communication, and its development rate has surpassed conventional media advertising as well as promotion of sales. Even though past research has concentrated independently of the antecedents impacting sponsorship awareness or the correlation between sponsorship and buying aims (Biscaia et al., 2017), so far neither has an all-inclusive model nor a reliable and valid measurement scale been created which combines these aspects in order to offer a detailed comprehension of the determinants which affect the efficacy of

sponsorship. This research attempts to reveal which determinants impact sports sponsorship efficacy as well as to create a reliable and valid measurement scale for implementation in this field.

THEORETICAL BACKGROUND

Sponsorship assessment is the subject of controversy in the literature, with the implication that present methods do not deal with or comprehend the full impact of activities related to sponsorship. The primary aspects of this research's model are the supporters' awareness of and attitudes toward official sponsoring companies, which includes their impact on fans' buying and word-of-mouth aims. In addition, the current research tried to explore the role of important predecessors, for instance, fans' involvement with sport (Gwinner & Swanson, 2003), fans utilization of social media (Eagleman and Krohn, 2012), sponsoring companies' anticipated sincerity (Olson, 2010), fans' degree of attachment with their sports club (Madrigal, 2001) in addition to their beliefs regarding sponsorship in general, the influence of team's performance as well as the sponsors' image (Walraven, 2013).. The above antecedents play significant part in increasing sponsorship effectiveness, which is displayed through a series of responses which, more often than not, starts with sponsorship identification and ultimately leads to increases in the purchasing of sponsoring companies' commodities, together with favorable word-of-mouth aims about them. Based on the previous discussion, the present study proposes a newly developed model in addition to reliable, valid as well as generalizable scale for sponsorship research that is based on a composite of the literature. Thus, the following model is proposed:



METHODOLOGY & RESULTS

The process of the present study is in accordance with Churchill's (1979) method for creating scales of multiple item marketing frameworks. A questionnaire was employed so as to gather data and was founded upon past studies which included specific sponsorship assessment determinants. Various

existing scales were employed so as to assist in defining the items of measurement in each determinant, but were changed and/or adjusted appropriately.

In order to create a sufficient pool of items which reflect the determinants impacting the efficiency of sport sponsorship, a comprehensive literature review as well as interviews of a semi-formal nature with knowledgeable individuals were carried out as a field test. The instrument was edited on the basis of feedback received from these experts. If items were recognized as being valid by the expert panel at the percentage of 75%, they were retained. This led to a first sample (6-10 items for each determinant), comprising items that were worded in both a positive and negative way. Then, eight experts (PhD students, researchers, professors) in the fields of sport services, sport marketing and buying behavior were identified and whom half (4) were requested to employ their expertise to offer further items for each determinant. A bank of 50 items (2 each factor contain from 1 to 9 items) was provided via this exercise.

The rest of the experts (4) were requested to go over the list of items which had been created and assess how pertinent they believed each of these items to be in regard to what it was meant to measure. This procedure led to a reduction in the number of items to 43. These 43 items were, in turn, incorporated in a questionnaire which was to be distributed at the purification stage.

Each of the items was arranged in a 5 point (completely agreed to completely disagree) Likert type scale. Items which reflected the 10 determinants were incorporated randomly. The questionnaire was administered to 100 students taking courses in sports management at an undergraduate level (Study 1). The final development sample size comprised 82 respondents (rate of response 82%). Exploratory factor analysis (EFA) and reliability analysis were performed in order to investigate the factorial structure of the questionnaire (Thompson, 2004). Investigation of whether the data is suitable for factor analysis include the measure of Kaiser-Meyer-Olkin's (KMO) and the Bartlett Sphericity Test. Moreover, rotation of axes was performed using Varimax method. Also, the reliability of exported factors evaluated by Cronbach α coefficient. These analyses revealed a ten-factor solution and resulted in a reduced scale of 38 items (1 to 9 items per factor). The final factor analysis explained 67.52% of the total variance.

Sport Involvement (Attraction)
Football is very important to me
Most of my friends are in some way connected with football
To me, there is no other sport like football
I think about football all of the time
Sport Involvement (Centrality)
Watching football games is one of the most enjoyable activities
I watch football whenever I can attending sporting events
I like viewing sport on TV

Team attachment
I feel like I am a member of the football team
The team is important part of my life
I want others to know I am a fan of the team
I believe that I work for the good of the team
I feel connected to my team
I feel I am part of my team
I feel like I am a 'real' fan of the team
It is important for me to be a fan of my team
I would experience a loss if I had to stop being a fan of my team
Awareness
Participants were asked to name, without any cues, the official sponsors <team name>
A list of brand names was used to assess recognition.
Beliefs of Sponsor
Sponsorship offers valuable financial support to football teams
Sponsorship helps teams to be successful.
Attitude Toward Sponsor
Due the particular sponsorship, I like more the products of the sponsor
I have a positive attitude toward the sponsors and their products, due to their sponsorship to my team.
The sponsorship improves my perceptions about the team sponsors and their products
Purchase Intention
"Will certainly buy products from the sponsor".
How likely it was that they would "Consider buying products from the sponsor,
Sponsor Image
Sponsors are involved in the community
Sponsors have good products/services
Sponsors only want to make money
Sponsors respond to consumer needs
I have a positive attitude toward the sponsor and its products due to the team sponsorship
The sponsorship improves my perceptions about the team sponsor and its products
Sincerity
This sponsor would be likely to have the best interests of the sport at heart.
The main reason the sponsor would be involved in the event is because the sponsor believes the event deserves support.
The sport would benefit from this sponsorship at the grassroots level.
Team Performance
I am delighted with the performance of my favorite team in the last competitions
I'm happy with the current performance of my favorite team
I appreciate that my favorite team will do well in the World Cup of Russia
Word of Mouth
How likely it was that they would "Recommend sponsor's products to others."

Table1: Sponsorship Effectiveness Factors & Items

Confirmatory analysis-assessment of the Latent structure

The question employed in this research consisted of the 38 item sponsorship efficiency scale as well as measures of a number of determinants, which were integrated in order to assess the validity of the scale. Questionnaires were collected from individuals of Greek descent who spectated the FIFA World Cup Russia 2018. These individuals were requested to complete a web-based survey, with the aid of a well-known sports website that encouraged visitors that watched the world cup to take part in the specific survey (Study 2). 3,434 questionnaires, in total, were completed with success and were then analyzed by means of SPSS and AMOS.

Dimensionality analysis was performed using confirmatory factor analysis (CFA) and explanatory factor analysis (EFA). Confirmatory factor analysis is a special statistical method of structural data processing that is used to determine the Goodness of Fit Index - GFI between an already fully formed and factorially structured model.

The general indicators of good adaptation studied were: the index χ^2 , Root Mean Square Error (RMSE) and Comparative Fit Index (CFI). If it emerges that χ^2 (χ^2/df) degrees of freedom with ratio <2.0 , RMSEA <0.1 and CFI >0.90 (Lomax and Schumacker, 2013) an acceptable adaptation is shown. Finally, in order to investigate the hypothesis presented in previous section, a Structural Equation Modeling (SEM) was used. In order to evaluate the proposed model a specific process was followed and the appropriate indicators were examined: Normed $\chi^2 <1$, RMSEA <0.1 and CFI >0.9 (Schumacker and Lomax, 2010). CFA and SEM was performed using the AMOS software while EFA was performed using the SPSS software. The CFA showed that the proposed model for the structure of the tool was satisfactory (Normed $\chi^2 <1$, RMSEA <0.1 and CFI >0.9). The results indicate that the proposed scales had a satisfactory validity and reliability indexes.

DISCUSSION

Sport sponsorship is one of the most rapidly developing means of marketing communication and corporations spend large amounts of money on sponsorship agreements. The present research attempts to explore the main factors influencing sponsorships' effectiveness, identifying 11 related factors and 37 items incorporated in the developed sponsorship questionnaire. The present conceptualization adds to previous efforts at measuring sponsorship's effectiveness, particularly via the development of a comprehensive scale which was submitted to a rigorous validation process and proved to be a generally valid and reliable tool for sports marketers and practitioners. Further researches should explore the validity of the developed tool in different contexts and population to further enhance the generalization of the results.

REFERENCES

- Biscaia, R., Trail, G., Ross, S. and Yoshida, M. (2017), "A model bridging team brand experience and sponsorship brand experience", *International Journal of Sports Marketing and Sponsorship*, Vol. 18 No. 4, pp. 380-399.
- Churchill, G. (1979), "A Paradigm for Constructing Better Measures of Marketing Concept", *Journal of Marketing Research*, Vol. 16 No. 1, pp. 64-73.
- Eagleman, A. N. and Krohn, B. D. (2012), "Sponsorship awareness, attitudes, and purchase intentions of road race series participants". *Sport Marketing Quarterly*, Vol. 21 No. 4, p. 210.
- Madrigal, R. (2001), "Social identity effects in a belief–attitude–intentions hierarchy: Implications for corporate sponsorship", *Psychology & marketing*, Vol. 18 No. 2, pp. 145-165.
- Olson, E. L. (2010), "Does sponsorship work in the same way in different sponsorship contexts?", *European Journal of Marketing*, Vol. 44 No. 1/2, pp. 180-199.
- Schumacker, R.E. and Lomax, R.G. (2010), *A Beginner's Guide to Structural Equation Modeling*, Routledge Academic, New York.
- Thompson, B. (2004), *Exploratory and confirmatory factor analysis: understanding concepts and applications*, American Psychological Association, Washington DC
- Walraven, M. (2013), *Sports sponsorship effectiveness: investigating awareness, sponsor equity and efficiency*, Uitgeverij BOXPress, Groningen Netherlands.

UNDERSTANDING THE IMPACT OF SOCIAL COMMERCE COMPONENTS ON CONSUMERS' PURCHASE DECISION-MAKING PROCESS: A RESEARCH MODEL

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ABSTRACT

In an era of fast-changing technology, businesses and consumers are increasingly shifting from e-commerce to social commerce. Consequently, the importance of social commerce is growing rapidly. Social commerce is identified as a subset of electronic commerce which includes two main types: a social network website that integrates commercial features enabling transactions and advertisement, or a traditional e-commerce website that includes social tools to enable social interactions. Businesses are moving toward social commerce due to the increase of social media popularity. Consumers tend to enrich their information and develop their knowledge by exploring and gathering information online and learning from other consumers who share their experience and purchase information publicly online. The use of social commerce components (SCCs) in social commerce websites was found to trigger consumers buying intention online. These components include social media, social shopping, rating and review, recommendations and referrals, and forums and communities. In this research, we focus on rating and reviews, recommendations and referrals, and forums and communities as learning tools in social commerce, which constitute tools for consumer interaction and information source. Drawing from the social learning theory and the online purchase decision-making process model, we propose a research model to study the impact of SCCs on consumer purchase decision-making process mediated by a consumer typology based on decision-making style and prior knowledge of product. Expected implications for practitioners and scholars are discussed.

Keywords: Social Commerce; Social Commerce Components; Online Purchase Decision-making Process; Online Buying Behaviour; Social learning

INTRODUCTION

All jobs require people to manage their emotions to an extent. This management of emotions also leads to specificity in the display of emotions, which could either accord to how staff feel or be different from it (Liu, Chi & Gremler, 2019). Emotional labour, as this process is termed, is defined by

Hochschild (1983) as “the management of feeling to create a publicly observable facial and bodily display” (1983, p.7). Many jobs contain an emotional component that goes beyond the normal burden on feelings caused by work and thus require “emotional labour” (Liu et al., 2019). Such work has three things in common: (a) requires face-to-face or voice-to-voice contact with public, (b) requires the employee to produce an emotional state in the customer, and (c) allows the employer, through training and supervision, to exercise some control over the emotional life of employees (Hochschild, 1983).

Hochschild (1983) distinguishes between two approaches available to the emotional labourer - *surface* and *deep acting*. These terms have been derived from world of theatre and are techniques used by actors. In surface acting (SA) actors deceive others about what they actually feel, and the aim is primarily to get the ‘right emotion’ (here, this can be taken to be the emotion desired by the employer) across to the audience, although the emotion is not felt by the actor as such. In deep acting (DA), actors deceive themselves to produce the feeling that is required for them to have the outward appearance that induces the desired emotion in the audience. Deep acting is of two types, one works by directly exhorting the feeling and the other is through trained imagination, which is also known as *method acting* (Stanislavski, 1965). In the method acting technique, the actor primarily exhibits an emotion by digging into their past pool of incidents, which act as an emotion ‘bank’, and recall situations relevant to the emotion that they need to deliver at that moment. For example, if a scene has to be performed where the actor is required to show condolence towards an ailing confused co-character, they may wish to draw the emotion out of a similar situation from their life, say when they may have looked after an aged and unwell parent, or when they perhaps attended to someone at a care home. Another example - say a flight attendant delivers their statements in a particular manner denoting politeness, synchrony of tone and respectful usage of words with the aim that the customer feels cared for - “*Sir, kindly fasten your seat belts since we are encountering bad weather.*” This can be an example of deep acting by the employee where genuine concern is being projected to passengers on board through a conditioned mode of message delivery. However, a flight attendant may also exhibit surface acting by not feeling any genuine concern while they greet passengers with a smile when getting aboard on the flight - “*Good morning! Welcome aboard!*”

Aim: This conceptual paper explores the dimensions of emotional labour and its interconnections to interaction quality and service continuity in both service encounters and service relationships. This provides the basis from which to develop new avenues for research to take account of the plausible layers of EL treatment and their interconnections to interaction quality and service continuity as outcomes.

As such, the various definitions of EL are examined, as is how the term has evolved and been explored from organizational, employee and customer perspectives. An attempt is then made to forge possible interconnections between EL, interaction quality and service continuity with logic derived from developments within research on EL thus far. Furthermore, the paper considers the differences that may exist in the nature of EL in contextual settings that can be seen as service encounters or as service relationships (Albrecht et al., 2015; Chi & Chen, 2019; Liu et al., 2019). The conceptual interconnection of EL with other service marketing dimensions is an attempt to pave way for further empirical research that would enrich existing literature and offer benefits to industry practitioners for planning and integrating EL in the design, plan and execution of their service strategy.

The next section presents the different approaches that have been taken to define EL and presents the definition of EL that forms the basis of this paper.

Definitions of EL

The management of feelings and its display are interrelated in Hochschild's (1983) definition. Her approach focuses on how employees need to manage their emotions to suit the display expected by the organization to serve their customers well. The expression and display aspects of EL are connected to the internal management of feelings and expressed emotions are considered as a part of 'management' in Hochschild's (1983) definition. Wharton and Erickson (1993) however segregate the aspects of *managing* emotions and its *display* in their EL definition. While Morris and Feldman (1996) focus on employees' *expressed* behaviour; and Ashforth and Humphrey (1993) deal with their *observable* behaviour conforming to the organization's rules and expected display (see Diefendorff & Gosserand, 2003 for further discussion).

Irrespective of the singular or separated treatment of the management of feelings and its display in EL definitions, there is a clear view that the emotions staff display need to be aligned to the rules and expectations of their employer. Conformance to an organization's display rules (Ashforth & Humphrey, 1993; Diefendorff & Gosserand, 2003) is an external influence on the employee's emotional expression. Many other external triggers such as supervisor and customer influence (Totterdell & Holman, 2003) and internal triggers, such as personality traits, could also initiate employees' efforts to manage their emotions (Grandey, 2000). Given this, Hochschild's (1983) definition is more inclusive in defining all aspects of EL, since employees actually manage multiple triggers and influences to perform EL, using it as a tool to render their interactions towards multiple stakeholders, customers being chief amongst these (Totterdell & Holman, 2003).

The sub-constructs of SA and DA (Hochschild, 1983) are used to define the attributes of EL. SA (Grandey, 2000; Smith et al., 2009) is defined largely by most researchers as it is by Hochschild (1983). DA has been defined by some as having as two parts - active DA, where an employee invokes the

feelings and passive DA, when employees genuinely feel the emotions. However, Hochschild's (1983) definition captures DA as one component of EL. The argument against the other definitions is that it might be very difficult for an individual to segregate between invoked and genuinely felt emotions since they may appear to be the same to some (particularly as unlike actors – they are unlikely to have received formal training in this respect). Also, when someone tries to invoke feelings, this could overlap with the attribute of 'pretending to have emotions that one doesn't have' which is a part of SA (Hochschild, 1983). Thus, the constructs of SA and DA are best dealt as two sub-constructs of EL, with no further segregation in DA.

Table 2.1 gives a summary of EL definitions, sub-constructs, and major differences from Hochschild's (1983) definition.

Table 2.1: Summary of EL definitions

Author & Year	Definition	Salient focus areas
Hochschild (1983)	The management of feeling to create a publicly observable facial and bodily display	<ul style="list-style-type: none"> - Sub-constructs- DA and SA - Concentrates on management of feelings
Wharton and Erickson (1993)	Emotion management as the extent to which work or family role calls for an intentional display of emotions, and type of emotional display refers to the particular emotions that are expressed in the role	<ul style="list-style-type: none"> - Segregate the aspects of managing emotions and the display of those emotions as two separate dimensions of EL
Morris and Feldman (1996)	The effort, planning and control needed to express organizationally desired emotions during interpersonal transactions	<ul style="list-style-type: none"> - More concerned with expressed behaviour than felt feelings
Ashforth and Humphrey (1993)	The act of displaying the appropriate emotion (i.e. conforming to a display rule)	<ul style="list-style-type: none"> - Concentrates on observable behaviour - Believes that DA and SA become more a routine act over time for employees
Grandey (2000)	Emotion regulation defined as modifying feelings by thinking good thoughts or reappraising the event (deep acting), or modifying expression by faking or enhancing facial and bodily signs of emotion (surface acting)	<ul style="list-style-type: none"> - Deals with emotion regulation - DA and SA constructs are similar to those of Hochschild (1983)
Diefendorff and Gosserand (2003)	The process of regulating one's emotional displays in response to display rules so that	<ul style="list-style-type: none"> - Concentrates on employing EL strategies based to match organization's

	work goals can be achieved	display expectations (a control theory method)
Smith, Dorsey & Mosley (2009)	EL is defined as two components - "emotive effort" that captures active deep acting and "emotive dissonance" that captures surface and passive deep acting	<ul style="list-style-type: none"> - Sub-constructs - emotive effort (active deep acting) and emotive dissonance (passive deep acting and surface acting) - Focuses on the aspect of actually feeling as a separate component of DA

It is interesting to note from considering these definitions that Hochschild's encapsulates the interaction component, the felt emotions and the observed emotions of the EL bearer in a single frame, while others focus on one or the other elements of EL. Also, previous research primarily concentrates on EL as rendered from the employees' perspective, thus denoting the *flow* of EL from employees to the other entities - such as customers, co-workers, and supervisors. An opposite flow such that customers influence the EL rendered by employees is possible too (Liu et al., 2019).

The following section examines the evolution of EL literature and the various perspectives it has been researched through.

EVOLUTION OF EMOTIONAL LABOUR RESEARCH

EL, as a concept, evolved from an organizational perspective and is widely understood from an employee perspective. Aspects of the concept were also examined from a customer standpoint and the following sections delineate the evolution of EL from these varied viewpoints and set out the key concerns of EL that help conceptualize the interconnections between EL, interaction quality and service continuity.

Organizational Perspective on EL

The organizational culture, the nature of jobs, the intensity of interaction component in the jobs, and EL display expectations could greatly influence EL and the interaction perceptions ensuing from the EL generated.

Influence of organizational culture on EL

Organizations might create a culture, setting demands of EL from their employees (Albrecht et al., 2015; Karabanow, 1999, Liu et al., 2019) to achieve their organizational objectives of positive customer engagement (Grandey, Fisk & Steiner, 2005; Sutton, 1991). Organizational control of employee EL (ability to direct, demand and influence the amount of EL) could also result in employees employing coping strategies that allow them to share and alleviate their pain (if any) (Grandey, Foo, Groth &

Goodwin, 2012; Korczynski, 2003). Positive organizational culture could influence employees to have a positive disposition towards EL (more DA and less SA) (Ashforth & Humphrey, 1993; Grandey 2000; Grandey, 2003 Morris & Feldman, 1996). This adds credence to studying employee-customer relationships with respect to the how EL may influence interaction quality between employees and customers.

Organizational influences and expectations from employees may, or may not, influence their use and the intensity of EL during employee-customer interactions. Positive organizational support could motivate the employees to indulge more in DA than SA, reducing their strain and emotional exhaustion (Ashforth & Humphrey, 1993; Grandey 2000; Morris & Feldman, 1996). Customers, being one of the prime recipients of employee EL (Grandey, 2000; Grandey, 2003; Totterdell & Holman, 2003), could thus formulate different perceptions of interaction quality rendered by employees. EL could also impact other interactions within employees such as co-workers and supervisors (Totterdell & Holman, 2003).

EL in interaction jobs

The prevalence of EL in a job may vary depending on the type of job and the level of employee involvement with regards to interactions (Grandey, 2000; Wu & Hu, 2013). These interactions could vary in terms of the frequency, duration and the variety of EL employed (Guy & Newman, 2004). High versus low interaction jobs would entail variations in EL. Also, different service types and environments would have an impact on the EL generated in the service interactions this would offer several opportunities to test EL in different contextual situations (Albrecht et al., 2015, Liu et al., 2019; Razzaq, Razzaq, Yousaf, Akram & Hong, 2017). Variations in EL could also impact the perceptions of EL in interactions and impact service continuity outcomes (Liu et al., 2019).

Impact on EL interconnections

Organizational influences could impact the EL that employees may engage in towards their co-workers and customers (Wu & Hu, 2013; Bhave & Glomb, 2016). This could be an interesting area of study to test the influence of EL in different service contexts and how different organizational factors such as organizational culture, EL expectations and co-worker support influence (or not) the employee engagement in EL, customer perceptions of interactions and the ensuing service continuity (Liu et al., 2019).

Here how organizational influences could impact the EL rendered by employees has been outlined. The next section captures other intrinsic (from within self) and extrinsic (external environment) factors that may influence employees to engage in EL, how this impacts the employees and their interactions (Albrecht et al., 2015).

Evolution of EL: Employee Perspective

There are different factors, both *intrinsic* and *extrinsic* that may influence an employee's ability to engage in EL (Bhave & Glomb, 2016) and impact their relationships with the customers (Grandey, 2000; Grandey, 2003) as highlighted in the sub-sections that follow.

Intrinsic: Employee personality traits

Individual traits and personalities could give rise to variations in EL behaviour amongst employees, and some could therefore engage more in SA, while others could exhibit more DA, with DA postulated to have a more positive impact on the employee-customer relationships and SA more negative (Groth, Hennig-Thurau & Walsh, 2009; Liu et al., 2019; Liu, Prati, Perrewé & Ferris, 2008; Trougakos & Jackson, 2011).

Personality traits of employees could also influence other entities such as their colleagues, supervisors and the customers they interact with (Liu, Perrewé, Hochwarter & Kacmar, 2004) and traits, such as emotional intelligence, could influence the employment of DA more than SA by employees (Liu et al., 2008). Extraverts tend to perform more DA than introverts (Judge, Woolf & Hurst, 2009), just as highly customer-oriented employees (Allen, Pugh, Grandey & Groth, 2010) and proactive personalities do (Randolph & Dahling, 2013). Most importantly, if individual identity traits are congruent with organizational display rules, it results in more DA than SA (Ashforth & Humphrey, 1991; Gosserand & Diefendorff, 2005; Morris & Feldman, 1996).

Thus, different intrinsic factors, such as personality traits, could influence employee EL and affect the customer relationships they hold. Factors inherent to the employees could lead to variations in the intensity and process of engagement in EL. Not only does engagement impact the employee's well-being in different ways, the flow of EL to other entities, such as colleagues and customers, impacts the interactions of the employees with these entities (Liu et al., 2019). These findings strongly support examining the flow of EL and its interconnections to interaction perceptions by involved parties (Albrecht et al., 2015).

Extrinsic: Employee environment

Just as with intrinsic factors, extrinsic factors could also impact employee EL variations. A high interaction job component can cause EL amongst employees (Albrecht et al., 2015; Brotheridge & Grandey, 2002; Grandey, 2000; Grandey, 2003). Intensity, frequency, variety and display rules can also greatly impact the amount of EL performed by employees (Totterdell & Holman, 2003). Supervisor's display perceptions and co-worker's expectations of display could additionally impact the EL behaviour of employees (Diefendorff & Richard, 2003; Wu & Hu, 2013). Employee EL could be impacted by other social factors such as working in a team or alone (Drach-Zahavy, Yagil & Cohen, 2016) with a tendency for DA when in a team. Most importantly, customers may exert a greater power on EL than colleagues and supervisors (Drach-Zahavy et al., 2016; Liu et al., 2019; Totterdell &

Holman, 2003). Hur, Moon and Jung (2013) also found that employee EL impacted job satisfaction, which then further mediated customer satisfaction. Emoting to someone who has the power to decide on the delivery of service, interaction quality and thus make decisions that could influence gains to the organization, and the individual employee, is highly likely to influence the EL performed by employees. Hence, customers could influence employee EL engagement and approach (Diefendorff, Morehart & Gabriel, 2010; Li et al., 2019). Customer's emotional experience could mediate the impact of employee EL on the customer outcomes (Tang et al., 2013).

The above findings indicate that customers could be a major reason for employees to engage in EL. Customer influence could be stronger than that of internal entities such as colleagues or supervisors as the organizational and employees' individual goals, motives and gains are heavily influenced by customers. Thus, the flow of EL from employees to customers and the other way round, appears to be of paramount importance and may have a possible influence on service continuity between the entities involved (Razzaq et al., 2017).

Evolution of Emotional Labour: Customer Perspective

The evolution of EL has been widely studied from an organizational and employee perspective. However, customer *expectations* of EL have not been explicitly recorded in any prior research.

Customers' expectation of EL from employees could be very high when interpersonal interactions are involved between them (Razzaq et al., 2017; Wharton & Erickson, 1993). Authenticity anticipation could, for instance, be extremely high in personalized service contexts (Salman & Uygur, 2010; Wang & Groth, 2014). DA appears to have a positive impact, while SA has a negative impact on customer perceived service quality (Tang, Seal & Naumann, 2013; Trougakos & Jackson, 2011). However, employee SA does not always impact customer service quality negatively, as long as customers are not able to detect the SA (Albrecht et al., 2015; Drach-Zahavy et al., 2016; Groth et al., 2009; Hur et al., 2013). These findings were applicable in the context of service encounters (Gutek, Groth & Cherry, 2002; Liu et al., 2015; Pugh, 2001). DA's positive impact was reinstated however SA's negative impact on customer satisfaction was not established when the relationship strength and intensity was high possibly because the customers didn't want to be judgmental of the authenticity of EL by the employees (Gabriel, Acosta & Grandey, 2015; Wang & Groth, 2014). The context of the study was set in service encounters and this could possibly change in service relationships (Chi & Chen, 2019).

Longer duration and intensity in interactions could accentuate the prominence of EL (Grandey, 2000). A study done on dyads of insurance agents and customer dyads found that DA has a positive impact and SA a negative one on customer satisfaction and. Also, relationship strength was found to moderate the positive impact of DA and negative impact of SA on customer outcomes such as purchase amount, willingness to recommend and willingness to remain in a long-term relationship

(Chi & Chen, 2019). Kiely's (2005) qualitative study tries to understand the customer and employee perspectives in business-to-business interpersonal relationships. Customers' expectations of EL in the service relationships could impact an employees' EL, as well as a customers' perspectives on service quality (Kiely, 2005). Hence it can be suggested that the organizational, employee and customer perspectives on EL all focus on the interplay of EL and the interactions between entities – be they the employee and their colleagues or the customer, where its impact on quality perception might be thought a chief concern (Albrecht et al., 2015).

EMOTIONAL LABOUR AND INTERACTION QUALITY CONNECTION

However, interaction quality has not been studied in conjunction to EL despite the high prominence of EL in interactions. Interaction quality has been defined as a sub-dimension of service quality by Brady and Cronin (2001).

Perceived service quality has been defined as “customers' judgment about an entity's overall excellence or superiority” (Parasuraman, Zeithaml, & Berry, 1988, p.15). Service quality has been defined by a single layer of dimensions (Parasuraman, Zeithaml & Berry, 1985; Parasuraman et al., 1988; Parasuraman, Zeithaml & Berry, 1994); or through hierarchical models (Cronin & Taylor, 1992; Cronin & Taylor, 1994; Dabholkar, Thorpe & Rentz's, 1996; Gronroos, 1984; Haywood-Farmer, 1988; Rust & Oliver, 1994, Brady & Cronin, 2001).

Service encounter 'rich' contexts, such as retail interactions, could provide opportunities for observing multiple EL encounters between employees and customers (Dabholkar et al., 1996; Groth et al., 2009). Interaction intensive and high-contact service contexts (Karatepe, Avci & Tekinkus; 2005; Lassar, Manolis & Winsor, 2000), also provide an apt environment for employees to indulge in EL towards their customers.

Such an interactive process fosters long-term service relationships (Svensson, 2003; Svensson, 2004).

EL is prevalent in interactive environments and is a medium for employees to render service to the customers, yet the impact of EL on interaction quality has not been examined explicitly (Diefendorff & Richard, 2003; Grandey, 2000; Liu et al., 2019; Totterdell & Holman, 2003), particularly in long-term service relationship service contexts (Chi & Chen, 2019; Kiely, 2005). Employee EL has additionally not been much investigated with regards to its flow to (or influence on) the customer, particularly their perceived interaction quality. Matching customer EL expectations to employee EL has also not received attention, although both employees and customers are involved in performing and receiving EL simultaneously. Chi and Chen (2019) also propose the importance of studying customer expectations of EL. Recording the joint responses of both entities has been limited to a few studies (Chi & Chen, 2019; Groth et al., 2009; Liu et al., 2019; Trougakos & Jackson, 2011). Such studies provide

ideal opportunities for testing the impact of EL on employee and customer interaction perceptions. EL perceptions and interaction perceptions could well impact relationship outcomes, such as service continuity intentions (Razzaq et al., 2017).

EMOTIONAL LABOUR'S IMPACT ON SERVICE CONTINUITY

Relationship continuity is an essential prelude to customer loyalty in long-term relationships so that customers consider further engagement with the organization through repeat purchase, and referral (Zeithaml, Berry & Parasuraman, 1996). For example, EL could impact the interactions positively in the case of service encounters and have an impact on customer loyalty in turn (Chi & Chen, 2019; Groth et al., 2009; Hennig-Thurau et al., 2006; Razzaq et al., 2017). The interactions, for example, in private banking can influence customers' investment decisions and thus subsequently affect the organization's tangible (financial) and intangible (e.g. perceptions of service) gains (Horn & Rudolf, 2011; Mittal & Lassar, 1998). The interpersonal interactions with employees strongly impact customers' loyalty intentions, particularly in high-context services (Chi & Chen, 2019; Kiely, 2005; Razzaq et al., 2017; Yavas, Benkenstein & Stuhdreier, 2004). However, before a customer forms any perceptions about the organization, they possibly consider the bond shared with their service provider. This person-to-person bond could be so strong that it influences the customer to even move their association with this employee to another organization when the employee switches employment (Parkington & Shneider, 1979). As the person-to-person bond is likely to impact the customers' bond with the organization, and their loyalty intentions, the intention to continue the service relationship with the employee (Chi & Chen, 2019; Razzaq et al., 2017; Svensson, 2003; Svensson, 2004) could be a function of the perceived customer interaction quality.

The key prelude to customer loyalty intentions would be the continuity of the service relationship itself (Chi & Chen, 2019; Kandampully, 1998). Interactive process can have a continuous influence on the expectations of the service receiver and their perceptions of the interactions. The evaluation of the interactive process could last through a single interaction, as seen in a service encounter, or through multiple interactions in a service relationship. This would lead the service receiver (customer) to evaluate the continuity of the service relationship (Gutek, Groth & Cherry, 2002) on a continual basis through the interactions (Chi & Chen, 2019; Svensson, 2003; Svensson, 2004). This is especially true for high-contact service contexts where the bond between the entities involved in a relationship could be stronger (Chi & Chen, 2019). On certain occasions, service continuity could depend on this interpersonal relationship, rather than the loyalty association of a customer with the organization (Chase, 1978; Chase, 1981).

This connects further to 'intention to continue the service relationship' (Bloemer, Ruyter & Wetzels, 1999; Boulding, Kalra, Staelin & Zeithaml, 1993; Chi & Chen, 2019; Kandampully, 1998; Pollack, 2006; Zeithaml et al., 1996); building a bridge between EL-interaction quality and service continuity.

The context of the service is covered next. Service context may add variations to the extent of EL elapsed, perception and expectation of EL by the involved participants, and its impact on perception of interactions and finally service continuity.

CONTEXT SELECTION: SERVICE ENCOUNTER VS. SERVICE RELATIONSHIP

Morris and Feldman (1996) postulated that frequency, intensity, duration and variety of EL would have different positive negative, or no relationship, with each other. Brotheridge and Lee (2003) also reiterate that EL is the behavioural response to variations in the frequency, variety, intensity and duration of service interactions" (p.367). It can be inferred therefore that service relationships would vary significantly across frequency, duration and variety of EL from service encounters, particularly given that customers and relationship managers meet regularly, and the duration of the meetings are significant (Chi & Chen, 2019). The intensity of each encounter may vary depending on its subject and all four elements (frequency, intensity, duration and variety) would invoke different varieties of EL between the employees and the customers, hence impacting their interaction quality. Investigating EL in the contexts of service encounters vs. service relationships could offer varied outcomes with respect to the perceptions of interactions, EL and service continuity (Chi & Chen, 2019).

This paper considers the nuances of a service encounter vis-à-vis a service relationship context to examine EL and its interconnections. Service relationships differ from service encounters with respect to the frequency of interactions, intensity of the interactions and the tendency that the service is rendered by the same service provider over time. "A single interaction between customer and provider is referred to as a 'service encounter'. A service relationship is when the two individuals - employee and customer - have repeated contact with each other over time and get to know each other as role occupants and sometimes even become friends" (Guttek, Bhappu, Lia-Troth & Cherry, 1999, p.133).

Previous EL studies have predominantly chosen service encounters spanning contexts such as retail, convenience store, healthcare and call centres. The prevalence of EL has been found to be high in interaction-intensive contexts. This may also indicate a high prevalence of EL in the service relationships, where many interactions may span a period of time between the two entities (Chi & Chen, 2019; Kiely, 2005). The interactions in a service relationship can lead to participants knowing each other well on a person-to-person level. The intensity of interaction would additionally be higher

in a service relationship, since the propensity for future interactions and transactions exist between the two entities (Chi & Chen, 2019; Gutek et al., 2002; Kiely, 2005).

Customers are less affected by service employees' emotional labour, or the lack of it, when the service encounters are low-affect, low-intimacy types such as in a convenience store (Gabriel et al., 2015; Grandey, 2000; Price, Arnould & Deibler, 1995; Wang & Groth, 2014). This is probably because the customers also realize that service providers do not always express 'real' emotions, and the customers do not expect, or care, when they perceive that such an effort is being made. In an extended service relationship context, the employee EL is valued more since it is a way of communicating trustworthiness (Chi & Chen, 2019; Grayson, 1998). Both service encounters and service relationships, would provide different kinds of opportunities for exploring the impact of EL on interactions and service continuity.

Service encounters are anonymous in nature and avoidance of another contact with the same employee is possible (Wang & Groth, 2014; Gabriel et al., 2015). This anonymity could lead to verbally abusive relationships. However, this could drastically contrast to the situation in service relationships, where the tendency for multiple contacts and the longevity of the relationship exists over time (Chi & Chen, 2019; Grandey, Kern & Frone, 2007). The possible negative impacts of EL on the interactions between the two entities is an area for further exploration.

Lin and Lin (2011) conducted a study across several service encounters, and different types of service contexts. Independent viewers marked their observations of the encounters and also took feedback from the customers to find that the service environment, the group mood amongst peers and self-emotion influenced employee affective delivery, which in turn had a positive effect on the customers' service encounter satisfaction and loyalty intention. This is an important study as it emphasizes the impact of different contexts on EL strategies followed by employees (Albrecht et al., 2015; Liu et al., 2019). Lin and Lin's (2011) study also underscores the variations in the interconnections of EL-interactions-service continuity intentions, owing to different contexts. Different contexts could generate service encounters and service relationships of varying intensity and with a frequency of interactions and the focus of this paper is to bring to attention to those overlooked opportunities for further exploration (Chi & Chen, 2019; Liu et al., 2019).

A strong association and difference exist in the demands of EL in response to the interactional nature of services. A longer service duration could demand heavier emotion regulation, than a shorter one, as postulated by Grandey (2000). Greater familiarity between a service provider and their customer could actually enable them to map each other's emotions far better, since they meet over several encounters and probably even generate a rapport or friendship over time. The employee's EL and a customer's perception could also be much more pronounced and an expectation set by the customer in

such a context (Chi & Chen, 2019). An employee's EL could be smooth, or difficult, depending on the kind of service relationship that they share with the customer. A customer's perception could also vary from being extremely demanding to being predominantly tolerant in terms of the extent of EL adopted by the employee. Differences may also exist due to diverse service types (Silvestro, Fitzgerald, Johnson & Voss, 1992). For instance, the intensity of the interactions could be much more pronounced in service relationships than in service encounters, and thus, the consideration of the EL intensity (Grandey, 2000) generated could provide interesting insights on the study of EL in different service types, service encounters and/or service relationships.

Kiely (2005) studied emotions in the context of business-to-business service relationships in the shipping industry. Adopting an interpretive style, it is one of the first steps towards understanding emotional labour in complex service relationships. Kiely's (2005) findings depicted that most employees engaged in DA, although there were occasions where they subjugated their real emotions to emote otherwise. The interesting aspect was that most of the employees felt an anguish at not being able to deliver as per the customer expectations, and this was an innate feeling rather than a monitored, centralized or trained emotion (Kiely, 2005). It is one of the first studies to consider a service relationship in the business-to-business context where both the employees and customers were associated with firms involved in business transactions with each other. Kiely's (2005) work further enforced the impact of EL in service relationships and its impact on service continuity supporting avenues for further research as outlined in this paper. Chi and Chen (2019) also found EL to impact the customer outcomes in a service relationship context.

Many research gaps can still be explored to study EL from both the categories of services- encounters and relationships, and more so from service relationships given the limited research conducted so far, and the higher prevalence of EL plausible in service relationships.

The next sections analyze the possible research gaps based on the perusal of literature in EL thus far. Further research could enrich the literature in EL and its connectivity to services, interactions and service outcomes.

DISCUSSION: RESEARCH GAPS FOR EXPLORATION

The following outlines the key observations arising from the evolution of EL, and its connections with interaction quality and service continuity:

- EL has been explored from one of entities' perspective (customer or employee). The perspectives of both entities at a given point have not been captured in any previous research, except for the work by Groth et al. (2009).

- Paired research that involves the dyadic responses of employee-employee (between colleagues) pairs could be conducted to test the flow of EL between employee interactions within an organization. The exploration could be emulated between supervisor-employee pairs within an organization, here perhaps a focus on employee well-being and employee retention might be of particular interest.
- Customer-employee dyads could be explored to test the impact of EL on the interactions between customers and employees and examine the ensuing interaction outcomes. Customer perspectives alone have been captured previously, however joint responses have not been considered much. This could throw further light on the nature of EL flow and its impact on customers and employees.
- Customer expectations of EL could also be studied and matched to actual employee acting strategies to consider whether the EL threshold is exceeded, or not met at all, as per a customer's needs.
- EL has been predominantly studied in the context of service encounters, while this paper extends to consider the realm of service relationships as well.
 - EL could be explored more in service relationship contexts than service encounters to expand on Kiely's (2005) work, which is the one so far to capture EL in the context of service relationships.
 - Comparative studies could be conducted between the contexts of service encounters and relationships - examining the relative EL flow between different entities (employees and customers) in each of the contexts.
 - EL interconnections, as shown in this paper, could be particularly explored in service relationships expanding the work of Groth et al. (2009) and Wang and Groth (2014) that was conducted in service encounters.
- Previous studies have not captured the outcomes of EL with respect to service continuity (Chi & Chen, 2019). Most employee perspective studies have considered the impact on employee well-being and customer perspective studies have considered impact on customer loyalty intentions. However, future works could consider the nuances of service continuity from either entities or as dual perspectives.

Exploration of emotional labour along the said lines could help contribute to theory and practice in a considerable manner.

CONCLUSION

Plausible Contribution to Theory

Despite the ubiquitous nature of EL in service contexts involving high-contact and high-frequency interactions; interaction quality (Brady & Cronin, 2001) has never been explored with regards to how employee EL could impact customers' interaction perceptions and in turn this may affect the customers' service continuity intentions (Boulding, Kalra, Staelin & Zeithaml, 1993; Kandampully, 1998; Zeithaml, Berry & Parasuraman, 1996). The interaction process involves the expectations of service receiver, as well as perceptions of interactions (Svensson, 2003; Svensson, 2004). This paper highlights customers' perceptions of interaction quality that result from to employee EL in service encounters and relationships (Gutek et al., 2002; Svensson, 2003; Svensson, 2004).

Customers, in comparison to colleagues or supervisors, could exert a higher relative power in influencing employee EL (Diefendorff, Morehart & Gabriel, 2010; Liu et al., 2019; Totterdell & Holman, 2003), yet linkages between employee-customer have not been explored in EL literature (nor indeed have those between employee-employee).

High-contact, interaction-intensive service relationship contexts may involve higher stakes than service encounters, for both the customer and employee. These personalized service relationships could impact revenues, customer service perceptions and even their loyalty intentions (Mittal & Lassar, 1998; Parkington & Schneider, 1979; Seiler et al., 2013; Yavas et al., 2004), with bonds so strong that they continue even when an employee changes firm (Mittal & Lassar, 1998; Parkington & Schneider, 1979). An opportunity to test the impact of EL in service relationships and/or compare these with those found in service encounters has thus remained unexplored, providing rich area of future research (Chi & Chen, 2019).

Customers' expectations of EL have also not previously been matched to employees' actual EL behaviour. The employee puts effort towards into delivering EL to the customer through interactions, while the customer could be expecting the same, less - or more - EL from the employee (Chi & Chen, 2019; Diefendorff, Morehart & Gabriel, 2010; Totterdell & Holman, 2003). This match (or mismatch) between customers' EL expectations and employees' delivery of EL could help understand the flow of EL in the interactions between both entities.

The transpiring flow of employee EL enactment and perception by customers' has not been entirely captured in previous research. This conceptualization thus explores the possibilities of exploring EL:

- From the perspective of the involved entities;
- In the context of service encounters and/or service relationships;
- In conjunction with other dimensions such as interaction quality and service continuity.

Contribution to Practice - Potential Gains

Customer feedback could be captured on an ongoing basis to be able to map their EL expectation to actual employee EL, which could identify the expectations gap that may otherwise go unnoticed by employees performing EL in isolation. This could impact employees by helping them to engage in appropriate EL and thus positively impact interaction quality and, finally, yield positive encounters and sustained relationships with their customers over time.

Organizations could hire, train and hone the skills of their employees so that they could manage their emotions and naturally align them to the EL expectations of their customers; while also being able to replenish their own emotions due to any drain from engaging in EL. The expected outcomes would heighten interaction quality and high-gaining service encounters and relationships.

Management of emotions and a congenial culture of building and strengthening relationships over time can prove more beneficial than chasing short-term financial gains alone. Strong interactions could harbour lasting and sustainable relationships for customers, employees and the organizations involved.

Final Reflections

Diagram 1.0 provides a diagrammatic representation of the concepts that have been analysed and proposed as having interconnections with EL.

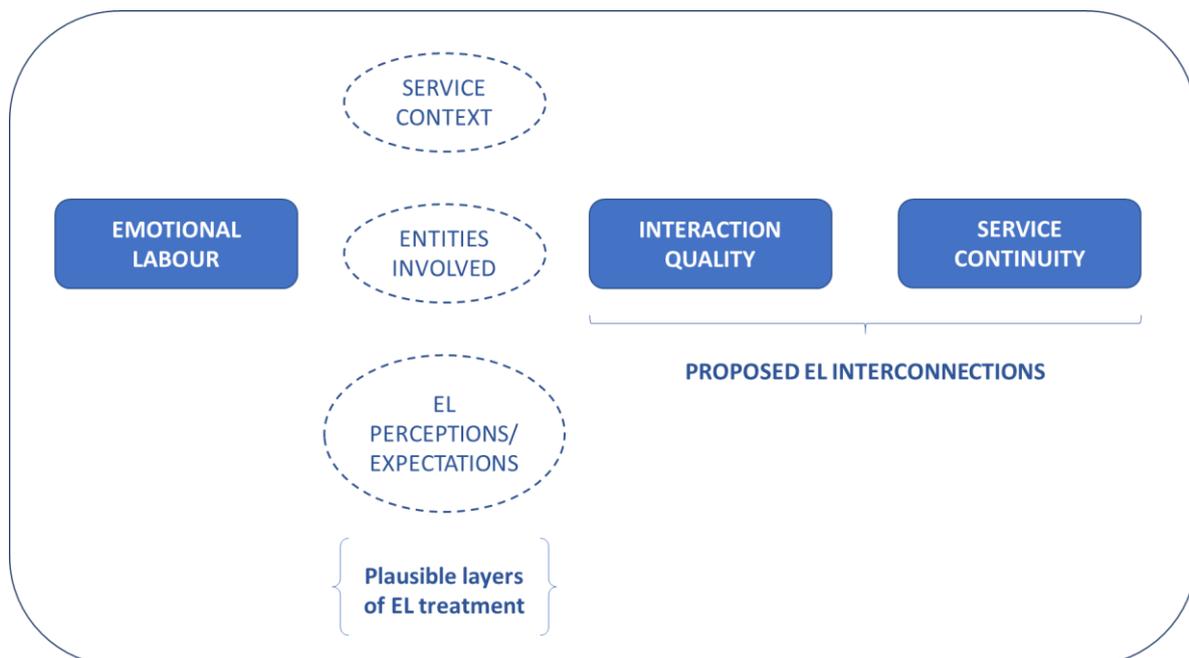


Diagram 1.0: EL interconnections

This paper established the conceptualization of EL and its connections to interaction quality and service continuity. EL could be treated through different filters to examine the variations in the outcomes of other interconnecting dimensions. EL has been researched from - organizational, employee, and customer perspectives. This paper indicates the nuances of service encounter and service relationship contexts that may prime different EL strategies from the service provider *and*

different expectations and outcomes from the service receivers. These could variously impact the dimensions of interaction quality and service continuity due to the service contexts, entities involved and/or the perceptions and expectations of EL and interaction quality.

The discussion helps explore the dimension of EL and advance its consideration with other dimensions of marketing for as the basis of further empirical exploration. Such examination has significant potential for the understanding of EL in its varied forms and with its numerous impacts – both in the encounter and in longer-term service relationships.

REFERENCES

- Albrecht, C., Hatulla, S., Bornemann, T. & Hoyer, W.D. (2016). Customer response to interactional service experience: The role of interaction environment. *Journal of Service Management*, 27(5), 678-703.
- Allen, J.A., Pugh, S.D., Grandey, A.A., & Groth, M. (2010). Following display rules in good or bad faith?: Customer orientation as a moderator of the display rule- Emotional labor relationship. *Human Performance*, 23, 101- 115.
- Ashforth, B.E., & Humphrey, R.H. (1993). Emotional Labor in service roles: The Influence of Identity. *Academy of Management Review*, 18, 88-115.
- Bhave, D. P., & Glomb, T. M. (2016). The role of occupational emotional labor requirements on the surface acting–job satisfaction relationship. *Journal of Management*, 42(3), 722-741.
- Bloemer, J., Ruyter, D.K., & Wetzels, M. (1999). Linking perceived service quality and service loyalty: a multi-dimensional perspective. *European Journal of Marketing*, 1082-1106.
- Boulding, W., Kalra, A., Staelin, R. & Zeithaml, V.A. (1993). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research*, 30, 7-27.
- Brady, M.K. & Cronin, Jr., J.J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, 65(3), 34-49.
- Brotheridge, C.M. & Grandey, A.A. (2002). Emotional labor & burnout: Comparing two perspectives of "people work". *Journal of Vocational Behavior*, 60, 17-39.
- Brotheridge, C.M. & Lee, R.T. (2003). Development and validation of the Emotional Labour Scale. *Journal of Occupational Psychology*, 76, 365-379.
- Chase, R.B. (1978). Where does the customer fit in a service operation? *Harvard Business Review*, 56, 137- 142.
- Chase, R.B. (1981). The customer contact approach to services: Theoretical bases and practical extensions. *Operations Research*, 29(4), 698- 706.
- Chi, N. & Chen, P. (2019). Relationship matters: How relational factors moderate the effects of emotional labor on long-term customer outcomes. *Journal of Business Research*, 95, 277-291.
- Cronin Jr., J.J., & Taylor, S.A. (1992). Measuring service quality: A re-examination and extension. *Journal of Marketing*, 56, 55-68.
- Cronin Jr., J.J., & Taylor, S.A. (1994). SERVPERF versus SERVQUAL: Reconciling performance-based and perception-minus-expectations measurement of service quality. *Journal of Marketing*, 58(1), 125-131.
- Dabholkar, P.A., Shepherd, D.C., & Thorpe, D.I. (2000). A Comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 131-138.
- Diefendorff, J.M. & Gosserand, R.H. (2003). Understanding the emotional labor process: a control theory perspective. *Journal of Organizational Behaviour*, 24, 945-959.
- Diefendorff, J., Morehart, J. & Gabriel, A. (2010). The influence of power and solidarity on emotional display rules at work. *Motiv Emot*, 34, 120-132.
- Drach-Zahavy, A., Yagil, D., & Cohen, I. (2017). Social model of emotional labour and client satisfaction: exploring inter-and intrapersonal characteristics of the client– provider encounter. *Work & Stress*, 31(2), 182-208.
- Gabriel, A.S., Daniels, M.A., Diefendorff, J.M. & Greguras, G.J. (2015). Emotional labor actors: A latent profile analysis of emotional labour strategies. *Journal of Applied Psychology*, 100(3), 863-879.

- Gosserand, R.H. & Diefendorff (2005). Emotional display rules and emotional labor: The moderating role of commitment. *Journal of Applied Psychology*, 90(6), 1256-1264.
- Grandey, A.A. (2000). Emotion regulation in the workplace: A new way to conceptualize emotional labor. *Journal of Occupational Health Psychology*, 5(1), 95-110.
- Grandey, A.A. (2003). When "the show must go on: Surface acting and deep acting as determinants of emotional exhaustion and peer-rated service delivery. *Academy of Management Journal*, 46(1), 86-96.
- Grandey, A.A., Fisk, G.M. & Steiner, D.D. (2005). Must "service with a smile" be stressful? The moderating role of personal control for American and French employees. *Journal of Applied Psychology*, 90(5), 893-904.
- Grandey, A., Foo, S.C., Groth, M., & Goodwin, R.E. (2012). Free to be you and me: A climate of authenticity alleviates burnout from Emotional Labor. *Journal of Occupational Psychology*, 17(1), 1-14.
- Grandey, A.A., Kern, J.H. & Frone, M.R. (2007). Verbal abuse from outsiders versus insiders: Comparing frequency, impact on emotional exhaustion, and the role of emotional labor. *Journal of Occupational Health Psychology*, 12(1), 63-79.
- Grayson, K. (1998). Customer responses to emotional labour in discrete and relational service exchange. *International Journal of Service Industry Management*, 9(2), 126-154.
- Gronroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing*, 18(4), 36-44.
- Groth, M., Hennig-Thurau, T., & Walsh, G. (2009). Customer reactions to emotional labor: The roles of employee acting strategies and customer detection accuracy. *Academy of Management Journal*, 52(5), 958-974.
- Gutek, B.A., Bhappu, A.D., Lia-Troth, M.A., & Cherry, B. (1999). Distinguishing between service relationships and encounters. *Journal of Applied Psychology*, 84(2), 218-233.
- Gutek, B.A., Groth, M., & Cherry, B. (2002). Achieving service success through relationships and enhanced encounters. *Academy of Management Executive*, 16(4), 132-144.
- Guy, M.E. & Newman, M.A. (May/June 2004). Women's jobs, men's jobs: Sex segregation and emotional labor. *Public Administration Review*, 64(3), 289-298.
- Haywood-Farmer, J. (1988). A conceptual model of service quality. *International Journal of Operations & Production Management*, 8(6), 19-29.
- Hennig-Thurau, T., Groth, M., Paul, M. & Gremler, D.D. (July 2006). Are all smiles created equal? How emotional contagion and emotional labor effect service relationships. *Journal of Marketing*, 70, 58-73.
- Hochschild, A.R. (2003). *The managed heart: Commercialization of human feeling* (20th ed.). Berkeley: University of California Press.
- Horn, C. & Rudolf, M. (2011). Service quality in the private banking business. *Financial Markets Portfolio Management*, 25, 173-195.
- Mitta
- Hur, W.M., Moon, T.W., & Jung, Y.S. (2015). Customer response to employee emotional labor: the structural relationship between emotional labor, job satisfaction, and customer satisfaction. *Journal of Services Marketing*, 29(1), 71-80.
- Judge, T.A., Woolf, E.F., & Hurst, C. (2009). Is Emotional Labor more difficult for some than for others? A multilevel, experience-sampling study. *Personnel Psychology*, 62, 57-88.
- Kandampully, J. (1998). Service quality to service loyalty: A relationship which goes beyond customer services. *Total Quality Management*, 9(6), 431-443.
- Karabanow, J. (September 1999). When caring is not enough: Emotional labor and youth shelter workers. *Social Service Review*, 340-357.
- Karatepe, O.M., Avci, T. and Tekinkus, M. (2005). Measuring service quality of banks: scale development and validation. *Journal of Retailing and Consumer Services*, 12(5), 373-383.
- Kiely, J. A. (2005, April). Emotions in Business-to-Business Service Relationships. *The Services Industries Journal*, 25(3), 373-390.
- Korczynski, M. (Feb 2003). Communities of coping: collective emotional labour in service work. *Organization*, 10(1), 55-79.
- Lassar, W.M., Manolis, C, Winsor, R.D. (2000). Service quality perspectives and satisfaction in private banking. *International Journal of Bank Marketing*, 18(4), 181-199.
- Lin, J.C. & Lin, C. (2011). What makes service employees and customers smile. *Journal of Service Management*, 22(2), 183-201.
- Liu, X., Chi, N. & Gremler, D.D. (2019). Emotion cycles in services: Emotional contagion and emotional labor effects. *Journal of Service Research*, 20(10), 1-16.
- Liu, Y., Prati, L.M., Perrewe, P.L. & Ferris, G.R. (2008). The relationship between emotional resources and emotional labor: An exploratory study. *Journal of Applied Psychology*, 38(10), 2410-2439.

- Liu, Y., Perrewe, P.L., Hochwarter, W.A. & Kacmar, C.J. (2004). Dispositional antecedents and consequences of emotional labor at work. *Journal of Leadership and Organizational Studies*, 10(4), 12-25.
- Mittal, B. and Lassar, W.M. (1998). Why do customers switch? The dynamics of satisfaction versus loyalty. *Journal of Services Marketing*, 12(3), 177-194.
- Moon, T.W., Hur, W. & Jun, J. (2013). The role of perceived organizational support on emotional labor in the airline industry. *International Journal of Contemporary Hospitality Management*, 25(1), 105-123.
- Morris, J.A. & Feldman, D.C. (1996). The dimensions, antecedents, and consequences of emotional labor. *Academy of Management Journal*, 21, 966-1010.
- Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(3), 41-50.
- Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1988). SERVQUAL: A Multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12-40.
- Parasuraman, A., Zeithaml, V.A., & Berry, L.L. (1994). Reassessment of expectations as a comparison standard in measuring service quality: implications for further research. *Journal of Marketing*, 58(1), 111-124.
- Parkington, J.J. & Schneider B. (1979). Some correlates of experienced job stress: A boundary role study. *Academy of Management Journal*, 22, 270-281.
- Pollack, B.L. (2009). Linking the hierarchical service quality model to customer satisfaction and loyalty. *Journal of Services Marketing*, 23(1), 42-50.
- Price, L.L., Arnould, E.J. & Deibler, S.L. (1995). Consumers emotional responses to service encounters: The influence of the service provider. *International Journal of Service Industry Management*, 6(3), 34-63.
- Pugh, S.D. (2001). Service with a smile: Emotional contagion in the service encounter. *Academy of Management Journal*, 44, 1018-1027.
- Randolph, K.L., Dahling, J.J. (2013). Interactive effects of proactive personality and display rules on emotional labor in organizations. *Journal of Applied Social Psychology*, 43, 2350-2359.
- Razzaq, Z., Razzaq, A., Yousaf, S., Akram, U. & Hong, Z. (2019). The impact of customer equity drivers on loyalty intentions among Chinese banking customers: The moderating role of emotions. *Asia Pacific Journal of Marketing and Logistics*, 1-23.
- Rust, R.T. & Oliver, R.L. (1994). Service Quality: Insights and managerial implications from the frontier. In Rust, R.T. & Richard, R.L. (Eds.), *Service Quality: New Directions in Theory and Practice*, Thousand Oaks, CA: Sage Publications, 1-19.
- Salman, D. & Uygur, D. (2010). Creative tourism and emotional labor: an investigatory model of possible interactions. *International Journal of Culture, Tourism and Hospitality Research*, 4(3), 186-197.
- Silvestro, M., Fitzgerald, L., Johnson, R. & Voss, C. (1992). Towards a classification of service processes. *International Journal of Service Industry Management*, 3(3), 62-76.
- Smith, J.R., Dorsey, K.D. & Mosley, A.L. (2009). Licensed funeral directors: An empirical analysis of the dimensions and consequences of emotional labor. *International Management Review*, 5(2), 30-43.
- Stanislavski, C. (1965). *An actor prepares*. New York: Theatre Art Books.
- Sutton, R.I. (1991). Maintaining norms about expressed emotions: The case of bill collectors. *Administrative Science Quarterly*, 36(2), 245-266.
- Svensson, G. (2003). A generic conceptual framework of interactive service quality. *Managing Service Quality*, 13(4), 267-275.
- Svensson, G. (2004). Interactive service quality in service encounters: empirical illustration and models. *Managing Service Quality*, 14(4), 278-287.
- Tang, C., Seal, C.R. & Naumann, S.E. (2013). Emotional labor strategies, customer cooperation and buying decisions. *Journal of Management and Marketing Research*, 13, 1-15.
- Totterdell, P. & Holman, D. (2003). Emotion regulation in customer service roles: Testing a model of emotional labor. *Journal of Occupational Health Psychology*, 8(1), 55-73.
- Trougakos, J.P. & Jackson, C.L. (2011). Service without a smile: Comparing the consequences of neutral and positive display rules. *Journal of Applied Psychology*, 96(2), 350-362.
- Wang, K.L. & Groth, M. (2014). Buffering the negative effects of employee surface acting: The moderating role of employee-customer relationship strength and personalized services. *Journal of Applied Psychology*, 99(2), 341-350.
- Wharton, A.S. & Erickson, R.J. (1993). Managing emotions on the job and at home: Understanding the consequences of multiple emotional roles. *The Academy of Management Review*, 18(3), 457-486.
- Wu, T. & Hu, C. (2013). Abusive supervision and subordinate emotional labor: The moderating role of openness personality. *Journal of Applied Social Psychology*, 43, 956-970.

Yavas, U., Benkenstein, M. & Stuhldreier, U. (2004). Relationships between service quality and behavioral outcomes: A study of private bank customers in Germany. *The International Journal of Bank Marketing*, 22(2), 144-157.

Zeithaml, V.A., Berry, L.L. & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60,31-46.

EXPLORING THE NEED FOR CLINICAL LEADERSHIP DEVELOPMENT. A CROSS NATIONAL STUDY

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ABSTRACT

As complexity in health care increases, European Health Management Systems require innovative leaders who can identify needs and current challenges in their practice, shift and adapt quickly, are resourceful and effective, thrive on organizational change, inspire others and make sense out of uncertainty and resistance to change for those they lead. Strong leadership is the key driver of overall organizational performance, and well-constructed talent management systems remain critical to developing and retaining a successful pool of strong healthcare leaders, capable to meet growing demands for high quality, cost-effective care.

Additionally, innovative Human Resource practices may result in a great cultural shift within main stakeholders involved in managing health conditions, allowing and promoting new service development and assist in shaping learning and development from clinicians, managers and commissioners. Hence, clinical leaders can exercise leadership and Emotional Intelligence qualities, manage talent within the hospital and make informed decisions since they have expert knowledge at the core of the health organization they are operating (Kyriakidou and Papagiannopoulos cited in Turner, 2018).

A recently developed program on clinical leadership for Thoracic surgeons, funded by the European Society of Thoracic surgeons, demonstrated a clear impact which doctors have in shaping their medical practice when they exercise their qualities in leading their staff and promote change within their health organizations. The European cases we developed demonstrated that that the greater the involvement of clinicians in the roles of management and governance the more efficient and productive their health care organizations become (Kyriakidou et al cited in Turner, 2017).

Keywords: Clinical Leadership, European Leadership Programmes, EI

1. INTRODUCTION

The European Health Sector is undergoing significant transformation (Turner, 2017 and 2018; Enock and Markwell 2010; Veronesi 2018, Veronesi et al, 2013) and the resulting complexity has led to an increased focus on Leadership at all levels. As such, the need for a modern health leader is more than obvious in all Health Care systems. Engaging more doctors in leadership positions improves effectiveness and productivity of hospitals along some key performance indicators (Veronesi et al., 2018; Veronesi et al., 2013; The King's Fund, 2011; Hamilton et al., 2008). The majority of hospitals globally have taken into consideration the role of Clinical Director; clinicians need to be offered managerial responsibilities, relating to financial and human resources, who become also accountable for the overall performance of their respective Division (Veronesi et al, 2018; Kirkpatrick et al., 2016). Previous research conducted in this area, reveals that clinical leaders can have a positive effect on a range of outcomes relating to communities as a whole, patients and employees (Kickpatrick et al. 2016; Mountford and Wagg et. al, 2014).

The overall scope of the project is to explore the opportunity and create the basis for the development of European Programmes for health leadership and development. Its key objectives (KO) are:

KO1: To develop a competency framework which helps health leaders across Europe to identify their development needs, develop their professional plan and supports them in their roles.

KO2: To identify varied methods of delivery from in-house (leadership center) and external leadership and management programs to coaching, mentoring, shadowing, e-learning and develop a database with a range of academic and professional resources.

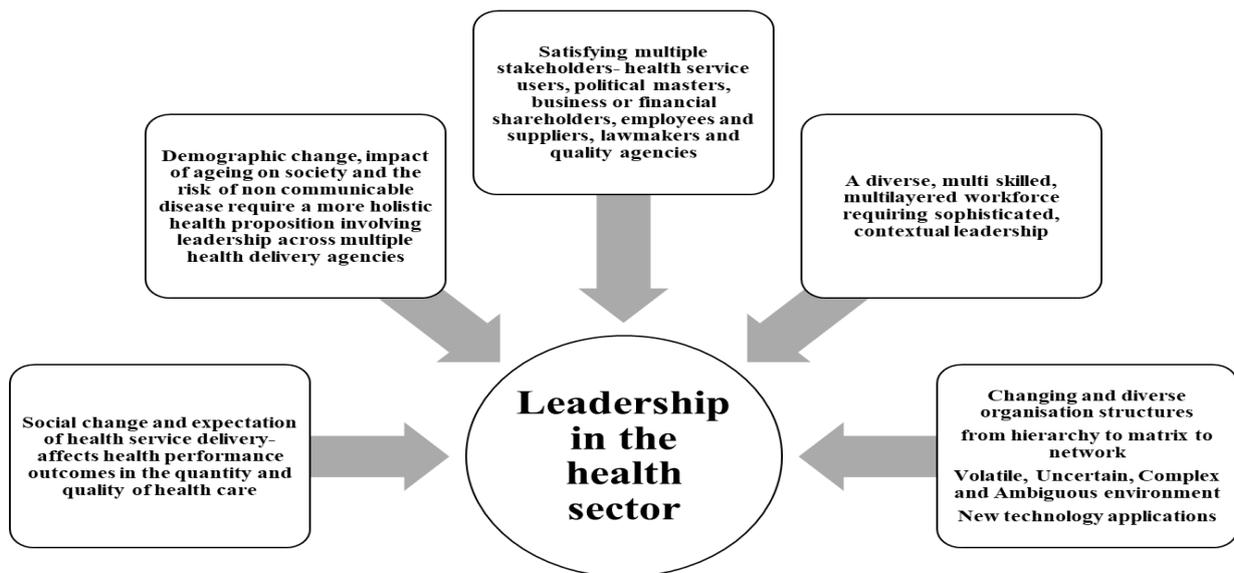
2. THE NEED FOR CLINICAL LEADERS

Health sector leaders can have a positive effect on a range of outcomes relating to communities as a whole, patients and employees (Kickpatrick et al. 2016; Mountford and Webb, 2009). But the definition of health sector leadership has many interpretations. There are those in business, operational or managerial roles; and they are those who lead health professionals in the delivery of care. The latter area is one of Clinical Leadership and it is important to have both role clarity and the right set of competences if those in such leadership positions are going to deliver to their objectives. However, empirical evidence shows that the engagement of clinicians in hospital management and leadership in terms of hospital performance varies across countries; 26.03% of board members in the United Kingdom have clinical backgrounds and 22% of the Chief Executive Officers in hospitals have clinical backgrounds (Veronesi et al., 2013). A comparative European research conducted in 2010 in regards to the role of doctors in senior management, demonstrates that doctors represent a majority of the senior

managers in the European health system with 50% in Italy, 63% in France, and 71% in Germany (Dorgan et al. 2010). Engaging more doctors in leadership positions have been found to improve effectiveness and efficiency of hospitals along some performance indicators (Veronesi et al., 2018; Veronesi et al., 2013; The King's Fund, 2011; Hamilton et al., 2008).

Following a growing interest of practitioners and policy makers in involving clinicians in management and governance of health care organisations (the King's Fund, 2012; Ham and Dickinson, 2008), research done on this suggests that having a higher participation of clinician at strategic decision making levels potentially has benefits for hospitals (Veronesi et al. 2018). Reflecting on that, Clay-Williams and et al. (2014) argued, that some of the advantages of having doctors in management are their strengths in dealing with the structure and the process of the organisation, the outcomes of patients, issues of safety and quality and their ability to make informed and intelligent decisions on patients and organisational processes.

Figure 1: Five Forces that Impact Health Sector Leadership



Source: Turner, P.A. (2018) Leadership in Healthcare

3. EXPLORATION OF LEADERSHIP DEVELOPMENT PROGRAMMES FOR HEALTH PROFESSIONALS

Great leadership requires the ability to innovate, motivate and communicate a common goal to other members of the team or organisation. The healthcare sector provides a challenging environment in which effective leadership is depended significantly on both organisational and team dynamics. It is also a dynamic field influenced by economics, politics, environmental and social factors (Turner, 2018). However, due to current financial and human resource constraints (Veronesi 2018), healthcare

must have strong leadership to ensure these limited resources are spent appropriately and efficiently. Part of this complexity is due to difference in aims.

It is the key priority of the health leaders to deliver healthcare in keeping with the government's aims and agendas. This is influenced by the economic and political climate along with the individual needs of the *patient-user*. Furthermore, key services that patients would like to receive such as affordable treatment with minimal waiting times, which may not be feasible and a flexible approach is needed alongside with effective leadership of healthcare organisations by healthcare professionals. Evaluation of the volatility, uncertainty, complexity and ambiguity (VUCA) can help identify areas for a leader to address (Bennis & Nanus, 2007).

Reflecting on the above, developing leadership qualities at work involves a process which can be learned and developed not only by work experience but also through training and development courses available to health professionals (Cherniss & Goleman, 1998; Mattingly and Kraiger, 2018). Effective leadership and development can make a difference as to how organisations in the sector are operated and how they deliver healthcare services. Key contributions of effective leadership development include but not limited to:

- Enhancement of organisational culture and performance. (Reichenpfader et al 2015:299 Gauld 2017).
- Positive outcomes across a range of patient-oriented, staff-oriented or organisational measures including patient care quality and patient satisfaction; employee satisfaction and organisational commitment; on organisational productivity and team working and on inter-professional collaboration (Jeyaraman et al 2018:84).
- Positive reinforce the setting of clear team objectives, high levels of participation, commitment to excellence, and support for innovation; leading to effective, compassionate and quality health care (Veronesi et al. 2018; Turner, 2018).

One of the key challenges of the health systems and other educational providers (for example universities) is to reflect on macro and micro level changes and how they impact on the development of health leadership programmes that are based on the needs of clinical leaders and focus on the development plan that they need to fulfil in a specific timeframe set by the organisation (i.e. for consultancy level roles). In other words their effectiveness is based on the development of leadership qualities and styles of managing the staff within the health organisations with emphasis on the leadership qualities of the clinical leaders, especially the development of their emotional intelligence (EI). Regarding EI, theorists such as Cherniss & Goleman (1998) suggest that different interpersonal skills and competences could be improved if differences between emotional and cognitive learning would be taken into consideration during their design and implementation of such programmes.

Cognitive learning refers to the process where new knowledge is added to neural circuitry, whereas “developing emotional intelligence requires unlearn old habits of thought, feeling, and action that are deeply ingrained, and grow new ones” (Cherniss & Goleman 1998 p. 28). According to Cherniss et al. (1998), effective leadership requires the ability to use both emotional and cognitive competences together to enhance managerial performance and personal development (Warren, 2013).

Even when existing studies have shown evidence of the effectiveness of different approaches to increase emotional and cognitive competencies for leaders at different sectors (Nelis et al., 2009; Groves, et al., 2008; Hodzic, et al., 2018), there is a lack of a conceptual framework/model of competencies integrated to those programs which can apply to the needs of each sector for example health sector. There is a limited research conducted in this area which effectively evaluates the validity of those training programs, their effectiveness towards the learning objectives and process they follow during their development, delivery and follow up stages. (Groves et.al, 2008). Hodzic et.al (2018) in their meta-analysis investigation conclude that leadership development programs based on ability models (Mayer et.al, 2002, 2003) are easier to develop and possess higher outcomes to improve emotion traits than miscellaneous models. Yet, the acknowledged power of the development depends on the circumstances of those interventions. Goleman and Cherniss (1998) developed the optimal process in which emotional intelligence can be successfully trained in organisations. Although it could seem challenging to implement such a training, it is the aim of this project to enhance leadership qualities of the clinical leaders by exploring empirically the development of a framework of skills for healthcare leaders based on the Goleman’s following set of competencies:

- *Personal competences*. Encompasses the ability of self-awareness to monitor own emotions and identify their impact, as well as being able to self- manage them; stay committed, positive and self-motivated.
- *Social competences*. It is characterized by the ability of manage effectively interpersonal relationships, be socially aware, collaborate and communicate effectively, working and influence others; dealing with conflict and change management.

This project will analyse the effectiveness of a training programme designed to develop international leaders in the health field. An exploration of how the course activities – pre and post-programme - had an impact on enhancing their performance and competencies development is demonstrated empirically later on in this paper.

4. PURPOSE OF THE WORKING PAPER

The purpose of this paper is to identify key qualities of the clinical leaders in the European Health Sector and how those qualities may contribute successfully towards the organisational effectiveness.

The recently developed program on clinical leadership for Thoracic surgeons, funded by the European Society of Thoracic surgeons, demonstrated a clear impact which doctors have in shaping their medical practice when they exercise their qualities in leading their staff and promote change within their health organizations. Reflecting on the program, the learning objectives were based on the following units:

- Leadership development and change management
- Talent management in health leadership development
- The relation between Emotional Intelligence and its contribution to health professional development and leadership.

The project follows Goleman and Cherniss (1998) 's research process. It consists in a course which was delivered by professional and academic experts from Leeds Beckett University, UK and the University of West Attica, Greece, who taught Thoracic Surgeons across Europe in a pre and post-programme. The aim of this course was to build knowledge of leadership and management in hospitals. To do so, an understanding of principles and practicalities to manage different contextual situations was provided. The designed sessions supplied a framework of skills development by equipping Thoracic Surgeons with the essential tools, competences and knowledge in order to be able to manage others on an emotional intelligent way.

The learning objectives have been designed to provide all participants the opportunity to gain a better understanding of their own leadership and management style when interact with their team members but also during their decision-making processes (based on the key pillars of competencies development as per Goleman, 2000). Also, the programme aim is to reflect on previous competencies and work experience of the participants (through the use of action learning, and psychometric assessment) and to develop an personal action plan to analyse and know better themselves. Another key point to success was specified to an understanding of business innovation and change, what enable the individuals to influence and persuade their stakeholders (patients, staff members).

The first session was an introduction to the programme content and structure, where an opportunity to discuss main issues that clinical leaders need to address was provided. These issues are related to examine the principles of leadership, business innovation, decision making and self-awareness using emotional intelligence by explaining the concept and its importance in the leadership role/identity and evaluate their own attributes regarding to EI.

The second session was divided in two components. Primarily it was based on business processes where participants acknowledge leading innovation and changing in the business. The key points were to understand the needs within the hospitals individuals work for, produce innovative solutions

to improve their performance and apply the appropriate methods to influence people. Secondly, being able to make decisions through an understanding and using an appropriated range of decision strategies on their practical operations for Thoracic Surgeons.

The evaluation of the programme was supported by the EQ-I tool which enable participant to reflect and develop their emotional intelligence and 1:1 feedback, according to each individual needs. Future support was delivered to analyse and evaluate programme outcomes. After 1 month participants attended to a reflective learning experience and individualized coaching to explore their EI results with their personal leadership and management style (related to *personal competencies* development as per Goleman and Cherniss model of skills development). 6 months after, another coaching and support was carried out where self-assessments took place and a review of a further action plan was made (related to the *social competencies* as per Goleman and Cherniss model).

5. METHODOLOGY

This study focuses on an interpretivism philosophy, inductive approach, and qualitative methods and due to the short period given to this research, a cross-sectional time horizon design. The focus of this paper is to understand and analyse the impacts of the International Leadership Development Programme (ILDLP) has on their personal and professional development. The participants for the data collection in this research are based on international leaders and health professionals participated in the course within the last 3 years. The subjective and socially constructive results obtained in the analysis could bring multiple interpretations depending on the sense applied (Saunders et.al, 2012). The qualitative approach adopted is focussed on people's experiences, a holistic perception of subject's point of view (Skinner, et.al 2000). This method concerns processes, reflections and meanings clinical leaders put in place to make sense of their experiences at work. The instrument used to collect data is given by the human capacity to connect with individual in the project research with the objective of observes and record behaviours and gaining a good understanding of individual's point of view through words or non-verbal expressions.

The methodology to be used for this project will be developed in order to meet the key objectives based on the following Work Packages (WP).

WP1: Desk research. Systematic literature review of most recent research and health reports in order to develop the conceptual clinical leadership competency framework (**KO1 and KO2**). Some preliminary work has been done leading to recent publications in European Health Leadership and the development of impact case studies.

WP2: Mixed methods approach (distribution of a questionnaire and skype semi structured interviews with consultants and clinical directors) in order to assess current needs and development plans and

develop a European Clinical Leadership Competency Framework (**KO1 and KO2**). Sample data will be collected from the participants of the business courses delivered to members of the European Society of Thoracic Surgeons during the last 3 years (17 participants).

WP3: Focus groups with senior academics, program directors and senior consultants during Exchange university visits, symposiums, conferences (KO2 and KO3) to identify needs, and methods of delivery (**KO2 and KO3**).

This is work in progress and it is based on the development of two key case studies as produced with senior consultants and clinical leaders from their cross-national experience in different health settings.

6. CASES IN EUROPEAN CLINICAL LEADERSHIP

The European cases we developed demonstrated that that the greater the involvement of clinicians in the roles of management and governance the more efficient and productive their health care organizations become (Kyriakidou et al cited in Turner, 2017). The European clinical leadership case shows the impact of doctors may have in their medical practice when they exercise their qualities in leading their staff as part of their practice and promoting change within their health organisations. A clinical leader may become a potent force and holds wide appeal to reforming policy-makers. The majority of hospitals globally have taken into consideration the role of clinical director in where managerial responsibilities relating to financial and human resources is given to a clinician, who is also accountable for the performance of directorate (Kirkpatrick et al., 2016). A common assumption across the healthcare systems is that greater involvement clinicians in the roles of management and governance would have extensive benefits for effectiveness and efficiency of health care organisations (Veronesi et al, 2018).

Talent management: Developing leadership not just leaders

Talented leaders/managers are a sine qua non of every Health Care System.

Several years ago I had the opportunity to witness the **Belgian Health Care System** employed as a starting Consultant. Soon after commencement of employment I realized that the Department had all skills and expertise required to provide an excellent care to patients but was not able to identify well established, standardized and recorded standard operating procedures (SOP) for the postoperative management of patients. A common language amongst nursing, junior medical and senior medical staff members.

Obstacles to overcome:

1. Persuade team members of the need of such SOP in an established practice
2. Engage senior team members with established ideas and habits
3. Engage all 3 core teams of the Department (nursing staff, junior doctors, senior medical staff)

The need was obvious but the message was challenging. Being a fresh member and not the most senior I spent a period of time preparing an appropriate business case tailored to the needs of the individual system based on evidence (**preparation and tailor made presentation**).

I therefore identified and approached individual talents within all 3 teams who were respected amongst peers, were influential but also had the skills and the vision to identify innovation (**identify talents**).

I offered a period of consultation, allowing the case to become embedded, listening and not just hearing comments and suggestions (**team work, sense of ownership, opportunity to be heard**).

The most critical step was assignment of segments of the business case to individuals from all different teams with short cycles of auditing and insisting on deadlines (**team work, healthy competition amongst team members, global engagement and ownership, team building, delegate responsibilities while coaching and keeping control, identify and employ different styles of leadership**).

At the conclusion of the business case and the successful implementation of SOP an official presentation was arranged in Hospital. It allowed other teams to witness a good piece of work, offered a well-perceived recognition to all who worked hard for the completion, teased out the talents within the team and awarded the enthusiasts and innovators of the team. The end result was rewarding as the business case was completed in time, was accepted by all team members as it had several individual flavors, and left a sense of satisfaction and pride to all those who had worked with passion and enthusiasm (**sense of ownership, address and reward the talents, share good ideas and market them to a wider audience, keep talents engaged**).

Most recruiters when they try to identify talented managers to lead, traditionally focus on competencies, knowledge, skills and qualifications as these are generally easier to articulate, identify and measure. Some qualitative studies have pointed out that the major factors that are related to the improvement of hospital performance are physician engagement, leadership, culture, strategy, structure, good communication, training and skills and information (Brand et al., 2012). However, values, personality traits, organisational behaviours and motivational drivers are equally of value to identify talents.

As complexity in health care increases, European Health Management Systems require leaders (at every level) who can identify needs and current challenges in their practice, shift and adapt quickly, are resourceful and effective, who thrive on organisational change, inspire others and can make sense out of uncertainty and resistance to change for those they lead. Strong leadership is the key driver of overall organizational performance, and well-constructed talent management systems remain critical

to developing and retaining a successful pool of strong healthcare leaders, capable to meet growing demands for high quality, cost-effective care.

Clinical leaders should lead with purpose and clear outcomes. They are Emotionally intelligent individuals who are guided by ethos and values and capable in developing strong relationships with the people around them, empowering teamworking and participating leadership and as such, inspire whom they lead to make a difference.

An example of participative clinical leadership was the start **a single port minimally invasive thoracic surgery program** in the Department of Thoracic Surgery in Ancona, Italy, in which I have been working for more than 20 years. In the early 2000s, the advent of minimally invasive thoracic surgery, keyhole surgery revolutionized our specialty. Our centre was experiencing a difficult period of reduced productivity.

There was a need of an effective change that could boost the image of the unit and attract referrals.

In that period I had the chance to observe this new technique from a famous surgeon. **I immediately perceived this technique as a valuable change to introduce in our unit.** A change that could: 1. Revitalize the morale and enthusiasm of the team and 2. Increase surgical referrals and productivity.

The most important leadership skill to successfully implement this technique in our unit was my **ability to set direction and communicate** this to my colleagues. In that situation, it was critical to convince the team about the strategic importance of implementing the new technique.

Communication was the key to the success of the program. In fact, the first step was to communicate my vision to the other team members and buy them in. I presented and discussed my vision and objectives with my colleagues in the context of the emerging needs of the unit. Using a **participative leadership style** I encouraged my colleagues to share their ideas and opinions engaging them in the process. This was important as they all felt part of the project even if they initially were not directly involved in the surgery. The stepwise approach was well defined since the start in order to avoid misunderstanding and win resistance. Taking into consideration the opinions of my team members, I was able to set direction by building a **guiding team** consisting of two surgeons, who started to learn and apply this technique and subsequently were able to tutor the rest of the team. This led to increased surgical activity and productivity of the unit again.

Cases from the European countries also point out the importance of the leaders' ability to set direction and communication this to their team members. In the light of the above, clinical leadership is seen to be a critical factor in maintaining patient safety and quality in the healthcare (Montoute, 2013, Veronesi et al., 2013 and Dorgan et al., 2010)

Additionally, innovative Human Resource practices may result in a great cultural shift within main stakeholders involved in managing health conditions, allowing and promoting new service development and assist in shaping learning and development from clinicians, managers and commissioners. Hence, clinical leaders can exercise leadership and Emotional Intelligence qualities, manage talent within the hospital and make informed decisions since they have expert knowledge at the core of the health organization they are operating (Kyriakidou and Papagiannopoulos cited in Turner, 2018).

While the competencies and professional expertise/experience provide valuable information and insight about an individual's creditability for a particular role/position/responsibilities, personality traits and personal drivers help to evaluate a person's potential for developing leadership qualities, hence promotional opportunities into senior leadership positions.

REFERENCES

- Brand, C.A., Baker, A. L., Morello, R. T., Vitale, M. R., Evans, S.M., Scott, I. A., Stolewinder, J. U., and Cameron, P. A (2012). A review of hospital characteristics associated with improved. *International Journal for Quality in Health Care*, 24(5), pp. 483-494
- Cherniss, C., Goleman, D., Emmerling, R., Cowan, K., Adler, M. (1998) Bringing emotional intelligence to the workplace. A technical report issued by the consortium for research on emotional intelligence in organizations. Retrieved from: <http://imap.highforce.co.uk/freeguide/pdf/Bringing-El-to-the-Workplace.pdf>
- Cherniss, C., Goleman, D. (2001) *The emotionally Intelligent workplace. How to select for, measure, and Improve Emotional Intelligence in Individuals, Groups, and Organisations.* John Wiley & Sons: San Francisco, pp. 3-10
- Clay-Williams, R.; Nosrati, H.; Cunningham, F.C.; Hillman, K. and Braithwaite, J. (2014) Do large-scale hospital- and system-wide interventions improve patient outcomes: a systematic review. *BMC Health Services Research*, 4:369
- Dalma, M. (2012). Involving clinicians in hospital management roles: towards a functional integrative approach. *The International Journal of Clinical Leadership* 17(3):139-45
- Dorgan, S. et al. 2010 *Management in Healthcare. Why Good Practice Really Matters.* London. McKinsey and Co. And LSE, CEP.
- Enock, K. And Markwell, S. (2010). Interactions between managers, doctors and others: understanding individuals. [online]. Retrieved from: <https://www.healthknowledge.org.uk/public-health-textbook/organisation-management/5a-understanding-itd/interactions>
- Groves, K., McEnrue, M., Shen, W. (2008) Developing and measuring the emotional intelligence of leaders. *Journal of Management Development.* Vol. 27, Issue 2, pp. 225- 250. Available at: <https://doi.org/10.1108/02621710810849353>
- Ham, C. and Dickinson, H. (2008). *Engaging Doctors in Leadership. What we can learn from international experience and research evidence.* Health Services Management Centre. The University of Birmingham
- Hamilton, P., Spurgeon, P., Clark, J., Dent, J.; Armit, K. (2008). *Engaging Doctors: Can doctors influence organisational performance?* Coventry: NHS Institute for Innovation and Improvement. Retrieved from http://www.institute.nhs.uk/images//documents/BuildingCapability/Medical_Leadership/49794_Engaging_Doctors.pdf
- Hodzic, S., Scharfen, J., Ripoll, P., Holling, H., Zenasni, F. (2018) How efficient are emotional intelligence trainings: A meta-analysis. *Emotional Intelligence.* Vol. 10, Issue 2, pp. 138-148. Available at: <https://doi.org/10.1177/1754073917708613>
- Kirkpatrick, I & Hartley, Kathy & Kuhlmann, Ellen & Veronesi, Gianluca. (2016). *Clinical Management and Professionalism.* 325-340. 10.1007/978-1-137-38493-5_20.
- Kyriakidou, N. and Papagiannopoulos, K (2018) *Clinical Leadership in the European Health Sector* in Turner, P. *Leadership in Healthcare* published by Palgrave MacMillan later this year

- Kyriakidou, N; Papagiannopoulos, K and Bocceli, A. (2017) Developing Talent in Clinical Leadership, in Turner, P. Talent Management in the World's healthcare (May).
- The King's Fund (2012) Leadership and Engagement for Improvement in the NHS. London
- The King's Fund (2011). The Future of Leadership and Management at NHS. London
- Mayer, John D.; Salovey, Peter; and Caruso, David R., (2002) Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) Item Booklet. UNH Personality Lab. 26. https://scholars.unh.edu/personality_lab/26
- Mayer, J.D., Salovey, P. (1989-90) Imagination, cognition and personality. Emotional Intelligence. Vol 9, Issue 3, pp. 185-211
- Mountford, J. and Webb. C. (2009). When Clinicians Lead. McKinsey Quarterly, February 2009
- Nelis, D., Quoidbach, J., Mikolajczak, M., Hansenne, M. (2009) Increasing emotional intelligence: (How) is it possible? Vol. 47, pp. 36-41. Available at: <https://doi:10.1016/j.jpaid.2009.01.046>
- Wang, D., Waldman, D. A., & Zhang, Z. (2014). A meta-analysis of shared leadership and team effectiveness. *Journal of Applied Psychology*, 99 (2), 181.
- Warren, B. (2013) Healthcare Emotional Intelligence: Its Role in Patient Outcomes and Organizational Success. [online] Beckershospitalreview.com. Retrieved from: <https://www.beckershospitalreview.com/hospital-managementadministration/healthcare-emotional-intelligence-its-role-in-patient-outcomes-andorganizational-success.html> [Accessed 27 Mar. 2019]
- Veronesi, G.; Kickpatrick, I.; Sturdy, A. ; Oliver-Blanco, A. & Reguera, N. (2018). The Impact of management consultants on public service efficiency. *Policy & Politics*. 10.1332/030557318X15167881150799.
- Veronesi G., Kirkpatrick, I. And Vallascas, F. (2013). Clinicians on board: What difference does it make? *Social Science and Medicine*, 77, pp. 147-155.

PREPARATION FOR EXPATRIATION: DO MILLENIALS NEED OTHER CULTURAL TRAINING AND DEVELOPMENTS?

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ABSTRACT

Due to globalization and an increasing diverse and international workforce the preparation of Millennials/Generation Y for their future jobs raises new questions and challenges. The digital natives have special digital competencies and much more international experiences at a very early stage of their lives compared with earlier generations. Therefore, we presume that they no longer suffer from a cultural shock. Hence, this paper examines whether Jordanian, American and German millennial students still experience a culture and reverse culture shock. The overall research question is: "Is the concept of culture and reverse culture shock still applicable to Generation Y?" Primary data were conducted by guide-line supported face-to-face interviews. The empirical results show that the majority of Jordanian students have experienced a culture shock and also a reverse culture shock. The majority of German and American students did not have a negative perception due to culture difference during their sojourns abroad. Consequently, the traditional discussion about how to deal with cultural shock has to be modified.

Keywords: cultural shock, generation Y/Millennials, Human Resource Management, expatriation, students sojourns abroad

1. INTRODUCTION

Due to the increase in global business, human resources managers nowadays face the challenge to build a workforce that is able to deal with an intercultural environment and that is able to think cross-culturally (Luthans, 2011, p.35). Digitalization supports the communication beyond countries' borders. Intercultural expertise is particularly necessary for employees being deployed abroad (Luthans, 2011, p.32). For the sake of a successful deployment and later reintegration, it is necessary to explore the existence of a culture shock and a reverse culture shock in order to implement effective preparation measures for sojourners. Most graduates currently entering the labor market belong to Generation Y. Therefore the case study investigates Millennials' experiences.

The present paper explores whether a culture shock and a reverse culture shock for Generation Y still exists. The research question is: "Is the concept of culture and reverse culture shock still applicable to Generation Y?"

Three cases of intercultural experiences have been examined: American and Jordanian students' sojourns in Germany and German students' sojourns in the United States. Data have been conducted by guide-line supported face-to-face interviews and by the comparison of individual's culture shock and reverse culture shock curves tendencies. Finally, these data have been interpreted with reference to the research question. Based on the findings improved preparation measures are suggested.

2. LITERATURE REVIEW

2.1 Culture

A wide range of researches about culture in terms of human societies has been conducted, but yet no overall definition has been agreed on. In 1952 Kroeber and Kluckhohn conducted a critical review of concepts and definitions about culture analyzing 164 definitions published between 1871 and 1950 (Kroeber, Kluckhohn, 1952, p.149) concluding the following definition (Kroeber, Kluckhohn, 1952, p. 181):

"Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values; culture systems may, on the one hand, be considered as products of action, on the other as conditioning elements of further action."

Kroeber and Kluckhohn further state that their definition is not an overall theory, but rather a concept (Kroeber, Kluckhohn, 1952, p. 181). This concept needs to be revised continuously, because culture is adjusted over time. During the decades from 1950 and 2001 the anthropologist Edward T. Hall, the management consultant Alfons Trompenaars and the social psychologist Geert Hofstede have conducted well-known cross-cultural studies. In the course of their researches they have described culture as follows:

"[...] culture presents itself to us in layers. The outer layers are the products and artifacts that symbolize the deeper, more basic values and assumptions about life. The different layers are not independent from one another, but are complementary." (Trompenaars, Hampden-Turner, 1997 p. 27)

"Culture is a man's medium: there is not one aspect of human life that is not touched and altered by culture." (Hall, 1976, p.16)

"Culture is the collective programming of the mind that distinguished the members of one group or category of people from others." (Hofstede, 2001, p.1)

Another literature review has been conducted by Gomos. She describes six characteristics of culture (Gomos, n. d., p.4):

- o *Culture is dynamic and not static.*
- o *Culture is shared amongst members of a particular social group or society.*
- o *Culture is learned by members of the social group or society and not biologically inherited.*
- o *Culture is transmitted from one generation to the other.*
- o *Culture enables people to get properly adapted to their physical, social and political environments without much stress or challenges.*
- o *Culture differs from one society to the other.*

Moreover, she states that culture consists of materialist elements such as artifacts, customs and clothes and of non-materialist elements such as laws, norms, values, philosophies, folklores, folkways and art (Gomos, n. d., p.6).

In sum, deriving from the present definitions and characteristics the focus of this paper is on culture as »a complex concept of several traditional tangible elements as well as a collective state of mind and behavior that differentiates groups from one another. This concept has been and will be dynamically modified and transmitted over generations embossing everything in human's life.«

Certainly, all cultural definitions refer to an interpretation of a collective group. However, one collective is consisting of a big variety of individuals that think and behave differently even though they have the same culture (Hofstede, 2001, p.1). The continuous changes in culture and the variety of individuals are the reasons why there is no universal definition for the term culture. Furthermore, culture dynamics and individual values demonstrate the complexity of each culture and therefore the necessity to continuously conduct culture and cross-cultural researches.

2.2 The culture shock and reverse culture shock curve models

The terms "culture shock" and "reverse culture shock" as well as their developments are further explained consulting two models: In 1954 the anthropologist Kalervo Oberg has first spoken about four different stages of the culture shock (Oberg, 1954). Sverre Lysgaard has graphed those stages in an U-shaped curve (Lysgaard, 1955, p. 51). A further research has been conducted by Gullahorn and Gullahorn resulting in an extension of the original U-shaped model to a W-shaped culture shock and reverse culture shock (Weaver, 1960, p. 221) model (Gullahorn, Gullahorn, 1962).

The culture and reverse culture shock curve are graphically presented in figure 1. The curve is drawn based on the literature review and based on previously drawn models (e.g. Woesler, 2009). However, one major change has been made in comparison to other models. Prior researchers have illustrated a smooth transition from the low point of the culture shock in the entry phase to a maximum when

entering the home culture. This is a vague illustration, because literature review indicates that there is a phase of stable adjustment after the recovery of a culture shock as shown in figure 1.

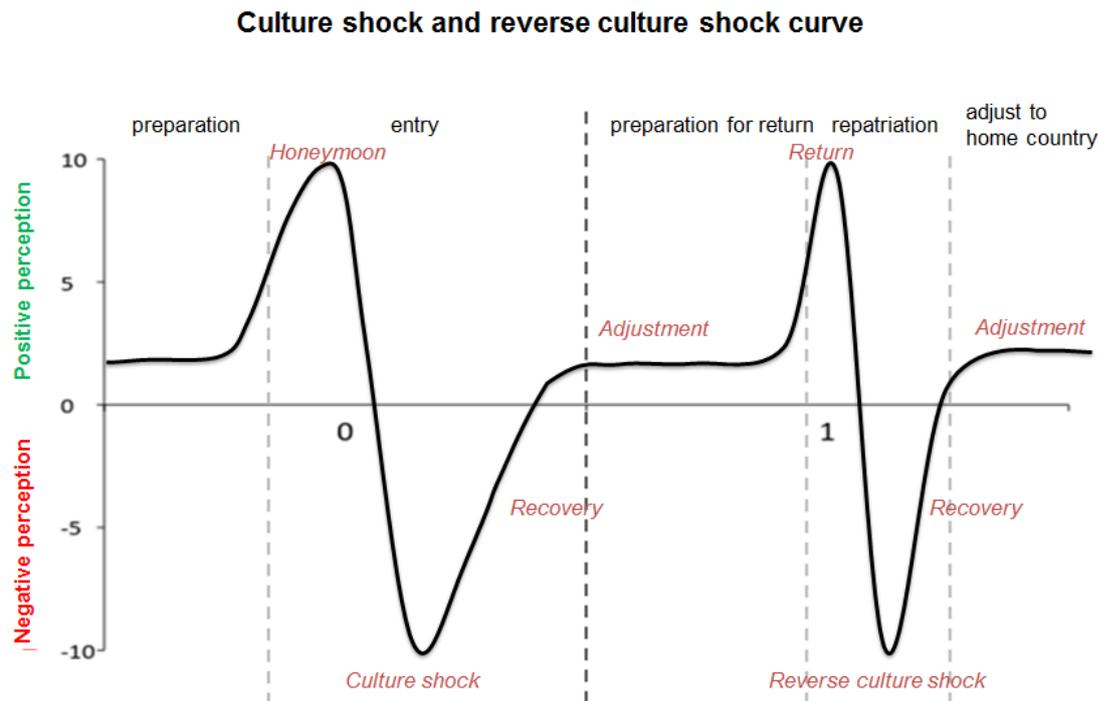


Fig. 1: Culture shock and reverse culture shock curve (own research based on Oberg, 1960 and Gullahorn and Gullahorn, 1963)

2.2.1 The culture shock

As soon as sojourners go abroad, they enter the first stage, i.e. the honeymoon stage (Oberg, 1960, p.178), also called the tourist phase (Winkelmann,1994, p.2). This phase is characterized by fascination, excitement about and interest in the new country and its culture (Oberg, 1960, p. 178). The honeymoon phase lasts from a couple of days up to half a year depending on the sojourner's character, the reason for the stay and the environment (Oberg, 1960, p. 178). During the honeymoon stage, people are generally spoken not getting completely involved with the foreign culture (Weaver, 1960, p.220). They are still discovering the surroundings, are often involved with country mates or institutions and are thereby isolated from the host culture (Winkelmann, 1994,p.2).

If a sojourner wants to spend a certain period of daily life in the foreign country, he/she faces the "real conditions of life" (Oberg, 1960, p. 178) and daily life-struggles increase (Oberg, 1960, p2). Difficulties might arise from e.g. a climate change leading to physical problems or increased uncertainties through broken routines and communication barriers (Weaver, 1960, p.220). The sojourner starts to feel frustrated, frightened or depressed (Oberg, 1960, p. 178). If daily situations seem uncontrollable, they result in stress and the stage of culture shock, the crisis, emerges (Oberg, 1960, p.179; Weaver, 1960, p.220). Oberg defines culture shock as "the anxiety that results from losing all our familiar signs and

symbols of social intercourse" (Oberg, 1960, p.177). It is psychologically proven that an overstraining situation that gets uncontrollable leads to stress (Struhs-Wehr, 2017, p.33). Therefore, it is assumed that a culture shock can be described as a form of stress. Stress is perceived subjectively (Struhs-Wehr, 2017, p. 39) and its heaviness and duration depends on an individual's evaluation of the situation and his/her behavior (Struhs-Wehr, 2017, p. 39). Psychologists call it the resilience ability, i.e. the ability to recover from stress (Aronson et al., 2014, S. 545). Transferred to the term culture shock, it means that a culture shock is perceived subjectively as well and its heaviness and durations depend on each sojourner's ability to recover from the shock.

The third stage is the recovery from a culture shock (Oberg, 1960, p.179). It is also called reorientation (Winkelman, 1994,p.2). In this phase sojourners try to find solutions to cope with the new environment (Oberg, 1960, p.179). There are two different generalized ways sojourners take. Some sojourners start to acculturate, i.e. they adapt to the new culture. They deal with cultural differences, study the language and involve with inhabitants (Winkelman, 1994, p.2). However, one should take into consideration that not everyone is acculturating. Some sojourners also find a solution in isolating themselves from the culture (Winkelman, 1994, p.2). Both ways are methods for reorientation having one important aspect in common: Sojourners have changed their attitudes in order to deal with the new circumstances and recover from the culture shock (Oberg, 1960, p.179).

After a while of reorientation a sojourner reaches the fourth stage, the complete adjustment (Oberg, 1960, p.179). Sojourners accept the foreign culture and have found a stable way of living in the new country without feeling frightened or overstrained (Oberg, 1960, p.179).

2.2.2 The reverse culture shock

During their research, Gullahorn and Gullahorn have come to the result that after successfully adapting to a new culture the same shock-like state, the so-called reverse culture shock, can occur when people return to their own country and have to adapt again from their host culture to their home culture (Gullahorn, Gullahorn,1963, p. 7). The reentering can stress people even more than entering a new culture depending on the degree of involvement in the foreign culture and on the expectation of a reverse culture shock (Weaver, 1960, p.221). After being integrated to another culture, sojourners might identify themselves with their host country's culture (Gullahorn, Gullahorn, 1963, p7). In addition, impacts on personal growth and changes in characteristics and values are often outcomes of a long-term sojourn and are increasing the necessity of a reacclimation (Gullahorn, Gullahorn, 1963, p.7).

2.3 Generation Y

Since the majority of current labor market entrants are affiliated to Generation Y, this paper investigates the culture shock and reverse culture shock experiences among Millennials. Therefore, it is necessary to define Generation Y and describe general characteristic.

There is no overall consensus on the birth years of Generation Y. However, reviewing different literature, the so-called Millennials are born between 1980 and 2001 (e. g. Black, 2010; Ng, McGinnis Johnson, 2015; Vuokko, 2016). The developments of those years have a huge impact on Generation Y's behavior and way of thinking (Ng, McGinnis Johnson, 2015, p. 121). Especially the technological development is affecting Generation Y (Vuokko, 2016, S.5). Due to their dependency on technology, Millennials are considered as digital natives (Black, 2010, p.94). This term has first been introduced by Prensky claiming that young people nowadays speak "digital language" fluently (Prensky, 2001). Furthermore, the Generation Y is highly educated and trained to think critically (Ng, McGinnis Johnson, 2015, p. 123). Millennials are characterized by strong desires of self-fulfillment, growth and independency (Pope et al, 2014 p. 98, 99). Those desires are motivators for millennial students to integrate a sojourn abroad during their studies (Pope et al, 2014 p. 105). Moreover, Millennials seek to achieve a good work-life-balance (Vuokko, 2016, S.4).

However, in chapter 2.1 it has already been defined that every cultural collective consist of individuals thinking and behaving differently. It is also necessary to take this into consideration when describing Generation Y. Even though a consensus of certain characteristic within Generation Y exists, recent generational researches have questioned the existence of a global Generation Y (Ng, Parry, 2016). Due to significant differences in politics, economy, society and culture between countries (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69), it is necessary to limit generational studies in a local context (Ng, Parry, 2016). Consequently, the outcomes of generational studies can only be related to characteristics and behaviors of Generation Y in those countries that have been examined. Due to cultural differences between countries it is very vague to transfer findings of certain generational studies to other cultures and deriving a definition of a global Generation Y. Therefore, we agree with present literature stating that a global Generation Y does not exist (Ng, Parry, 2016). This emphasizes the necessity to conduct researches about Generation Y in a variety of countries.

3. HYPOTHESES DEVELOPMENT

As the culture shock and reverse culture shock models have been developed before Generation Y was born, it is questionable whether Oberg's culture shock curve model and Gullahorn and Gullahorn's reverse culture shock curve model are still applicable to Generation Y.

Millennials are grown up with a huge diversity within a nation (Ng, McGinnis Johnson, 2015, p. 123). Due to interacting with different races and cultures in their daily life, Generation Y has developed an ability of inclusion (Ng, McGinnis Johnson, 2015, p. 123). The trends of multi-cultural nations, diversity and the advanced technology resulting in an ease of communication and travelling around the world create the possibility for Millennials to highly perceive globalization and create an increase in culture exchange (Pope et al, 2014 p. 97; Black, 2010 p. 96). Millennials “[...] serve as ambassadors who are bringing cultures, countries, and religions closer with online communication”. (Black, 2010, p.96) Those characteristics may lead to the assumption that Generation Y does not perceive any culture shock.

However, the contact between different ethnics and cultures in one’s own country has been described as “within-society contact” (Bochner, 2003, p. 1). In contrast, a long-term sojourn is referred to a “between society culture-contact”, meaning a culture exchange beyond the home countries boundaries (Bochner, 2003, p. 1). The difference between those experiences is that the long-term sojourner actually leaves his/her home country and exposes him/her to a strange environment. Additionally, it should be considered that people from other ethnics and cultures within one society might have adjusted or even acculturated well to the society’s original culture. Hence, a complete exposure to a foreign culture can only happen by doing a long-term sojourn abroad. In consequence, that means, even if Generation Y has made some cultural experiences within its society, it is not comparable to a long-term sojourn abroad. Also the fact that travelling is easier nowadays cannot be stated as an argument for the reduction of a possible culture shock, because a short-term travel does not lead to anything beyond the honeymoon stage (Oberg, 1960).

Moreover, in chapter 2.3 it has been shown that there is no such phenomenon like a global Generation, but that individuals within a local Generation Y and Millennials of different origins can be very different from each other. The acculturation in a foreign country and hence the reaccluturation in the home country is not influenced by the time people are born, but rather by the differences of the home and host countries in social, political, economic and cultural factors and by individuals’ personality and sojourn situation as shown in figure 2 (Ward, Bochner, Furnham, 2001, p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69).

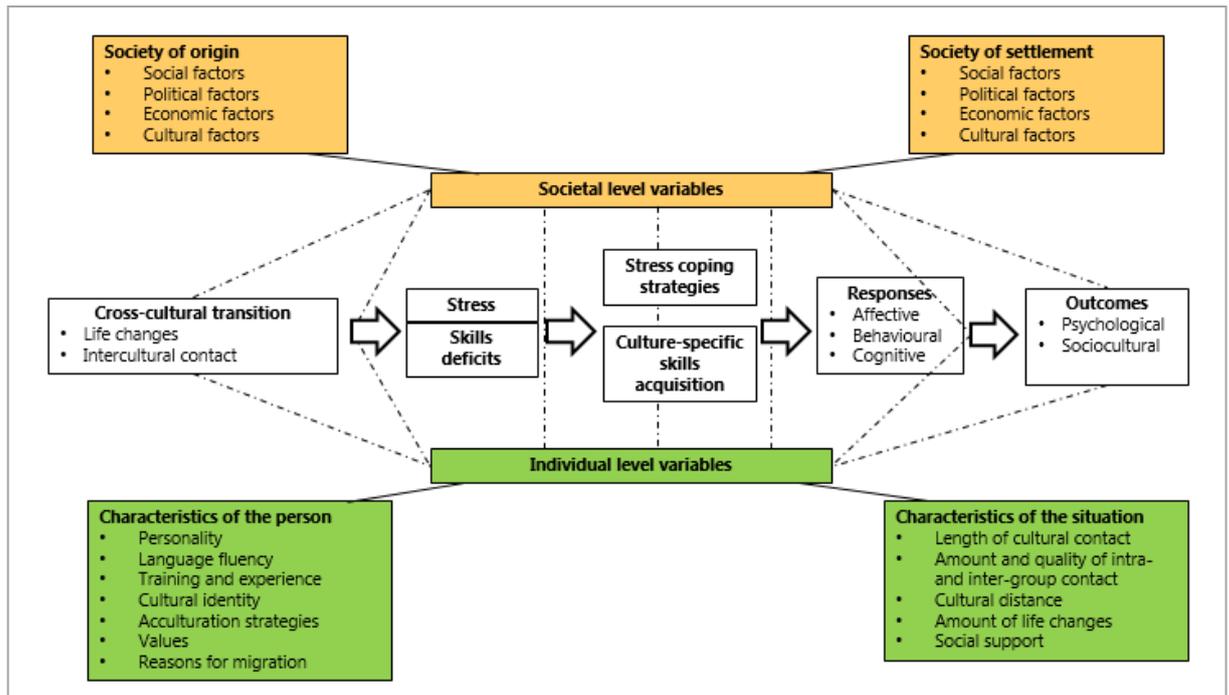


Fig. 2: Societal and Individual level variables (own visualization based on Ward, Bochner, Furnham, 2001; Zhou, Jindal-Snape, Topping, Todman, 2008)

Based on those arguments it is assumed that Millennials can still experience a culture shock as well as a reverse culture shock when returning home. Hence, it is hypothesized:

H1: "The majority of millennial students experiences a culture shock during a long-term sojourn abroad."

H2: "The majority of millennial students experiences a reverse culture shock after returning home from a long-term sojourn abroad."

In the following chapters the hypotheses are analyzed qualitatively with the interview data.

4. METHODOLOGY

4.1 "Societal level variables" influencing the acculturation

The acculturation in a foreign country and assumingly the reacclturation in the home country are influenced by so-called "societal level variables", i.e. the social, political, economic and cultural differences of the home and host societies (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69). Consequently, it is necessary to compare firstly the case of Millennials sojourning in a country with similarities to their home country's societal level variables and secondly the case of Millennials sojourning in a country with significant differences to their home country's societal level variables.

Therefore, this research is examining the cultural experiences of sojourners from two Western countries with similarities on all societal level variables: the United States and Germany. Moreover, an Eastern country with significant differences on the societal level is chosen: Jordan. To examine the similarities between the US and Germany in contrast to Jordan, the GDP per capita is compared as well as certain cultural dimensions.

For a short comparison of the economical situations and as an indicator of living standard the GDP per capita is compared. The US has a GDP per capita of \$65,058 and Germany has a GDP per capita of \$53,577. In contrast, Jordan's GDP per capita is quite low with \$4,448 (World Population Review, 2019) indicating a lower living standard in comparison to the US and Germany.

For further societal and cultural comparisons Hofstede's six dimension model is consulted revealing that the US and Germany have strong similarities in the dimensions "power distance", "individualism" and "masculinity" as visualized in figure 3 (Hofstede, 2010). In those dimensions Jordan is significantly different.

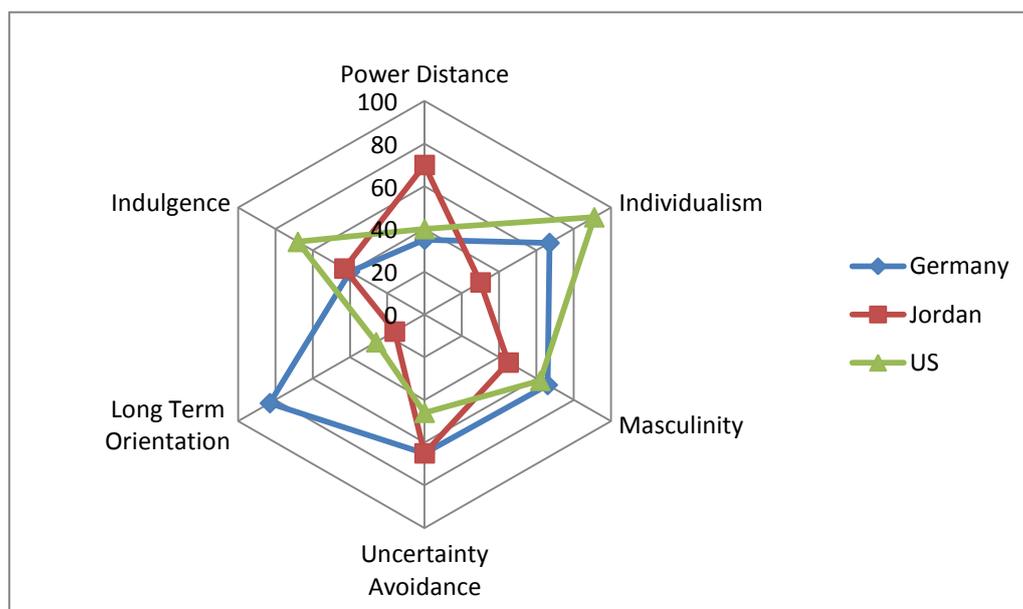


Fig. 3: Comparison of the six culture dimension model's outcomes for Germany, Jordan and the US by Geert Hofstede (own visualization based on Hofstede, 2010)

As illustrated, Jordan is a high power-distant country (70). The government of the Hashemite Kingdom of Jordan is shaped by a unitary parliamentary constitutional monarchy. Also within organizations and families strict hierarchies, centralization and autocrat leaderships exist. In contrast, Germany (35) and the USA (40) are considered to be low power distant countries. Both countries are republics and have a wide middle class. In organizations, equality and participation are important shown by managers and employees consulting and relying on each other (Hofstede, 2010).

Germans (67) and Americans (91) are individualistic. They mostly care about their “inner circle” and highly value independency, autonomous work, high sense of responsibility, an honest and direct communication and constructive criticism. In contrast, Jordanians are highly collectivistic (30) expecting a high sense of importance, loyalty and responsibility among their wide circles. For the sake of harmony indirect communication is preferred and offence rather avoided (Hofstede, 2010).

Jordan is considered to be a feminine society (45) whereas Germany (66) and America (62) are considered to be masculine. Generally spoken, Jordanians work for the necessity to earn money, are motivated by liking their work and focus on their spare time. In contrast, Germans and Americans put a high value on work. Work is seen as a way of self-fulfillment and a source of self-consciousness. Motivation is derived from competitiveness, monetary rewards and status symbols (Hofstede, 2010).

To summarize, it is obvious that in contrast to Jordan, the US and Germany share a lot of similarities in politics, economy, society and culture. Table 1 provides an overview of the societal level similarities between the US and Germany in contrast to Jordan.

Societal level variables	US & Germany	Jordan
Politics	Republic	Monarchy
Economics	High living standard, wealthy	Low living standard
Culture	Low power-distance Individualism Masculine	High power-distance Collectivism Feminine
Society	Wide middle class, equality Close inner circle Direct communication Values: Independency, autonomy, work	Inequality Wide circles Indirect communication Values: Loyalty, harmony, spare time

Tab. 1: Societal level similarities between the US and Germany in contrast to Jordan (own visualization based on Hofstede, 2010 and World Population Review, 2019)

Hence, exploring the culture shock behavior of Germans sojourning in America and Americans and Jordanians sojourning in Germany might show different results and reasons for the existence of a

culture shock due to similarities and differences on the societal level. Therefore, it is necessary to investigate those different cases.

4.2 “Individual level variables” influencing the acculturation

The acculturation in a foreign country is furthermore influenced by “individual level variables”, that means the characteristics of the personality and characteristics of the situation abroad (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69).

In order to investigate the acculturation process of the interviewees a guideline-supported interview and a template for drawing the culture shock and reverse culture shock curve were used. The interview is designed with open questions to keep the horizon of the responses wide. The interview starts with an introduction explaining the research topic and the purpose of the interview beforehand. The first part of the interview contains ten general questions regarding the characteristics of the situation (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69) of staying abroad. The questions examine the purpose and duration of the stay, whether the interviewee went abroad alone or in company, the frequency, purpose and methods of contacting family and friends at home, significant events abroad, life changes, in particular developed competencies and abilities, the perceived culture distance, the support during the preparation and beginning phase and the adaptation methods to new situation and their impacts (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69).

In the second part five questions conduct information about the personality (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69) of the interviewee. They address the knowledge of foreign languages, long-term experiences in foreign countries prior to the stay abroad, the fulfillment of stereotypical characteristics, the methods to increase the comfort factor abroad and the interviewees’ values as well as changes in values due to the stay abroad (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69).

The third part is particularly concentrating on the interviewee’s own reflection on a possible culture shock and reverse culture shock. Therefore, the interviewee gets an empty template consisting of five different phases: The beginning, the entry, the preparation for return, the repatriation and the adjustment to home. The interviewee is asked to describe his/her emotional state within each phase on a scale from +10 indicating very happy and -10 indicating very unhappy and to draw his/her curve respectively. Additionally, he/she is asked to explain the reasons for positive or negative slopes of the curve. Afterwards, the interviewee is asked to explain possible reasons that could have changed the curve progression.

The interview ends with examining the interviewee’s desires for another long-term sojourn and his/her favored and unfavored countries.

4.3 Data collection

The interviews include students from the Lübeck University of Science and Technology (THL)/Germany who have done a sojourn at Milwaukee School of Engineering (MSOE)/US, students from the MSOE and from the German Jordanian University (GJU)/Jordan who have done a sojourn in Germany at THL. The preconditions are having spent at least two terms abroad and the affiliation to Generation Y.

The interview was conducted face-to-face. By the interviewer getting in direct contact with interviewees, the interviewer seems more serious about the research and more thankful for the interviewees' participation (Hague, Cupman, Harrison, Truman, 2016, p. 156). The direct contact encourages a more detailed response (Hague, Cupman, Harrison, Truman, 2016, p.156). Additionally, drawing the personal culture shock and reverse culture shock curve is easier by using analog methods. The interviews have been conducted in the premises of MSOE, GJU and THL.

5. ANALYSIS AND RESULTS

5.1 Interviewees' characteristics

The Jordanian sample consists of nine students/graduates. 67% of the interviewees are female. 67% were born in 1995 and 33% in 1996 with the average age of 22.1 years. Four interviewees have spent one and a half years in Germany. Five interviewees have spent one year in Germany. The German sample consists of nine students. 33.33% are female. They have stayed two terms in the United States. The American sample consists of eight students. 37% of the interviewees are female. The average age is 20.75 years. Seven of the interviewees stayed for two terms in Germany, one of the Americans did a sojourn for one term.

5.2 Hypotheses analysis

5.2.1 Jordanian individuals' curve comparison

The Jordanian interviewees' individually drawn curves reveal graphically the existence of a **culture shock** for the majority (see table 2 and figure 4). All interviewees have drawn a minimum in the entry phase. Seven of the minimums are drawn in the area of negative perception, indicating that 77.78% of the interviewees have experienced a culture shock.

The Jordanian interviewees' individual curves also illustrate the existence of a **reverse culture shock** for the majority of the students (see table 2 and figure 4). In the phase of repatriation seven of nine interviewees have drawn their curves in the area of negative perception. Two aspects become obvious:

Firstly, four of the curves have already had a negative slope in the preparation for return. Secondly, six of the decreasing curves do not really have a constant minimum for a certain time. Since seven of the curves are in the area of negative perception and five of them went down within or shortly before the phase of repatriation, it indicates that 77.78% of the interviewees have experienced a reverse culture shock.

Jordanian interviewees	Culture and reverse culture shock phases positive perception: + ; negative perception: -				
	Preparation	Entry	Preparation for return	Repatriation	Adjust to home country
1	+ / -	+ / - / + culture shock	+	+	+
2	+	+	+	- reverse culture shock	- / +
3	+	+ / - / + culture shock	+	+ / - / + reverse culture shock	+
4	- / +	+	+ / - / +	+	+
5	+	+ / - / + / - / + culture shock	+ / -	- reverse culture shock	- reverse culture shock
6	+ / -	- / + culture shock	+ / -	- reverse culture shock	- / +
7	+	+ / - / + culture shock	+ / -	- reverse culture shock	x
8	+	+ / - / + culture shock	+ / -	- reverse culture shock	-
9	+	+ / - / + culture shock	+ / -	- reverse culture shock	- reverse culture shock

Tab. 2: Individuals' culture shock and reverse culture shock curves from Jordanian students during/after their sojourn in Germany (own research)

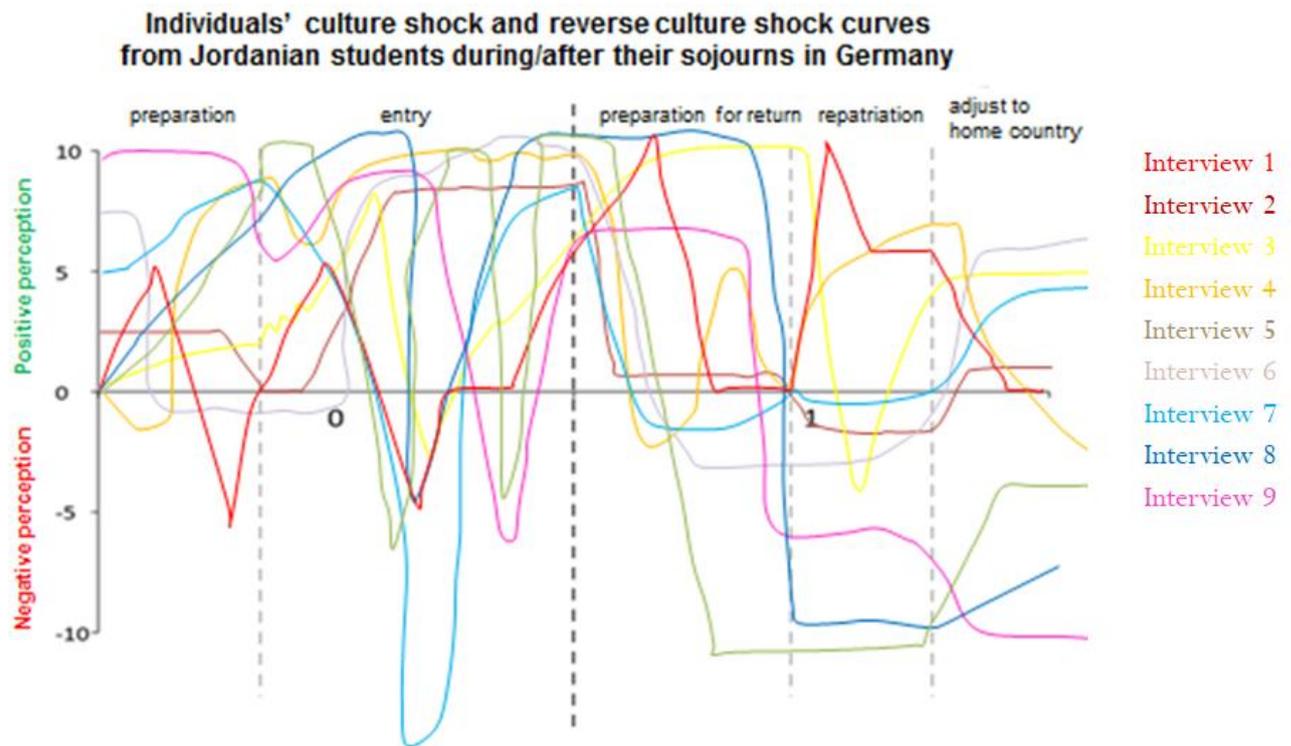


Fig. 4: Individuals' culture shock and reverse culture shock curves from Jordanian students during/after their sojourn in Germany (own research)

Jordanian students that have experienced a culture shock have described problems in daily life, e.g. language barriers, difficulties with going alone to the university, problems with the accommodation, living alone and not being able to contact the family at home. Moreover, six of nine students perceived a culture distance in German's individualistic behavior and Jordanian's collectivistic behavior. The sojourners perceived that Germans are e.g. less social, less communicative and less reaching out than Jordanians whereas Jordanians described themselves with being hospitable, sociable and family-oriented.

Those students who have already drawn a negative slope in the preparation for return explained that they have been sad about leaving Germany, the new environment and people they have met. Only one student has drawn a minimum as suggested by Gullahorn and Gullahorn. Six students have drawn a continuous negative perception. Their negative perceptions in the repatriation phase results mainly from leaving Germany where they have experienced independency, freedom and growth in being self-reliant and from going back to Jordan to old routines and family rules. Moreover, one student explained the term reverse culture shock as a result of being well adjusted to Germany.

5.2.2 German individuals' curve comparison

A **culture shock** among German students sojourning in the United States did not exist like the typical cultural shock model suggests (see table 3 and figure 5).

German interviewees	Culture and reverse culture shock phases positive perception: + ; negative perception: -		
	Preparation	Entry	Preparation for return
1	- / +	+ / - / + / - / + / - / + minimum	+
2	+	+	+
3	- / +	+ / - / + minimum	+ / -
4	+	+	+
5	-	+ / - / + minimum	+
6	+ / -	- / + / - / + minimum	+
7	+	+	+ / -
8	- / +	+ / - / + minimum	+
9	+	+	+

Tab. 3: Individuals' culture shock curves from German students during their sojourn in the United States (own research)

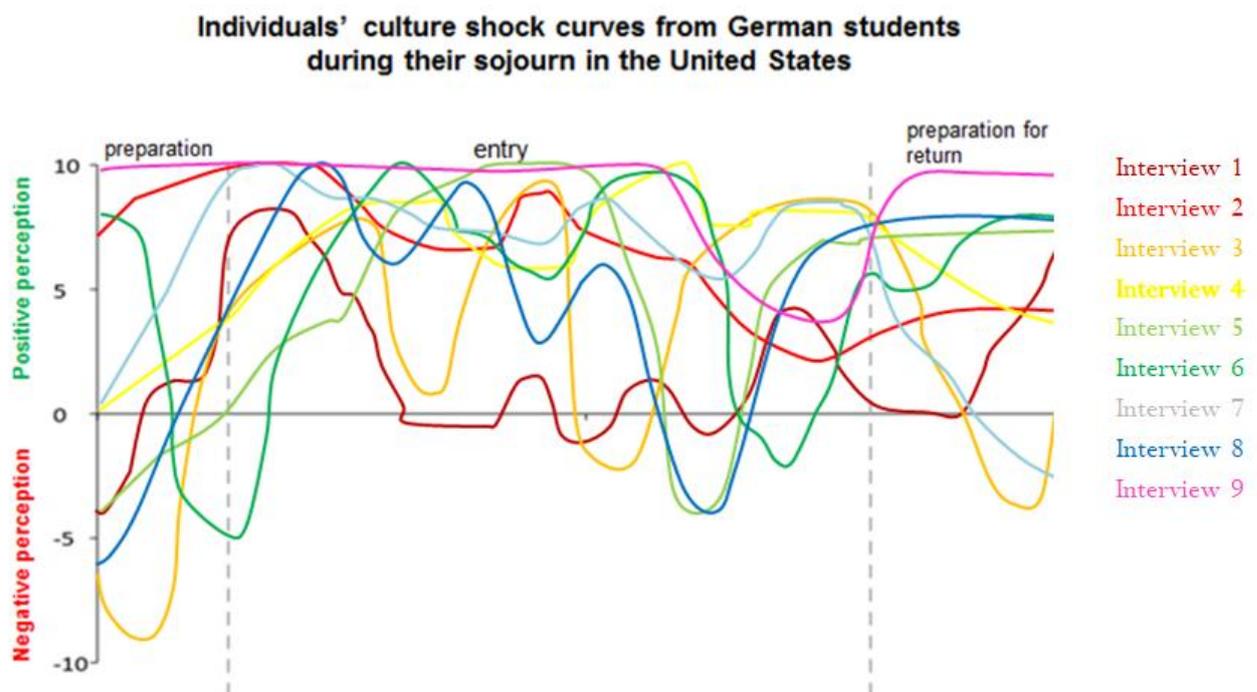


Fig. 5: Individuals' culture shock curves from German students during their sojourn in the United States (own research)

German students have explained the minimums of their curves with the partners leaving after a visit, with uncertainties about life progress and future work and with the stress of the bachelor thesis phase. However, those reasons are rather future uncertainties that supposedly would have emerged in Germany as well.

5.2.3 American individuals' curve comparison

The American individuals' curves illustrate for only half of the students the existence of a **culture shock** (see table 4 and figure 6).

American interviewees	Culture and reverse culture shock phases positive perception: + ; negative perception: -		
	Preparation	Entry	Preparation for return
1	+	+ / - / + / - culture shock	-
2	+	+ / - / + / - / + minimum	+
3	+	+ / - / + culture shock	+
4	+	+	+
5	+	+	+
6	+	+ / - / + / - / + minimum	+
7	+	+	+
8	-	- / +	+

Tab. 4: Individuals' culture shock curves from American students during their sojourn in Germany (own research)

study plan than having issues due to cultural differences. Hence, H1 "The majority of millennial students experiences a culture shock during a long-term sojourn abroad" can be corroborated for Jordanian students sojourning in Germany, but falsified for the German and American cases.

The examination of the Jordanians' reverse culture shock curves has revealed that the majority of the Jordanian students has experiences a reverse culture shock. The necessity to reacclurate to the home culture after adjusting to the German culture and after personal growth agree with Gullahorn and Gullahorn's research about how and why a reverse culture shock evolves (Gullahorn, Gullahorn,1963, p.7). Hence, H2 "The majority of millennial students experiences a reverse culture shock after returning home from a long-term sojourn abroad" is corroborated for this case.

The research question: "Is the concept of culture and reverse culture shock still applicable to Generation Y?" can be answered with a yes. However, the existence of a culture shock and reverse culture shock is obviously related to how strong the differences in societal level variables are.

Therefore, the outcomes validate the researches about the significance of political, economic, societal and cultural differences between countries (Ward, Bochner, Furnham, 2001 p. 44; Zhou, Jindal-Snape, Topping, Todman, 2008, p. 69) and the necessity to limit generational studies in a local context (Ng, Parry, 2016). The findings also emphasize the non-existence of a global Generation Y.

7. RECOMMENDATIONS FOR IMPROVEMENTS

For all samples a good measure is to have an interactive workshop for training cross-cultural awareness, especially for sojourners that will go to a country with a very different culture. For Jordanians from GJU, a special focus should be put on increasing students' expertise in German culture and on the awareness of the differences between individualism and collectivism. The workshop should be an obligatory requirement in order to increase the attendance. Furthermore, alumni students should present a realistic overview of their experiences, including expenses, difficulties as well as their problem solving methods.

Those universities that do not provide a study buddy program should implement it. The host university should train their buddies by increasing the awareness for cultural differences and for the importance of their help. In order to avoid that study buddies only participate in the program to get a certificate for social engagement, the international office should implement control measures to evaluate if the buddies fulfilled their task, e.g. by a questionnaire for sojourning students and by requiring a report from the buddies after the program. Furthermore, study buddies should be assigned latest one month before the arrival and get the duty to help finding an apartment if it is still necessary.

Before returning home, the host university could provide another preparation workshop providing discussions and exercises for sojourners with the objectives of making them aware of returning home, of their personal changes, of possible changes in their home country and of a possible reverse culture shock.

8. LIMITATIONS AND OUTLOOK

This research is limited to the examination of a culture shock among American, Jordanian and Germans millennial students doing a sojourn in America and Germany and additionally a reverse culture shock for the Jordanian students. It is not possible to draw a conclusion for Generation Y worldwide. In order to get a result for Generation Y's culture shock and reverse culture shock across the world more researches with Millennials from different origins doing a sojourn in diverse countries should be conducted and compared.

As the research reveals that Jordanian students experience a reverse culture shock when returning from Germany, future researches should examine if there is a significant correlation between the strength of a reverse culture shock and returning to a country that is less developed and less wealthy than the country of sojourn. Furthermore, future research can be conducted about the relationship between the strength of a culture shock and entering a country that is less developed and less wealthy than the home country.

In the course of future researches it can be furthermore useful to develop an additional standardized questionnaire conducting quantitative, metric data considering the strength of sojourners' culture shock and reverse culture shock and diverse influencing factors in order to analyze statistically causes and effects. For the standardized questionnaire a larger sample should be chosen in order to increase the reliability of the outcomes.

REFERENCES

- Aronson, E., Wilson, T., Akert, R. (2014): *Sozialpsychologie*, 8th Edt., Hallbergmoos: Pearson
- Black, A. (2010): Gen Y: Who they are and how they learn, in: *Educational Horizin*, Vol. 88, No. 2, pp. 92-101, Bloomington, Phi Delta Kappa International
- Gullahorn, J.T., Gullahorn, J.E. (1963): An Extension of the U-Curve Hypothesis in *Journal of Social Issues*, Vol. 19, Issue 3
- Hall, E. T. (1976): *Beyond Culture*, Garden City New York: Anchor Press
- Harrison, M., Cupman, J., Truman, O., Hague P. (2016): *Market Research in Practice. An Introduction to Gaining Greater Market Insight*, 3rd Edt, London: Koganpage Ltd.
- Hofstede, G. (2001): *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations*. Thousand Oaks, California: Sage Publications.
- Kroeber, A.L. and Kluckhohn, C. (1952) *Culture: A Critical Review of Concepts and Definitions*, Peabody Museum, Cambridge, MA
- Luthans, F., Luthans, B., Luthans, K. (2015): *Organizational Behavior. An evidence-based approach*, 13th Edt., NY: Information Age Publishing, Inc.

- Lysgaard, S. (1955): Adjustment in A Foreign Society: Norwegian Fulbright Grantees Visiting The United States in *International Social Science Bulletin: Social Factors in Personality*, Vol. 7, No. 1
- Ng, E. S. W., Mc Ginnis Johnson, J. (2015): Millennials: Who are they, how are they different, and why should we care? in *The multigenerational workforce: Challenges and opportunities for organisations*, p.121-137, USA: Edward Elgar Publishing
- Ng, E. S. W., Parry, E. (2016): Multigenerational research in human resource management, in *Research in Personnel and Human Resources Management*, Vol. 34, p. 41
- Oberg, K (1960): Cultural Shock: Adjustment to new Cultural Environments in *Practical Anthropology*, 7th Edt., p.177-182
- Pope, J. A., Sanchez, C. M., Lehnert, K., Schmid, A. (2014): Why do Gen Y students study abroad? Individual Groth and the Intent to Study Aroad in *Journal of Teaching in International Business*, Vol. 25, p. 97 – 118
- Prensky, M. (2001): *Digital Natives, Digital Immigrants*, in *On the Horizon*, NCB University Press, Vol. 9 No. 5
- Struhs-Wehr, K. (2017): *Betriebliches Gesundheitsmanagement und Führung*, Wiesbaden: Springer Fachmedien Wiesbaden GmbH
- Trompenaar, F., Hapden-Turner, C. (1997): *Riding the Waves of Culture. Understanding Cultural Diversity in Business*, London: Nicholas Brealey International
- Ward, C., Bochner, S., Furnham, A. (2001): *The Psychology of Culture Shock*, 2nd Edt., London: Routledge,
- Weaver, G. R. (1960): The Process of Reentry in Weaver, Gary R.. *Culture, Communication and Conflict: Readings in Intercultural Relations*. 2nd ed. Boston, MA: Pearson Publishing, 2000, pp. 220-228.
- Winkelman, M. (1994): Cultural Shock and Adaption in *Journal of Counseling & Development*, Vol. 73
- Woesler, M. (2009): A new model of cross-cultural communication. Critically reviewing, combining and further developing the basic models of Permutter, Yoshikawa, Hall, Hofstede, Thomas, Hallpike, and the social-constructivism, in *Comparative Cultural Science*, 2nd Edt. Vol.1, Berlin: European University Press
- Zhou, Y., Jindal-Snape, D. Topping, K., Todman, J. (2008): Theoretical models of culture shock and adaptation in international students in higher education in *Studies in Higher Education*, Vol. 33, No.1, pp. 63-75
9. Online sources
- Bochner, S. (2003): Culture Shock Due to Contact with Unfamiliar Cultures. *Online Readings in Psychology and Culture*, Unit 8, No. 1, retrieved from <http://dx.doi.org/10.9707/2307-0919.1073>, 10/10/2018
- Gomos, J. N. (n. d.): Culture, Department of Sociology, retrieved from www.academia.edu/download/55600870/THE_CULTURE.docx, 08/15/2018
- Hofstede, G. (2011): Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, Unit 2, retrieved from <https://doi.org/10.9707/2307-0919.1014>, 08/15/2018
- Vuokko, E. (2016): *Understanding Motivational Factors in Business Environment: Difference between Baby Boomers, Generation X, and Generation Y*, Helsinki: Helsinki Metropolia University of Applied Sciences, retrieved from <https://www.theseus.fi/bitstream/handle/10024/113325/Thesis%20-%20Essi%20Vuokko%20-%20Print.pdf?sequence=1,08/26>
- World Population Review (2019): GDP by country 2019, retrieved from <http://worldpopulationreview.com/countries/countries-by-gdp/> 04/23/2018

INNOVATIVE TEACHING CONCEPT FOR FUTURE MANAGERS IN AGILE COMPANY STRUCTURES - SUPPORTING STUDENTS' SELF- ORGANIZATION AND COLLABORATIVE LEARNING SKILLS

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ABSTRACT

The requirements for future managers and high skilled professionals in an agile and digital working environment are changing dramatically. This has to be taken into account within the developments of academic education. The students have to be prepared and trained from the beginning of their studies to work in collaborative, diverse teams and cope with new leadership concepts like remote leadership. The project "module maps" worked as an innovative approach to develop the needed skills among the students. The student body in Germany has become more diverse over the past 10 years. There are more students with special biographies and different backgrounds entering universities, like being parents, disabled, employees, transgender, migrated, first generation academics, different religions etc. Collaborative learning, also supported by virtual learning environments, offers them the opportunity to participate in the academic world and seize equal opportunities. But these student groups sometimes require special integration, networking support and supervision in order to feel welcome, so that they do not give up early. The dropout rate just in the STEM (science, technology, engineering and mathematics) subjects is alarming. With the project "module maps" we designed and practically tested an innovative approach that takes into account both aspects: the increasing diversity of the student body and the importance of collaborative learning for the future managers in agile company structures.

Keywords: academic success, self-organization, collaborative learning skills, Human Resource Management, reduce drop out rate

1. CONFLICT FACTORS FOR EARLY STUDENT DROPOUT

The reduction of early student dropout is one of the strategic objectives of our university as well as to make STEM subjects an attractive choice, especially for women. Derboven/Winker assume that four out of six identified dropout types of STEM students would be fundamentally capable of completing

their studies. These types can account for 80 percent of the interviewed dropouts (Derboven, Winker 2010, p. 65–68):

- Technology-focused students, who are overstrained with the quantity of study matter (Type 1)
“I don’t know how to cope with the vast amount of abstract knowledge.”
- Technology-committed students, who are capable of studying (Type 2)
“I want to get an idea about the topic, beyond formulas.”
- Inexperienced students, who are disoriented (Type 3)
“I don’t know how to work on my own.”
- Outsiders, who are interested in technique (Type 5)
“I am different from the others.”

Derboven/Winker name two of the types explicitly as prone to suffering from social conflicts: for the „inexperienced students, who are disoriented“ (Type 3) and the „outsiders, who are interested in technique“ (Type 5), who make up 24 percent of the respondents, a missing *social support* was one of the main conflicts during their studies and probably contributed to their dropout. Apart from that, both groups were basically capable of studying with regard to their technical and social competencies (Derboven, Winker 2010, p. 67f.).

Missing social support seemed to have a negative effect on students’ *self-organization*, especially on self-regulated learning apart from the lectures. Similarly, a lack of *social integration* diminished *the identification with the subject*. Thus, institutional interventions to reduce dropout in STEM subjects should consist preferably of consulting, supporting and networking offers (Winker et.al. 2009, p. 60).

The ability of academic self-regulation has a major effect on the study success. “Academic self-regulation” is defined as „self-generated thoughts, feelings, strategies, and behaviors designed to attain academic goals“ (Zimmerman, Kitsantas 2005, p. 398). As an element of this competency, numerous psychological studies analyzed amongst others „independence, study skills, and positive academic attitudes“ (Zimmerman, Kitsantas 2005, p. 398). Self-regulated work beyond classes (homework) promotes these elements, i.e. the self-organization of the student in total.

The positive connection between social integration and collaborative learning on the one hand, and between self-organization, motivation and academic performance on the other hand, has been described in various studies. These aspects are also to be found in the upper 20% to 40% of 138 appropriate conducive factors for learning performance in the meta-analysis *Visible Learning* of John Hattie (first edition 2013). Considering the aspect of social integration, especially peer-tutoring (rank 36) and cooperative versus individual learning (rank 24) can play an outstanding role in counteracting student dropout of specific student groups.

2. OUR PROJECT “MODULE MAPS”: AN EFFECTIVE INSTRUMENT FOR ACADEMIC SELF-REGULATION

We implemented a concept, currently unique in Germany, called “module maps”, which starts during the sensitive introductory phase, usually at the first day of study. Divided into small groups of 8 to 10 persons, the new students create all together the so called “module map” of their degree program during their first meeting. This takes about two hours. They use the module handbook and try to get an overview about all modules of their degree program, along with the content-related connections and sequence relationships for each semester (see Figure 1).



Figure 1: “Module map” created by first-semester students

For this purpose, the students work their way through the official module handbooks as well as the curriculum (module table) of their degree program. Electives and possibilities for in-depth studies are depicted, too. The students are moderated by peer tutors – students from higher semesters, who are experienced with cooperative learning and have special diverse backgrounds, like first generation academics, disabled, migrants etc. Professors of the respective departments join this meeting and assist them if questions arise.



Figure 2: A professor in discussion with a first-semester student

The self-gained overview of the module map informs the students about how their course of studies is designed in regards to its contents and that topics from previous semesters are required in following modules as an actively available knowledge base. This should make them sensitive to the futility of short-term “bulimia learning” as well as of the disinterested and passive attitude “just getting through somehow”.

During the map creation, peer tutors and professors stimulate discussions about possible variants of the schedule: the curriculum is not a „one-way street for everybody“; there are special topics to be chosen from, electives from neighboring disciplines can be taken and focuses for an individual career design may be set.

Starting from a course progression map “for everybody”, the students finally end up with an individual map for their study. This support for an individual management of study courses, giving space for experiences abroad for example, takes into account the students’ different background experiences, different aims and preferences and / or the need of a work life balance.

But the base for an individual study strategy should still be a realistic self-assessment, an effective learning plan and a successful strategy, to cope with the burdens and possible failures.

During the described scrutiny of the “standard” course progression map, peer tutors and professors ask the new students about their different perspectives on studying, different work experiences and self-images and classify them as important facets. Opposite views, e.g. of students with special

working experiences instead of a university entrance diploma, can help to perceive one's starting position in a more differentiated way. On the other side, commonalities may be discovered even with students who have been judged at first glance as "different to my kind of people" (e.g. due to sex, age, social milieu or self-portrayal). Since every first-year students may feel strong in at least one field of topics, e.g. mathematics or a specialized technical subject, this exchange can lead to feelings of both pride and solidarity: The students will face similar challenges during studies together and could complement each other.

To promote this self-reflexivity, in the next two hours after creating their "module map" the new students systematically exchange opinions. They are asked for which module -courses they

- fear performance issues,
- expect increased learning needs, because they have no idea about some special module courses,
- believe they will be able to rely on previous knowledge,
- have a particularly high motivation arising from a strong personal interest in some special module courses.

These self-assessments are not only expressed openly, but visualized by putting self-adhesive labels on name cards / icons (see Figure 3).

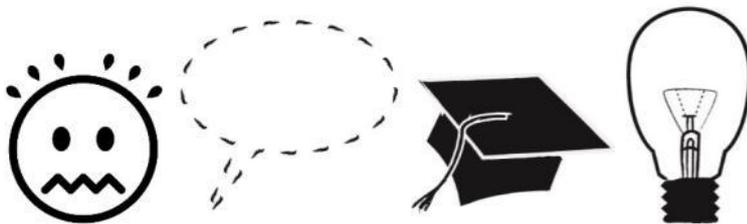


Figure 3: Icons "fear", "no idea", "previous knowledge" and "strong interest", from left to right

They are assigned to every single module course and are then discussed collectively (see Figure 4).

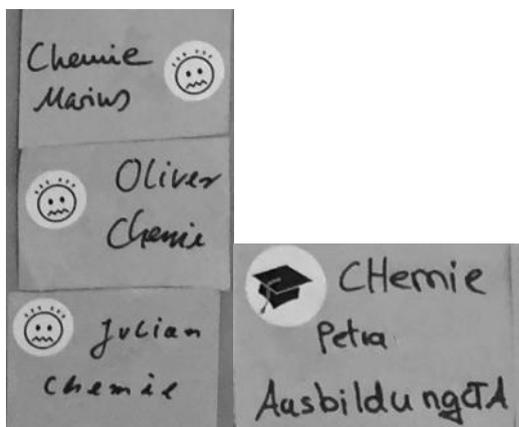


Figure 4: Name tags with self-adhesive labels „fear“ and „previous knowledge“

During this process, the peer tutors act as role models who eagerly tell about their own worries, motives and learning strategies. They explicitly appeal to solidarity among students and urge them to

form learning groups. Instead of just asking for measurable results and comparing (and competing with) each other in terms of grades, questions about learning contents and solution strategies should take center stage of the students' exchange.

This discourse on learning strategies and mutual assistance shall be maintained beyond the start of studies. In its second stage, the "module maps"-project supports students to build up learning groups.

3. INSTITUTIONALIZED LEARNING GROUPS WITH PEER SUPPORT

Both dropout-relevant factors, academic self-regulation and social integration, influence students' learning strategies. Both can be promoted by social and professional support provided by cooperative learning.

As second part of the project, the new students get "matched" in terms of supply and demand (see Figure 5), usually the following day. Looking at the labelled name tags every student can recognize: "Who could help me with her or his previous knowledge? Who could benefit from my own previous knowledge?" These matching results are documented in a digital learning space (Moodle), staying accessible during their entire studies.

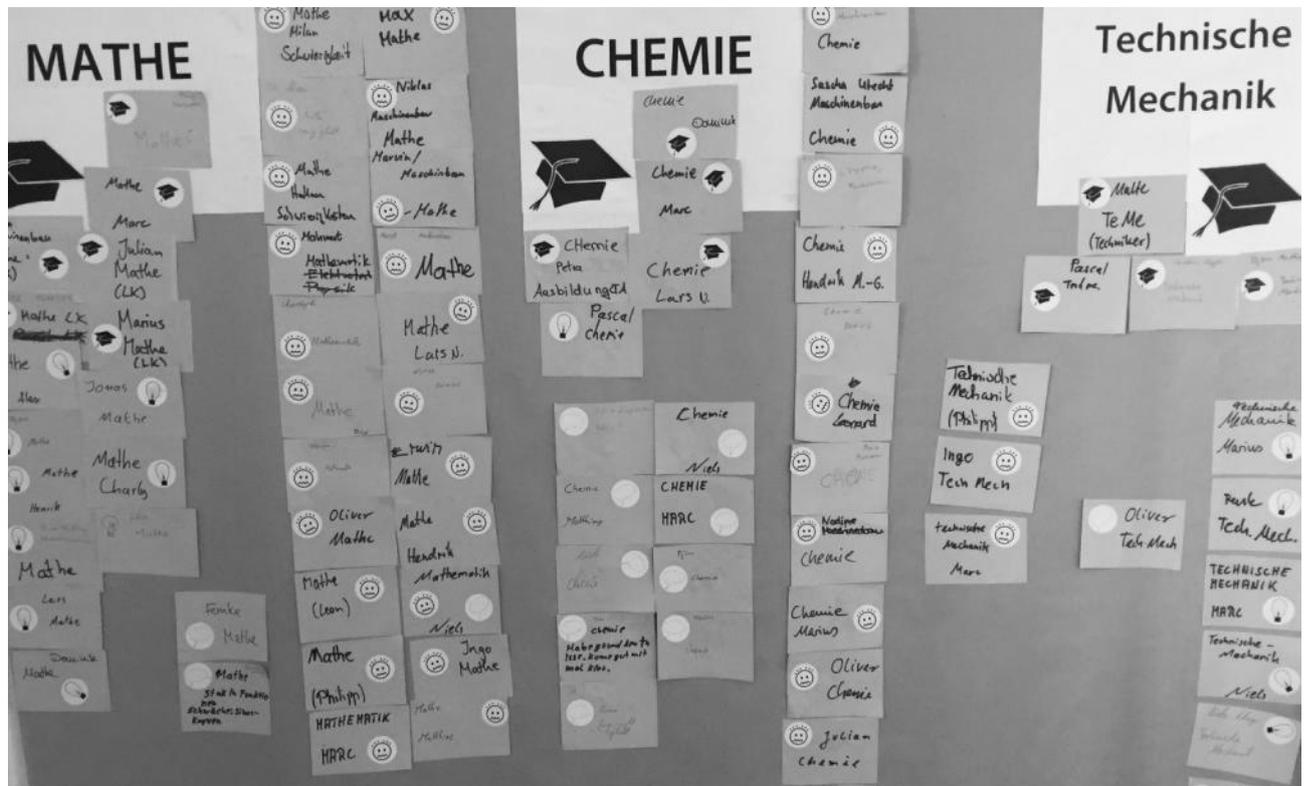


Figure 5: Matching of supply and demand

The matching approach deliberately puts great emphasis on reciprocity – depending on the module courses, everyone will sometimes be on the side of the students giving support, sometimes on the side

of the students seeking for support. This early networking in the first week of their studies emphasizes that this form of student cooperation and self-guidance at our university is considered to be a functional and natural component of studying.

The building of learning groups is not only institutionally encouraged, but institutionally sustained, too: for each learning group, one of the group is defined as contact person, who is responsible for the contact between the matched students. He or she also invites the learning group to meetings and constitutes an interface to peer tutors and professors. In this way, a multitude of students can be supervised in their learning management with comparatively low personnel expenses.

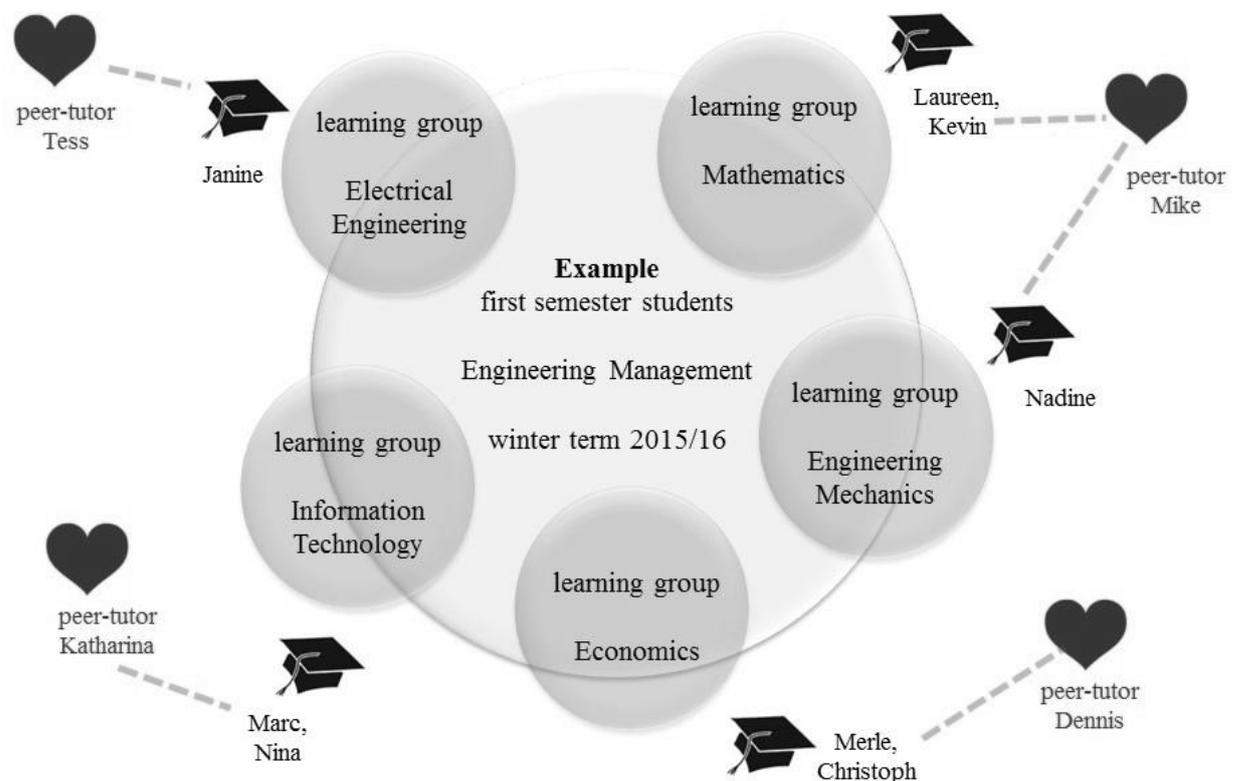


Figure 6: Organigram of an institutionalized supervision of five learning groups

Figure 6 shows how learning groups for respective examination subjects are organized by group organizers from the first semester (symbol mortarboard: students with high self-efficacy expectation for the respective subject). They again form the interface to a peer tutor each (symbol heart: special engagement for cooperative learning and networking in their department).

An early methodological guidance for cooperative working in small groups is decisive for team success (Hattie 2015, p. 113). Thus, the peer tutors keep an eye on the activities of the learning groups throughout the first semester, assisting them when required. Particularly their own practical

knowledge is valuable for new students, for instance how to make working sessions attractive and effective, how to share tasks and how to encourage commitment in their groups. Especially those peer tutors who started their studies with little previous knowledge in a specific subject can give valuable tips for a successful learning management – for example how learning groups can collectively prepare subject matters ahead, so they can use the in-class lectures primarily for specific comprehension questions.

The peer tutors also remind the first-semester students to prepare for their first exams and term papers and for further knowledge transfer in time. They also motivate them to make use of the institutional offers beyond the instructions: example tutorials, professors' consultation hours, additional courses and additional instructional media.

The whole process is digitally supported by a virtual learning environment (Moodle, intra-wiki) to facilitate the exchange and organization of the learning groups. Here they can upload and share content and create an own wiki during their entire studies, building their own knowledge database and reference book.

4. CONCLUSION

A few months after the end of the project, lecturers and tutors were asked for their evaluation. They described the following positive developments of the supervised first-year students compared to former cohorts:

- Students improved awareness and knowledge of their degree program.
- Improved networking and integration of the students, in particular of those students, who have problems to get in contact with others.
- More intensive contact between the cohorts as well as to the students' committees, likewise an enhanced participation in students' committees.
- Better grades for members of learning groups.

In addition to these results, some directors of study courses and program coordinators intensified their communication about the structure of the courses, content-related references and students' individual room for maneuver in terms of study strategies. In the end, a redesign and reformulation of the module handbooks was started, to enable new students a better orientation. Similarly, some professors expressed increased interest in designing courses that are harmonized with one another and to create interdisciplinary references.

The current state of the teaching and learning research assumes that student-centered teaching with collaborative forms of learning are the best choice to allow students with different origins and different conditions to finish their studies successfully (Haggis, 2006). By supporting the formation

and organization of learning groups, the “*module-maps*” project supports the diversity strategy of our university and its fundamental objective to reduce the dropout rate for STEM students.

REFERENCES

- Derboven, W. & Winker, G. (2010). Tausend Formeln und dahinter keine Welt. Eine geschlechtersensitive Studie zum Studienabbruch in den Ingenieurwissenschaften. *Beiträge zur Hochschulforschung*, 32(1), 56–78. Abgerufen von <http://www.bzh.bayern.de/uploads/media/1-2010-derbhoven-winkler.pdf> (zuletzt geprüft am 21.05.2017) (Derbhoven: Namensfehler im Link)
- Haggis, T. (2006). Pedagogies for diversity: retaining critical challenge amidst fears of ‘dumbing down’. *Studies in Higher Education* 31(5), 521–535. Abgerufen von http://dspace.stir.ac.uk/bitstream/1893/457/1/Haggis_Pedagogies_for_diversity_2006.pdf (zuletzt geprüft am 21.05.2017)
- Hattie, J. (2015): Lernen sichtbar machen. Überarbeitete deutschsprachige Ausgabe von Visible Learning, hrsg. von Wolfgang Beywl and Klaus Zierer. (3. Aufl.). Baltmannsweiler: Schneider Verlag Hohengehren.
- Winker, G., Wolfram, A. & Derboven, W. (2009). Studienabbruch von Frauen in den Ingenieurwissenschaften. Eine Analyse Studienabbruch relevanter Studiererlebnisse zur Exploration von Ansatzpunkten zur Erhöhung der Bindungskräfte technischer Studiengänge. Abgerufen von <http://edok01.tib.uni-hannover.de/edoks/e01fb09/598959866.pdf> (zuletzt geprüft am 21.05.2017)
- Zimmerman, B. J. & Kitsantas, A. (2005): Homework practices and academic achievement: The mediating role of self-efficacy and perceived responsibility beliefs. *Contemporary Educational Psychology* 30(4), 397–417.

HUMOR USAGE BY FEMALE AND MALE MANAGERS AT THE WORKPLACE: FINDINGS FROM A PILOT STUDY

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ABSTRACT

The purpose of this study is to examine whether gender differences are encountered in the use of humorous discourse by managers in a business environment. It also aims at identifying the style of humour male and female executives opt for, as well as the age group that uses humour mostly. For this purpose, a pilot study has been conducted with the participation of 46 female and male managers in Greece of different age groups, coming from various sectors. A quantitative analysis has been performed, with participants completing a questionnaire with three sections, aimed to determine the frequency of usage of humorous discourse, and the second—the *Humor Styles Questionnaire* (Martin *et al*, 2003)—to reveal the style of humour subjects prefer most. The findings demonstrate that both genders use humour to an equal extent in their discourse when found at their worksite. Moreover, results indicate that the humour type mostly preferred by both males and females in their business milieu is the 'Affiliative' one, while the age group that displayed the highest frequency of humorous discourse was the 56-67 years old for the male executives, as opposed to the 36-45 for the female managers. The significance of these findings lies in that they constitute some preliminary evidence towards invalidating disbeliefs that stereotypically question women's ability to produce humorous discourse at work. Results also demonstrate that there are both affinities and dissimilarities in the use of humour in a business communication framework by male and female interlocutors, which are worth focusing on in future studies.

Keywords: Humour; Organizational Communication; Gender Studies; Age; Business Discourse.

INTRODUCTION

Humour as a phenomenon has preoccupied sociologists and linguists alike. During the last decades, many Fortune 500 companies have demonstrated a growing interest in researching humour and its relationship with creativity, as based on previous findings creative individuals tend to display a good sense of humour (Lang and Lee, 2010). Humour can be expressed in the form of teasing, joking or puns, irony and sarcasm, while its purpose is to evoke levity. Humour is considered to be an element

common in all human societal interactions and, therefore, its impact extends to the workplace which constitutes a distinctive society.

Workplace culture has become a prominent topic of research as it continually manifests itself in action, interaction and continuous talk (Avolio *et al.*, 1999; Holmes and Schnurr, 2005; Schnurr, 2009, Romero and Cruthirds, 2006). Schnurr (2009) claims that this particular culture is developing and is modified by various acts; these acts happen in social interactions with constant exchanges among 'co-workers.' One of the main characteristics of such on-going interactions is humour, which constitutes a communicational trait that contributes largely to the character and the development of a workplace culture, as its presence reflects the beliefs and values that employees share within that specific culture (Holmes and Mara, 2002). For example, previous literature on leadership has proven that leaders can use humour not only to enhance their leadership by improving group cohesion and communication, but also in order to foster a productive workplace culture (Ho *et al.*, 2011; Romero and Cruthirds, 2006).

Lang and Lee (2010) also posit that humour among employees can aid in addressing sensitive issues and relieve stress, because it serves as a medium for discreet communication. Along these lines, Craig (2009) asserts that humour is a very important component when it comes to manager-client communication, particularly in the health-care industry; "by improving the mood, case managers have concrete opportunities to contribute to the positive outcomes of authentic communication and improve the quality of health care experiences of their clients" (p. 20). Similarly, Romero and Arendt (2011) maintain that the judicious use of humour in a workplace environment, can contribute to a higher level of customer retention along with a higher employee productivity.

Although humour as "a mode of discourse and a strategy for social interaction" (Crawford, 2003: p. 1413) has been explored in a number of studies linked to leadership skills and levels of creativity (see Avolio *et al.*, 1999; Berdahl, 1996; Holmes, 2007; McIlheran, 2006; Vecchio, 2002), a limited number of scholarly works have investigated humour in relation to gender (e.g. Crawford, 2003; Holmes and Schnurr, 2005), and only a handful of them have approached humour from a gender perspective in the realm of organizational communication, focusing on whether gender differences exist in discursive patterns as in expressing humour (Crawford, 2003; Hemmasi *et al.*, 1994; Martin, 2004).

As a result, the originality of the present study lies in that it aims to provide additional insights on both genders' humorous behaviour inside various workplaces, on the grounds that gender constitutes itself "a system of meanings that influences access to power, status and material resources" (Crawford, 2003, p. 1413). In addition, this study investigates whether humour is a gender- and age-specific pragmatic phenomenon, by examining the frequencies of humorous discourse employed by

female and male managers at the workplace. It also attempts to unravel the type of humor female and male managers employ the most in their daily interactions at their workplace.

Thus, the following research questions are addressed:

1. Do women and men in managerial positions use humorous discourse equally in their business milieu?
2. Which type of humor do female and male executives use most?
3. Which age group of female and male participants exhibits the highest frequency of humorous discourse?

In order to achieve these aims, the relevant literature on humour will be presented, followed by the research design of the current study. Then, the findings retrieved will be discussed, together with the limitations and implications that our preliminary findings pose for future gender and sociolinguistic studies on organizational communication. It should be noted that in this paper the terms 'manager' and 'executive' are used interchangeably without any underlying theoretical or practical implications.

THEORETICAL FRAMEWORK OF HUMOUR

Types of Humour

In the relevant scholarly work, various approaches to analyzing humour and its functions have been put forward depending mainly on the framework adopted. For example, from a sociological perspective, humour can express superiority or enforce norms (Holmes, 2000), whereas from a psychological angle humour can aid in the expression of frustration or the release of tension (Craig, 2009; McIlheran, 2006).

Focusing on the workplace, humour is claimed to have multifaceted functions, with evidence suggesting that one of its main roles is to construct and enforce collegiality bonds among colleagues (Holmes, 2006). In general, the functions of organizational humour can be encompassed under three theories (based on Lyttle, 2007; Martin, 2004; Romero and Arendt, 2011):

- i. The 'Relief Humor Theory,' which posits that humour aids in releasing stress and tension; organizational managers use it to encourage teamwork and to facilitate the construction and development of group identity and work culture;
- ii. The 'Superiority Humor Theory,' according to which humour derives from the desire to feel superior; it is exercised by individuals that hold power in a group, or wish to enforce their leadership initiate Superiority humor; and
- iii. The 'Incongruity Humor Theory,' which postulates that humor initiated deliberately violates rational linguistic patterns; in other words, something is funny because it is unreal, or sudden or because it completely surprises the audience.

On the other hand, humour can be also approached through a pragmatic perspective, and more specifically, from a Politeness Theory angle. In the realms of pragmatics, politeness is defined as the total amount of communicative strategies people employ in order to promote or maintain harmonious social interactions (Brown and Levinson, 1987), where the concept of 'face' constitutes a public self-image that each person wants to adopt for themselves in order to be socially accepted (Brown and Levinson, 1987). According to Holmes (2000), Politeness Theory attempts to explain humour on the basis of the positive face needs of both the speaker and the hearer/addressee. In other words, humour that expresses solidarity caters to the hearer's positive face needs, whereas self-depreciative humour caters to the speaker's positive face needs. However, when individuals communicate, but bear asymmetrical roles (as in the case of managers and their subordinates), often interlocutors base their communicative power on their position. This power is usually coercive and can, thus, be performed through discourse that is undisguised and explicit, or oppressive. In an era, though, where professional relations value informality, there is a general trend towards reducing power differences. Holmes (2000) postulates that when the actual intend is indeed coercive, the language use can be labelled as "repressive discourse" (p. 165), where humour constitutes a common vehicle for accomplishing such discourse at the workplace.

In an effort to assess the type of humor interlocutors tend to use, Martin *et al.* (2003) designed the Humor Styles Questionnaire, employed in numerous studies thereafter (see, for example Evans and Steptoe-Warren, 2018; Ho *et al.*, 2011; Kim *et al.*, 2016; Kuiper *et al.*, 2004; McCosker and Moran, 2012; Robert *et al.*, 2016; Romero and Cruthirds, 2006, Rose, 2010; Ünal, 2014). Martin *et al.* (2003) proposed four 'types', or 'styles of humour', divergent in two measurements or dimensions: the first dimension focuses on whether the humour is addressed to others or on one's self, while the second dimension emphasizes whether humour is potentially agreeable and benign, or injurious and hurtful. Consequently, these two dimensions produce a total of four styles of humour:

1. The self-enhancing humour: This type of humour is characterized by benevolence and it is addressed towards one's self. Optimism, overt humour, and the ability to cheer oneself up by recognizing a funny side in every stressful situation is what characterizes people who express this style of humour. In this case, people who express humour can effectively deal with adversities by curtailing negative emotions (Kim *et al.*, 2016).
2. The affiliative humour: This type of humour is addressed to others, and is highly beneficial as it enhances relationships (Kim *et al.*, 2016; Thelen, 2019). It creates a positive and pleasant environment at the workplace and it is characterized by jokes, funny stories and witty banters. As a result, it reduces tension, contributes to the strengthening of bonds and, as a consequence, it can ameliorate working conditions.

3. The aggressive humour: This type is addressed to others, and it is considered injurious and potentially hurtful (Martin *et al.*, 2003). It is destructive as it includes ridicule, teasing and sarcasm, while it results in alienating people. Inevitably, this humour style leads to impairment of workplace relationships.
4. The self-defeating humour: According to Martin *et al.* (2003), this is humour addressed to one's self, and is hurtful as it usually involves self-defeating jokes, or ridicule about one's self only with the purpose to earn approval by others (Kuiper *et al.*, 2004; Kim *et al.*, 2016). Martin *et al.* (2003) posit that this self-defeating behaviour can function as a double-edged sword, because whereas in some instances it could benefit relationships by mediating tensions, in some others this behaviour could be detrimental as it injures the image of the person in focus. As a result, interpersonal relationships may also suffer.

Humour at the workplace

The contribution of humour at work is multifaceted. A great number of scholars (see Barsoux, 1996; Chen and Ayoun, 2019; Evans *et al.*, 2019; Holmes, 2007; Lyttle, 2007; Murata, 2014; Rose 2010, Robert and Wilbanks, 2012, Thelen, 2019; Wang *et al.*, 2018; as well as Wijewardena *et al.*, 2019) postulate that the use of humour at the workplace may improve human relations, boost morale, enhance solidarity, reduce stress, improve motivation and productivity among colleagues, as well as employee commitment. Humour also shields against criticisms, insults and directives—acts that are generally considered to be face-threatening.

Studies exploring humour as a management tool, or a leadership feature, point to humour being valuable in problem solving and conflict mediation (Collinson, 2002). Subordinates, too, resort to humour when they attempt to express disapproval, as humour provides an acceptable setting to express aggression and resistance, regardless of work-related hierarchy (Murata, 2014). This is also enhanced by Plester's findings (2009) that using profanities at work interrupts the routine by instigating laughter and facetious responses among colleagues, while it also functions as an effective mitigating strategy. Plester (2009) also posits that the use of humour may serve as a coping strategy in stressful situations, and as such it can assist co-workers in saving face.

Humour is claimed to constitute a very important component in the success of human relationships, on the grounds that it enhances cohesion and interaction within a social group (Evans *et al.*, 2019; Romero and Cruthirds, 2006; Ünal, 2014). When used appropriately, it creates a positive atmosphere, mediates conflict and embarrassment, while it boosts the productive energy and bonds among the members of a working group (Martin, 2001). For example, according to a study conducted by Avolio *et al.* (1999), many organizations have adopted humour as one of their strategies in order to boost organizational productivity. Based on the results retrieved, the well-being of subordinates is

greatly enhanced under a leadership which uses humorous discourse, since humour buffers the effect of employee stress at the workplace (Cooper *et al.*, 2018; Thelen, 2019). For Decker and Rotondo (2001), humour can be a great management tool for effective managers; leaders are responsible for not only directing, but also for ameliorating their subordinates' efforts for effective goal achievement, and hence, successful leadership involves many behavioral strategies, such as being eloquent, persuasive, socially adept, and use humour. In alignment with the above, Schnurr (2009) claims that leaders of communities of practice construct their own identity at work by using many discursive strategies; one of those strategies is humour, and more specifically different styles of teasing.

Rizzo *et al.*'s (1999) findings had already confirmed these claims as to how subordinates perceive their leaders' sense of humour, demonstrating that leaders who expressed humorous discourse more frequently were considered to be more effective and appealing by their employees. Priest and Swain (2002) showed that subordinates rated leaders who used humour as 'good,' contrary to the ones that did not exhibit a particularly warm style of jocularity. Similarly, Robert *et al.* (2016) analysed the effects of leaders' humour styles on employee satisfaction and their findings suggested that both affiliative and aggressive humour had a positive impact on job satisfaction. Avolio *et al.* (1999), Holmes (2007), as well as Romero and Ardent (2011) indicated that strong leadership skills are closely interwoven with the humour usage, and stated that a good leader can create a milieu in which flexibility and freedom are cultivated, while humour may operate as a means for authority assertion.

However, one needs to consider what a judicious use of humour within a workplace community is; Davidhizar and Bowen (1992) claim that for humour to be appreciated and well-accepted, people have to evaluate certain factors, such as how flexible the audience may be, the context of humour, as well as its proper timing. Positive humor brings positive outcomes on business operations and relationships; however, insulting and derogatory humor leads to harmful outcomes (Bompar *et al.*, 2018; Chen and Ayoun, 2019; Evans and Steptoe-Warren, 2018). In other words, it is highly likely that humour at the workplace may be interpreted as harassment (Duncan *et al.*, 1990); Westwood and Johnson (2011) warn that symptoms of discrimination and harassment may prove to be detrimental not only to the recipients, but also to the organization itself.

In the same context, Quinn (2000) asserts that—when humour at work becomes sexist, it is possible that the targeted members of the particular worksite define it as sexual harassment, rendering the working environment hostile. Moreover, Hemmasi *et al.* (1994) postulate that sexual or sexist-related jokes narrated by superiors are more probable to be taken as sexual harassment than if the same joke was told by a co-worker. Lyttle (2007) does not only caution leaders to carefully use humour when addressing their subordinates, but also warns of the detrimental repercussions offensive humour might have when addressed from subordinates to managers, or to customers. As a

result, humour at the workplace should be used sensibly so that it benefits relationships, rather than hurt them.

From the existing literature it becomes evident that the use of humour in the workplace has attracted the attention of linguists, sociologists, psychologists and management researchers. In light of the above literature, the present study is the initial phase in attempting to address the existing gap on the frequency female and male executives employ humorous discourse in their daily interactions at the workplace. It also addresses the question of whether there is any similarity in the humorous style both genders prefer using at work, and identify the age group among female and male managers that mostly employ humorous linguistic behavior.

RESEARCH DESIGN

The current study, which constitutes the pilot phase of a wider project, has invited the participation of English-speaking, active female and male managers from Greece, with the use of a purposive sampling (Cohen *et al.*, 2018). All respondents have participated on a volunteer basis. In terms of selection criteria, firstly, participants recruited needed to possess a minimum of intermediate English language knowledge. Secondly, all respondents should be active managers for a minimum of two years by the time they completed the research questionnaire; a random selection of 74 job listings in the website LinkedIn (www.linkedin.com/jobs/junior-manager-jobs) that we conducted indicates that the average minimum experience requested for managers' positions is 2 years.

The initial number of participants was fifty-two ($n=52$), while the actual number of participants was fourth-six (46), as six of them had to be excluded from the study, because of not meeting the professional experience criterion. Regarding subjects' gender, although a balanced representation of both groups was pursued given the topic of the study, the number of male participants' was higher (i.e. 58%). In terms of age, there was no strict age criterion pre-identified, and thus participants' age ranged from 26-75 years old.

Participants were recruited through the internet via a random selection over a period of three months. Initially, subjects were presented with an information sheet explaining the purpose of the study; they were also reassured that all data collected would remain anonymous and strictly confidential, aiming at responses with reduced risk of bias (Rose, 2010). Moreover, participants were informed that, should they feel uncomfortably, they could withdraw from the study at any stage without any repercussions—personal or professional. Once respondents signed the consent form, then they were allowed to proceed with the survey, and complete the questionnaire uploaded in the format of Google form.

With respect to the research process applied, participants were required to complete a structured questionnaire with three sections. In the first section, subjects were called to provide the requested personal information, such as age, gender, level of formal education received, professional field and the maximum number of subordinates they have ever line-managed. In the second section, participants were presented with general questions, such as in which instances they most frequently used humour, for example while interacting with subordinates, customers or higher administration.

For the third section we employed the *Humour Styles Questionnaire* designed in 2003 by Martin and colleagues (Martin *et al.*, 2003). This comprises of 32 items, and it has been extensively used in research studies as a reliable tool for the self-assessment of humour styles in educational or other settings, like the workplace (see indicatively, Romero and Cruthirds, 2006; Saroglou and Scariot, 2002; Ünal, 2014). More precisely, participants were invited to employ a 7-point Likert scale (from 1=Totally agree, to 7=Totally disagree) while assessing below affirmative statements whether—or how often—they use various humour styles, namely the affiliative, self-enhancing, aggressive and self-defeating humour style.

Examples of such statements are cited below (Martin *et al.*, 2003):

- (1) *I don't have to work very hard at making other people laugh. I seem to be a naturally humorous person.* (Affiliative humour, positive)
- (2) *Even if I am by myself, I am often amused by the absurdities of life.* (Self-enhancing humour, positive)
- (3) *When telling jokes, or say funny things, I am usually not very concerned about how other people are taking it.* (Aggressive humour, negative)
- (4) *I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults.* (Self-defeating-humour, negative)

In terms of scoring, based on Martin *et al.* (2003), each statement marked with an asterisk on the 'key' is reverse scored; for example, for the *Question/Statement number 9**, if the answer is 1 (=totally disagree), it is scored with a 7; if the answer is 2 (=moderately agree), it is scored with a 6, and so on. On the contrary, for the statements without the asterisk, the opposite occurs. And this how the sum across all items is generated, revealing the humor profile of each user based on Martin's *et al.* (2003) questionnaire guidelines.

The data of all questionnaires collected during the pilot-study have been exploited using the SPSS programme (version 20). Descriptive statistics has been used to illustrate participants' responses—by measuring and describing values such as frequencies, percentages and standard deviations (Cohen *et al.*, 2018), with the results being presented in tables and graphs. Then, inferential statistics and different tests have been implemented: more specifically, Independent Samples T-test

(which unveils differences between two groups), as well as the Two-Way ANOVA test have been used to identify any statistically significant differences between the different gender and age groups.

FINDINGS AND DISCUSSION

Demographic profile of the participants

Out of the 46 participants, 58% were male and 42% were females. Regarding their age, 28.3% of the participants occupied the 26-35 age group, 26.1% the 36-45 group and 26.1% the 46-55 age group. Concerning the educational level, 41% of the participants held a Master's degree, 39% possessed a Bachelor's degree, and 15% of the sample population were PhD holders. In relation to their field of work, 41.3% worked in the educational sector, 30.4% in the business domain, while 6.5% were occupied in the communications sector and an equal number of subjects in computer science domain of expertise.

RQ1: Do women and men in managerial positions use humorous discourse equally?

The authors' first hypothesis was that female managers use less humour at work compared to their male colleagues. This hypothesis was based on the fact that there is ample literature showing that female and male leaders use different leadership styles, which might also differ in the amount of humour they employ. Since, based on our knowledge, there is no prior literature published on leadership patterns and humour usage in the Greek professional context we decided to examine—on a small scale—the frequency of humorous discourse displayed by males and females who occupy managerial positions. The equality of variances for these two specific groups was examined by using T-test. The variance for the male and female managers was calculated and it was found to be greater than 0.270 ($p\text{-value} > 0.270$, $t(44) = 1.117$). This indicates that there are no significant differences between female and male managers, regarding the frequency of humour usage at the workplace. Hence, the first hypothesis was rejected. Our results are in alignment with the Holmes *et al.*'s (2003) survey, which was conducted in New Zealand and was based on recordings from various business environments. Although the survey was not targeted to managers specifically, but women at their worksite in general, the findings indicate that women's contribution of humorous discourse at work is equal in extent to that of men.

RQ2: Which type of humor do female and male executives use most?

Our second research hypothesis was that female managers use more affiliative humour, whereas males tend to employ more aggressive humour. The results of the pilot study reveal that both female and male managers in the present sample population, display equal use of the affiliative humour; the Independent Samples T-test conducted shows a value of 0.466 ($p = 0.466$, $t(44) = 0.735$), which is greater than 0.05, and thus the difference displayed is not significant. Therefore our second hypothesis was

also rejected. These results seem to contradict the results reported in Martin *et al.* (2003) sample population, where the male participants exhibited a greater tendency to expressing aggressive humour than the female population.

Additionally, regarding the other humour styles, both genders in their professional discourse use to an equal degree the self-enhancing humour ($p=0.955$, $t(44)=.057$), the aggressive humour ($p=0.390$, $t(44)=.868$), and the self-defeating humour ($p\text{-value}=0.958$, $t(44)=-.053$). For the latter style of humor, our results agree with Holmes and Marra (2004) study, who postulate that in the workplace women managers use, at times, self-depreciating humour in order to mitigate directives. However, these results contradict Martin *et al.* (2003) study results, in which the male population exhibited higher results in expressing Self-defeating humour than the female population.

In terms of the humour styles preferred within each gender group, females use the various styles in the following order of preference: they employ mostly the affiliative style, then the self-enhancing, while they resort to the self-defeating and aggressive humour on a smaller scale. On the other hand, men also use mainly the affiliative style, slightly less the self-enhancing humour, and they tend to employ the aggressive and self-defeating humour styles almost equally, yet to lesser extent than the first two types.

RQ3: Which age group of female and male participants exhibits the highest frequency of humorous discourse?

To our knowledge, there is no previous literature associating humorous discourse and age among male and female leaders in professional environment in Greece. Yet, our third hypothesis of the present study was that both genders would exhibit the highest frequency of humorous discourse within the age group of 46-55 years old. Findings unveil that among the male managers, the age group 56-65 is the one that presents the highest frequency of humorous discourse with a mean value of 4.00 ($M=4.00$), whereas between the female age groups the one with the highest frequency of humorous discourse is the 36-45 age group scoring a mean value of 3.66 ($M=3.66$). Furthermore, a two-way analysis of variance (ANOVA) was conducted that examined the effect of gender and age on the frequency of humor usage. Based on the results retrieved, there is no statistical significant between the effects of gender and age levels on the frequency of humor usage, given that $p\text{-value}$ is 0.804 and higher than a (0.05). These results reject the hypothesis that both genders exhibit the same frequency of humorous discourse at the age group of 46-55.

CONCLUSIONS

This study has shed some light in examining whether women managers use as much humour as men leaders do at work. The results contradict the misbelief that targets at women's linguistic ineptitude to

produce humour at work, as it showed that, in this particular population sample, women's contribution to humorous discourse at the workplace was equal to that of men.

With respect to the type of humour male and female managers use, our findings reveal that both genders opt for using affiliative humour, which is a positive, bond-forming type of humour (Kim *et al.*, 2015; Martin *et al.*, 2003). This humour is meant to contribute to the strengthening of bonds, and relieves tension while ameliorating working conditions. This type of humour constitutes part of the modern leadership style, however, further research studies at a larger scale and across different cultures are deemed necessary. These results are also in support of gender similarity as far as the use of humorous discourse at the workplace is concerned.

Another parameter examined, apart from gender differences and affinities, was the age factor; part of the originality of the current study lies in that there is very limited research, to the best of our knowledge, pertaining the use of humorous discourse at work by managers in connection with their age group.

At the worksite, although the number of managerial positions occupied by women has been increasing, there still exist not so flattering stereotypical misconceptions as to their ability to incorporate humor in their management and leadership discourse (Holmes *et al.*, 2003). As a result, this research paper contributes to the dissolution of such stereotypes, since it has managed to demonstrate—in a small-scale sample—that women leaders, just as their male counterparts, are sociolinguistically adept conversationalists in their workplaces, more than able to create humour.

Limitations and suggestions for future research

As with any other study, the current work exhibits certain limitations. Although the pilot sample was adequate for the purposes of the initial phase of the study, next steps should encompass larger samples. Furthermore, despite the appropriateness of using the measurement tool provided by Martin *et al.* (2003), forthcoming studies could cross validate the findings by implementing other measurement instruments as well that help explore the use of humour. Finally, these results were collected in Greece and may reflect specific cultural characteristics, as in different cultures results might vary. As Murata (2014) rightfully highlights, since humour is a characteristic of a workplace culture, it is highly possible that its manifestations may vary from one work culture to another. After all, we should take into consideration that every workplace culture establishes its own unique norms and distinct characteristics (Holmes and Marra, 2004), and the expression of humorous discourse is one of these whose patterns need to be thoroughly and cross-culturally examined.

REFERENCES

- Avolio, B.J., Howell, J.M. and Sosik, J.J. (1999), "A funny thing happened on the way to the bottom line: Humor as a moderator of leadership style effects", *Academy of Management Journal*, Vol. 42 No. 2, pp. 219-227.
- Barsoux, J.L. (1996), "Why Organizations Need Humour", *European Management Journal*, Vol. 14 No. 5, pp. 500-508.
- Berdahl, J. (1996), "Gender and Leadership in Work Groups: Six Alternative Models", *Leadership Quarterly*, Vol. 7 No 1, pp. 21-40.
- Bompar, L., Lunardo, R. and Saintives, C. (2018), "The effects of humor usage by salespersons: the roles of humor type and business sector", *Journal of Business & Industrial Marketing*, Vol. 33 No. 5, pp. 599-609.
- Brown, P. and Levinson, S. (1987), *Politeness: Some Universals in Language Usage*, Cambridge University Press, Cambridge.
- Chen, H. and Ayoun, B. (2019), "Is negative workplace humor really all that "negative"? Workplace humor and hospitality employees' job embeddedness", *International Journal of Hospitality Management*, Vol. 79, pp. 41-49.
- Cohen, L., Manion, L. and Morrison, K. (2018), *Research Methods in Education*, Routledge, Abingdon, UK.
- Collinson, L.D. (2002), "Managing Humour", *Journal of Management Studies*, Vol. 39 No. 3, pp. 269-288.
- Cooper, C.D., Kong, D.T. and Crossley, C.D. (2018), "Leader humor as an interpersonal resource: Integrating three theoretical perspectives", *Academy of Management Journal*, Vol. 61 No. 2, pp. 769-796.
- Craig, K. (2009), "Hitch up Your Humor Suspenders, Case Managers", *Personal Case Management*, Vol. 14 No. 1, pp. 18-29.
- Crawford, M. (2003), "Gender and humor in social context", *Journal of Pragmatics*, Vol. 35, pp. 1413-1430.
- Davidhizar, R. and Bowen, M. (1992), "The Dynamics of Laughter", *Archives of Psychiatric Nursing*, Vol. 6 No. 2, pp. 132-137.
- Decker, W. and Rotondo, D. (2001), "Relationships among Gender, Type of Humor, And Perceived Leader Effectiveness", *Journal of Managerial Issues*, Vol. 13 No. 4, pp. 450-465.
- Duncan, W.J., Smeltzer, L.R. and Leap, T.L. (1990), "Humor and Work: Applications of Joking Behavior to Management. *Journal of Management*, Vol. 16 No. 2, pp. 255-278.
- Evans, J.B., Slaughter, J.E., Ellis, A.P. and Rivin, J.M. (2019), "Gender and the evaluation of humor at work", *Journal of Applied Psychology*, Vol. 104 No. 8, pp. 1077-1087.
- Evans, T.R. and Steptoe-Warren, G. (2018), "Humor style clusters: Exploring managerial humor", *International Journal of Business Communication*, Vol. 55 No. 4, pp. 443-454.
- Hemmasi, M., Graf, L.A. and Russ, G.S. (1994), "Gender-Related Jokes in the Workplace: Sexual Humor or Sexual Harassment?" *Journal of Applied Social Psychology*, Vol. 24 No. 12, pp. 1114-1128.
- Ho, L.H., Wang, Y.P., Huang, H.C. and Chen H.C. (2011), "Influence of humorous leadership at workplace on the innovative behavior of leaders and their leadership effectiveness", *African Journal of Business Management*, Vol. 5 No. 16, pp. 6674-6683.
- Holmes, J. (2000), "Politeness, power and provocation: How humor functions in the workplace", *Discourse Studies*, Vol. 2 No. 2, pp. 159-185.
- Holmes, J. (2006), "Sharing a laugh: Pragmatic aspects of humor and gender in the workplace", *Journal of Pragmatics*, Vol. 38, pp. 26-50.
- Holmes, J. (2007), "Making Humour Work: Creativity on the Job", *Applied Linguistics*, Vol. 28 No. 4, pp. 518-537.
- Holmes, J. and Marra, M. (2002), "Having a laugh at work: How humor contributes to workplace culture", *Journal of Pragmatics*, Vol. 34, pp. 1683-1710.
- Holmes, J. and Marra, M. (2004), "Relational practice in the workplace: Women's talk or gendered discourse?" *Language in Society*, Vol. 33 No. 3, pp. 377-398.
- Holmes, J. and Schnurr, S. (2005), "Politeness, humor and gender in the workplace: Negotiating norms and identifying contestation", *Journal of Politeness Research*, Vol. 1, pp. 121-149.
- Holmes, J., Burns, L., Marra, M., Stubbe, M. and Vine, B. (2003), "Women managing discourse in the workplace", *Women in Management Review*, Vol. 18 No.8, pp. 414-424.
- Kim, T.Y., Lee, D.R., and Wong, N.Y.S. (2016), "Supervisor Humor and Employee Outcomes: The Role of Social Distance and Affective Trust in Supervisor", *Journal of Business Psychology*, Vol. 31 No. 1, pp. 125-139.
- Kuiper, N.A., Grimshaw, M., Leite, C. and Kirsh, G. (2004), "Humor is not always the best medicine: Specific components of sense of humor and psychological well-being", *Humor: International Journal of Humor Research*, Vol. 17, pp. 135-168.
- Lang, J. and Lee, C. (2010), "Workplace humor and organizational creativity", *The International Journal of Human Resource Management*, Vol. 21 No. 1, pp. 46-60.

- Lyttle, J. (2007), "The judicious use and management of humor in the workplace", *Business Horizons*, Vol. 50, pp. 239-245.
- Martin, A.R. (2001), "Humor, Laughter and Physical Health: Methodological Issues and Research Findings", *Psychological Bulletin*, Vol. 127 No. 4, pp. 504-519.
- Martin, D. (2004), "Humor in middle management: women negotiating the paradoxes of organizational life", *Journal of Applied Communication Research*, Vol. 32 No. 2, pp. 147-170.
- Martin, R.A., Puhlik-Doris, P., Larsen, G., Gray, J. and Weir, K. (2003), "Individual differences in uses of humor and their relation to psychological well-being: Development of the Humor Styles Questionnaire", *Journal of Research in Personality*, Vol. 37 No. 1, pp. 48-75.
- McCosker, B. and Moran, C. (2012), "Differential effects of self-esteem and interpersonal competence on humor styles", *Psychology Research and Behavior Management*, Vol. 5, pp. 143-150.
- McIlheran, J. (2006), "The use of humor in corporate communication", *Corporate Communications: An International Journal*, Vol. 11 No. 3, pp. 267-274.
- Murata, K. (2014), "An empirical cross-cultural study of humour in business meetings in New Zealand and Japan", *Journal of Pragmatics*, Vol. 60, pp. 251-265.
- Plester, B. (2009), "Healthy humour: Using humour to cope at work", *Kōtuitui: New Zealand Journal of Social Sciences Online*, Vol. 4 No. 1, pp. 89-102.
- Priest, R. and Swain, J. (2002), "Humor and its implications on leadership effectiveness", *Humor: International Journal of Humor Research*, Vol. 15 No. 2, pp. 169-189.
- Quinn, B. (2000), "The Paradox of Complaining: Law, Humor and Harassment in the Everyday Work World", *Law & Social Inquiry*, Vol. 25 No. 4, pp. 1151-1185.
- Rizzo, B.J., Wanzer, M.B. and Booth-Butterfield, M. (1999), "Individual differences in managers' use of humor. Subordinate perceptions of managers' humor" *Communication Research Reports*, Vol. 16 No. 4, pp. 360-369.
- Robert, C. and Wilbanks, J. (2012), "The Wheel Model of humor: Humor events and affect in organizations", *Human Relations*, Vol. 65 No. 9, pp. 1071-1099.
- Robert, C., Dunne, T.C. and Iun, J. (2016), "The impact of Leader Humor on Subordinate Job Satisfaction: The Crucial Role of Leader-Subordinate Relationship Quality" *Group & Organization Management*, Vol. 41 No. 3, pp. 375-406.
- Romero, E. and Arendt, L. (2011), "Variable Effects of Humor Styles on Organizational Outcomes", *Psychological Reports*, Vol. 108 No. 2, pp. 649-659.
- Romero, E. and Cruthirds, K. (2006), "The Use of Humor in the Workplace" *Academy of Management Perspectives*, Vol. 20 No. 2, pp. 58-69.
- Rose, J. (2010), "Humor s Indirect Influence: Different Types of Managers' Sense of Humor and Psychological Climate in a Team", *Journal of Pedagogy and Psychology*, Vol. 3 No. 1, pp. 51-62.
- Saroglou, V. and Scariot, C. (2002), "Humor Styles Questionnaire: Personality and Educational Correlates in Belgian High School and College Students", *European Journal of Personality*, Vol. 16, pp. 43-54.
- Schnurr, S. (2009), "Constructing leader identities through teasing at work", *Journal of Pragmatics*, Vol. 41, pp. 1125-1138.
- Thelen, P.D. (2019), "Supervisor humor styles and employee advocacy: A serial mediation model", *Public Relations Review*, Vol. 45 No. 2, pp. 307-318.
- Ünal, Z. (2014), "Influence of Leaders' Humor Styles on Employees' Job Related Affective Well-Being", *International Journal of Academic Research in Accounting, Finance and Management Sciences*, Vol. 4 No. 1, pp. 201-211.
- Vecchio, R. (2002), "Leadership and gender advantage", *The Leadership Quarterly*, Vol. 13, pp. 643-671.
- Wang, R., Chan, D.K.S., Goh, Y.W., Penfold, M., Harper, T. and Weltewitz, T. (2018), "Humor and workplace stress: a longitudinal comparison between Australian and Chinese employees", *Asia Pacific Journal of Human Resources*, Vol. 56 No. 2, pp. 175-195.
- Westwood R. and Johnston A. (2011), "Reclaiming authentic selves: control. Resistive humor and identity work in the office", *Organization*, Vol. 19 No. 6, pp. 787-808.
- Wijewardena, N., Samaratunge, R. and Härtel, C. (2019), *Managing with Humor: A Novel Approach to Building Positive Employee Emotions and Psychological Resources*, Springer, Singapore.

MARKET SCENARIOS AND START-UP'S PATENTING: THE MODERATOR ROLE OF ENTREPRENEURS' NARCISSISM.

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ABSTRACT

Entrepreneurs' personality traits determine how external information, condition, and stimuli are filtered, interpreted, and incorporated into a decision. This paper investigates the role of entrepreneurs' narcissism showing that this personality trait moderates the relationship between market concentration or market dynamism and start-ups' patenting. Empirically, we analyse a cross-industry sample of 195 start-ups' entrepreneur. Our proposed model is based on survey and archival data. We show that market concentration and market dynamism affect start-up patenting. In particular, we find that market concentration has a positive impact on start-up's patenting propensity, and that entrepreneur narcissism moderates the hypothesised relationship by amplifying, in case of market concentration, and by weakening, in case of market dynamism, the effects on start-up's patenting of the two market scenarios.

Keywords: Market concentration, market dynamism, start-up patenting, entrepreneur narcissism, entrepreneurship, personality traits.

INTRODUCTION

Patenting is of pivotal role to innovation and gives various benefits for start-ups (Helmers and Rogers, 2011, Holgersson, 2013). Start-ups are firms that offer new products or services by applying modern technologies, or rethinking old products and services to produce different and more effective solutions (Talaular *et al.*, 2005, Tzabbar and Margolis, 2017). Generally, start-ups use patents to protect their ideas from competitors and to secure freedom to operate in the various market (Blind *et al.*, 2006). Moreover, patenting enables start-ups to profit from their inventions and protects their competitive advantage (Helmers and Rogers, 2011). Finally, patent ownership positively affects investors' evaluation of the start-up by providing a strong signal of its potential (Hsu and Ziedonis, 2008). The market type and degree of competition have a significant impact on the start-ups' propensity to patent (Blazsek and Escribano, 2016, De Vries *et al.*, 2017). For instance, in growing or emerging markets, resources are plentiful and mistakes are not as costly as in less productive environments where disparities in market access can hinder small firms from competing against larger companies (Im *et al.*,

2015). We focus on two types of market characteristics, i.e., market concentration and market dynamism because they are responsible for the competitiveness inside the industries (De Vries *et al.*, 2017, Castelo Branco *et al.*, 2010) and impact on the patenting choice.

Market concentration refers to the degree to which a relatively small number of firms account for a relatively large percentage of the market (Jansen *et al.*, 2006, Miller, 1987). Generally, highly concentrated markets are characterised by fewer price wars, less competition, and greater market power. Therefore, firms have higher remunerative margins than firms in fragmented markets and usually enjoy higher barriers to market entry, and higher prices (Luo and Homburg, 2007, Jansen *et al.*, 2006). Market dynamism refers to unpredictable and rapid changes in environments in which firms operate (Dess and Beard, 1984, Duncan, 1972); changes can be linked to customer preferences, technologies, instability, and increasing uncertainty (Jansen *et al.*, 2006, Wallace and Baumeister, 2002). Previous researches show that patenting propensity differs considerably among industries (Mann and Sager, 2007, Cohen *et al.*, 2002) and we hypothesise that this is due to the different levels of market concentration or dynamism that characterise each industry.

According to the upper echelon theory (Hambrick and Mason, 1984), entrepreneur experience and personality traits influence organisational outcomes, such as strategic choice and performance levels. We investigate the influence of entrepreneurs' narcissism showing that this personality trait moderates the relationship between market concentration or market dynamism and start-ups' patenting. Start-ups or small and medium enterprises should have entrepreneurs with high levels of innovativeness, proactiveness and risk-taking propensity to be valid and winning ventures (Wales *et al.*, 2011, Leonelli *et al.*, 2016). Entrepreneurs' personality determines how external information, condition, and stimuli are filtered, interpreted, and incorporated into a decision (Hambrick and Mason, 1984, Engelen *et al.*, 2016). We decided to consider entrepreneurs' narcissism because it is a common trait of the majority of the leader, both CEOs and politicians and has attracted a great deal of attention from the general public and researchers alike (Campbell *et al.*, 2011, Chatterjee and Hambrick, 2007). Narcissism represents someone who is arrogant, proud, and grandiose, he/she thinks he/she is superior and deserving of special treatment, and he/she requires excessive admiration (Campbell *et al.*, 2004, Wales *et al.*, 2013, Rosenthal and Pittinsky, 2006). Start-ups' entrepreneurs, in markets with different levels of concentration and dynamism, have greater managerial discretion, i.e. absence of constraint or presence of multiple plausible alternatives. Thus their personality characteristics have a significant and impactful effect on firms' strategic choices (Hambrick and Finkelstein, 1987, Engelen *et al.*, 2014).

Empirically, we analyse a cross-industry sample of 195 start-ups' entrepreneur. Our proposed model is based on survey and archival data and provides some interesting and significant results which

show that market concentration and market dynamism affect start-up patenting. In particular, we find that market concentration has a positive impact on start-up's patenting propensity, and that entrepreneur narcissism moderates the hypothesised relationship amplifies, in case of market concentration, and weakening, in case of market dynamism, the effects on start-up's patenting of the two market scenarios.

This work has both theoretical and practical contributions; it contributes to the strategic literature by showing that personality traits can influence firms' performance, and this is amplified in particular market scenarios and to the entrepreneurship literature by extending personality research beyond personality traits.

The remainder of the paper is organized as follows. First, we review existing work on start-up's patenting, and we develop a research model formulating some hypotheses. Second, we discuss our methodology and findings before concluding the paper by suggesting some implications of our results and recommendations for future research.

THEORETICAL BACKGROUND AND HYPOTHESES

Market concentration

Market concentration refers to the degree of competition in a market (Miller, 1987). In particular, it describes the sum of the market share of the largest firms that are active within a particular market (Harris, 1998). We argue that market concentration influences a start-up's patenting propensity for two main reasons. First, market concentration leads entry barriers (Bamiatzi et al., 2016), i.e. markets with a high concentration have high entry barriers, while lowly concentrated markets have low entry barriers. In markets with high concentration, thus with high entry barriers, incumbents have a strong and influential position (Besanko et al., 2009). Radical or disruptive innovations are fundamental for start-ups to enter in such markets; hence patents play an essential role in the start-up's market entry strategy, given that they support the start-up in appropriating returns on innovations (Thomä and Bizer, 2013). Patents act as an offensive blockade to prevent other firms from using the innovation and thus helps capture some initial market share, or as a defensive blockade to avoid the innovation being patented by a competitor (Blind *et al.*, 2006). Without the protection of the start-ups' innovations, it becomes more difficult to pose a credible threat to the powerful incumbent firms that are established within an industry (De Vries *et al.*, 2017). Instead, in low concentrated markets, with low entry barriers, it is relatively easy for start-ups to become operative. Start-ups do not need radical or disruptive innovation, and hence they can decide not to carry out a patenting activity (Srinivasan et al., 2008). In this case, investing in intellectual property protection is a waste of resources that could be exploited for

marketing or manufacturing, to benefit a technological opportunity and increase firm survival (Siegel et al., 2007). Accordingly, we formulate the following hypothesis:

Hypothesis 1 (H1): Market concentration is related positively to start-up's patenting.

Market dynamism

Market dynamism refers to unpredictable and rapid changes to the environment in which the new venture operates (Dess and Beard, 1984). Stable environments are characterised by minimal changes in customer preferences, technologies, and competitive dynamics. Instead, highly dynamic industries are characterised by high rates of change in customer preferences or customers' inability to articulate their needs, instability and increasing uncertainty (Jansen *et al.*, 2006, Rodrigo-Alarcón *et al.*, 2017). In addition, markets characterized by rapid and unpredictable changes do not enable entrepreneurs and management team to accurately assess both the present and future states of the market; such conditions engender high levels of stress, which in turn can undermine the harmonious and collaborative relationships among team members (Zhu *et al.*, 2017).

Therefore, considering that firms are often forced to make key decisions based on incomplete and outdated information, thus increasing the level of uncertainty and risk (Baron and Tang, 2011), entrepreneurs should develop innovative capabilities and creative strategies to deal effectively with this challenge (Li and Simerly, 2002). Start-ups should invest in firm-specific assets, i.e. broaden their technological knowledge base and keep abreast of cutting-edge technologies, that help build temporary competitive advantages (Zhu *et al.*, 2017). Moreover, the rapid changes of market components (e.g., customer demand, advances in scientific technology, competitor structure) often lead to an information lag, technology obsolescence, and outdated prior scanning and research work. To quickly adapt to changing environments and seize potential market opportunities, firms should expand their knowledge base by engaging in broader external searches and gaining access to sources of novel information.

However, start-ups are new and small ventures, and generally do not have the necessary funds to innovate continually (Hyytinen *et al.*, 2015). At the same time, they can likely decide to not patent their idea because the turbulence and the rapid changing in the market, preferring to invest in incremental innovation of the product/service they offer. In contrast, in less dynamic environments, in which markets are relatively stable with little technological progress or customer preference changes, start-ups can likely decide to patent their ideas because this investment will pay out in the future. Therefore, we propose the following:

Hypothesis 2 (H2): Market dynamism is related negatively to start-up's patenting.

Entrepreneurs' narcissism

In this paper, we focus on the nonpathological narcissism that includes many of the basic qualities of the narcissistic personality such as self-admiration, arrogance, perceptions of entitlement, and hostility toward external criticism (Wales, Patel, & Lumpkin, 2013). However, as each personality trait, narcissist individuals can also have a bright side, i.e. a productive side. They can be people with great passion and perseverance, high risk-taking propensity, and great independence (Maccoby, 2003). Accordingly, the organisational behaviours and strategic decisions of start-ups vary according to entrepreneurs' values, experiences, and personalities. These personal dispositions shape how entrepreneurs perceive the stimuli and interpret the situations and context around them. Following this line of research, our study examines how entrepreneurs' narcissism interacts with a contextual or environmental factor and how this interaction ultimately affects start-ups patenting propensity. Considering the high level of managerial discretion that is typical of particular market scenario, an enhanced understanding of how a entrepreneurs' narcissism can affect start-ups' patenting propensity by interacting with other contextual factors is critical; this has, however, not yet been studied in detail in the existing literature. To the best of our knowledge, the present study is the first to examine the moderating effect of entrepreneurs' narcissism on the relationship between market scenarios and start-ups' patenting.

The impact of entrepreneurs' characteristics is greatest under boundary conditions because they offer high degrees of discretion (Finkelstein and Boyd, 1998, Engelen *et al.*, 2014). The positive relationship between start-ups' patenting and market concentration might be amplified by entrepreneur narcissism. Narcissists seek sensation and attention, being prone to boredom, and are not fond of maintaining the status quo or making incremental changes or developments (Chatterjee and Hambrick, 2007). Narcissists are instead interested in making actions that are bold and highly visible to the public and they are constantly seeking sources of narcissistic supply, such as attention, adoration, recognition, awards, and praise (Dess and Lumpkin, 2005, Yuille, 2013). In this sense, patenting might be a way for narcissistic entrepreneurs to be the centre of attention and admiration, in fact narcissists' need for praise and respect results in them being motivated by self-enhancement (Wallace and Baumeister, 2002). Reinforcing their positive self-view is extremely important to narcissists when making decisions and setting goals (Campbell *et al.*, 2004).

Instead, the negative relationship between start-ups' patenting and market dynamism might be reduced by entrepreneur narcissism. A highly dynamic environment offers greater opportunities for self-enhancement and thus motivate narcissists to put extra efforts into their jobs (Wallace and Baumeister, 2002). Instability and increasing uncertainty are the preferred features of narcissistic entrepreneurs because they are risk-takers and are able to capture information even if there is a lack. These capabilities enable them to be fundamental for the choices of the strategies of the start-up and to

reach their intrinsic goal, i.e. to be the centre of attention. Accordingly, we formulate the following hypotheses:

Hypothesis 3 (H₃): Entrepreneurs' narcissism has a positive moderating effect on the relationship between market concentration and start-up's patenting.

Hypothesis 4 (H₄): Entrepreneurs' narcissism has a positive moderating effect on the relationship between market dynamism and start-up's patenting.

Figure 1 illustrates the research model.

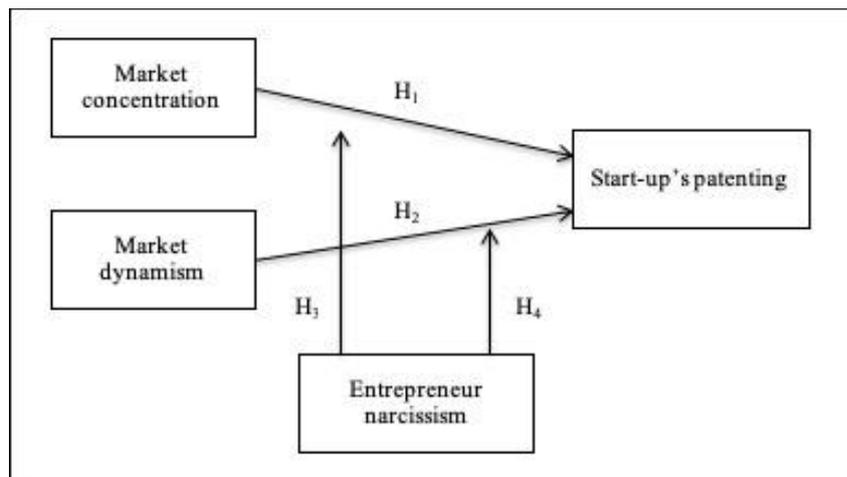


Figure 3: Research model.

METHOD

Sample and data collection

The analysis is based on survey data and secondary information from a public database which increases external validity and avoids common method bias problems. Our sample is composed of Italian and French start-ups. Survey data were collected via an online questionnaire. The first section included 16 questions to measure entrepreneurs' narcissism (Ames et al. 2006). The original NPI-16 version is in English and we employed a rigorous back-translation technique to ensure accurate translation into Italian and French (Brislin, 1980). The second section asked respondents for personal details such as name, age, sex and number of firms owned.

For the Italian sample, we selected start-ups listed in the Italian Chambers of Commerce register and founded between 2012 and 2015. For the French sample, we selected start-ups listed on the myFrenchStartup website, founded between 2009 and 2015 and located in the Région PACA (Provence-Alpes-Côte d'Azur).

We contacted start-up entrepreneurs mainly via LinkedIn: entrepreneurs with no LinkedIn profile were contacted via Facebook or personal e-mail addresses. We used our personal profiles to introduce

ourselves and the study. Those who agreed to participate in the study were sent a link to the online survey which was administered in 2016 in Italian and French as relevant. In total, 1055 start-ups' entrepreneurs agreed to participate, and we obtained 195 responses, a response rate of 18.48%.

Economic and financial information were collected from the Aida database for the Italian sample, and from Orbis database for the French sample. Aida and Orbis are Bureau Van Dijk databases that provide comprehensive information on firms around the world.

Measures

Our dependent variable, start-up patenting, was derived from the Italian and French patent registers. We constructed a dummy variable that takes the value 1 if the start-up owns at least one patents and zero otherwise. We decided to use a dummy variable because start-ups generally have small numbers of patents. We constructed the three independent variables, market dynamism, market concentration and entrepreneurs' narcissism, as follows.

We measured *market concentration* using the Herfindahl index. The formula is $H = \sum_{i=1}^S s_i^2$, where S represents the revenue market share and i is the index for the individual firm. Instead, we measured *market dynamism* considering the standard deviation of the annual industry (2-digit ATECO code) sales growth rate (Barelds and Dijkstra, 2010). For both the indexes, data were gathered from Aida and Orbis and even if we collected them for the previous five years, we used 2012 values. This because when we analysed the values for different years, we found they were constant over time.

Entrepreneurs' narcissism is measured using the 16-item NPI-16 developed by Ames *et al.* (2006) in the five-point Likert scale version (see Gentile, 2013). We conducted an exploratory factor analysis on the NPI-16 to create the measure for narcissism.

As control variables, we controlled for variables at individual, firm, and environmental level. The former includes *entrepreneur age* measured as a five-point ordinal scale (i.e. 1 = less than 29 years old, 2 = 30-39 years old, 3 = 40-49 years old, 4 = 50-59 years old and 5 = more than 60 years old), *entrepreneur gender* measured as dummy variable (reference value man) (1= yes, 0= no), and *entrepreneur education* measured as a four-point ordinal scale (i.e. 1 = high school, 2 = bachelor's degree, 3 = master's degree and 4 = doctoral degree).

The control variables at firm level include *start-up initial capital* measured as a five-point ordinal scale (i.e., 1 = less than 5,000 €, 2 = 5,001-10,000 €, 3 = 10,001- 50,000 €, 4 = 50,001- 100,000 €, and 5 = more than 100,001€), *start-up age* measured as a three-point ordinal scale (i.e., 1 = less than 2 years "Seed phase", 2 = 3-5 years "Creation phase", and 3 = more than 6 years "Maturity phase"; reference year 2019), and *start-up size* measured as a three-point ordinal scale of the number of employees (i.e., 1 = less than 5 employees, 2 = 5-9 employees, and 3 = more than 10 employees). Finally, the control variables at environmental level include *industry sector* which refers to the start-ups principal activity

and is captured by the industry dummies at the two-digit ATECO (classification of economic activities adopted by the Italian Institute of Statistics) code, and *start-up location* captured by regional dummies (corresponding to the Nomenclature of Territorial Units for Statistics level 2, NUTS 2).

Model specifications

We conducted exploratory factor analysis (EFA) to extract the appropriate number of factors from the narcissism scale. According to Osborne and Costello (2009), a screen test is optimal to decide how many factors to consider. This involves examining the eigenvalue graph to identify natural curves or breakpoints in the data when the curve flattens. For the NPI-16 scale, only one factor had an eigenvalue superior to 1 (2.810), thus, we decided to opt for a one-factor solution; Cronbach's alpha is 0.81. Appendix A reports the factor loadings of all the variables.

On the above bases, we were able to build a general linear model which is the conventional linear regression model for continuous response variables and continuous and/or categorical predictors (McCullagh and Nelder, 1989).

RESULTS

Table 1 summarizes the observations, mean, standard deviations, and degree of correlation among the variables. We checked for multicollinearity and found that none of the variables was related.

Variable	Mean	Std. Dev.	N	1	2	3	4	5	6	7
1 Market concentration	0.753	2.669	195	1						
2 Market dynamism	0.040	0.079	195	-0.308***	1					
3 Entrepreneur narcissism	1.48e-09	0.924	195	-0.061	-0.066	1				
4 Entrepreneur age	2.687	0.974	195	0.126	0.056	0.000	1			
5 Entrepreneur education	2.738	0.930	195	-0.058	-0.058	-0.003	-0.028	1		
6 Start-up initial capital	2.564	1.111	165	0.075	-0.085	0.009	0.176*	0.066	1	
7 Start-up age	2.851	0.357	195	0.114	-0.239***	-0.013	-0.075	0.022	0.032	1
8 Start-up size	1.246	0.538	195	-0.010	0.186**	-0.068	0.099	-0.005	0.245**	-0.104

Notes: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 1: Descriptive statistics and correlation

Table 2 presents the results of the general linear model. Model 1 includes the control variables; model 2 adds the market concentration and entrepreneur narcissism variables; model 3 includes the moderation variable; model 4 adds to model 1 the market dynamism and entrepreneur narcissism variables; finally model 5 includes the moderation variable.

Model 2 shows that the market concentration has a significant positive impact on start-up patenting ($\beta = 0.043$, $p < 0.05$). This supports hypothesis 1 that market concentration is related positively to start-up patenting; start-up patenting propensity increases with the level of market concentration. However,

entrepreneur narcissism has a non-significant negative impact on start-up patenting ($\beta = -0.041$, $p > 0.1$). When we consider the moderation term, in model 3, we show that market concentration has a significant positive impact on to start-up patenting ($\beta = 0.042$, $p < 0.1$) and also entrepreneur narcissism became significant and is related negatively to start-up patenting ($\beta = -0.069$, $p < 0.1$). However, the interaction between market concentration and entrepreneur narcissism has a positive effect on start-up patenting ($\beta = 0.030$, $p < 0.05$). In other words, entrepreneur narcissism increases the effect of market concentration on start-up patenting and confirms the presence of a complementarity effect corroborating hypothesis 3 that entrepreneur narcissism has a positive moderating effect on the relationships between market concentration and start-up patenting propensity.

Model 4 shows that market dynamism has a significant negative impact on start-up patenting ($\beta = -1.339$, $p < 0.01$). This supports our hypothesis 2 that affirms that market dynamism is related negatively to start-up patenting. At the same time, entrepreneur narcissism also has a non-significant negative impact on start-up patenting ($\beta = -0.045$, $p > 0.1$). When we consider the moderation term, in model 5, we show that market dynamism is always negatively related to start-up patenting ($\beta = -1.322$, $p < 0.01$) and entrepreneur narcissism became significant and related negatively to start-up patenting ($\beta = -0.234$, $p < 0.1$). However, the interaction between market dynamism and entrepreneur narcissism has a not-significant negative effect on start-up's patenting ($\beta = -0.049$, $p > 0.1$). In other words, entrepreneur narcissism has not a moderating effect on the relationships between market dynamism and start-up's patenting propensity and we should reject our hypothesis 4.

Start-up patenting	Model 1		Model 2		Model 3		Model 4		Model 5	
Control Variables										
Entrepreneur age	-0.036	(0.036)	-0.034	(0.035)	-0.045	(0.035)	-0.036	(0.035)	-0.039	(0.035)
Entrepreneur gender	-0.038	(0.117)	-0.055	(0.115)	-0.100	(0.120)	-0.071	(0.115)	-0.077	(0.117)
Entrepreneur education	-0.034	(0.044)	-0.035	(0.043)	-0.033	(0.043)	-0.036	(0.043)	-0.037	(0.043)
Start-up initial capital	0.036	(0.034)	0.031	(0.035)	0.040	(0.035)	0.038	(0.034)	0.046	(0.034)
Start-up age	-0.023	(0.104)	-0.036	(0.109)	-0.023	(0.109)	-0.005	(0.114)	-0.013	(0.104)
Start-up size	0.024	(0.065)	0.026	(0.066)	0.013	(0.066)	0.016	(0.065)	-0.003	(0.070)
Main effects										
Market			0.043**	(0.022)	0.042*	(0.022)				

concentration					
Market				-	-
dynamism				1.339***	1.322***
Entrepreneur				(0.275)	(0.276)
narcissism		-0.041	(0.038)	-0.069*	-0.234*
Interactions				(0.038)	(0.137)
Market					
concentration					
x			0.030**	(0.014)	
Entrepreneur					
narcissism					
Market					
dynamism x					-0.049
Entrepreneur					(0.037)
narcissism					
Constant	1.423***	1.467***	1.465***	-	-
	(0.429)	(0.430)	(0.426)	5.417***	5.333***
				(1.345)	(1.341)
Log likelihood	-78.350	-77.093	-74.638	-77.632	-76.863
AIC	1.398	1.407	1.390	1.402	1.404
BIC	-628.589	-618.755	-614.369	-623.699	-618.823
N	165	165	165	165	165

Notes: The standard error is in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2: Results of regression analyses

DISCUSSION AND CONCLUSION

We investigated the effect on start-up's patenting of market concentration and market dynamism. Patenting enables start-ups to profit from their inventions and protects their competitive advantage (Helmers and Rogers, 2011). We found that market concentration has a positive effect on start-up's patenting: high market concentration corresponds to high propensity of start-ups to patent. We found also that market dynamism has a negative effect on start-up's patenting: high market dynamism corresponds to low propensity of start-ups to patent. Finally, we found that entrepreneur narcissism moderates only the relationship between market concentration and start-up's patenting: entrepreneur narcissism amplifies the positive effects on start-up's patenting of market concentration.

Our findings have both theoretical and practical implications. The paper contributes to the entrepreneurship literature by extending personality research beyond personality traits and it also

contributes to the strategic literature by showing that personality traits can influence firms' performance, and this is amplified in particular market scenarios.

The paper has some practical implication for firm owners and investors. Firm owners need to recognize the importance of entrepreneur personality traits and attitudes since these are likely to mediate the influence of market scenarios on start-ups' patenting. Investors - venture capitalists, bankers, public agencies and other investors - could incorporate measures to assess personality traits such as narcissism, when screening candidates and entrepreneurial projects. This would help to identify entrepreneurs with the potential to create high-innovative firms.

The present study has some limitations which could constitute the starting points for further research. The sample includes only Italian and French start-ups; therefore, we cannot determine whether very different national culture can intervene in the different entrepreneurs' styles and actions. It would be interesting to replicate our study in different country contexts. An ideal setting would be China, which has a more collectivist culture than western economies. High levels of collectivism might influence entrepreneur personality. Second, our sample is composed of start-ups; future work could focus on a sample of established companies to show whether firm age plays a role in defining the above relationships. Finally, we use cross sectional data; the study could be replicated after three or five years to investigate whether age or life events mitigate or amplify the effects of narcissism.

REFERENCES

- Ames, D. R., Rose, P. and Anderson, C. P. (2006), "The NPI-16 as a short measure of narcissism", *Journal of Research in Personality*, 40, 440-450.
- Bamiatzi, V., Bozos, K., Cavusgil, S. T. and Hult, G. T. M. (2016), "Revisiting the firm, industry, and country effects on profitability under recessionary and expansion periods: A multilevel analysis", *Strategic management journal*, 37, 1448-1471.
- Barelds, D. P. and Dijkstra, P. (2010), "Narcissistic personality inventory: structure of the adapted dutch version", *Scandinavian journal of psychology*, 51, 132-138.
- Baron, R. A. and Tang, J. (2011), "The role of entrepreneurs in firm-level innovation: Joint effects of positive affect, creativity, and environmental dynamism", *Journal of Business Venturing*, 26, 49-60.
- Besanko, D., Dranove, D., Shanley, M. and Schaefer, S. (2009), *Economics of strategy*, John Wiley & Sons, New York.
- Blazsek, S. and Escribano, A. (2016), "Patent propensity, R&D and market competition: Dynamic spillovers of innovation leaders and followers", *Journal of Econometrics*, 191, 145-163.
- Blind, K., Edler, J., Frietsch, R. and Schmoch, U. (2006), "Motives to patent: Empirical evidence from Germany", *Research Policy*, 35, 655-672.
- Brislin, R. W. (1980) "Translation and content analysis of oral and written material", in Triandis, H. C. and Berry, J. W. (Ed.), *Handbook of cross-cultural psychology: Methodology*, Allyn and Bacon, Boston, MA, pp. 349-444.
- Campbell, W. K., Goodie, A. S. and Foster, J. D. (2004), "Narcissism, confidence, and risk attitude", *Journal of Behavioral Decision Making*, 17, 297-311.
- Campbell, W. K., Hoffman, B. J., Campbell, S. M. and Marchisio, G. (2011), "Narcissism in organizational contexts", *Human resource management review*, 21, 268-284.
- Castelo Branco, M., Delgado, C., Sa, M. and Sousa, C. (2010), "An analysis of intellectual capital disclosure by Portuguese companies", *EuroMed Journal of Business*, 5, 258-278.
- Chatterjee, A. and Hambrick, D. C. (2007), "It's All about Me: Narcissistic Chief Executive Officers and Their Effects on Company Strategy and Performance", *Administrative Science Quarterly*, 52, 351-386.

- Cohen, W. M., Goto, A., Nagata, A., Nelson, R. R. and Walsh, J. P. (2002), "R&D spillovers, patents and the incentives to innovate in Japan and the United States", *Research policy*, 31, 1349-1367.
- De Vries, G., Pennings, E., Block, J. H. and Fisch, C. (2017), "Trademark or patent? The effects of market concentration, customer type and venture capital financing on start-ups' initial IP applications", *Industry and Innovation*, 24, 325-345.
- Dess, G. G. and Beard, D. W. (1984), "Dimensions of organizational task environments", *Administrative science quarterly*, 29, 52-73.
- Dess, G. G. and Lumpkin, G. T. (2005), "The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship", *The Academy of Management Executive*, 19, 147-156.
- Duncan, R. B. (1972), "Characteristics of organizational environments and perceived environmental uncertainty", *Administrative science quarterly*, 313-327.
- Engelen, A., Neumann, C. and Schmidt, S. (2016), "Should entrepreneurially oriented firms have narcissistic CEOs?", *Journal of Management*, 42, 698-721.
- Engelen, A., Neumann, C. and Schwens, C. (2014), "'Of Course I Can': The Effect of CEO Overconfidence on Entrepreneurially Oriented Firms", *Entrepreneurship Theory and Practice*.
- Field, A. (2013), *Discovering statistics using IBM SPSS statistics*, Sage, London.
- Finkelstein, S. and Boyd, B. K. (1998), "How much does the CEO matter? The role of managerial discretion in the setting of CEO compensation", *Academy of Management journal*, 41, 179-199.
- Gentile, B. 2013. Investigating alternative response sets with the Narcissistic Personality Inventory: Validation of a new Likert version. Doctoral dissertation, University of Georgia.
- Hambrick, D. C. and Finkelstein, S. (1987), "Managerial discretion: A bridge between polar views of organizational outcomes", *Research in organizational behavior*.
- Hambrick, D. C. and Mason, P. A. (1984), "Upper echelons: The organization as a reflection of its top managers", *Academy of management review*, 9, 193-206.
- Harris, M. S. (1998), "The association between competition and managers' business segment reporting decisions", *Journal of accounting research*, 36, 111-128.
- Helmers, C. and Rogers, M. (2011), "Does patenting help high-tech start-ups?", *Research Policy*, 40, 1016-1027.
- Holgersson, M. (2013), "Patent management in entrepreneurial SMEs: a literature review and an empirical study of innovation appropriation, patent propensity, and motives", *R&D Management*, 43, 21-36.
- Hsu, D. H. and Ziedonis, R. H. Patents as quality signals for entrepreneurial ventures. *Academy of Management Proceedings*, 2008. Academy of Management Briarcliff Manor, NY 10510, 1-6.
- Hyytinen, A., Pajarinen, M. and Rouvinen, P. (2015), "Does innovativeness reduce startup survival rates?", *Journal of Business Venturing*, 30, 564-581.
- Im, H. J., Park, Y. J. and Shon, J. (2015), "Product market competition and the value of innovation: Evidence from US patent data", *Economics Letters*, 137, 78-82.
- Jansen, J. J., Van Den Bosch, F. A. and Volberda, H. W. (2006), "Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators", *Management science*, 52, 1661-1674.
- Leonelli, S., Ceci, F. and Masciarelli, F. (2016), "The importance of entrepreneurs' traits in explaining start-ups' innovativeness", *Sinergie Italian Journal of Management*, 34, 71-85.
- Li, M. and Simerly, R. L. (2002), "Environmental dynamism, capital structure and innovation: an empirical test", *The International Journal of Organizational Analysis*, 10, 156-171.
- Luo, X. and Homburg, C. (2007), "Neglected outcomes of customer satisfaction", *Journal of Marketing*, 71, 133-149.
- Maccoby, M. (2003), *The productive narcissist: The promise and peril of visionary leadership*, Broadway Books, New York, NY.
- Mann, R. J. and Sager, T. W. (2007), "Patents, venture capital, and software start-ups", *Research Policy*, 36, 193-208.
- Mccullagh, P. and Nelder, J. A. (1989), *Generalized linear models*, Chapman & Hall/CRC, New York.
- Miller, D. (1987), "The structural and environmental correlates of business strategy", *Strategic Management Journal*, 8, 55-76.
- Osborne, J. W. and Costello, A. B. (2009), "Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis", *Pan-Pacific Management Review*, 12, 131-146.
- Rodrigo-Alarcon, J., Garcia-Villaverde, P. M., Parra-Requena, G. and Ruiz-Ortega, M. J. (2017), "Innovativeness in the context of technological and market dynamism: The conflicting effects of network density", *Journal of Organizational Change Management*, 30, 548-568.
- Rosenthal, S. A. and Pittinsky, T. L. (2006), "Narcissistic leadership", *The Leadership Quarterly*, 17, 617-633.

- Siegel, D. S., Veugelers, R. and Wright, M. (2007), "Technology transfer offices and commercialization of university intellectual property: performance and policy implications", *Oxford Review of Economic Policy*, 23, 640-660.
- Srinivasan, R., Lilien, G. L. and Rangaswamy, A. (2008), "Survival of high tech firms: The effects of diversity of product-market portfolios, patents, and trademarks", *International Journal of research in Marketing*, 25, 119-128.
- Talaulicar, T., Grundei, J. and Werder, A. V. (2005), "Strategic decision making in start-ups: the effect of top management team organization and processes on speed and comprehensiveness", *Journal of Business Venturing*, 20, 519-541.
- Thoma, J. and Bizer, K. (2013), "To protect or not to protect? Modes of appropriability in the small enterprise sector", *Research Policy*, 42, 35-49.
- Tzabbar, D. and Margolis, J. (2017), "Beyond the Startup Stage: The Founding Team's Human Capital, New Venture's Stage of Life, Founder-CEO Duality, and Breakthrough Innovation", *Organization Science*, 28, 857-872.
- Wales, W. J., Gupta, V. K. and Mousa, F.-T. (2011), "Empirical research on entrepreneurial orientation: An assessment and suggestions for future research", *International Small Business Journal*, 0266242611418261.
- Wales, W. J., Patel, P. C. and Lumpkin, G. T. (2013), "In Pursuit of Greatness: CEO Narcissism, Entrepreneurial Orientation, and Firm Performance Variance", *Journal of Management Studies*, 50, 1041-1069.
- Wallace, H. M. and Baumeister, R. F. (2002), "The performance of narcissists rises and falls with perceived opportunity for glory", *Journal of personality and social psychology*, 82, 819-834.
- Yuille, J. C. (2013), *Credibility assessment*, Springer, Netherlands.
- Zhu, X., Dong, M. C., Gu, J. and Dou, W. (2017), "How do informal ties drive open innovation? The contingency role of market dynamism", *IEEE Transactions on Engineering Management*, 64, 208-219.

APPENDIX A. RESULTS OF EXPLORATORY FACTOR ANALYSIS.

Items	m	sd	Factor loading	α
NPI-16				0.79
1 I know that I am good because everybody keeps telling me so. So che valgo perché gli altri non fanno altro che dirmelo.	2.682	1.140	-.*	
2 I like to be the centre of attention. Amo essere il centro dell'attenzione.	2.441	1.070	0.799	
3 I think I am a special person. Penso di essere una persona speciale.	3.287	1.184	0.552	
4 I like having authority over people. Amo avere l'autorità sugli altri.	2.528	1.109	0.617	
5 I find it easy to manipulate people. Trovo semplice manipolare le persone.	2.323	1.100	-.*	
6 I insist upon getting the respect that is due me. Di solito ho il rispetto che merito.	3.544	1.071	-.*	
7 I am apt to show off if I get the chance. Di solito cerco di essere esibizionista, se ne ho l'opportunità.	2.015	1.110	0.537	
8 I always know what I am doing. So sempre quello che sto facendo.	3.477	1.132	-.*	
9 Everybody likes to hear my stories. Tutti adorano ascoltare i miei racconti.	2.856	0.925	-.*	
10 I expect a great deal from other people. Mi aspetto molto dalle altre persone.	3.590	1.101	-.*	
11 I really like to be the centre of attention. Mi piace molto essere al centro dell'attenzione.	2.272	1.071	0.772	
12 People always seem to recognize my authority. La gente riconosce sempre la mia autorità.	3.159	1.041	-.*	
13 I am going to be a great person. Diventerò una persona famosa.	2.626	1.230	-.*	
14 I can make anybody believe anything I want them to. Posso far credere a chiunque quello che voglio.	2.323	1.154	-.*	
15 I am more capable than other people. Ho maggiori capacità rispetto alle altre persone.	3.159	1.131	0.530	
16 I am an extraordinary person. Sono una persona straordinaria.	2.549	1.158	0.568	

Note: *= items excluded because factor loading is less than 0.3 (Field, 2013)

THE EFFECTS OF GLOBALIZATION ON FINANCIAL REPORTING

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ABSTRACT

The process of globalization has gained great significance over the last decades due to the changes in international trade and business between countries, leading to the spread of multinational companies and foreign cross-border investments. These global changes have been the premises for introducing new information flows that allow foreign investors to find new ways to understand better the business. Regarding the financial reporting, the world experienced a major change, the most obvious feature being the adoption of IFRS. The process of globalization has led the companies to comply with financial reporting standards in a uniform way due to the positive effects that follow the implementation. The purpose of this paper is to present the evolution of economic globalization by capturing the impact it has on financial reporting.

Keywords: Globalization, Evolution, Factors, Challenges, Benefits, IFRS

INTRODUCTION

One of the most controversial events that marked the world at the end of the 20th century is globalization. With a broad scope, this phenomenon has been found in a multitude of areas such as: cultural, social, economic, political and has led to a multitude of opinions. Globalization is the process of increasing the economic correlation between countries around the world based on the development in goods and services transactions, the expansion of foreign capital flows, and the evolution of technology.

The globalization process has led to the outlining of several definitions; for example: Gorgan C, (2013) makes a presentation of globalization from three perspectives: 1) as a group of processes which contributes to the creation of a unitary state; 2) as a process which eliminates the geographical distance due to the intensification of the economic and political relations based on new technologies; 3) as a phenomenon that can be associate with internationalization, universalization, liberalization. The economic globalization captures the important progress from various industries, services, commerce and foreign investment from multinational companies.

By focusing our attention on economic globalization, this paper tries to capture important moments of globalization in order to present the factors and the consequences that influenced the accounting field.

EVOLUTION AND FACTORS OF GLOBALIZATION

Regarding the economic globalization we can define as being an evolutionary process based on technological, political, economic causes and not as a recent process without a solid foundation in history. Worldwide we can talk about a division of globalization in two periods: the first one between 1870-1914 and the second one starting after 1945 and which extends until present (Baldwin and Martin, 1999; Federico and Tena-Junguito, 2010). The first stage was characterized by an increase in the exchange of goods and services, increase in the production factors and technology transfer from developed countries to developing countries. Globalization in the first period is emerging under British domination in which the industrial revolution playing a major role for this phenomenon. Neither should we forget other key elements that have made globalization possible: reduction of transport costs and communication, removing national barriers and expanding capitalism.

The period after the Second World War may be characterized as one under the domination of the United States. This stage has a significant difference compared to the previous period because the international regulators have made their appearance (the International Monetary Fund established in 1945, the General Agreement on Tariffs and Commerce set up in 1947, the World Trade Organization set up in 1995).

Some authors considered the recent progresses in technology being the key element of globalization that have led to the free movement of information and encouraged the marketing of products and services worldwide (Bari.I, 2005). The development of technology has determined a reduction in geographical distance and the strengthening of cross-border links.

The liberalization of foreign investment is a main factor in the process of economic globalization through the elimination of foreign companies' restrictions on operations in national capital markets. This was possible due to the decreasing of the state's control over the capital inflows and outflows and because of the existence of international regulatory standards which have been imposed by national regulators. Multinational companies have contributed decisively to the globalization of capital through the investments they have made.

THE IMPACT OF GLOBALIZATION ON THE ACCOUNTING FIELD

Globally, accounting becomes an element of interest for business environment both at national and international level, mainly due to the entry of multinational companies on international markets. In order to understand the accounting process in the last decades, we should answer to a simple question: why is it important that everyone from each state to speak the same accounting language? A fundamental factor is the decisions of the various investors regarding the future investment policies and their need to have qualitative and, above all, comparable financial information. Based on these needs, the accounting process can be presented through three phenomena: normalization, harmonization and convergence.

The normalization process originally appeared locally but expanded its applicability with the evolution of international goods and services markets. According to Ionascu (2013), accounting normalization requires the application of the same accounting rules in the same geopolitical space aiming the uniformity of accounting practices.

Feleaga L and Feleaga N, (2007) presents the process of accounting harmonization as being the process of convergence of national rules or norms from one country to another, so that comparability can be achieved. At international level, organizations with the most significant impact on harmonization are represented by the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB). The harmonization process at European level has started since the 1970s when among the most important accounting directives were: the Fourth Directive on financial statements of the companies, the Seventh Directive on Consolidated Financial Statements, and last but not least the Directive VIII on the Legal Audit of Financial Statements.

In the accounting field the consequence of globalization is represented by the implementation of international financial reporting standards (IFRS). The tendency to achieve a common economic language was manifested by signing a convergence agreement between IAS-IFRS and US GAAP in 2002 between the IASB and the FASB. The implementation of IFRS has become a defining element for assuring the quality of accounting information. The promotion of a single set of accounting standards is a passing method from international harmonization to global convergence (Qu and Zhang, 2010).

At European level, Regulation (EC) No 1606/2002 on the application of IFRS is one of the most important stages of accounting convergence. Under this regulation, listed companies of member states, banks and insurance companies must prepare their consolidated financial statements in accordance with IFRS. According to Feleaga L and Feleaga N (2006), the EU's decision to adopt IFRS is a response to the dominance of American accounting rules in the global financial markets. Table 1 below shows the current situation regarding the adoption of IFRS within the European Union.

Countries	IFRS Standards are required for domestic public companies	IFRS Standards are permitted but not required for domestic public companies	IFRS Standards are required or permitted for listings by foreign companies	The IFRS for SMEs Standard is required or permitted	The IFRS for SMEs Standard is under consideration
Austria	Yes		Yes	No	No
Belgium	Yes		Yes	No	No
Bulgaria	Yes		Yes	No	No
Croatia	Yes		Yes	No	No
Cyprus	Yes		Yes	No	No
Czech Republic	Yes		Yes	No	No
Denmark	Yes		Yes	No	No
Estonia	Yes		Yes	No	No
Finland	Yes		Yes	No	No
France	Yes		Yes	No	No
Germany	Yes		Yes	No	No
Greece	Yes		Yes	No	No
Hungary	Yes		Yes	No	No
Ireland	Yes		Yes	Yes	No
Italy	Yes		Yes	No	No
Latvia	Yes		Yes	No	No
Lithuania	Yes		Yes	No	No
Luxembourg	Yes		Yes	No	No
Malta	Yes		Yes	No	No
Netherlands	Yes		Yes	No	No
Poland	Yes		Yes	No	No
Portugal	Yes		Yes	No	No
Romania	Yes		Yes	No	No
Slovak Republic	Yes		Yes	No	No
Slovenia	Yes		Yes	No	No
Spain	Yes		Yes	No	No
Sweden	Yes		Yes	No	No
United Kingdom	Yes		Yes	Yes	No

Table 1. *IFRS adoption in EU*. Source: www.IFRS.org

CHALLENGES AND EFFECTS OF IFRS ADOPTION

Over time, researchers have focused on convergence and blocking factors that have delayed or even stopped the process of adopting IFRS. Existing work presents evidence of the challenges that have influenced the quality of accounting. We can highlight among them:

- o Heavy content of IFRS, lack of specialists for implementation and frequent changes in the content of international standards (Jermakowicz and Gornik-Tomaszewski, 2006),
- o The presence of emerging capital markets. (Ding et al., 2007).
- o Different accounting cultures that often result in understanding issues. (Jermakowicz and Gornik-Tomaszewski, 2006), (Soderstrom and Sun, 2007) (Albu et al., 2010).
- o Problems between taxation and accounting that put some barriers in IFRS practices. (Jermakowicz and Gornik-Tomaszewski, 2006).
- o Very high costs related to the way IFRS is implemented. (Jermakowicz and Gornik-Tomaszewski, 2006), (Ionascu et al., 2014).

Figure 1 Provides a schematic framework for a better visualization the determinants of accounting quality.

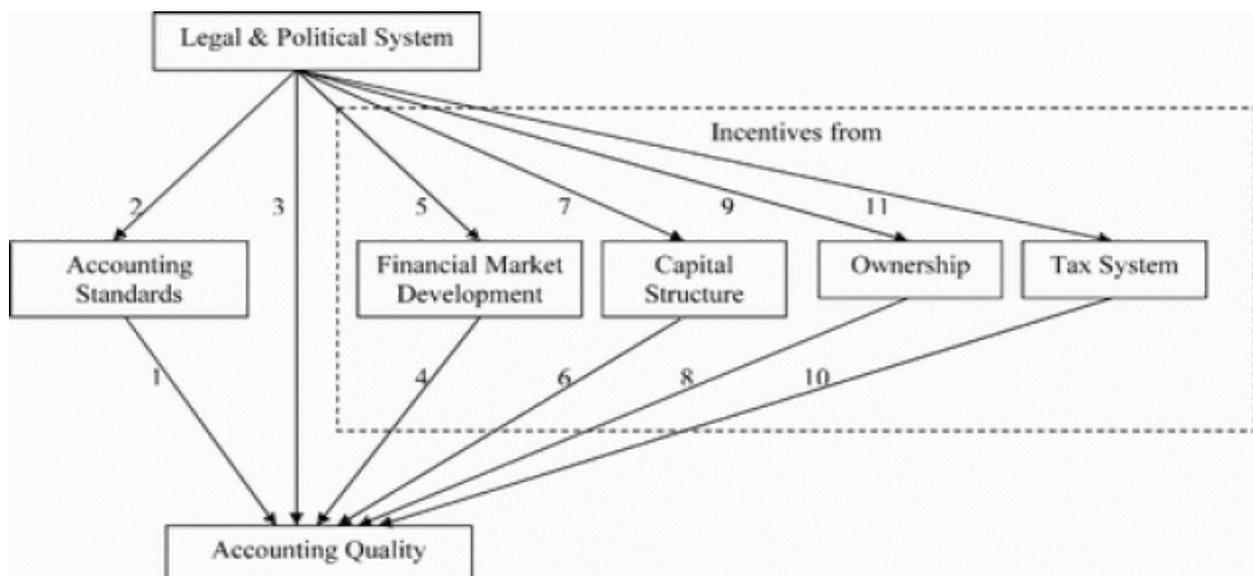


Figure 1. *Factors influencing accounting quality.* Source: (Soderstrom si Sun, 2007)

Although obstacles for the application of IFRS were obvious in countries where accounting culture differs from IFRS culture, the implementation process generated various consequences for both mandatory adoption and voluntary adoption. Among the first papers who have investigated the voluntary adoption of IFRS, we can mention: (Soderstrom and Sun, 2007), (Daske et al., 2008), (Horton et al., 2013). The results of these studies indicate a positive impact on the quality of financial information regarding the voluntary adoption of IFRS, but these results cannot be generalized in case of mandatory adoption. In most cases, voluntary adoption refers to the policies that entities have set in

order to increase transparency. (Daske et al., 2008). Other authors have shown that there is an increase in cross-border investments based on the voluntary adoption of IFRS (Horton et al, 2010).

In the case of studies focusing on the effects of mandatory IFRS adoption, we can note higher quality of financial reporting, comparability and transparency of financial statements. (Albu et al, 2010), (Chen et al, 2010). The question of comparability has long been discussed worldwide and overall, the impact being positive. Contrary to this opinion (Zeff, 2007) launches an alarm signal that we need to be careful to the future progress regarding the consolidation of financial statements.

Other studies focused on the economic consequences of adopting IFRS illustrate the increase volatility of the result and the increase of equity (Soderstrom and Sun, 2007), (Daske et al., 2008), (Albu et al, 2010). Another effect presented by the researchers was the decrease of cost of capital. Opinions have been divided between studies that have shown there has indeed been a decrease of capital costs ((Jermakowicz and Gornik-Tomaszewski, 2006), (Daskte et al, 2008) and other studies indicated that there has been no modification of capital cost with the adoption of IFRS (Ionascu et al, 2010).

CONCLUSIONS

The process of globalization involves all of us being the phenomenon of the contemporary world that affects all of us. Globalization and its effects on accounting are related to normalization, harmonization and convergence. The implementation of international accounting standards has become a necessity and at European level Regulation (EC) No 1606/2002 on IFRS application is one of the most important stages of accounting convergence.

Applying IFRS to a larger scale, implies several limits but also benefits. Studies have shown many advantages such as increasing the comparability of the financial statements which give to investors the opportunity to access capital at a lower cost and also with a lower risk. The limits have mainly focused on the costs and the level of compliance that must be achieved between local and international standards. However, as a general consequence, we can affirm that the benefits of implementing IFRS were clearly superior to the challenges.

REFERENCES

- 1) ALBU, Nadia, NICOLAE ALBU, Cătălin, BUNEA, Ștefan, et al. A story about IAS/IFRS implementation in Romania. *Journal of Accounting in Emerging Economies*, 2011, vol. 1, no 1, p. 76-100.
- 2) Baldwin, R. E., & Martin, P. (1999). Two waves of globalisation: superficial similarities, fundamental differences (No. w6904). National Bureau of Economic Research.
- 3) BARI, Ioan (2005). *Globalizarea economiei*, Ed. Economică, București.
- 4) CHEN, Huiifa, TANG, Qingliang, JIANG, Yihong, et al. The role of international financial reporting standards in accounting quality: Evidence from the European Union. *Journal of international financial management & accounting*, 2010, vol. 21, no 3, p. 220-278.

- 5) DASKE, Holger, HAIL, Luzi, LEUZ, Christian, et al. Mandatory IFRS reporting around the world: Early evidence on the economic consequences. *Journal of accounting research*, 2008, vol. 46, no 5, p. 1085-1142.
- 6) DING, Yuan, et al. Differences between domestic accounting standards and IAS: Measurement, determinants and implications. *Journal of accounting and public policy*, 2007, 26.1: 1-38.
- 7) FEDERICO, Giovanni et TENA-JUNGUITO, Antonio. A tale of two globalizations: gains from trade and openness 1800–2010. *Review of World economics*, 2017, vol. 153, no 3, p. 601-626.
- 8) FELEAGĂ, L. et FELEAGĂ, N. Convergențe contabile internaționale prin prisma aderării la Uniunea Europeană. *Economie teoretică și aplicată*, 2006, p. 37-44.
- 9) FELEAGA, Liliana et FELEAGA, N. (2007). *Contabilitate financiara o abordarea europeana si internationala*, vol. II. 2007.
- 10) GORGAN, Cătălina (2013). *Convergența contabilă internațională: implicații asupra raportării financiare*. Editura ASE.
- 11) HORTON, Joanne, SERAFEIM, George, et SERAFEIM, Ioanna. Does mandatory IFRS adoption improve the information environment ? *Contemporary accounting research*, 2013, vol. 30, no 1, p. 388-423.
- 12) JERMAKOWICZ, Eva K. et GORNIK-TOMASZEWSKI, Sylwia. Implementing IFRS from the perspective of EU publicly traded companies. *Journal of international accounting, auditing and taxation*, 2006, vol. 15, no 2, p. 170-196.
- 13) IONAȘCU, Ion.(2003). *Dinamica doctrinelor contabilității contemporane: studii privind paradigmele și practicile contabilității*. Editura Economică.
- 14) IONASCU, Mihaela, IONASCU, Ion, SACARIN, Marian, et al. IFRS adoption in developing countries: the case of Romania. *Accounting and Management Information Systems*, 2014, vol. 13.
- 15) QU, Xiaohui et ZHANG, Guohua. Measuring the convergence of national accounting standards with international financial reporting standards: The application of fuzzy clustering analysis. *The International Journal of Accounting*, 2010, vol. 45, no 3, p. 334-355.
- 16) SODERSTROM, Naomi S. et SUN, Kevin Jialin. IFRS adoption and accounting quality: a review. *European Accounting Review*, 2007, vol. 16, no 4, p. 675-702.
- 17) ZEFF, Stephen A. Some obstacles to global financial reporting comparability and convergence at a high level of quality. *The British Accounting Review*, 2007, vol. 39, no 4, p. 290-302.
- 18) www.ifrs.org

IMPLEMENTATION OF SOCIAL AREA OF CSR WITHIN THE COMPANIES AND ITS EFFECT ON HUMAN RESOURCE MANAGEMENT

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ABSTRACT

The development of conceptual foundations for implementation of CSR in the area of employees' development and creating conditions for the harmonious development of the person is one of the most actual scientific tasks. The aim of the paper is to find out the implementation of CSR within chosen companies and its effect on human resource management. We analysed the relationship of social area of CSR and human resources in 331 food companies in Slovakia. The tool for analyse was the questionnaire based on the 5-degree Likert scale and controlled interviews. Data processing was performed using statistical program SAS Enterprise Guide 7.1. The statistical relations and correlations between variables were performed using Cronbach alpha, Spearman's test, Kruskal-Wallis' test. The characteristic features of a socially responsible food company with regard to human resources, as its most important source, are to promote the balance of work and personal life of employees, care for their health and welfare, respect for their rights and freedoms, support employees' participation in the decision-making process of the company, development of skills and knowledge of the employees, prevent bureaucracy. Food companies in Slovak republic have to work hard to implement rules of diversity management and support corporate philanthropy.

Keywords: corporate social responsibility, employee, food company, human resource management

INTRODUCTION

Nowadays enterprises operate in conditions of dynamism, uncertainty, the spread of risks in all spheres of management, aggravation of competitive struggle, etc. (Salehi et al., 2018). Under these circumstances, employees should be considered as a strategic resource, which, in the case of effective management, can positively influence the productive and stable activity of the enterprise (OECD, 2000). Human resources have to be prepared for this revolutionary development, at all managerial levels (Juričková et al., 2019). Enterprises need to develop new approaches in the system of human resource management. The core of such innovations should be the concept of Corporate Social Responsibility (Voegtlin and Greenwood, 2013; Boxall, Purcell and Wright, 2009). Corporate Social Responsibility

begins with its transformation into an institution that actively assumes responsibility for the impact of its activities on employees and their families, what greatly contributes to their job satisfaction. Satisfaction further leads to strengthening personal responsibility at the workplace, towards customers, suppliers, the environment, and the community where the company is developing its activities (Cohen, 2010). The aim of our paper is to find out the implementation of CSR within chosen companies and its effect on human resource management.

Chatzoglou et al. (2015) wrote that CSR implementation seems to have a positive effect on “employee commitment”, “customer satisfaction” and “company reputation. However, a socially responsible organization should not only comply with the obligations that derive from the law, but also invest more in human capital, in the environment and in the relations with its social partners. As Jamali et al. (2014) wrote, CSR does not act as a traditional function of HRM, since HRM is concentrated on the organization's employees, and CSR can often be focused on other stakeholders. But Porter and Miles (2013) believe that the connection between CSR and HRM are extremely promising, but the process of measuring the impact of CSR actions in relation to the company's efficiency and reputation is long-term and often difficult to fix. Voegtlin and Greenwood (2013) also argue that there is practically impossible to inquire the impact of links between CSR and HRM. The authors explain that there is a reciprocal link between these two concepts, that is, CSR can affect the practice of personnel management as well as the practice of human management can affect the company's actions in the context of CSR.

THEORETICAL BACKGROUND

Employees have been identified as an important stakeholder group with respect to CSR, who could become highly engaged advocates and ambassadors of a responsible organization (Dhanesh, 2014; Gill, 2015). Enterprises of economically developed countries use CSR as a reliable tool aimed at increasing the efficiency of HRM, motivation and loyalty of employees, forming a positive image of the company and the brand on the market (Aksak et al., 2016; Asemah et al., 2013). Most of the works created in the field of CSR are focused on meeting the needs of external stakeholders. Companies should be aware that employees are also an important stake, which has a vast influence on the enterprise (Jiang and Men, 2017). Therefore, senior management of an enterprise has to develop and implement a socially responsible policy, which helps to satisfy all desires of each entity (Oliylyk, 2015). This approach involves studying the behaviour of the employee at the enterprise, identifying the laws in the field of labour and personality development, evolving and implementing socially responsible actions that can be the best way to cater the needs of each employee. The results of the international research prove that the company receives a lot of benefits (including financial) from the implementation of the CSR activities which are connected with the workers (Oliylyk, 2015).

One of the most important elements of the conceptual framework is the choice of the forms of CSR implementation in the field of HRM. The development, approval and implementation of the internal socially responsible system should become part of the general management programs.

The essence of CSR principles in labour relations is the following (Hrishnova et al., 2014): observance of the legislation of country and international norms; avoidance of reduction of existing social rights and guarantees; workers' participation in decision-making concerning their interests; permanence - socially responsible behaviour is a constant feature of the social partners' activities; transparency - openness in relation to own activity, provision of reliable information in an accessible and full extent; accountability - the willingness to report on the impact of its activities; efficiency - achievement of the maximum result at minimum expenses; the principle of feedback - the current result should be compared with the goal set at the beginning, the discrepancy should be promptly detected and correct by managerial decisions; scientific feasibility - methods and tools of management should be scientifically substantiated and tested in practice.

In recent years, both public and private sector organizations have adopted a variety of work-life balance programs (WLBPs), as an important part of CSR social program, which can include flexible scheduling (compressed workweeks, voluntary work reduction, telecommuting, and job sharing), alternative work sites (smart centers) and leave arrangements (Lee and Kim, 2010).

In relation with sustainable development, the HRM is seen as the key driving force in the development of sustainability of modern organizations. Human resource management should incorporate organizational culture within sustainable business strategy, but also they need to shape organizational system in a way to enable the impact on employees, society and other stakeholders, in line with the vision of sustainable society (Garg, 2014). Sustainable human resource management (SHRM) means using the tools of HR to create a workforce that has the trust, values, skills and motivation to achieve a profitable triple bottom line. The idea of employee engagement as a part of SHRM, visualizes an employee who is cognitively, affectively and behaviorally 'present', absorbed and dedicated while performing an organizational role (Duthler and Dhanesh, 2018). Employee loyalty, which is very closely connected with employee's engagement, is a term for a set of emotions that make employees feel attached to their current employer and less likely to see greener grass elsewhere. The employee loyalty meant the ability to stay with the organization. To increase employee loyalty, man must increase the positive emotions and decrease the negative emotions that employees feel as they make a decision to stay or go. It based on the premise that staffs loyalty to organization could be measure by the amount of time one work for the company or organization (Portney, 2008).

MATERIAL AND METHODS

Employees should be involved in the solving of important decisions for the organization, for example, the formulation of values, business development strategies, etc. Indeed, an effective system of the human resource management involves not only the engagement of employees in the adoption of strategic decisions but also the use of their creative and intellectual potential for the accumulation of innovative ideas. While the existence of employees depends on their employers, responsible owners and managers know that a skilled and motivated workforce and an elderly employer are key assets of a knowledge-based economy.

The aim of the scientific paper is to find out the implementation of CSR within chosen companies and its effect on human resource management. Our task was to analyse the relationship of social area of CSR and human resources in food companies in Slovakia. The tool for analyse was the questionnaire based on the 5-degree Likert scale, where the respondents expressed the degree of their agreement or disagreement with the particular statement. The questionnaire was filled by sample of 331 respondents (1 questionnaire for 1 company), which holds a different position in the chosen companies (such as owner, manager, the employee of the economic, logistics, production or sales department and so on). To complete information we also realized 34 controlled interviews by face to face meetings in these companies. Our research was realized from May to September 2018.

Data processing was performed using statistical program SAS Enterprise Guide 7.1. The statistical relations and correlations between variables were performed using Cronbach alpha, Spearman test, Kruskal-Wallis' test. In general like in each research, the reliability and accuracy of measurement are important. In conducted survey, we used the Cronbach coefficient alpha as part of the statistical evaluation, where: the higher the homogeneity of the elements, the higher the reliability. We applied mathematical and statistical methods such as non-parametric Kruskal-Wallis test and correlation analysis using Spearman test for statistical hypothesis testing. The Spearman correlation coefficient is a non-parametric measure of association. The values of this coefficient are from 1 to -1. Values approaching 1 represent strong positive correlation. Values approaching 0 represent none correlation and values approaching -1 represent strong negative correlation. The Spearman correlation coefficient provides better estimate than the Pearson correlation coefficient. (Benda-Prokeinová, 2014)

The most widely used method for assessing the reliability of scales is Cronbach Coefficient Alpha. It represents the degree of internal consistency of the scale. The values of Cronbach Coefficient Alpha 0.7 and higher means sufficient internal consistency of the scale. (Benda-Prokeinová, 2014)

We have tested first three research presumptions using nonparametric one-way ANOVA by Kruskal-Wallis test. The last three research presumptions where tested for relationship using Spearman correlation coefficient.

Interpretation of Spearman and Cronbach correlation coefficient values was based on the following table. (De Vaus, 2002)

Correlation value	Dependence interpretation
- 0.09	Trivial or none
0.10 – 0.29	Low to medium
0.30 – 0.49	Medium to essential
0.50 – 0.69	Essential to very strong
0.70 – 0.89	Very strong
0.90 – 0.99	Almost perfect

Table 1. *Interpretation of correlation coefficient values*

Source: (De Vaus, 2002)

In our research we determined and verified 3 research presumptions (hypotheses):

H1: We assume that there is statistically significant difference between the respondent's position in the firm and his/her work-life balance.

H2: We expect that there is statistically significant difference between awareness of employees about important matters relating to the company and their knowledge of firm's concept of CSR.

H3: We expect positive correlation between the statement "our company is socially responsible" and employee's loyalty to the company.

RESULTS

During the last decades, the Slovak republic has faced significant changes in the social, political and environmental spheres. The concept of CSR for this region is comparatively new. However, it should be noted that the practice of using CSR develops rather rapidly within the framework of integration of this region with the European Union, as well as under the effect of the increase of foreign investors and the development of international companies. Therefore, the assessment of CSR state in this region is becoming more interesting not only for the scientists but also for the companies themselves. In our opinion, an important part of the analysis conducted in the study was the assessment of the level of CSR in human resource management, as human labour is considered as one of the most valuable resources of each enterprise.

As noted above, research on issues related to HRM and CSR we focused on companies in Slovak republic. Moreover, the socio-political changes, as well as the transformation of the economy from centrally planned to market form, could have caused entrepreneurs' lack of interest in the requirements of workers, as companies could think that needs of other stakeholders are more important to satisfy. Thus, the purpose of this study is to determine the level of CSR quality measures in the relationship between the firm and employees.

Based on the first research presumption formulated in the part “Methods” we set zero and alternative hypothesis:

H₀: There is no statistically significant difference between the respondent’s position in the firm and his/her work-life balance.

H₁: There is statistically significant difference between the respondent’s position in the firm and his/her work-life balance.

These hypotheses were tested using nonparametric one-way ANOVA by Kruskal-Wallis test. The results of this test are shown in the table 2 below.

We have found out that obtained p-value is lower than 0.0001. It is lower than determined value Alpha=0.05. It means that reject zero hypothesis and accept the alternative hypothesis. The obtained p-value is also lower than Alpha=0.01 and it means that there is not just statistically significant difference, but also highly statistically significant difference.

Wilcoxon Scores (Rank Sums) for Variable work-life balance of employees Classified by Variable Your position in the firm						
Your position in the firm	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score	
Owner	18	4599.00	2988.0	352.686460	255.500000	
Manager	36	9198.00	5976.0	484.219889	255.500000	
the employee of the economic department	27	7542.00	4482.0	425.695480	279.333333	
the employee of the logistics department	27	2794.50	4482.0	425.695480	103.500000	
the employee of the production department	198	25641.00	32868.0	762.498126	129.500000	
the employee of the sales department	25	5171.50	4150.0	410.970911	206.860000	
Average scores were used for ties.						

Kruskal-Wallis Test	
Chi-Square	162.8863
DF	5
Pr > Chi-Square	<.0001

Table 2. *Kruskal-Wallis test for the first research presumption.*

Source: own research

According to this realized Kruskal-Wallis test, we can summarize that there is highly statistically significant difference between the respondent’s position in the firm and his/her work-life balance at the level of significance of 99%.

More authors agree that balanced employees tend to feel more motivated and less stressed out at work, which thereby increase company’s productivity and reduces the number of conflicts among co-workers and management (Bastin and Allegra, 2018). And managers are also very important to employees seeking work-life balance. Managers who pursue work-life balance in their own lives model appropriate behaviour and support employees in their pursuit of work-life balance (Heathfield, 2018). The purpose of implementing the idea of work-life balance is to enable people to achieve self-fulfillment in all the fields of human activity. This requires a perfect harmony of all the aspects of life.

There are specific actions undertaken to address the problem of work–life imbalance. According to researchers from Worklifebalance.com Inc., companies usually introduce: flexi-time working systems, teleworking, job-sharing, child care and elderly care schemes, access to leaves, aid programs and fitness schemes (Golaszewska-Kaczan, 2015).

The second research presumption was: There is statistically significant difference between awareness of employees about important matters relating to the company and their knowledge of firm's concept of CSR. Subsequently we set following zero and alternative hypothesis:

H0: There is no statistically significant difference between awareness of employees about important matters relating to the company and their knowledge of firm's concept of CSR.

H1: There is statistically significant difference between awareness of employees about important matters relating to the company and their knowledge of firm's concept of CSR.

The hypotheses were also tested using nonparametric one-way ANOVA by Kruskal-Wallis test. The test results are shown in the following table 4.

Obtained p-value was lower than 0.0001, which is lower than determined value Alpha=0.05. So it means that we reject the zero hypothesis and accept the alternative hypothesis. As in the previous research presumption, also this obtained p-value is lower than Alpha=0.01. We can evaluate this second Kruskal-Wallis test as follows.

Wilcoxon Scores (Rank Sums) for Variable awareness of employees about imp Classified by Variable Do you know the concept of CSR?					
Do you know the concept of CSR?	N	Sum of Scores	Expected Under H0	Std Dev Under H0	Mean Score
Yes	133	29584.0	22078.0	751.419355	222.436090
No	198	25362.0	32868.0	751.419355	128.090909
Average scores were used for ties.					

Kruskal-Wallis Test	
Chi-Square	99.7820
DF	1
Pr > Chi-Square	<.0001

Table 3. *Kruskal-Wallis test for the second research presumption*

Source: own research

There is highly statistically significant difference between awareness of employees about important matters relating to the company and their knowledge of firm's concept of CSR at the level of significance of 99%.

Because of the great significance of human resources for the development of a company, the efforts at shaping the relationship with this group are crucial. In fact, socially responsible policies towards employees should be a point of departure of all CSR activities. Involvement in other issues but ignoring those directly concerning the staff makes pro-social activity of a company inauthentic, or even provokes the resistance of both employees and business environment. The significance of correct relationships

with workers is confirmed by research conducted by Polish Agency for Enterprise Development. As many as 72% of the surveyed firms indicated these relationships as important for their development (Golaszewska-Kaczan, 2015). Nielsen reports that during a recent survey asking employees if corporate social responsibility was important to them, 67 percent of the respondents replied that it was either essential or a strong preference when it comes to choosing the right employer. The Nielsen group has compiled plenty of data on this issue over the last few years. Learn more about what they discovered when they surveyed your customers about their buying preferences with regards to CSR (Widjaya, 2016).

According to CBRE's Research report on Wellness in the Workplace, one of the largest organizational trends of 2016 was the growing awareness of stress and mindfulness in employees. Moreover, 80 percent of employees stated that (mental) wellness programs would be crucial to attracting and keeping them at their jobs for the next 10 years (Fabiano, 2016). One of the best ways to boost employee morale and help workers get to know each other in a non-stressful capacity is by offering an occasional company outing. This type of outing can be as low-key or as extravagant as you like, depending on your company's culture and budget for such things. Taking relaxing breaks will make employees more productive, it can also boost creativity, one's ability to deal with stressors and one's overall health. Nevertheless, taking breaks is not only an effective way to combat stress. Research suggests taking breaks can boost productivity, creativity and happiness as well (Schwartz, 2013).

The workplace that enables employees to achieve work-life balance is particularly motivating and gratifying to employees. When employees feel a greater sense of control and ownership over their own lives, they tend to have better relationships with management and are able to leave work issues at work and home issues at home (Bastin and Allegra, 2018).

The last research presumption deal with correlations. As the first we have determined Cronbach coefficient alpha to evaluate reliability of the realized research. As we can see in the table 4, the value of this Cronbach Coefficient Alpha is 0.892629. It represents very high file reliability based on interpretations of correlation according to De Vaus (2002).

Cronbach Coefficient Alpha	
Variables	Alpha
Raw	0.881915
Standardized	0.892629

Table 4. *Cronbach Coefficient Alpha*

Source: own research

In the following table 5, there are shown values of Spearman correlation coefficient for relationship of first nine questions between each other. Values marked with "*" mean, that they are statistically significant at the level of significance of 95% (Alpha= 0.05). Values marked with "**" mean, that they are highly statistically significant at the level of significance 99% (Alpha=0.01). Values marked with

“pale grey” mean, that they represent essential to very strong correlation between two variables based on interpretations of correlation according to De Vaus.

Based on the third research presumption formulated in the part “Methods”, we set a zero and alternative hypothesis, which are following:

H0: There is no positive correlation between the statement “our company is a socially responsible company” and employee’s loyalty to the company (files are not dependent).

H1: There is positive correlation between the statement “our company is a socially responsible company.” and employee’s loyalty to the company (files are dependent).

To evaluate the correlation, we used the Spearman correlation coefficient. Table 7 shows, that Spearman correlation coefficient for this relationship acquires value 0.61330. This value represents essential to very strong correlation between the statement “our company is a socially responsible company” and employee’s loyalty to the company at the level of significance of 99% (Alpha=0.01).

The obtained p-value for this correlation is lower than 0.0001 and at the same time it is lower than the determined value Alpha=0.05. So that means, that we reject the zero hypothesis and we accept the alternative hypothesis. Simultaneously the obtained p-value is also lower than Alpha=0.01. Therefore, we have confirmed that there is essential to very strong positive correlation between the statement “our company is a socially responsible company” and employee’s loyalty to the company at the level of significance of 99%, so we can say that files are dependent. In other words, we can say, that if the employee consider company (for which he/she works) socially responsible this employee is more loyal.

Spearman Correlation Coefficients, N = 331									
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Q1	1.00000	0.06264	0.04049	0.27931**	0.42044**	0.29722**	0.36447**	0.61330**	0.10789*
Q2	0.06264	1.00000	0.42307**	0.50962**	0.28438**	0.52351**	0.29240**	0.15168**	0.45911**
Q3	0.04049	0.42307**	1.00000	0.67380**	0.41693**	0.56007**	0.37786**	-0.02654	0.68807**
Q4	0.27931**	0.50962**	0.67380**	1.00000	0.59897**	0.62070**	0.64831**	0.39321**	0.68013**
Q5	0.42044**	0.28438**	0.41693**	0.59897**	1.00000	0.50993**	0.58980**	0.59626**	0.32883**
Q6	0.29722**	0.52351**	0.56007**	0.62070**	0.50993**	1.00000	0.40845**	0.30659**	0.43133**
Q7	0.36447**	0.29240**	0.37786**	0.64831**	0.58980**	0.40845**	1.00000	0.63431**	0.29235**
Q8	0.61330**	0.15168**	-0.02654	0.39321**	0.59626**	0.30659**	0.63431**	1.00000	0.01472
Q9	0.10789*	0.45911**	0.68807**	0.68013**	0.32883**	0.43133**	0.29235**	0.01472	1.00000

Table 5. Spearman Correlation Coefficients for correlation of questions 1-9 with each other

Source: own research

Q1 – our company is a socially responsible company

Q2 – awareness of employees about important matters relating to the company

Q3 – communication with the employees

Q4 – compliance with labour standards

Q5 – corporate philanthropy

Q6 – development of qualification, skills, and long-lasting career of its employees

Q7 – early preparation of the staff to changes

Q8 – employee loyalty to the company

Q9 – fighting against corruption and bribery

An employee is loyal to a company for many reasons, including confidence in the company's future, enjoyment of the workplace atmosphere and satisfaction at his pay structure. When those elements are working together to create employee loyalty, it is difficult for your competitors to lure your staff away. A good example of employee loyalty is when your employees volunteer for tasks that improve the company's image. For example, having your employees get involved in building a home for a low-income family shows that the staff is interested in doing something good for the community and improving the public image of the company (Root, 2018).

The CSR concept is relatively new in Slovakia. Therefore, Ubrežiová – Moravčíková (2017) were curious about the formal side and the length of its involvement in management structures. Customer loyalty was considered as strong factor for motivation for almost 40% of companies in our research. When taking into account surveys in Slovakia, the biggest motivational factor according to FOCUS (2010) was keeping up with the competition, followed by attracting and retaining quality employees.

Despite the fact, that we didn't set the research presumption for correlation between "fighting against corruption a bribery" and "gender mainstreaming and the minimization of discrimination", we decided to describe also this relation. It is the highest value of correlation from results of Spearman tests. This value was 0.78238, what represents very strong correlation (based on interpretations of correlation according to De Vaus). At the same time, it was marked with "***", which means this correlation is highly statistically significant at the level of significance 99% (Alpha=0.01). So we can interpret this correlation as following: the companies fighting against corruption and bribery simultaneously minimize gender or other discrimination.

The characteristic features of a socially responsible company with regard to human resources, as its most important source, are to promote the balance of work and personal life of employees, care for their health and welfare, respect for their rights and freedoms, support employees' participation in the decision-making process of the company, development of skills and knowledge of the employees, prevent bureaucracy. Companies in Slovakia have to work hard to implement rules of diversity management and support corporate philanthropy.

DISCUSSION

Research made by Szlávicz and Berber (2015) proved the acceptance of CSR in organizations and defining that concept in form of statement in written form has a positive correlation with HRM

activities. Working with human resources is very responsible and demanding also in the social field of CSR. It is the responsibility of the company management to ensure sufficient communication as well as building mutual trust. Internal communication can affect employees' perception of their organization's CSR. It can also moderate the relationship between employee perceptions of CSR and outcomes such as organizational commitment and esprit de corps (Duthler, Dhanesh, 2018). The findings of Komodromos et al. (2019) also highlight the need for organizational leadership to establish mutual trust and effective communication with managerial employees for successful cooperation during times of strategic change and enhanced overall employee performance. The research made by Salehi et al (2018) in the field of CSR suggests that the investment in CSR initiatives is significantly and positively associated with firm financial performance, what can affect also employees in the positive way.

On the base of our survey, there is highly statistically significant difference between awareness of employees about important matters relating to the company and their knowledge of firm's concept of CSR. Research findings of Chatzoglou et al. (2017) pointed out, that three factors ("CSR awareness", "relevant cost of CSR", "appropriateness of CSR strategies") have a direct effect on CSR implementation, while one factor ("knowledge of CSR") has an indirect effect, through "CSR awareness". On the other hand, CSR implementation seems to have a positive effect on "employee commitment", "customer satisfaction" and "company reputation".

The CSR activities which not only affect employee commitment but also company reputation and customer satisfaction, are confirmed, while the reliability of the employee perception theory, the signalling theory and the equity theory (Galbreath, 2010) are also proved. Although employees are not directly connected with companies' socially responsible behaviour, they seem to prefer working in a responsible company because CSR principles demand better working conditions, fair treatment, improved salaries and so on, and as a result their productivity is enhanced too (Hansen et al., 2011).

Although some research regarding the organizational benefits of implementing work-life balance programs (WLBP) has produced mixed results, research made by Lee and Kim (2010) has consistently found that WLBP produce positive individual benefits that would likely translate into organizational benefits. While much literature focuses on the potential positive impact of WLBP use on women's work-nonwork balance, Brown, Kim and Faerman (2019) found that many women did not believe that work-nonwork balance would be achievable through WLBP use and so did not use these programs. Study findings suggest additional research that examines societal and organizational culture simultaneously is needed. Findings of research made by Ford and Collinson (2011) suggest that in practice work-life balance initiatives may only serve to increase managerial anxieties and pressures,

the very opposite outcome to that intended. These themes do not feature in many work-life balance debates, which tend to assume the perfect manager who is able and willing to create a symmetrical balance between different spheres of life.

A wide variety of CSR activities can be seen as influences on a firms' loyalty of employees. Examples of these activities are; flexible work schedules, eldercare, education and empowerment of women (Portney, 2008). These kinds of activities increase employee satisfaction and loyalty, which was also confirmed in our survey.. Tahir et al. (2013) also investigated the impact of Corporate Social Responsibility on Customer Loyalty. The study found significantly positive relationship between CSR and Customer Loyalty. CSR policy of organizations and its activities can do much for the degree of the employee loyalty of the firm

CONCLUSIONS

It should be noted that a sustainable effect (economic, organizational, social) on the use of Corporate Social Responsibility in the field of HRM is possible if the implementation of CSR principles is related to the daily economic activities of the organization and the constant interaction of social partners. Present-day shows that modern companies are concentrated on informing employees about the company's actions in CSR. The growing role of HRM in CSR pushes enterprises to create events that can promote the value of Corporate Social Responsibility among workers. There is a practice of implementation CSR training as a promotion of skills for employees.

The company's success is based on employees who can increase productivity, care for customers and bring innovative ideas. The claim that people are our most important capital can not only be taken as an exhausted phrase but as an effective tool for achieving competitiveness.

Based on the results of our research and the verification of three established research presumptions, our conclusions are:

- there is highly statistically significant difference between the respondent's position in the firm and his/her work-life balance; the employee of the economic department were the more satisfied ones with work-life balance and opposite the employee of logistics department were the less satisfied ones;
- there are not highly statistically significant differences between awareness of employees about important matters relating to the company and their knowledge of firm's concept of CSR;
- there is essential to very strong correlation between the statement "our company is a socially responsible company" and employee's loyalty to the company; if the employee consider company (for which he/she works) socially responsible this employee should be more loyal;

- we didn't set the research presumption for correlation between "fighting against corruption a bribery" and "gender mainstreaming and the minimization of discrimination", we found out very strong correlation; the companies fighting against corruption and bribery simultaneously minimize gender or other discrimination.

Based on our research and its results, our recommendations for practice of companies in Slovakia are as follows:

- it is essential to promote and develop effective communication within the company in order to ensure that all employees are informed (or enable them to participate in decision-making process);
- to ensure (by the available means) the balance between the working and private lives of all employees, not only managers, as well as provide the suitable space for their mental hygiene;
- on the basis of the established strong dependence between the statement "our company is a socially responsible company" and employee's loyalty to the company, we recommend to pay increased attention to socially responsible business activities in all three areas because of its major impact on employee's "stay on the job" decision-making;

Compliance and strengthening the above, companies can significantly contribute to the development of socially responsible business activities, ensure a sufficient quality and loyal employees and targeted towards sustainable development.

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REFERENCES

- Aksak, E. O.; Ferguson, M. A.; Duman, S. A. (2016) "Corporate Social Responsibility and CSR Fit as Predictors of Corporate Reputation: A Global Perspective." *Public Relations Review*, 42(1), 79–81. <http://doi.org/10.1016/j.pubrev.2015.11.004>
- Asemah, E. S.; Okpanachi, R. A.; Edegoh, L. O. N. (2013). Business Advantages of Corporate Social Responsibility Practice: A Critical Review. *New Media and Mass Communication*, 18, 45–54.
- Bastin, J., Allegra A. (2018) *Soft Skills for Career Success: Soft Skills*; Educreation Publishing, New Delhi, India, ISBN: 978-1-5457-2377-7.
- Benda-Prokeinová, R. (2014) *Štatistika v SAS-e, SAS v štatistike*. Nitra: Publica, Nitra, Slovakia, ISBN: 978-80-89477-20-3.
- Boxall, P.; Purcell, J.; Wright P.M. (2009). *Human Resource Management: Scope, Analysis, and Significance*. The Oxford Handbook of Human Resource Management. Sep 2009. DOI: 10.1093/oxfordhb/9780199547029.003.0001
- Brown, H.; Kim, J.; Faerman, S. R. (2019) "The influence of societal and organizational culture on the use of work-life balance programs: A comparative analysis of the United States and the Republic of Korea". *The Social Science Journal*. April 2019. <https://doi.org/10.1016/j.soscij.2019.03.008>
- Cohen, E. (2010) *CSR for HR a necessary partnership for advancing responsible business practices*; Sheffield: Greenleaf Pub, The United Kingdom, ISBN: 978-1-907643-30-9.

- De Vaus, D. (2002) *Analyzing Social Science Data. 50 Key Problems in Data Analysis*; Publisher: Sage, London, The United Kingdom, ISBN: 978-0761959380.
- Dhanesh, G.S. (2014) "CSR as organization-employee relationship management strategy: A case study of socially responsible information technology companies in India." *Management Communication Quarterly*. 28 (1), 130-149, ISSN: 08933189; DOI: <https://doi.org/10.1177/0893318913517238>.
- Duthler, G.; Dhanesh, G. S. (2018) "The role of corporate social responsibility (CSR) and internal CSR communication in predicting employee engagement: Perspectives from the United Arab Emirates (UAE)". *Public Relations Review*. Volume 44, Issue 4, November 2018, Pages 453-462. <https://doi.org/10.1016/j.pubrev.2018.04.001>
- Fabiano, G. (2016) *Healthy Office, Healthy Life*. Retrieved from Blueprint. Presented by CBRE, 2016. Available online: <https://blueprint.cbre.com/healthy-office-healthy-life/>.
- Ford, J.; Collinson, D. (2011) "In search of the perfect manager? Work-life balance and managerial work". *Work, Employment and Society*, 25(2), 257–273. <https://doi.org/10.1177/0950017011398895>
- Galbreath, J. (2010) "How does corporate social responsibility benefit firms? Evidence from Australia", *European Business Review*, Vol. 22 Issue 4 pp. 411 – 431. <http://dx.doi.org/10.1108/09555341011056186>
- Garg, B. (2014) "Human Resource-Driving Force of Sustainable Business Practices" (August 5, 2014). *International Journal of Innovative Research & Development*, Forthcoming. Available at SSRN: <https://ssrn.com/abstract=2499801>
- Gill, R. (2015) "Why the PR strategy of storytelling improves employee engagement and adds value to CSR: An integrated literature review". *Public Relations Review*, 41 (2015), pp. 662-674. <http://dx.doi.org/10.1016/j.pubrev.2014.02.012>
- Gołaszewska-Kaczan, U. (2015) "Actions for promoting work-life balance as an element of corporate social responsibility." In *Social Responsibility of Organizations: Directions of Changes*. Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu. ISSN: 1899-3192; DOI: 10.15611/pn.2015.387.05.
- Hansen, S.; Dunford, B.; Boss, A.; Boss, R.; Angermeier, I. (2011) "Corporate Social Responsibility and the Benefits of Employee Trust: A Cross-Disciplinary Perspective". *Journal of Business Ethics*, 102(1), 29-45. Retrieved from <http://www.jstor.org/stable/41475999>
- Heathfield, S. M. (2018) *The Importance of Achieving Work-Life Balance and How To Do It*. Online at: <https://www.thebalancecareers.com/work-life-balance-1918292>
- Hrishnova, O. A.; Mishchuk, H. Yu.; Oliynyk, O. O. (2014) *Sotsial'na vidpovidal'nist' u trudovykh vidnosynakh: teoriya, praktyka, rehulyuvannya ryzykiv*. Monohrafiya, Natsional'nyy universytet vodnoho hospodarstva ta pryrodokorystuvannya, Rivne, Ukrayina, June 27, 2014, ISBN: 978-966-327-286-3.
- Chatzoglou, P.; Amarantou, V.; Chatzoudes, D.; Aggelidis, V. (2015) "Antecedents and Effects of CSR Implementation: a Multidimensional Conceptual Framework" 8th Annual Conference of the EuroMed Academy of Business (Innovation, Entrepreneurship and Sustainable Value Chain in a Dynamic Environment) September 2015. Available from: https://www.researchgate.net/publication/318930113_Antecedents_and_Effects_of_CSR_Implementation_a_Multi_dimensional_Conceptual_Framework [accessed May 21 2019].
- Chatzoglou, P.; Chatzoudes, D.; Amarantou, V.; Aggelidis, V. (2017) "Examining the antecedents and the effects of CSR implementation: an explanatory study", *EuroMed Journal of Business*, Vol. 12 Issue: 2, pp.189-206, <https://doi.org/10.1108/EMJB-12-2016-0035>
- Jamali, D.R.; El Dirani, A.M.; Harwood, I.A. (2014) "Exploring human resources management roles in corporate social responsibility: The CSR-HRM co-creation model." *Business Ethics: A European Review*. 24, 125-143, ISSN: 0962-8770 (print); 1467-8608 (web); DOI: <https://doi.org/10.1111/beer.12085>.
- Jiang, H.; Men, R.L. (2017) "Creating an engaged workforce: The impact of authentic leadership, transparent organizational communication, and work-life enrichment." *Communication Research*. 44 (2), 225-243, ISSN: 00936502; DOI: <https://doi.org/10.1177/0093650215613137>.
- Juríčková, Z.; Kapsdorferová, Z.; Kadlečíková, M. (2018) "The Recent Development Trends in Management of Agricultural Holdings". *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 66(6): 1509 – 1516. <https://doi.org/10.11118/actaun201866061509>
- Komodromos, M.; Halkias, D.; Harkiolakis, N. (2019) "Managers' perceptions of trust in the workplace in times of strategic change: The cases of Cyprus, Greece and Romania", *EuroMed Journal of Business*, Vol. 14 Issue: 1, pp.2-20, <https://doi.org/10.1108/EMJB-03-2018-0018>
- Lee, B.; Kim, J. (2010) "Is family-friendly management good for firms? The diffusion and performance of family-friendly workplaces in South Korea". *The Journal of Industrial Relations*, 52 (2010), pp. 459-475. <https://doi.org/10.1177/0022185610375509>
- ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (OECD) (2000) "The Creative Society of the 21st Century". Online at: <https://www.oecd.org/futures/35391171.pdf>

- Oliynyk, O.O. (2015) "Korporatyvna sotsial'na vidpovidal'nist' v systemi upravlinnya personalom pidpryjemstva." *Sotsial'no-trudovi vidnosyny: teoriya ta praktyka. Zbirnyk naukovykh prats'*. 1 (9), 142-149, ISSN 2410-4752; Available online: http://stvua.com/?wpfb_dl=22.
- Porter, T.; Miles, P.T. (2013) "CSR longevity: Evidence from long-term practices in large corporations." *Corporate Reputation Review*. 16, 313-340, ISSN: 13633589.
- Portney, P. R. (2008) "The (Not So) New Corporate Social Responsibility: An Empirical Perspective". *Review of Environmental Economics and Policy*, Volume 2, Issue 2, Summer 2008, Pages 261-275, <https://doi.org/10.1093/reep/ren003>
- Root, G. N. (2018) Examples of Employee Loyalty. *Small Business - Chron.com*, Available online: <http://smallbusiness.chron.com/examples-employee-loyalty-11632.html>.
- Salehi, M.; Dasht Bayaz, M. L.; Khorashadizadeh, S. (2018) "Corporate social responsibility and future financial performance: Evidence from Tehran Stock Exchange", *EuroMed Journal of Business*, Vol. 13 Issue: 3, pp.351-371, <https://doi.org/10.1108/EMJB-11-2017-0044>
- Schwartz, T. Relax (2013) "You'll Be More Productive." *The New York Times*. ISSN: 0362-4331 (print); 1553-8095 (web). Available online: <http://www.nytimes.com/2013/02/10/opinion/sunday/relax-youll-be-more-productive.html>.
- Szlávicz, A.; Berber, N. (2015) "The Role of HRM in CSR and Sustainable Development: Findings from V4 Countries and Serbia". *Corporate Social Responsibility and Human Resource Management in V4 Countries*. SPU in Nitra, 2015. Available at: https://www.researchgate.net/publication/286907585_The_Role_of_HRM_in_CSR_and_Sustainable_Development_Findings_from_V4_Countries_and_Serbia
- Tahir, I.; Haider, M.; Saeed, R. (2013) "The Impact Corporate Social Responsibility on Customer Loyalty: Mediating Role of Customer Satisfaction". September 12, 2013. Available at <http://dx.doi.org/10.2139/ssrn.2356771>
- Ubrižiova, I.; Moravčíková, K. (2017) "How to perceive the corporate social responsibility in the Agro-food companies?" *Serbian Journal of Management*, 12 (2), 201-215, ISSN: 1452-4864 (print); 2217-7159 (web); DOI: 10.5937/sjm12-11229.
- Voegtlin, C.; Greenwood, M. (2013) "CSR and HRM: A systematic review and conceptual analysis." *Academy of Management Annual Meeting*. 12, ISSN: 1543-8643; DOI: <https://doi.org/10.1016/j.hrmr.2015.12.003>.
- Widjaya, I. (2016) *Corporate Social Responsibility: How it Affects Employee Satisfaction*. *Small business trends*, Available online: <https://smallbiztrends.com/2016/05/corporate-social-responsibility.html>.

**TO WHAT EXTENT SHOULD COMPANIES BE CONCERNED WITH
ETHICAL ISSUES IN ADVERTISING, SPONSORSHIP AND OTHER
FORMS OF SALES PROMOTION? TO WHAT EXTENT SHOULD
COMPANIES BE CONCERNED ABOUT CUSTOMERS' PERCEPTIONS
OF SUCH 'ETHICAL BEHAVIOUR? FINDINGS OF AN EMPIRICAL
STUDY**

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ABSTRACT

The aim of this paper which came out of a secondary research is to show how important it is for companies to be concerned to a considerable extent with ethical issues when they are applying different marketing communications, either from the corporate or the consumer's perspective.

Keywords: Marketing communication, Social responsibility, Advertising, Ethical Brands

INTRODUCTION

The essence of communication

First of all, communication is a transaction process between two or more parties where either the message or the core meaning of that transaction is exchanged via an international use of symbols, (Branding and Communications, 2011). Moreover, (Branding and Communication, 2013) according to the linear model of communication, the sender can be an individual or a firm that is aiming to communicate a need or a market opportunity to either a specific target audience or to the audience in general. Different elements like language, colours, pictures, signs and symbols are part of the **Encoding** which are about to convey to the audience the intended meaning.

Marketing communications in different ways

It's very important to define the different types of communication. Actually there are two types of marketing communications. Non-personal (NPCs) and personal (PCs). NPCs are targeted at the public to different market segments. The message can be transmitted either via advertising by television, or when an event is sponsored either by a firm or a product of the firm. In addition the pack for sales promotion organised by a firm is another type of NPCs. Those tactics of the NPCs intend to promote the image of the company or lines of products, even a particular product, and to build up the company's brand, (Hartley and Pickton, 1999). Some tools which can be used under the

NPCs are: advertising: a paid adverb to communicate a message in a medium. Press advertising: any message that is communicated in a newspaper, magazine or directory. TV advertising: any commercial messages that are communicated in the breaks or during television programmes. Radio advertising; any messages that are communicated by broadcast on radio. Outdoor advertising: messages are communicated on billboards, bus shelters or fly posters.

On the other hand personal communication (PCs) are those that are using a direct two-way communication, such as direct communication with the individual. It could be in person with the consumer or the business-firm, by using different methods like an email, or telephone, fax or an international Web (WWW). PCs intend to increase sales, provide essential service and above all to manage customer contact. Some tools are: personal selling, that is face-to-face communications between buyers and sellers. Database marketing: consumers are profiled in advance and are sent personalized mailings. Finally, exhibitions and trade fairs where companies take individual or group stands at trade fairs which they manage to have a direct contact with either consumers of firms in order to promote and sell their products of services.

Concluding objectives in the field of marketing communications

Three main objectives are to be found: Cognitive: the main goal is to bring awareness about the brand, and to create attention and interest about it. Affective: the main goal is to change consumer's opinion about the brand, and to change the way people face and feel about it by sharing common associations on behalf of consumers. At last, behavioural: the main goal is to invite actions on behalf of consumers. Such a goal can be achieved through on line votes about the brand (Branding and Communication, 2013).

The issue of ethics in marketing communications

Nowadays, the most visible part of marketing are marketing communications and brands. Not only advertising but other forms of communications like corporate images, product images, and image of identity bring up to the surface cultural values and any form of ideological position. A new communications climate is already established in the Global context, like the rise of individualised marketing via direct marketing, or customer relationship management (CRM), (Branding and Communication, 2013).

HOW DIFFERENT DEMOGRAPHIC, CULTURAL, RELIGIOUS AND ETHNIC GROUPS ARE TARGETED DIFFERENTLY BY MARKETERS AND IMPLICATIONS OF THEIR ACTIONS

According to Hackley's historical review (Branding and Communication, 2013), advertising has been central to the general concept of consumer marketing and its growth. Otherwise, advertising by itself promotes the idea of consumption. Furthermore, as Savan mentioned (Branding and Communication, 2013), 'it has been said by television's critics that TV doesn't deliver products to viewers but the viewers are the real product, one that is delivered to its advertisers'. Consumers are abused by the advertisers via television. As consumers we are pushed to different commodities through advertising. An example of this is when a company is promoting a cigarette brand. First of all, the company is promoting its brand. Secondly, by promoting a cigarette brand we are promoting the habit of smoking. The promotion of a cigarette brand itself promotes the action of consumption; in other words such an advertisement encourages consumers to consume.

As Klein (Branding and Communication, 2013) states under her bestseller *No Logo*, 'By the time you're twenty-one, you'll have seen or heard a million advertisements. But you won't be happier for it'. Consumers are exposed to too many and different advertisements. Consumers nowadays are under pressure to buy and use products and services that are not necessary for them. In addition, Klein describes the working conditions in factories that produce branded goods. Cases like child labour, abuse of workers in inappropriate working environments that they have also to work long hours, are called 'sweatshops'.

Brands are sometimes abused by Marketers

Brands are used by Marketers as an important and essential way to communicate and promote their products and services. Nowadays such brands can be the cause of social division amongst children. This results in the creation of two groups the 'in' and 'out'. The first group 'out' is those ones that they do not own the proper brands, which is discriminated and characterised as having a low self esteem. As a result they have their parents feeling guilty for not being able to provide their children with the latest brands. Unfortunately, no attention was given to the effects of marketing young children that are not able to afford expensive or similar brands compared to those from middle or higher income groups. Nowadays such discrimination is happening in schools, those who can afford the latest brand names are called 'in', and those who can't are called 'out'.

Materialism and children

In addition Piacentini and Mailer (Roper and Shah, 2007), found out that students coming from comprehensive schools were more brand name obsessed than those from private schools. We therefore draw the conclusion that popular brand names were more desirable to the lower social

economic groups. As children from higher economic groups do not need to show their financial status, compare to those from lower economic classes, which tend to show their financial competence or hide the lack of it, by owning the latest brands. A further development has shown that such children of the lower class, are concerned with materialism. As Ward and Wackman (Roper and Shah, 2007), stated that materialism, is an orientation which views material goods and money as important for personal happiness and social progress. Nowadays children are becoming increasingly materialistic.

STAKEHOLDERS' CONCERN ABOUT THE ETHICAL DIMENSIONS OF MARKETING; DIFFERENT VIEWS AND SOCIAL RESPONSIBILITY IN ADVERTISING

Nowadays advertising's role as the most visible and powerful tool of the marketing mix and marketing communications, introduced Corporate Social Responsibility (CSR). Thus, helped marketers to promote the benefits of CSR. Recently, a survey which has taken place among marketing professionals and consumers, just 35% of respondents considered marketing and advertising a valuable profession. Moreover, marketers and advertisers were rated below politicians and lowers in terms of value to society, (Kendrick, Fullerton and Kim, 2013). Consumers and employees are the most important stakeholder groups where CSR is applied. There are, however, two views; that the corporation's one and only role is to make profit and on the other hand as Freeman's argument that its role is not only to serve shareholders but the other stakeholders, such as employees, suppliers, customers. CSR is playing a considerable role as far as business reputation and identity is concerned. The promotion of commercialism, intrusion and irrationality, visualising social stereotypes and creating negative feelings to certain parts of the society are criticized (Kendrick, Fullerton and Kim, 2013).

On line nationwide student's survey

A nationwide online survey of advertising students via an email invitation to an estimated 6,000 students from 228 universities took place with the following findings. A total of 1,045 students from 176 universities responded with an overall response rate of (77.2%), (Kendrick, Fullerton and Kim, 2013). In the meantime two research questions were set: the first one: 'How do marketing communication students define social responsibility?' and the second one; 'To what extent do student definitions of local responsibility emphasize message or non message aspects of advertising?'. A total of 66% of students answered those questions. Among those 690 respondents, just the (0.02%) believed there was no social responsibility in advertising and another small percentage of (8.8%) commended without being precise. Furthermore, under the first question, and having the students looking at the major categories of responsibilities, ethical responsibility was mostly mentioned by a response of

(56.9%), legal by (50.6%), economic by (27.9%), and finally discretionary by (16.2%). In addition under the second question, more than (64.3%) of respondents included message related content, where just (21.9%) of respondents included non message issues.

Concluding that survey and taking that sample of students as a stakeholder approach about CSR in advertising we come up to an important finding: how do the next generation of advertisers face up the relationship of business versus society. In addition, another issue from that students survey is that today's advertising and marketing education sets CSR mainly as a matter of ethics, law and advertising messaging.

SHOULD COMPANIES BE CONCERNED ABOUT CONSUMER PERCEPTIONS OF THEIR ETHICAL BEHAVIOUR (OR LACK OF IT)?

According to Dean Sanders, and its firm's research called 'Good brand and Company', has shown that 'innovation, ethical standpoint, and social behaviour is nowadays guiding the consumer choice, and not quality and price. A European study of consumer behaviour on Corporate Social Responsibility-CSR, 70% of them mentioned that CSR was essential when choosing a product or a service. Moreover, 37% also mentioned that they had bought a product labelled as ethical in the past 3 years, (Singh, Iglesias and Batista-Foguet, 2012).

Corporations nowadays because of the increasing concern of ethical issues on consumer behaviour, are about to promote CSR hoping to impact their profitability. A recent publication by Ethisphere institute has shown that most of ethical oriented companies achieved to bring better financial results, even in times of economic crisis, due to the fact that they have invested in ethical practises, (Singh, Iglesias and Batista-Foguet, 2012). Despite the importance of CSR, the ethical corporate brand identity versus consumer/stakeholder perceptions and reaction is under a recent academic research. It still remains inconclusive how those ethical issues affect the consumer's purchasing decisions, and the connection between consumer perceived ethicality (CPE), and consumer behaviour needs to be further investigated.

LITERATURE REVIEW

According to a recent literature on consumer's ethical perceptions, we come to the point that consumer perceived ethicality (CPE) at the corporate brand level, as a brand which is honest, responsible, and accountable to its various stakeholders. Furthermore, it is expected that a corporate brand that is perceived by the consumer as ethical, is likely to produce and provide to the market products and services that are fair, honest and trustworthy. In other words an ethical brand transfers its trust to its products and services. Moreover, to a certain extend that relationship between the

consumer and the brand itself is a perception of mutual trust which the consumer communicates with other consumers and other members of the stakeholder group such as the brand's employees. A 'brand affect' is the brand's ability to positively influence the average consumer to use it, (Singh, Iglesias and Batista-Foguet, 2012), and extending this to brand management, it's probable to assume that an ethical brand (following good practices), might be also high in brand affect.

A recent research on fast moving consumer goods (FMCG) which had taken place in Spain among 4,027 consumers for buying groceries for their home, and with an average years of 36.3 which 85% of the respondents were women, a representative of the Spanish market as that percentage of 85 represents the women as the decision makers when about to buy grocery for home, has come up with considerable findings. The research applied to the fields of business ethics, marketing and brand management and it is the first paper that has demonstrated the relationship between the CPE of a corporate brand and its product brand trust and brand affect. The results have shown that one of the main concerns of marketing managers about investing in CSR and ethics at the corporate level is that they should behave ethically. Especially nowadays in such a connected world where brands became more transparent, a real ethical behaviour is necessary to succeed in any market place, (Singh, Iglesias and Batista-Foguet, 2012).

Marketing and advertising ethically, in the era of globalization

When we say 'marketing ethics' or 'advertising ethics' we are invoking the definition provided by Peggy Cunningham as 'what is right or good in the conduct of the advertising function. It is concerned with what to be done, not just with what legally ought must be done', (Branding and Communication, 2013). Her major concern is what should be done, not just with what legally is supposed to be done. Marketers nowadays are sometimes accused for promoting and selling not appropriate products to children and adults like foods that are high in sugar and fat. They also promote alcoholic beverages to young females, (Branding and Communication, 2013). Globalization offers lots of potential benefits to firms and consumers. As marketing attempts to change the lives of many of us, marketers need to consider the ethical consequences of their actions in order to remain credible and legitimate.

Greenwald (Globalization and Ethics, 2011), asks how do companies manage to price their goods in such a way that they can claim to have 'every day low prices'. One way is by paying workers poor wages in developed countries, or by employing illegal aliens is another way. In other words, these products are so cheap because they are produced by workers labouring for long hours in hot, and poorly ventilated factories, (Globalization and Ethics, 2011).

The case of Muslims Ramadan

During such periods, at night everyone is at home with their friends and families, eating and watching television. During those periods, companies spend most of their advertising budgets which sometimes doubles the advertising cost. Advertising messages tend to be culturally sensitive in order to show to their audiences a feeling of goodwill. They also communicate their corporate social responsibility. Surprisingly food products are advertised ahead Ramadan. By the end of the holly period, other products such home furnitures, bed and bath products and so on are advertised (Globalization and Ethics, 2011).

The cost and reward for so-called 'Ethical brands'

As Fan (Fan, 2005) states, an ethical brand is one that does not harm the public good but instead promotes it, and an ethical brand has certain attributes such as honesty, integrity, diversity, responsibility, quality, respect and accountability. Thus ethical brands nowadays with a focus on consumption, present themselves as clean, green and socially responsible. In addition, according to the survey mentioned above, ethical brands can't just depend on their corporate communication, but instead they really have to promote an ethical behaviour that is transferred not only to the customers but to all other external stakeholders, in every interaction with the corporate brand/brands and their products. Moreover, the brand itself becomes an experience, and thus becomes an ethical experience as marketing managers need to invest in a better employee training and even recruitment. In addition, they also need to establish an internal communication within the organisation at all levels in order to maintain the ethical values of the brand.

DISCUSSION AND IMPLICATIONS

Without any doubt, companies nowadays have no option, but to relatively, even essentially, behave ethically when using different ways of communication. Corporations need to seriously pay attention to their customers' perceptions of their ethical and unethical behaviour, via their actions.

A responsible adverb should not harm or avoid any harm to any stakeholder while benefiting at least one, enhances and supports behaviours of trust, and respects viewer's dignity as well as self esteem. Although the freedom of commercial speech is under protection, several issues like misleading and unfair advertising is subject to regulation.

As ethics starts after the law and requires advertising to be truthful, is often left to the consumer's judgment. Thus, such truthfulness needs to be seen as an ethical responsibility. Though the use of stereotypes, the presentation of an unachievable beauty ideal, sex appeal, or targeting children or any other vulnerable consumer segments are permitted by the law, any advertising actions away from such tactics would be ethical responsibility in advertising.

Obviously, behind a brand there is a legal entity, which is a company, a retail store, a city, a corporation or even a country. Its behaviour, affects the way the brand is perceived by consumers, either positive or negative. Unethical practices implemented by marketing managers, sooner or later will be recognised by consumers. This damages the brand with its negative consequences. That's why nowadays, companies realise how important it is to behave ethically, and pricesly to do business in such a way that their brand/brands, do not harm the physical or social environment of the society.

There is no doubt that nowadays consumers, employees and suppliers are among the most important stakeholders in terms of corporate social responsibility. Corporations tend to promote CSR in different ways in order to manage better profitability.

REFERENCES

- Branding and Communication. (2013). 2nd ed. Leicester: Print Services.
- Branding and Communications. (2011). 1st ed. Leicester: Print Services.
- Ellis et al. (2011). Globalization and Ethics.
- Fan, Y. (2005). Ethical branding and corporate reputation. *Corporate Communications: An International Journal*, 10(4), pp.341-350.
- Hackley, Christopher E. (2010), Chapter 2- Theorising Advertising and Promotion, *Advertising and Promotion: an integrated marketing communications approach*: 31-65
- Hartley, B. and Pickton, D. (1999). Integrated marketing communications requires a new way of thinking. *Journal of Marketing Communications*, 5(2), pp.97-106
- Singh, J., Iglesias, O. and Batista-Foguet, J. (2012). Does Having an Ethical Brand Matter? The Influence of Consumer Perceived Ethicality on Trust, Affect and Loyalty. *Journal of Business Ethics*, 111(4), pp.541-549.
- Kendrick, A., Fullerton, J. and Kim, Y. (2013). Social Responsibility in Advertising. *Journal of Marketing Education*, 35(2), pp.141-154.
- Kornberger M. (2010), *Making sense of Brands*, Cambridge: 24-49
- Ponsonby-McCabe, S. and Boyle, E. (2006). Understanding brands as experiential spaces: axiological implications for marketing strategists. *Journal of Strategic Marketing*, 14(2), pp.175-189.
- Roper, S. and Shah, B. (2007). Vulnerable consumers: the social impact of branding on children. *Equal Opportunities International*, 26(7), pp.712-728.

ENVIRONMENTAL CONCERN, GREEN PRODUCT BELIEFS AND WILLINGNESS TO PAY MORE TOWARD GREEN FASHION PRODUCTS. A COMPARISON BETWEEN CHINA AND TAIWAN

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ABSTRACT

Increased community awareness on environmental degradation and its consequences on health and ecosystem has changed consumers' consumption culture. Despite a growing environmental concern, consumers still fail to buy eco-friendly products, above all in fashion industry. The study aims at understanding consumers' attitudes toward green products by analysing the effect of perceived environmental knowledge and green product beliefs on willingness to pay a price premium. Data collected from 520 respondents in China and 384 in Taiwan are tested against the research model by using structural equation modelling. Results reveal that environmental concern has a significant impact on perceived environmental knowledge, which in turn can influence both green product beliefs and willingness to pay a price premium. Green product beliefs report a positive influence on intentions to pay more only for the Taiwanese sample. The findings of this study present important theoretical and practical implications for consumer green product purchase behaviours.

Keywords: environmental concern, perceived environmental knowledge, green product beliefs, willingness to pay.

INTRODUCTION

Consumption culture of the twentieth century has caused an environmental degradation manifested in the forms of global warming, depletion of natural resources, air, water and land pollution (Chen & Chai, 2010). As a consequence, consumers are becoming more concerned about the protection of the environment and have also showed their growing apprehension through the demand for environmentally friendly products (Suki, 2016). These changes have challenged companies with decisive choices in terms of green marketing strategies by introducing alternative products categorised as green products. These challenges undoubtedly appear to be most critical for the apparel sector, which remains as one of the greatest polluters and the second largest consumer of water usage in the world (Nam et al., 2017; Sahni, 2016).

Firms need to address stakeholders' interests by investing in green supply chain management.

Recently, more apparel companies have joined the Sustainable Apparel Coalition (SAC), a nonprofit trade organisation founded by a group of leading apparel retailers and brands (i.e., Patagonia, Walmart, GAP, Levi's, Nike), to demonstrate their commitment to reduce the environmental impact in favour of an improvement of life quality and safeguard of the planet (Sustainable Apparel Coalition, 2016).

However, despite growing concerns about the environmental impact of consumption, consumers still fail to purchase green products (Gupta & Ogden, 2009). Extant literature remarks knowledge as one of the most influential factors that affects green purchase intention and behaviour. Thus, consumers' incapacity to make informed choices due to inadequately described benefits can become a real barrier to the adoption of green products (Vermeir & Verbeke, 2006). Another relevant barrier to the purchase of green fashion products can be found in the perception of poor product quality. If taste, quality and healthiness have been reported as important attributes for consumers who purchase green food products (Owusu & Anifori, 2013; Cerjak et al. 2010), the same cannot be said for green fashion products. A study by Newman et al. (2014) found that consumers are less likely to purchase something if they think it has been changed with the specific aim of helping the environment. If a company intentionally made a fashion product better for the environment (for example, using organic or recycled fabrics), consumers believe that quality must have suffered because resources have been diverted away from product quality. Therefore, from a broader point of view, the analysis of the judgments nurtured toward green products in terms of functional value, image concern, social value and country-of-origin can guide a deeper understanding of the links existing between subjective norms, perceived behavioural control and purchase intention of green fashion products.

Following this perspective, the purpose of the study is to widen the knowledge on green consumption through the proposal and empirical investigation of a research model aimed at evaluating the influences exerted by environmental concern and perceived environmental knowledge on the use of green product beliefs and on intention to buy green fashion products. In this study, green fashion products were defined as a specific product category made of natural and (or) recycling materials that use alternative fabrics or fibers with less pollution to preserve nature. Notwithstanding the relevant contributions of past studies, some gaps emerge from the literature review, thus guiding the goals of the study. First, in spite of dynamic emphases on environmental issues, little research has investigated the role of country-of-origin in shaping green products judgments. Second, most of the studies have so far focused their attention on Western countries, underestimating developing countries (Ojiaku et al., 2018; Paul et al., 2016; Biwas & Roy, 2015) such as Asian countries, which are becoming the most relevant fashion markets. Therefore, the study aims to fill these gaps by explicitly examining the interactions between environmental concern, perceived self-identity as "green consumer" and green

product beliefs, and how these interactions can impact on behavioural patterns toward green fashion products. Understanding consumers' judgments together with the willingness to pay a price premium for green products is of importance to fashion companies interest in investing in eco-friendly productions without compromising brand equity. Moreover, the results will not only shed light on the relationships between the relevant constructs in the context of green consumption, but may also verify whether these relationships are consistent across two countries, such as China and Taiwan, which are categorised as relevant target markets for fashion industry (IAF, 2018).

THEORY AND HYPOTHESES

The conceptual foundations of the proposed model and related hypotheses are drawn from three different research streams: *environmental concern* (Moustafa, 2007; Bamberg, 2003; Dunlap, 2000); *product-country images* (Knight & Calantone, 2000; Laroche et al., 2005; Papadopoulos et al., 2013); *purchase intentions* (Moon et al., 2008; Yoo & Donthu, 2001). Thanks to a review of relevant literature, the most robust constructs were assessed, and the selection was made according to their relevance and expected validity for the purpose of the study. From a structural point of view, the research model is composed by six main constructs, derived from the literature review: a) *environmental concern* refers to attitudes about environmental issues based on the relative importance that a person places on themselves, other people, or plants and animals (Dunlap et al., 2000; Stern & Dietz, 1994); b) *perceived environmental knowledge*, defined as "the general knowledge of facts, concepts and relationships concerning the natural environment and its major ecosystems" (Fryxell & Lo, 2003: p. 45) c) *green product beliefs*, which refer to consumers' evaluative judgments specific to sustainable products (Ojiaku et al., 2018); d) *willingness to pay a price premium* can be interpreted as the readiness to pay more in order to obtain a particular product (Netemeyer et al., 2004); e) *word-of-mouth*, defined as consumer intentions to spread positive or negative judgments to a multitude of people (Babin et al., 2005).

As shown in Fig. 1, the main underlying hypothesis of the proposed model is that environmental concern and perceived environmental knowledge are judged capable of positively influencing green product beliefs. Moreover, it is hypothesised that green product beliefs may positively impact on both willingness to pay a price premium and WOM. Likewise, environmental concern is expected to positively influence perceived environmental knowledge. At the same time, this latter is assumed to positively affect willingness to pay more.

Influence of environmental concern on perceived environmental knowledge and green product beliefs

Many consumers are making consumption decisions that reflect their desire to protect the environment. Environmental concern may be defined as the degree of concern a person holds toward the environment. Dunlap et al. (2000) identified four main dimensions of environmental concern:

ecological limits, balance of nature, human domination, ecological catastrophe. Past studies found that a positive relationship exists between ecological concern and environmental disposition (Chan, 2001; Gill et al., 1986). The study tests the hypothesis that environmental concern influences specific behaviour via its impact on perceived environmental knowledge and green product beliefs in the context of the decision to buy green fashion products. Thus, it is hypothesised that:

H_{1a}: *Environmental concern positively influences perceived environmental knowledge*

H_{1b}: *Environmental concern positively influences green product beliefs*

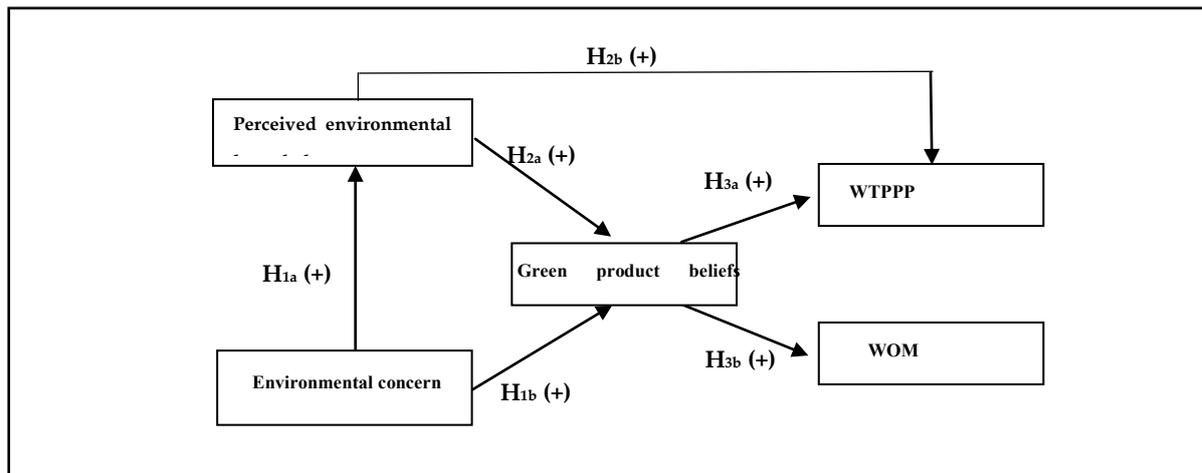


Figure 1. Research model and hypotheses

Influence of perceived environmental knowledge on green product beliefs and willingness to pay a price premium

Knowledge has a powerful impact on almost every aspect of consumer behaviour (Brosdahl & Carpenter, 2010). Environmental knowledge has been defined as the general knowledge about facts, concepts, actions regarding the natural environment and its major ecosystems (Fryxell & Lo, 2003). Several authors (D'Souza et al., 2006) maintain that a higher level of environmental knowledge could be associated to a more favourable attitude toward green products. Consumers who are inclined to adopt eco-friendly behaviour are more motivated to embrace green apparel consumption behaviour (Chan, 1999; Kim & Damhorst, 1998). Moreover, some studies indicated that consumers' willingness to pay more for environmentally friendly products is higher compared to conventional products (Barnard & Mitra, 2010; Bang et al., 2000). However, other studies reported different results. Consumers were either not willing to pay more for green products or were willing to do so only if the product has the same quality to the non-green version. For example, a study by Barber et al. (2009) demonstrated that wine consumers are willing to pay a premium for green products only if marketing's communication approach and methods aid in informing and educating. In the context of apparel, a recent study by Momberg et al. (2012) on South African millennials revealed that price sensitivity is still a barrier preventing "green" consumers to buy eco-friendly products. Starting from

the above considerations, we believe that in order to gain better knowledge about potential influences exerted by perceived environmental knowledge on behavioural patterns it is necessary to integrate the analysis with green product beliefs. Such an integration could shed light on some mixed results related to the interaction between environmental awareness and buying decisions.

Thus, it is hypothesised that:

H_{2a}: *Perceived Environmental Knowledge (PEK) positively influences green product beliefs*

H_{2b}: *Perceived Environmental Knowledge (PEK) positively influences willingness to pay a price premium*

Influence of green product beliefs on willingness to pay more and WOM

Despite the emergence of a green movement, consumers are still sceptical about green brands and products. Consumers still appear to be unsure about making eco-sustainable choices and purchases. Unlike the agri-food sector, where there is a growing awareness of the benefits that can be achieved, fashion consumers are not confident about the characteristics and performances of eco-friendly products which are often judged to be far from the “non-green” version. The assessment of such beliefs is decisive as this will result in the willingness, or otherwise, to buy eco-friendly products (Leonidou & Skarmeeas, 2017). Green product beliefs can be interpreted as the set of cognitive judgements toward sustainable products, i.e., in terms of quality, innovation, style, etc. Thus, consumers who hold positive and strong beliefs about environmentally friendly products will be more willing to buy and use green products. For example, Kang et al. (2013) found consumers’ belief about buying and wearing organic cotton apparel to positively affect purchase intention. However, the relationship between green product beliefs and willingness to pay a price premium did not receive the same attention from fashion marketing research. Moreover, consumer’s judgements may influence word-of-mouth. If positive and strong, green product beliefs affect consumers in recommending to friends and relatives their beloved products and brands.

Therefore, it is hypothesised that:

H_{3a}: *Green product beliefs positively influence willingness to pay a price premium*

H_{3b}: *Green product beliefs positively influence word-of-mouth*

METHOD

Data collection and procedure

To test the proposed model, an online survey was conducted on a sample of Chinese and Taiwanese residents during the period October-November 2018. Face validity was addressed by a panel of experts (an Italian academic, expert in Asian culture, an Italian marketing academic and a Chinese academic) to assess the clarity and, above all, the appropriateness of the questions. The two Italian academics first evaluated the English version. The Italian expert in Asian culture and the Chinese

scholar evaluated the Chinese and Taiwanese version. Based on this feedback, the questionnaire was modified, with some items deleted and others modified to improve the correct translation of meanings. The procedure was completed by back-translations from the Taiwanese/Chinese version to the English one. Respondents were recruited online through a Qualtrics panel provided by Qualtrics Panels, LLC. Qualtrics panel management is a service in which the company recruits the target population and compensates them for participating in research. Online panels have been found to be comparable to other methods of recruiting survey participants (Mody et al., 2017; McKeever et al., 2016). During the online survey, more than 1,000 consumers were contacted. The respondents were selected based on screening questions that qualified them as fashion consumers (i.e., they had bought recently or regularly bought fashion items). At the end of the fieldwork, 902 questionnaires were judged valid (520 for the Chinese sample and 382 for the Taiwanese one) and coded for the data analysis. A descriptive analysis of the samples is reported in Table 1.

Measure	Items	Percentage	
		Taiwan	China
Gender	Female	54.6	59.7
	Male	45.6	40.3
Age	17-24	20.5	22.5
	25-34	35.0	33.2
	35-44	21.8	24.5
	45-64	18.5	16.8
	>64	4.2	3.0
Education	High school	10.1	8.7
	Diploma	19.6	18.2
	Bachelor's	38.6	42.6
	Master's	27.7	24.9
Employment status	PhD	4.2	5.6
	Student/ Unemployed	12.2	13.2
	Housewife/husband	8.6	7.4
	Professional	34.8	31.5
	Full-time job	32.7	34.6
	Part-time job	11.7	13.3

Table 1. Profile of respondents

Measures

Model constructs were measured based on 7-point Likert scales adapted from similar studies. Environmental concern was assessed through a reduced version of the Dunlap et al. scale (2000). Perceived environmental knowledge was assessed using five items developed by Mostafa (2007).

Green product beliefs were assessed through 5 items proposed by Elliot et al. (2010), adapted for green products. Willingness to pay a premium price was measured using three items proposed by Lee et al. (2010). Finally, the 3-item scale proposed by Babin et al. (2005) was used to assess word-of-mouth, with some adjustments for the purpose of the research. All statements were on a seven-point anchored scale (from “completely disagree” to “completely agree”). The items of the scales are shown in Table 2.

Analytical procedure

Data underwent two phases of analysis. Firstly, a confirmatory factor analysis (CFA) with the latent variables considered was performed to assess convergent and discriminant validity of the measurement scales. Secondly, the paths of the hypothesized relationships were explored simultaneously for the Italian and Taiwanese groups of respondents. Structural equation modelling (SEM) with maximum likelihood method was employed for the CFA and for the analysis of the conceptual models. Data were analysed using Lisrel 8.80. The fit of the models was interpreted based on a range of indices: the Chi-square (χ^2) value, the degree of freedom (df), the comparative fit index (CFI), the non-normed fit index (NNFI), the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). A good fit of the data was indicated by a chi-square/degrees of freedom value less than 4 (Field, 2000). Values in the 0.90 range and above have been deemed acceptable for CFI and NNFI (Hooper et al. 2008; Hu & Bentler 1995). Values lower than 0.08 have been deemed acceptable for the RMSEA and SRMR (Bollen, 1989; Browne & Cudeck, 1993).

RESULTS

To assess convergent and discriminant validity of the measurement scales a confirmatory factor analysis was estimated using the total sample as well as the Chinese and the Taiwanese data separately. As the skew and kurtosis statistics showed that the normality assumption was violated, the models were estimated using the Satorra-Bentler method (Satorra & Bentler, 1994). The fit statistics indicated that the measurement models fit the data well (total sample: $\chi^2 = 542.156$, $df = 160$, $p = 0.000$, $CFI = 0.99$, $RMSEA = 0.06$, $NNFI = 0.99$, $SRMR = 0.06$; Taiwanese sample: $\chi^2 = 353.612$, $df = 160$, $p = 0.000$, $CFI = 0.97$, $RMSEA = 0.05$, $NNFI = 0.97$, $SRMR = 0.05$; Chinese sample: $\chi^2 = 504.209$, $df = 160$, $p = 0.000$, $CFI = 0.98$, $RMSEA = 0.06$, $NNFI = 0.98$, $SRMR = 0.06$). Convergent validity was tested by checking that all items substantially and significantly loaded onto the expected latent construct (Anderson & Gerbing, 1988). All constructs also showed satisfactory levels of Composite Reliability (CR) and Average Variance Extracted (AVE), exceeding the recommended cut-off points for the adequacy of 0.70 and 0.50 respectively (Fornell & Larcker, 1981; Steenkamp & Van Trijp, 1991). Next, discriminant validity was assessed by the Fornell and Larcker's (1981) criterion. The average variance explained by each latent variable was greater than any of the squared correlations involving the variable, suggesting that discriminant validity was achieved. Cronbach's alphas were also used to confirm the scales' reliability. All constructs were

greater than the threshold value of 0.70 (Nunnally, 1978). Table 2 reports the reliability and validity indexes for each construct.

		Overall	Taiwan	China
Sample size		902	382	520
Environmental concern (EC)				
When humans interfere with nature, it often produces disastrous consequences	CR	0.80	0.90	0.88
	AVE	0.65	0.71	0.65
Humans are severely abusing the environment	Cronbach's Alpha	0.89	0.89	0.88
Plants and animals have as much right as humans to exist				
The balance of nature is very delicate and easily upset				
Perceived environmental knowledge (PEK)				
I think of myself as an "environmental consumer"	CR	0.82	0.85	0.88
I am a socially responsible consumer	AVE	0.61	0.63	0.69
I think of myself as someone who is concerned about environmental issues	Cronbach's Alpha	0.91	0.90	0.91
I know more about recycling than the average person				
I think of myself as someone who is concerned about social issues				
Green product beliefs (GBF)				
They are products made with meticulous workmanship	CR	0.79	0.82	0.82
They are high quality products	AVE	0.61	0.65	0.71
They are innovative products	Cronbach's Alpha	0.87	0.75	0.90
They are durable products				
They are products with an elegant style				
Willingness to pay a price premium (WPPP)				
I am willing to pay a higher price for the purchase of Italian eco-sustainable fashion products than other eco-sustainable products	CR	0.80	0.79	0.83
I think it's acceptable to pay a higher price to buy Italian fashion products that respect the environment	AVE	0.62	0.65	0.69
I am willing to pay more for the purchase of Italian green fashion products because of their environmental functions	Cronbach's Alpha	0.89	0.83	0.88
WOM				
I will say good things about these products to friends and acquaintances.	CR	0.75	0.79	0.80
I will suggest buying these products to those who ask me for information	AVE	0.62	0.65	0.71
I will encourage friends and family to buy eco-sustainable products	Cronbach's Alpha	0.87	0.86	0.88
Fit statistics				
Taiwan: $\chi^2 = 353.612$ (d.f. 160; $p < 0.001$); RMSEA=0.05; NNFI=0.97; CFI=0.97; GFI=0.90; SRMR=0.05				
China: $\chi^2 = 504.209$ (d.f. 160; $p < 0.001$); RMSEA=0.06; NNFI=0.98; CFI=0.98; GFI=0.91; SRMR=0.06				
Overall: $\chi^2 = 542.156$ (d.f. 160; $p < 0.001$); RMSEA=0.06; NNFI=0.99; CFI=0.99; GFI=0.93; SRMR=0.06				

Table 2. *Measurement scales reliability and validity*

TESTS OF THE STRUCTURAL MODEL

Results showed that the model fits the data well for both groups (Taiwanese sample: $\chi^2 = 397.279$ (d.f. 163; $p < 0.001$); RMSEA=0.06; NNFI=0.96; CFI=0.96; GFI=0.90; SRMR=0.05; Chinese sample: $\chi^2 = 527.152$ (d.f. 163; $p < 0.001$); RMSEA=0.06; NNFI=0.99; CFI=0.99; GFI=0.90; SRMR=0.06). Results indicated that the first group of hypotheses is partially supported in both groups. While the influence of environmental concern on perceived environmental knowledge is confirmed for both samples ($\gamma_{\text{Taiwan}} = 0.622$, $p < 0.01$; $\gamma_{\text{China}} = 0.728$, $p < 0.01$), its

positive impact on green product beliefs is confirmed only with respect to the Taiwanese group ($\gamma_{\text{Taiwan}} = 0.466$, $p < 0.01$). Conversely, H2 (*a* and *b*) was fully supported by empirical data. The perceived environmental knowledge increased the positive perception of green products ($\gamma_{\text{Taiwan}} = 0.162$, $p < 0.01$; $\gamma_{\text{China}} = 0.964$, $p < 0.01$) and exerted a significant and positive effect on willingness to pay a price premium in order to own fashion green products ($\gamma_{\text{Taiwan}} = 0.352$, $p < 0.01$; $\gamma_{\text{China}} = 0.829$, $p < 0.01$). Turning to the third set of hypotheses, the empirical findings on the effect of green product beliefs reported partially different patterns between the Taiwanese and the Chinese sample. Results from the Taiwanese sample showed that green product beliefs have a positive influence on willingness to pay a price premium ($\gamma_{\text{Taiwan}} = 0.308$, $p < 0.05$), but they are not related to word-of-mouth. The Chinese sample, instead, reported a positive influence of green product beliefs on word-of-mouth ($\gamma_{\text{China}} = 0.868$, $p < 0.01$), but not on willingness to pay a price premium.

	Hypothesised relationships	Taiwan	China
H1a	EC → PEK	0.622**	0.728**
H1b	EC → GPB	0.466**	n.s.
H2a	PEK → GPB	0.162**	0.964**
H2b	PEK → WTPPP	0.352**	0.829**
H3a	GPB → WTPPP	0.308*	n.s.
H3b	GPB → WOM	n.s.	0.868**

Taiwan: Fit statistics: $\chi^2 = 397.279$ (d.f. 163; $p < 0.001$); RMSEA=0.06; NNFI=0.96; CFI=0.96; GFI=0.90; SRMR=0.05

China: Fit statistics: $\chi^2 = 527.152$ (d.f. 163; $p < 0.001$); RMSEA=0.06; NNFI=0.99; CFI=0.99; GFI=0.90; SRMR=0.06

* $p < 0.05$. ** $p < 0.01$

Table 3. Hypothesised relationships and structural coefficients

CONCLUSION

The study has examined consumers' attitudes toward eco-friendly fashion products. Two main contributions from this study. First, the research contributes to the theory of reasoned action (Ajzen & Fishbein, 1980) by introducing a conceptual framework which reveals environmental concern, perceived environmental knowledge and green product beliefs as antecedents of behavioural intentions. Second, the binational survey contributes to the green marketing literature by revealing similarities and differences of two relevant emerging markets, namely China and Taiwan.

Results show that the perceived environmental knowledge is a significant predictor of green purchase intentions. Consumers will buy eco-friendly products if they are aware and concerned of environmental issues to the point of perceiving themselves as "real" green consumers. However, mere concern for the environment does not necessarily translate into positive ecological behaviour, consumer may be sceptical of green product features. In fact, from the findings, the set of beliefs held with respect to green fashion products seem to be able to reinforce the willingness to pay more only for the Taiwanese sample. Considering the Chinese sample, instead, green product beliefs are capable of positively influencing the willingness to share positive judgments about eco-friendly products with friends and relatives, but not the willingness to pay more. Such mixed results may confirm the

presence of a possible consumer mistrust toward fashion green products whose features are judged inferior compared to “traditional” fashion products.

MANAGERIAL IMPLICATIONS

Understanding the antecedents of green purchasing behaviour is essential to promote sustainable consumption strategies in emerging countries. The current study clarifies the contribution of the theory of consumption values to green purchasing intentions among young adults in China and Taiwan. Findings show that the knowledge concerning environmental issues plays a significant role in affecting both green product evaluation and willingness to pay more. However, the evaluation of eco-sustainable products seems to be still penalised compared to conventional products. Following this perspective, results of this study have meaningful implications for fashion companies that are investing in eco-friendly productions. Due to the fact that some consumers may be sceptical and evaluate green fashion products of less quality among non-green ones, companies should communicate green marketing arguments providing details and specifications of quality standards characterising the eco-friendly products. Marketers should invest more efforts in communicating and describing the performance of green products. Companies improving a basic product feature such as making something more environmentally friendly or better tasting should either position the improvement as unintended or emphasise that the primary goal is improving the quality of the product. Consequently, company claims about green products should be communicated to customers in a coherent and truthful way capable of reflecting the corporate identity. Only in this way the green efforts of the brand may obtain an effective awareness by customers and stakeholders.

REFERENCES

- Ajzen & Fishbein (1980), *Understanding attitudes and predicting social behavior*. Englewood Cliffs, Nj: Prentice Hall.
- Anderson, J.C. and Gerbing, D.W. (1988), “Structural equation modelling in practice: A review and recommended two-step approach”, *Psychological Bulletin*, Vol. 103 No. 3, pp. 411-423.
- Babin, B.J., Lee, Y.K., Kim, E.J. and Griffin, M. (2005), “Modeling consumer satisfaction and word-of-mouth: restaurant patronage in Korea”, *Journal of Services Marketing*, Vol. 19 No. 3, pp. 133-139.
- Bamberg, S. (2003), “How does environmental concern influence specific environmentally related behaviors? A new answer to an old question”, *Journal of Environmental Psychology*, vol. 23, pp. 21-32.
- Barber, N.A. and Taylor, D.C. (2009), “Wine consumers’ environmental knowledge and attitudes: Influences on willingness to purchase”, *International Journal of Wine Research*, Vol. 1, pp. 59-72.
- Biwas, A. and Roy, M. (2015), “Green products: an exploratory study on the consumer behaviour in emerging economies of the East”, *Journal of Cleaner Production*, Vol. 87, pp. 463-468.
- Bollen, K.A. (1989), *Structural Equations with Latent Variables*. New York, NY: Wiley Interscience.
- Brosdahl, D.J.C. and Carpenter, J.M. (2010), “Consumer knowledge of the environmental impacts of textile and apparel production, concern for the environment and environmentally friendly consumption behavior”, *Journal of Textile and Apparel, Technology and Management*, Vol. 6 No. 4, pp. 1-9.

- Browne, M.W. and Cudeck, R. (1993), *Alternative ways of assessing model fit*. Sage Focus Editions, 154, pp. 136-136.
- Chan, K. (1999), "Market segmentation of green consumers in Hong Kong", *Journal of International Consumer Marketing*, Vol. 12 No. 2, pp. 7-24.
- Cerjak, M., Mesić, Ž., Kopic, M., Kovačić, D. and Markovina, J. (2010), "What motivates consumers to buy organic food: Comparison of Croatia, Bosnia Herzegovina, and Slovenia", *Journal of Food Products Marketing*, Vol. 16 No. 3, pp. 278-292.
- Clarke, C.F., Kotchen, M.J. and Moore, M.R. (2003), "Internal and external influences on pro-environmental behavior: Participation in a green electricity program", *Journal of Environmental Psychology*, vol. 23, pp. 237-246.
- D'Souza, C., Taghian, M. and Lamb, P. (2006), "An empirical study on the influence of environmental labels on consumers", *Corporate Communications: An International Journal*, Vol. 11 No. 2, pp. 162-173.
- Dunlap, R., Van Liere, K., Mertig, A. and Jones, R. (2000), "Measuring endorsement of the new ecological paradigm: A revised NEP scale", *Journal of Social Issues*, Vol. 56 No. 3, pp. 425-442.
- Field, A. (2000), *Discovering statistics using SPSS for Windows*, Sage, London.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39-50.
- Fryxell G. and Lo, C. (2003), "The influence of environmental knowledge and values on managerial behaviors on behalf of the environment: an empirical investigation of managers in China", *Journal of Business Ethics*, Vol. 46, pp. 45-59.
- Gill, J.E. and Lawrence, A. and Taylor, J.R. (1986), "Ecological concern, attitudes, and social norms in voting behavior", *Public Opinion Quarterly*, Vol. 50, pp. 537-554.
- Gupta, S. and Ogden, D.T. (2009), "To buy or not to buy? A social dilemma perspective on green buying", *Journal of Consumer Marketing*, Vol. 26 No. 6, pp. 376-391.
- Hooper, D., Coughlan, J. and Mullen, M. (2008), "Structural equation modelling: guidelines for determining model fit", *Electronic Journal of Business Research Methods*, Vol. 6 No. 1, pp. 53-60.
- Hu, L.T. and Bentler, P.M. (1995), "Evaluating model fit", Hoyle, R.H., *Structural equation modeling: Concepts, issues, and applications*, Sage, Thousand Oaks, CA, pp. 76-99.
- IAF (2018), "Taipei in style", in www.iafnet.com, accessed on 11th March 2019.
- Kim, H. and Damhorst, M.R. (1998), "Environmental concern and apparel consumption", *Clothing and Textile Research Journal*, Vol. 16 No. 3, pp. 126-133.
- Knight, G.A. and Calantone, R.J. (2000), "A flexible model of consumer country-of-origin perceptions: a cross-cultural investigation", *International Marketing Review*, Vol. 17 No. 2, pp. 127-145.
- Laroche, M., Papadopoulos, N., Heslop, L.A. and Mourali, M. (2005), "The influence of country image structure on consumer evaluations of foreign products", *International Marketing Review*, Vol. 22 No. 1, pp. 96-115.
- Lee, J.S., Hsu, L.T., Han, H. and Kim, Y. (2010), "Understanding how consumers view green hotels: how a hotel's green image can influence behavioural intentions", *Journal of Sustainable Tourism*, Vol. 18 No. 7, pp. 901-914.
- Leonidou, C.N. and Skarmeas, D. (2017), "Gray shades of green: causes and consequences of green scepticism", *Journal of Business Ethics*, Vol. 144 No. 2, pp. 401-415.
- McKeever, B.W., McKeever, R., Holton, A.E. and Li, J.Y. (2016), "Silent majority: childhood vaccinations and antecedents to communicative action", *Mass Communication & Society*, Vol. 19 No. 4, pp. 476-498.
- Mody, M.A., Suess, C. and Lehto, X. (2017), "The accommodation experiencescape: a comparative assessment of hotels and Airbnb", *International Journal of Contemporary Hospitality Management*, Vol. 29 No. 9, pp. 2377-2404.
- Moon, J., Chadee, D. and Tikoo, S. (2008), "Culture, product type, and price influences on consumer purchase intention to buy personalized products online", *Journal of Business Research*, Vol. 61 No. 1, pp. 31-39.
- Moran, P. and Ghoshal, S. (1996), "Bad for Practice: A critique of the Transaction Cost Theory", *Academy of Management Review*, Vol. 21 No. 1, pp. 13-47.
- Mostafa, M.M. (2007), "Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude", *International Journal of Consumer Studies*, Vol. 31, pp. 220-229.
- Nam, C., Dong, H. and Lee, Y.A. (2017), "Factors influencing consumers' purchase intention of green sportswear", *Fashion & Textiles*, Vol. 4 No. 2, pp. 1-17.
- Netemeyer, R.G., Krishnan, B., Pullig, C., Wang, G., Yagci, M., Dean, D., Ricks, J. and Wirth, F. (2004), "Developing and validating measures of facets of customer-based brand equity", *Journal of Business Research*, Vol. 57, pp. 209-224.
- Newman, G.E., Gorlin, M. and Dhar, R. (2014). "When going green backfires: How firm intentions shape the evaluation of socially beneficial product enhancements", *Journal of Consumer Research*, Vol. 14, pp. 823-839.

- Ojiaku, O.C., Achi, B.E. and Aghara, V.O. (2018), "Cognitive-affective predictors of green purchase intentions among health workers in Nigeria", *Management Science Letters*, Vol. 8, pp. 1027-1038.
- Owusu, V. and Anifori, M.O. (2013), "Consumer willingness to pay a premium for organic fruit and vegetable in Ghana", *International Food and Agribusiness Management Review*, Vol. 16 No. 1, pp. 67-86.
- Papadopoulos, N., Elliot, S. and De Nisco, A. (2013), "From 'made-in' to 'product-country images' and 'place branding': a journey through research time and space, *Mercati e Competitività*, Vol. 2, pp. 37-57.
- Paul, J., Modi, A. and Patel, J. (2016), "Predicting green product consumption using theory of planned behaviour and reasoned action", *Journal of Retailing and Consumer Services*, Vol. 29, pp. 123-134.
- Porter, M.E. (1980), *Competitive advantage. Techniques for analyzing industries and competitors*, The Free Press, New York.
- Sahni, H. (2016), "Towards sustainable fashion-Computer technology integration for a green fashion value-chain", in <https://www.fibre2fashion.com/industry-article/4574/towards-sustainable-fashion--computer-technology-integration-for-a-green-fashion-value-chain?page=1>, accessed on 10th March 2019.
- Satorra, A. and Bentler, P. M. (1994), "Corrections to test statistics and standard errors in covariance structural analysis", Von Eye, A. and Clogg, C.C., *Latent variables analysis: Applications for developmental research*, Sage, Thousand Oaks, CA, pp. 399-419.
- Steenkamp, J.B. and Van Trijp, H. (1991), "The use of LISREL in validating marketing constructs", *International Journal of Research in Marketing*, Vol. 8 No. 4, pp. 283-99.
- Stern, P.C. and Dietz, T. (1994), "The value basis of environmental concern", *Journal of Social Issues*, Vol. 50, pp. 65-84.
- Suki, N.M. (2016), "Green product purchase intention: impact of green brands, attitude and knowledge, *British Food Journal*, Vol. 118 No. 12, pp. 2893-2910.
- Sustainable Apparel Coalition (2016), "Our members", in apparelcoalition.org/members/, accessed on 4th March 2019.
- Vermeir, I. and Verbeke, W. (2006), "Sustainable food consumption: Exploring the consumer "attitude-behavioural intention" gap", *Journal of Agricultural and Environmental Ethics*, Vol. 19 No. 2, pp. 169-194.
- Wilson, D.S. (1992), "On the relationship evolutionary and psychological definitions of altruism and selfishness", *Biology and Philosophy*, Vol. 7, pp. 61-68.
- Yoo, B. and Donthu, N. (2001), "Developing and validating a multidimensional consumer-based brand equity scale", *Journal of Business research*, Vol. 52 No. 1, pp. 1-14.

CROP AND LIVESTOCK FARMERS' ATTITUDES TOWARDS SUSTAINABLE AGRICULTURE: A CASE STUDY FROM LAKE PAMVOTIS IN GREECE

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ABSTRACT

Agriculture has been steadily attracting severe criticism due to the negative impact farming practices have on the natural environment. To overcome challenges, it is necessary to gain insights into farmers' attitudes towards practices and especially of those active in protected areas. Hence, the present study aims to investigate crop and livestock farmers' attitudes towards sustainable agriculture in the protected area of Lake Pamvotis in Greece. Results based on data collected via questionnaire show that over half crop farmers held a certificate for proper pesticide use, while most of them followed the instructions written on the pesticide label and wore mask and gloves during application. In addition, they kept the correct time intervals between pesticide application and harvesting, while they avoided spilling the remaining product and disposing the container in irrigation rivers and channels. Regarding livestock farmers, they obtained information mostly from the veterinarian who supplied them with veterinary medicines and from their parents, while almost all administered antibiotics to their livestock only according to the veterinarian's prescription. However, about half did not perform tests to examine the quality of the non-branded feed and water their livestock consumed. Since the findings revealed weaknesses and issues, local authorities could use them to organize Environmental Education and Communication programs aiming at raising environmental awareness in farmers so that they become more conscious about the impact of farming practices and in turn contribute to the sustainable development of the protected area.

Keywords: Protected areas, sustainable farming, crop and livestock farmers' attitudes, Ioannina basin.

INTRODUCTION

Across the world, agriculture has been attracting severe criticism due to the negative impacts it has on the natural environment and the world ecology at large. Soil degradation, erosion, water pollution, excessive use of chemicals, waste of water, decreasing ground water tables, destruction of natural habitats for wildlife, and limited animal welfare are just few of the concerns raised by environmentalists, ecologists, nature conservationists and the public. This has led to a persistent call for agriculture to become less exploitative and more 'sustainable', meaning that agriculture should make the best use of available natural resources and inputs, and regenerate conditions for future production (for example, soil fertility, resilience of the ecosystem, water availability).

On the other side, protected areas were established with a view to enhance local biodiversity and manage sustainably local natural resources. Meanwhile, the perceptions and attitudes of the local population towards protected areas consist major determinants of the sustainable development of the entire area (Booth *et al.*, 2009). In essence, this means that the attitudes of the local public and particularly of crop and livestock farmers who are close to protected areas have a direct effect on the sustainability of protected areas which are often subjected to the detrimental effects of conventional farming activity.

In protected areas, such as Lake Pamvotis in the basin of Ioannina, agricultural activity should not only respect the environment but also produce quality products with high additive value. Hence, the present study aims to examine the attitudes and views of crop and livestock farmers of the Ioannina basin on the practices they use for their crop and livestock production. The identification of their views and attitudes will enable the detection of weaknesses and problems. Indicatively, the relevant stakeholders could use the present study findings to design effective Environmental Communication Programs to protect the vulnerable ecosystem of Lake Pamvotis. That is because studies on individuals' attitudes and views can be used as a useful tool by policymakers (Tsantopoulos *et al.*, 2013).

LITERATURE REVIEW

It is often argued by authors (Berkes & Folke, 1998; Roling & Wagemakers, 1998) that 'sustainability' cannot be regarded exclusively in biophysical or ecological terms, because the state of 'hard systems' depends crucially on interactions between multiple human beings (i.e. on the 'soft system'). The hydrological state in a water catchment area, for example, cannot be understood properly only in hydrological terms. That is because hydrological processes and their outcomes are shaped and influenced by the way farmers irrigate their land, use stream banks, make wells, plough their land, manage contours and choose crops. In turn, the choice of practices depends partly on wider social-organizational circumstances, such as water laws and regulations, the way markets for different

agricultural products are organized, population pressure, the functioning of agricultural service institutions and so on. Thus, from a sustainability perspective, when the aim is to improve the management of water in a catchment area one will essentially have to foster new agreements, modes of co-ordination and/or forms of organization among farmers themselves, and between farmers and other societal stakeholders, including other water users (for example, industries, urban communities).

The example of water catchment management indicates that the management of natural resources often exceeds community and regional boundaries. Hence, it is reasonable that some of the environmental issues the planet faces (such as climate change, water shortage) can be effectively addressed only if significant cooperation is achieved on a transnational or even global level. In this context, understanding farmers' attitudes towards crop and stock-farming practices becomes key to solving issues such as the above, but also protecting vulnerable ecosystems. Attitudes are defined as a disposition to respond favorably or unfavorably to an object, person, institution or event. An attitude is (a) directed towards an object, person, institution, or event; (b) has evaluative, positive or negative, elements; (c) is based on cognitive beliefs towards the attitude-object (i.e., the balancing between positive and negative attributes of an object leads to an attitude); and (d) has consequences for behavior when confronted with the attitude object (Bergevoet *et al.*, 2004).

Attitudes are determined by the beliefs that are salient or important to a person and they are formed by what an individual perceives to be true about the attitude-object. This perception may or may not be based upon information and knowledge and/or an emotional reaction towards the object. In addition, many beliefs and values may underpin an attitude (Willock *et al.*, 2008). Attitude simply refers to 'a person's evaluation of any psychological object'. These evaluation judgments are represented as items of knowledge, which are based on three general classes of information: cognitive information, emotional information, and information about past behaviors (Allen *et al.*, 2005). Dimara and Skuras (1999) also concluded from their research that there is a significant relationship between attitudes and behaviors: attitudes cause behaviors and behaviors cause attitudes, while both have mutual causal impact; and attitudes and behaviors are slightly, if at all related (Bentler and Speckart, 1981).

Studies in the literature strand on farmers' attitudes have explored specific topics such as knowledge, information sources, attitudes to issues such as water use and antibiotics as well as factors affecting attitudes. Regarding knowledge, the reviewing of case studies showed that there was diversity in knowledge sources, while most valued the local experiential knowledge since they regarded it as practically, personally and locally relevant (Šūmane *et al.*, 2018). However, it is concerning that a lack of knowledge on practices was observed in many Natura 2000 areas (Šorgo *et al.*, 2016). To enhance farmer knowledge and contribute to sustainable farming, Šūmane *et al.*, 2018 recommend that the role of all

stakeholders, including farmers, must be acknowledged, while both formal and informal types of knowledge must be brought together.

Another focal point in the relevant literature is farmers' attitudes towards the use of water and antibiotics because many of these practices often entail severe impacts. In other words, the quality of water for irrigation and the antibiotics livestock farmers administer to their livestock are often criticized as harmful not only to the environment but also to public health. So far, it has been discovered that farmers in Iran were aware that the use of untreated wastewater for irrigation purposes is associated with health risks. However, reasons such as water scarcity, production costs and limited freshwater accessibility drove them to use it for irrigation (Maleksaeidi *et al.*, 2018). Meanwhile, an alarming tendency to use nontraditional water was noticed in the United States where a large share of farmers stated they would use it despite being concerned about issues such as water quality and food safety (Suri *et al.*, 2019).

Apart from water use, practices regarding antibiotics consist a major issue as the irrational antibiotics administration to livestock can pose great risks. In this regard, it is worrying that Malaysian farmers had insufficient knowledge about conditions requiring antibiotic treatment and that most farmers considered that all sick animals had to be given medicine. At the same time, half respondents perceived that antibiotics have no side effects, whereas most of them were indifferent to administering antimicrobials only when prescribed by veterinarians (Sadiq *et al.*, 2018). To overcome issues arising from the wrong use of antibiotics, Suri *et al.* (2019) advised that farmer knowledge on antimicrobial resistance and use must be targeted through educational campaigns for farmers and that they should be more actively involved in the design and evaluation of antimicrobial regulations.

Finally, to gain insights into farmers' mindset, more research on factors affecting attitudes to practices is needed. Indicatively, it has been indicated that knowledge, moral norm and social cohesion (Maleksaeidi *et al.*, 2018), as well as personal efficacy, training and perceived usefulness (Zeweldi *et al.*, 2017) affect farmers' preference for sustainable or unsustainable practices.

METHODOLOGY

The study was conducted in 2016 within the limits of the water catchment area of the lake Pamvotis while the local livestock and crop farmers consisted the "population" under study. To collect the data, the questionnaire was chosen as the most appropriate instrument since it consists a standardized design for collecting and registering specialized information related to a topic with accuracy and completeness. The specific questionnaire included questions on the livestock and crop farmers' attitudes, knowledge and everyday practices. The chosen sampling method was the simple random sampling and it was revealed that 185 holdings were necessary. The holdings of the sample were

found with the help of random numbers by using tables of random numbers. This indicated 155 livestock holdings, 20 crop and livestock holdings as well as 11 crop holdings. In these selected holdings, personal interviews with the head of the holdings were conducted.

In addition, to analyze the obtained data, descriptive statistics, the non-parametric Friedman test and categorical regression were used. The Friedman test is used to compare the values of three or more correlated groups of variables. The distribution of the Friedman test is χ^2 distribution with degrees of freedom (df) $df = k-1$, where k is the number of teams or samples. This test classifies the values of variables for every subject separately and calculates the mean rank of classification values for each variable. Categorical regression is an extension of the principles of classical linear regression and logarithmic analysis. Through scaling, it assigns values to each category of variables in such a way that they are optimum concerning the regression and reflect the characteristics of the original variables. The interpretations are related to the transformed variables, but they are also related to the original variables, due to the relationship that exists between the original variables and the transformed ones.

RESULTS

Study results provide information on the sociodemographic characteristics of participants and focus on a variety of topics. Specifically, farmers' views on obtaining information from various sources on crop and livestock production as well as the practices they use in the context of crop and livestock production are described.

Crop farmers' views and attitudes

In socioeconomic terms, most farmers involved in crop production were male (74.2%) and more than half (51.6%) of respondents were aged between 41 and 60 years, while a considerable share (29%) were aged between 51 and 60 years. At the same time, the vast majority (90.3%) was married.

To investigate whether there were statistically important differences among crop farmers' views on the information sources from which they obtained information on crops, the non-parametric Friedman test was performed (Table 1). The Friedman criterion is a non-parametric test which ranks the items of a multivariate. According to the test results, the agronomist who supplies pesticides to the farmers was in the lead of the ranking indicating that the agronomist-supplier consisted crop farmers' main information source (mean rank 5.39). Moreover, the knowledge the crop farmers have received from their parents was the second ranked information source with a mean rank of 4.98. Conversely, to a lesser degree the respondents stated they drew information from books or magazines, the Internet and agronomists employed by public services.

Information sources	Mean rank
Knowledge received from parents	4.98
Agronomists employed by public services	3.15
Agronomist supplying pesticides	5.39
Books-magazines	3.55
Internet	3.69
N= 31 Chi-Square= 43.788 df = 4 p<0.001	

Table 1. *The application of the non-parametric Friedman test regarding crop farmers' assessment of information sources*

Crop farmers' practices prior to and during pesticide application

Regarding crops, most farmers were involved in large-scale crops (corn, alfalfa, wheat), while some cultivated small areas of land with horticultural products which were mainly vines and vegetables. Interestingly, more than half farmers (54.8%) had acquired certificate for proper pesticide use. Then, to detect the priority the respondents assigned to each item of the multivariate "Crop farmers' practices prior to and during pesticide application", the non-parametric Friedman test was carried out (Table 2).

Statement	Mean rank
Reading the instructions on the pesticide's label before using it	5,70
Having acquired a first-aid kit	2.15
Being properly dressed during application	5.27
Wearing gloves during application	5.68
Wearing a mask during application	5.37
Noting down the exact dates of pesticide application	3.65
Spraying in conditions of still air	4.43
Using the same spraying system for both pesticides and other products	3.75
N= 30 Chi-Square= 80.657 df = 7 p<0.001	

Table 2. *The application of the non-parametric Friedman test ranking farmers' practices prior to and after pesticide application*

The test results showed that reading the instructions on the pesticide's label before use was ranked first (mean rank 5.70), while wearing gloves during application was also ranked very high (mean rank 5.68). In percentage units, 74.2% of respondents stated they always read the directions on the pesticide label, whereas 71% did not often keep a first-aid kit at hand. At the same time, more than 80% reported to take measures necessary for their safety and health protection, such as wearing appropriate clothes, gloves and mask. In addition, about half farmers stated they kept an application journal for each crop, while 63% sprayed their fields in conditions of still air. Finally, six in ten respondents used the same spraying equipment for herbicides and other pesticides.

Crop farmers' practices after pesticide application

After performing the non-parametric Friedman test for the multivariate “crop farmers’ practices after pesticide application”, it was indicated that the most preferred practice was keeping the correct time intervals between application and harvesting with a mean rank of 5.03 (Table 3). In particular, about half respondents did not store the remaining spraying solution for future uses, whereas 74.2% did not dispose the remaining product in non-arable land. Remarkably, almost all farmers claimed they never spill any remainder of product in irrigation channels and rivers and most of them (87.1%) were keeping the proper time interval between application and harvesting. Finally, the majority (83.9%) washed the spraying equipment with abundant water and detergent.

Statement	Mean rank
Storing the remaining product for the next application	3.10
Placing the remaining product in an area that is not farmed	2.27
Spilling the remaining product into irrigation channels and rivers	1.85
Using the remaining product until the container is empty	3.90
Keeping the proper time interval between application and harvesting according to instructions	5.03
Washing the spraying equipment with abundant water and detergent	4.84
N= 31 Chi-Square= 100.072 df = 5 p<0.001	

Table 3. *The application of the Friedman test regarding farmers’ activities after pesticide application*

Next, the non-parametric Friedman test was applied again to detect the priorities the surveyed farmers assigned to the items of the multivariate “disposal of empty pesticide container after use” (Table 4). According to the test results, most respondents favored the practice of gathering the empty pesticide container for burning with a mean rank of 5.03. In percentage units, 83.9% of farmers did not bury the containers in fields, while 96.8% did not keep them for other uses. Meanwhile, 67.7% gathered them for recycling and 54.9% burnt them. Moreover, the majority did not dispose empty packages in landfills and no participants disposed them in irrigation channels and rivers.

Items	Mean rank
Burying the empty container in the field	3.02
Keeping it for other uses	2.69
Gathering it for recycling	3.44
Gathering it for burning	5.03
Disposing it in waste sites or landfills	4.24
Disposing it in irrigation channels or rivers	2.58
N= 31 Chi-Square= 65.851 df = 5, p<0.001	

Table 4. *The application of the Friedman test regarding the disposal of empty pesticide containers after use*

Factors affecting crop farmers’ practices on pesticide application

Categorical regression was conducted to examine the factors influencing crop farmers’ practices i) prior to and during pesticide application and ii) the disposal of empty pesticide containers after application.

Regarding factors affecting participants' practices, as Table 5 shows, the aggregate scoring of sub-topics of the multivariate QA and independent variables gave dependent variable. The categorical regression gave coefficient value of multiple determination $R^2=0.869$, indicating that 86.9% of the dependent variable's variance was accounted for by the modified values of the independent variables participating in the regression equation. In addition, the analysis of the variance (ANOVA) gave value $F=4.3$, which corresponds to a zero level of statistical importance, suggesting that the subsample of the categorical regression adapted well to the modified data. Meanwhile, there was no multicollinearity due to the low values of the correlation coefficients. The above can also be confirmed by the very high acceptance values of the independent variables which express the variance participation of each independent variable, which is not explained by the remaining ones.

The standardized (regression) coefficients of the independent variables and the diagrams of dependent and independent variable modification indicate that the variables age, information from the agronomist-supplier, information from the Internet and certificate for proper pesticide use affect significantly crop farmers' practices. Additionally, based on the F values of each independent variable it was found that the deletion of variables with high F values, such as age and certificate for proper pesticide use, made the subsample weak. Moreover, the measures of relevant importance of the independent variables suggest that the variables information from the agronomist-supplier (35.1%) and certificate for proper pesticide use (24.2%) made the greatest contribution to the dependent variable.

	Beta	F	Sig.	Importance (Pratt)
Gender	0.345	2.,234	0.166	0.032
Age	0.485	3.820	0.046	-0.047
Family status	0.106	0.267	0.616	0.033
Children number	0.733	2.149	0.173	0.528
Information from the agronomist-supplier	0.521	2.954	0.045	0.351
Information from the Internet	0.392	3.318	0.046	-0.009
Certificate for proper pesticide use	0.361	4.060	0.022	0.242

Table 5. *Categorical regression results regarding the factors affecting crop farmers' practices prior to and during pesticide application*

Next, as it appears in Table 6, a dependent variable emerged from the aggregate score of the subtopics of the multivariate QB and independent variables. Categorical regression gave coefficient value of multiple determination $R^2=0.795$, indicating that 79.5% of the variance of the dependent variable was explained by the modified values of the independent variables participating in the regression equation. Moreover, the relevant analysis of variance (ANOVA) gave value $F=3.587$ which corresponds to zero level of statistical importance, showing that the subsample of categorical regression adapted well to the modified data.

	Beta	F	Sig.	Importance (Pratt)
Gender	0.197	0.915	0.358	-0.052
Age	1.176	7.815	0.004	0.514
Family status	0.051	0.037	0.850	-0.017
Children number	-0.221	0.326	0.579	0.069
Information from the agronomist-supplier	-1.227	6.338	0.013	0.355
Information from the Internet	0.516	3.571	0.039	0.128
Certificate for proper pesticide use	0.065	0.138	0.717	0.001

Table 6. *Categorical regression results of factors influencing the disposal of empty pesticide containers*

There was no multicollinearity due to the low values of the correlation coefficients which can be further affirmed by the high acceptance values of the independent variables. The standardized (regression) coefficients of the independent variables and the diagrams of dependent and independent variable modification show that the disposal of empty pesticide containers after application was mostly affected by the variables information from the agronomist-supplier, age and information from the Internet. Moreover, in view of the F values of each independent variable it was indicated that the deletion of variables with high F values, that is the variables age and information from the agronomist-supplier, rendered the subsample weak, while the deletion of the variable information from the Internet had a slight effect on the predictability of the subsample. In addition, the measures of relevant importance of the independent variables suggested that the variables age (51.4%), information from the agronomist-supplier (35.5%) and information from the Internet (12.8%) contributed mostly to the independent variable.

Livestock farmers' views and attitudes

Regarding the socio-demographic characteristics of the surveyed livestock farmers, male participants (64.0%) outnumbered their female counterparts. In terms of age, 60.6% were aged between 31 and 50 years and 22.9% between 51 and 60 years. Moreover, most respondents (78.3%) were married.

The majority (52.5%) of livestock farmers in the study area were involved in poultry breeding, followed by sheep/goat farming (42.0%) and cow farming (5.5%). Notably, the biggest share of livestock farmers (64.0%) were authorized to operate their units. Meanwhile, 60.0% of the livestock holdings were housed, 35% were semi-housed and 5% were free-range livestock. In addition, all livestock farmers had registered their livestock in the Veterinary Service. It is also important to note that 94.3% did not process their products, but directly marketed them with companies and traders they cooperated with. All livestock farmers complied with the national vaccination program of the Veterinary Service.

First, participants reported the information sources from which they received information on farm-related topics. As it can be seen in Table 7, the veterinarian who supplied veterinary medicinal products to them consisted the primary information source.

Information sources	Mean rank
Knowledge received from parents	4.50
Agronomist employed in public service	3.59
Veterinarian employed in public service	4.38
Agronomist-pesticide supplier	4.02
Veterinarian-veterinary medicines supplier	5.08
Books-magazines	3.18
Internet	3.25
N= 175 Chi-Square= 173,612 df = 6, p<0.001	

Table 7. *The rankings of the non-parametric Friedman test concerning the livestock farmers' preferred information sources*

More specifically, seven in ten livestock farmers had acquired information from the veterinarian who supplied them with veterinary medicinal products. Simultaneously, five in ten respondents obtained information from the veterinarians employed in regional public services and about the same proportion relied on the knowledge they received from their parents. Much like crop farmers, books, magazines and the Internet consisted the least reported information sources for the livestock farmers. The respondents were then asked whether they agreed with the imposition of an environmental protection tax. As shown in Table 8, half respondents were in disagreement with the measure.

Percentage (%)				
Not at all	Slightly	Moderately	Very	Extremely
18.9	32.6	31.4	9.7	7.4

Table 8. *Participants' level of agreement with the imposition of environmental tax*

Next, livestock farmers' practices regarding the management of farm waste were examined. Results tabulated in Table 9 show that most respondents (73.7%) spread the waste on land, whereas 24% possessed segregated tanks and only 8% owned a biological treatment plant in their holding.

Practices	Percentages (%)
Biological treatment plant	8.0
Segregated tanks	24.0
Spreading waste on land	73.7

Table 9. *Respondents' practices relating to livestock waste management*

Finally, the biggest share of livestock farmers (64%) were authorized to operate their units. At the same time, almost all respondents (99.4%) administered medication to their livestock only according to the veterinarian's prescription.

However, 54.3% did not perform laboratory tests to examine the quality of animal feed which is not branded or standardized, whereas about half respondents conducted chemical analysis on the water consumed by their livestock (Table 10).

Animal health characteristics and practices				
	Holding an operation authorization	Medication administration only according to the veterinarian's prescription	Performance of laboratory tests examining the quality of animal feed which is not branded or standardized	Chemical analysis conduct on the water consumed by their livestock
	Percentage (%)			
Yes	64.0	99.4	45.7	50.3
No	36.0	0.6	54.3	49.7
Total	100.0	100.0	100.0	100.0

Table 10. Percentages of livestock farmers' practices regarding animal health

DISCUSSION

It is rather encouraging that more than half of the surveyed farmers possessed a certificate of proper pesticide use. It should be noted that this certificate indicates adequate knowledge of a variety of topics involving the legislation on pesticides and their use, measures minimizing biodiversity and environmental risks, safe working practices regarding pesticide handling and storage, disposal of empty pesticide containers and personal protection measures. Moreover, codes of good agricultural practice aim at tackling issues arising from agricultural activity and securing the continuation of proper operations. These practices are intended to contribute to the sustainable development of farm lands and natural resources, rural landscape protection and conservation but also to protect farmers' and consumers' health. The adoption of safe practices is particularly important because studies have indicated high pesticide concentrations mainly in farm holdings (Vryzas *et al.*, 2007; Vryzas *et al.*, 2009) but also in protected areas such as the basin of Lake Vistonis where studies have reported not only residues of frequently detected pesticides at high concentrations but also residues of pesticides which are not registered in Greece and possibly were obtained from illegal imports (Papadakis *et al.*, 2015). Hence, farmers' increased level of familiarization with the code could to some degree ensure that the farming activity respects the natural environment and contributes to the sustainable development of protected areas.

A positive result was that most crop producers took personal safety measures and read the instructions on the pesticide label before pesticide application. Hence, it appears that the vast majority respected consumers since they kept the required intervals between the last application and harvest. In addition, respondents were aware of the proper way to clean the container after pesticide application and were willing to participate in an organized program of empty pesticide containers collection. However, in the year 2017 a systematic procedure for empty pesticide container collection began in the area where the survey was performed. This was coordinated by the Association of owners of farm supplies establishments, the Hellenic Crop Protection Association, the municipalities of Ioannina and Zitsa and the Regional Crop Protection, Quality and Phytosanitary Inspection Centre

of Ioannina. It can be thus expected that this action will reduce the dangerous pollution load threatening the vulnerable ecosystem of Lake Pamvotis and prevent farmers from managing plastic waste in environmentally unfriendly ways.

Most livestock farms were authorized to operate, however, to adapt livestock farming to the current business requirements this percentage ought to be increased. To that end, according to Law No 4056/2012 all livestock holdings were required to receive authorization by December 2018. What is more, Law 4178/2013 enabled livestock farmers to legalize any arbitrary holdings, so they could update their authorization. Hence, it can be anticipated that great percentages of farms will be authorized making them more likely to conform to sustainable farm management measures.

Undeniably, our finding that most livestock farmers spread livestock waste onto the fields, while only few possessed segregated tanks or biological treatment plants, consists a major point of interest. To assist a better understanding of this, it should be noted that according to the existing legislation the generated manure is not characterized as waste, but as animal by-product on the condition that it is not intended for incineration, landfilling, composting or use in biogas plant. In case of composting, manure management is conducted on a case by case basis (collection, transportation, storage) as defined in Regulation (EC) No 1069/2009 of the European Parliament and of the Council of 21 October 2009 which laid down health rules about animal byproducts and derived products which were not intended for human consumption (European Commission, 2011). Exceeding our expectation, almost all surveyed livestock farmers administered antibiotics to their livestock following the exact prescription of the veterinarian. Greek livestock farmers' pronounced awareness about the proper use of antibiotics is in sharp contrast with the attitude of the Malaysian farmers who were quite indifferent to using antimicrobials only when prescribed by the veterinarian (Sadiq *et al.*, 2018). In terms of water use, about half respondents were somewhat uninterested as they did not perform chemical analysis on the water consumed by their livestock. Low levels of awareness about water quality were also indicated in Iran where farmers used untreated water despite knowing its negative effects (Malaksaedi *et al.*, 2018) and the US where respondents would use nontraditional water (Suri *et al.*, 2019).

CONCLUSIONS AND IMPLICATIONS

The objective of the present study was to identify crop and livestock farmers' attitudes towards farming practices in the protected area of Lake Pamvotis. In view of the findings, it may be inferred that overall both crop and livestock farmers were found to have positive attitudes towards sustainable practices and their role in the sustainable development of the area could be further enhanced.

Regarding crop farmers, most had already acquired a certificate for proper pesticide use and were familiar with personal safety measures such as wearing gloves and mask before pesticide application. In terms of information, most respondents obtained knowledge about farming practices from their families and the agronomist who supplied pesticides to them. Moreover, categorical regression analysis indicated that farmers' disposal of empty pesticide containers, which consist a concerning source of pollution, is affected mostly by certain variables and mainly by their age, the information they receive from the agronomist-pesticide supplier and Internet-based information. To enhance crop farmers' awareness about sustainable practices regarding pesticide use and management of waste, it is recommended to use the aforementioned influential information sources. For example, authorities could disseminate information on organized actions regarding pesticide container collection for recycling through the most preferred sources and ensure that all farmers are well informed about the possibility of safe disposal.

As for livestock farmers, results showed that almost all of them followed the prescription of the veterinarian to administer antibiotics to sick animals and at the same time most respondents were authorized to operate their farm. Nevertheless, it was indicated that only half of them conducted analyses to examine the quality of water and feed consumed by their livestock. In terms of livestock waste management, participants stated they mostly spread it onto their field, whereas only few possessed segregated tanks and biological treatment plants. Much like crop farmers, the surveyed livestock farmers obtained knowledge on practices from the veterinarian who supplied antibiotics and their family.

Although an adequate level of sustainable practices was identified among both crop and livestock farmers, it is crucial to further enhance their information and awareness levels because the chosen practices of farmers have a direct impact on the natural environment and public health. To that end, the relevant authorities should plan Environmental Communication programs on a frequent basis and in a manner that suits the expectations and needs of farmers. At the same time, importance should be placed on the solution of longstanding issues of the primary sector such as production cost reduction, separation of forest and agricultural land, disposal of empty pesticide packaging, waste and dead animal management as well as product identity. Beside these issues, the degradation of the ecosystem in Lake Pamvotis must be avoided at all costs. Specifically, steps should be taken to secure the total water volume of the lake and activities taking place in the lake area should be monitored. Finally, the Managing Body of Lake Pamvotis should design Environmental Education and Communication programs targeted at farmers to raise their environmental awareness, so that they are more conscious about environmental protection during their farming activities. The above findings were based upon the views of the surveyed crop and livestock farmers. To indicate the pollution level in the wider area

of Lake Pamvotis, it is recommended to take and analyze not only soil samples but also samples from plants and animals. Finally, following the application of Environmental Education and Communication programs it is recommended to perform new studies in order to investigate whether the wider area is still burdened by pesticide use and to examine the awareness levels of crop and livestock farmers.

REFERENCES

- Allen, C.T., Machleit, K.A., Kleine, S.S., Notani, A.S., (2005) 'A place for emotion in attitude models'. *Journal of Business Research*, 58(4), pp. 494-499. [https://doi.org/10.1016/S0148-2963\(03\)00139-5](https://doi.org/10.1016/S0148-2963(03)00139-5).
- Bentler, P. M., & Speckart, G. (1981) 'Attitudes 'cause' behaviors: A structural equation analysis'. *Journal of Personality and Social Psychology*, 40(2), pp. 226. <https://doi.org/10.1037//0022-3514.40.2.226>.
- Bergevoet, R.H.M., Ondersteijn, C.J.M., Saatkamp, H.W., Van Woerkum, C.M.J., Huirne, R.B.M., (2004) 'Entrepreneurial behaviour of dutch dairy farmers under a milk quota system: Goals, objectives and attitudes'. *Agricultural systems*, 80(1), pp. 1-21. <https://doi.org/10.1016/j.agsy.2003.05.001>.
- Berkes, F., and C. Folke, editors (1998) *Linking Social and Ecological Systems: Management Practices and Social Mechanisms for Building Resilience*. Cambridge University Press, New York.
- Booth, J. E., Gaston, K. J., & Armsworth, P. R. (2009) 'Public understanding of protected area designation'. *Biological Conservation*, 142(12), pp. 3196-3200. <https://doi.org/10.1016/j.biocon.2009.07.024>.
- Dimara, E., Skuras, D., (1999) 'Importance and Need for Rural Development Instruments Under the CAP: A Survey of Farmers' Attitudes in Marginal Areas of Greece'. *Journal of Agricultural Economics*, 50(2), pp. 304-315. <https://doi.org/10.1111/j.1477-9552.1999.tb00815.x>.
- European Commission (2011) Commission Regulation (EU) No 189/2011 of February 2011, Official Journal of the European Union. Article 9. Available at: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:053:0056:0060:EN:PDF>.
- Maleksaeidi, H., Ranjbar, S., Eskandari, F., Jalali, M., Keshavarz, M. (2018) 'Vegetable farmers' knowledge, attitude and drivers regarding untreated wastewater irrigation in developing countries: A case study in Iran'. *Journal of Cleaner Production*, 202, pp. 863-870. <https://doi.org/10.1016/j.jclepro.2018.08.208>.
- Papadakis, E.-N. Tsaoulou, A., Kotopoulou, A., Kintzikoglou, K., Vryzas, Z., Papadopoulou-Mourkidou, E., (2015) 'Pesticides in the surface waters of Lake Vistonis Basin, Greece: Occurrence and environmental risk assessment', *Science of The Total Environment*, 536, pp. 793-802. doi: 10.1016/j.scitotenv.2015.07.099.
- Roling, N. G. and Wagemakers, M. A. E. (1998) 'A new practice: facilitating sustainable agriculture', in *Facilitating sustainable agriculture. Participatory learning and adaptive management in times of environmental uncertainty*. Cambridge: Cambridge University Press.
- Sadiq, M.B., Syed-Hussain, S.S., Ramanoon, S.Z., Saharee, A.A., Ahmad, N.I., Noraziah, M.Z., Khalid, S.F., Naseeha, D.S., Syahirah, A.A., Mansor, R. (2018) 'Knowledge, attitude and perception regarding antimicrobial resistance and usage among ruminant farmers in Selangor, Malaysia'. *Preventive Veterinary Medicine*. 156, pp. 76-83. <https://doi.org/10.1016/j.prevetmed.2018.04.013>.
- Šorgo, A., Špur, N., & Škornik, S. (2016) 'Public attitudes and opinions as dimensions of efficient management with extensive meadows in Natura 2000 area'. *Journal of environmental management*, 183, pp. 637-646. <https://doi.org/10.1016/j.jenvman.2016.09.024>.
- Šumane, S., Kunda, I., Knickel, K., Strauss, A., Tisenkopfs, T., Rios, I. des I., Rivera, M., Chebach, T., Ashkenazy, A. (2018) 'Local and farmers' knowledge matters! How integrating informal and formal knowledge enhances sustainable and resilient agriculture'. *Journal of Rural Studies*, 59, pp. 232-241. <https://doi.org/10.1016/j.jrurstud.2017.01.020>.
- Suri, M.R., Dery, J.L., Pérodin, J., Brassill, N., He, X., Ammons, S., Gerdes, M.E., Rock, C., Goldstein, R.E.R. (2019) 'U.S. farmers' opinions on the use of nontraditional water sources for agricultural activities'. *Environmental Research*, 172, pp. 345-357. <https://doi.org/10.1016/j.envres.2019.02.035>.
- Tsantopoulos, G., Tampakis, S., Arabatzis, G., & Kousmani, T. (2013) 'The attitudes of stakeholders on the management of protected areas: views of the local people and visitors to the Prespa Lakes National Park, Greece'. *Dry Grasslands of Europe: Grazing and Ecosystem Services*, 331.
- Willock, J. Deary, I. J., Edwards-Jones, G., Gibson, G. J., McGregor, M. J., Sutherland, A., Dent A., Barry Dent J., Morgan O., Grieve, R. (2008) 'The Role of Attitudes and Objectives in Farmer Decision Making: Business and

- Environmentally-Oriented Behaviour in Scotland', *Journal of Agricultural Economics*, 50(2), pp. 286–303. doi: 10.1111/j.1477-9552.1999.tb00814.x.
- Zeweld, W., Van Huylenbroeck, G., Tesfay, G., Speelman, S. (2017) 'Smallholder farmers' behavioural intentions towards sustainable agricultural practices". *Journal of Environmental Management*, 187, 71-81. <https://doi.org/10.1016/j.jenvman.2016.11.014>.
- Vryzas, Z. Vassiliou, G., Alexoudis, C., Papadopoulou-Mourkidou, E. (2009) 'Spatial and temporal distribution of pesticide residues in surface waters in northeastern Greece', *Water Research*, 43(1), pp. 1–10. doi: 10.1016/j.watres.2008.09.021.
- Vryzas, Z. Papadopoulou-Mourkidou, E., Soulios, G., Prodromou, K. (2007) 'Kinetics and adsorption of metolachlor and atrazine and the conversion products (deethylatrazine, deisopropylatrazine, hydroxyatrazine) in the soil profile of a river basin', *European Journal of Soil Science*, 58(5), pp. 1186–1199. doi: 10.1111/j.1365-2389.2007.00913.x.

THE SVALBARD ARCHIPELAGO UPON THE LAW OF THE SEA

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ABSTRACT

The Svalbard region (territories and territorial waters) constitutes a separate case of International Law, subject to the stipulations of the 1920 Spitsbergen treaty. Upon its legal regime, it belongs to the State of Norway, but all the nationals of the contracting parties have equal liberty of access and 'entry' ('relaxation' according to the French version) for any reason or object whatever to the waters, fjords and ports of the territories and may carry on there without impediment all maritime, industrial, mining and commercial operations on a footing of absolute equality. In 1977, Norway established a 200 nautical mile Fisheries Protection Zone (FPZ) off Svalbard, which is considered as a new zone of the Law of the Sea. To date, the Spitsbergen treaty has offered a privilege of equal treatment against Norway to contracting states, particularly the (mainstreaming) coastal ones, as almost no landlocked country is a contracting state. The Svalbard Archipelago constitutes a challenge for contracting parties, such as Greece, which should put the stress on both mercantile navy and fishery. Besides, the Spitsbergen treaty consecrates the fundamental right of both ships, put into Svalbard ports, and of private individuals, exemplified by seafarers, to relax and therefore could be slightly seen as a precursor of Maritime Labour Convention (MLC). In general, it is indicative of anthropomorphism of ships in Maritime Law. So, it results a 'Maritime Law paradox', consisting in the pioneer content of this treaty, which is a Law of the Sea agreement endowed with Maritime Law innovations.

Keywords: Exclusive Fisheries Zone (EFZ), Fisheries Protection Zone (FPZ), Greece, landlocked states, Law of the Sea, Maritime Law, Norway, Right to relaxation, Spitsbergen treaty, Svalbard

INTRODUCTION: THE LAW OF THE SEA, A TRADITIONALLY CUSTOMARY BRANCH

The Law of the Sea constitutes a traditional branch of International Law, which regulates the various zones of the Sea, not of waters of other entities, such as rivers and lakes (Alexopoulos and Fournaraki, (2015). It is a genuine body of Public Law rules, having to do mainly with sovereignty and other forms of political power of States, particularly of the coastal ones.

The newer period of the Law of the Sea begins in the 17th century, due to the fact that maritime countries expressed their interest to govern in the sea place (Roukounas, 2006). One of them was

Venice, which had already managed to become the biggest place of commerce of the Christian West (Vergé – Franceschi). The normativity on the matter had been an intrinsically customary branch, having little relationship with written rules, till 1958, when United Nations achieved the adoption of four (complementary) Conventions, known as the Geneva Conventions. Although that development was of unique importance, it was not exempted from weak points and therefore led to a new legislative initiative. The second codification attempt resulted in the United Nations Convention on the Law of the Sea (UNCLOS), concluded in 1982 in Montego Bay. This single code is comparable to the formal Constitution of sovereign States, that is why the doctrine has called it 'Constitution for the Oceans' (De Pooter). This text, as modified in 1994, includes almost all institutions of this branch, with the exception of a relatively new zone. It is about the Exclusive Fisheries Zone or Exclusive Fishery Zone (EFZ), having a customary origin. This zone secured increasingly wider support after the 1945 Truman Coastal Fisheries Proclamation (Molenaar, 2015). It is to point out that before the entry into force of the UNCLOS – probably by the early 1970s – a coastal State's entitlement to sovereign rights and jurisdiction for fisheries purposes within a 200 nautical mile EFZ had crystallized into customary international law. Anyway, we consider it as the 'big anarchist' of the Law of the Sea, because it escapes from international (non-customary) regulating power. Moreover, the last years the countries having made use of it, such as Iceland, have got the tendency to consider that they are endowed with an Exclusive Economic Zone (EEZ) instead of an EFZ.

Similar remarks are valid for the International Seabed, which was legally consecrated, (initially in a customary way, in 1973) as the 'Area', being a common heritage of mankind. It is also notable that the person promoting this consecration, the ambassador of Malta Pardo, is considered as the Father of the Law of the Sea in its current form. That diplomat served as Malta's representative at the Preparatory Commission of the Law of the Sea conference in 1972 and led the Maltese delegation to the UN Seabed Committee from 1971 to 1973. The Area has gained an interest of major importance the last decades whilst it is relevant inter alia to the abyss, which constitutes a key to the future mainly thanks to its metal deposits (Duperron and Gail).

The current paper aims at introducing to the question of legal nature and economic opportunities in the region of Svalbard.

We suppose that contracting parties to the 1920 Spitsbergen treaty should get benefit from this region.

THE 1920 SVALBARD TREATY, OFFERING A PRIVILEGE TO STATES AGAINST NORWAY

The Arctic Archipelago of Svalbard constitutes a rather 'unknown' region reminding of the archaeological zone, which has been introduced through the UNCLOS but in an unclear way, let alone

with no name. We consider it as an 'invisible zone' due to the fact that there is the tendency not to include it, at least explicitly, in the maps of the Law of the Sea, apparently implying that it is about a specific version of the contiguous zone. However, it has been signaled that this zone, being comparable to the contiguous one, should be promoted to a clearly consecrated autonomous zone of the Law of the Sea, namely independent to the contiguous one (Maniatis, 2018b).

As far as the Svalbard region is concerned, the proto-condominium arrangements discussed in the 1870s and immediately preceding World War I attempted to conform the concept of condominium to parochial interests – and not the other way around – principally because no individual State was capable enough to secure or perfect its own economic security interest (Rossi, 2015). Indeed, the Russo/Swedish-Norwegian Agreement of 1872 was inspired by the concept of *terra nullius* (commonly called a 'no man's land'), given that the archipelago was regarded as a territory which could not be the object of exclusive possession by any State.

Unlike other unclaimed territories, which historically have been acquired by discovery, effective or symbolic occupation, or by force, Norway's sovereignty over Svalbard was conferred on it by a legal text. It is about the 'Treaty between Norway, the United States of America, Denmark, France, Italy, Japan, the Netherlands, Great Britain and Ireland and the British Overseas Dominions and Sweden Concerning Spitsbergen Signed in Paris 9th February 1920'. Article 1 of this text recognizes the full and absolute sovereignty of Norway over the Archipelago of Spitsbergen, as the Svalbard archipelago was commonly referred to, whilst the King of Norway proclaimed the islands as Svalbard in 1925. The Archipelago comprises, with Bear Island or Beeren-Eiland, all the islands situated between 10° and 35° longitude East of Greenwich and between 74° and 81° latitude North, especially West Spitsbergen, North-East Land, Barents Island, Edge Island, Wiche Islands, Hope Island or Hopen-Eiland, and Prince Charles Foreland, together with all islands great or small and rocks appertaining thereto.

Last but not least, article 9 establishes the demilitarization of the archipelago as Norway undertakes not to create nor to allow the establishment of any naval base in the territories specified in Article 1 and not to construct any fortification in the said territories, which may never be used for warlike purposes.

THE ANTHROPOMORPHISM OF SHIPS AND THE FUNDAMENTAL RIGHT TO RELAXATION

Article 2 previews that ships and nationals of all the contracting parties enjoy equally the rights of fishing and hunting in the territories (specified in Article 1) and in their territorial waters. It is to point out that the formulation on the matter is quite impressive, confirming the anthropomorphism of ships

as long as ships are endowed with rights, let alone the fact that they are equalized to human beings and in English are parallelized to women (Maniatis, 2018a).

Article 3 mentions that the nationals of all contracting parties have equal liberty of access and 'entry' for any reason or object whatever to the waters, fjords and ports of the territories specified in Article 1. Subject to the observance of local laws and regulations, they may carry on there without impediment all maritime, industrial, mining and commercial operations on a footing of absolute equality. It is to clarify that the French official version of the treaty does not make use of the aforementioned term 'entry' but of the term 'relaxation', which is personalized and more friendly to human rights of private individuals. In a similar way, the same article previews that notwithstanding any rules relating to coasting trade (in French 'cabotage') which may be in force in Norway, ships of the High Contracting Parties going to or coming from the territories specified in Article 1 shall have the right 'to put' into Norwegian ports on their outward or homeward voyage for the purpose of taking on board or disembarking passengers or cargo going to or coming from the said territories, or for any other purpose. However, for one more time the French text makes an explicit reference to the right to relaxation, let alone of the ships themselves (implying the relaxation of their crews, as well). More concretely, the text (as it is also the case of other linguistic versions, such as the Greek one) makes use of the term 'to relax' instead of the aforementioned term 'to put'. So, the French text has an anthropocentric approach and a more intensive anthropomorphism than the English version. This formulation reminds of the International Labour Organization (ILO), established one year earlier, to promote the rights of the working population. It is to signalize that one of the most important legal texts of Maritime Law consists in Maritime Labour Convention (MLC), which constitutes the ILO convention number 186, established in 2006. The fourth pillar of International Maritime Law (after SOLAS, STCW and MARPOL) embodies all up-to-date standards of existing international maritime labour Conventions and Recommendations, as well as the fundamental principles to be found in other international labour Conventions. It applies to all ships entering the harbors of parties to the treaties and to all ships flying the flag of state party and consecrates the seafarers' right to rest and leisure.

SVALBARD, AN ARCHIPELAGO OF (MAINSTREAMING) COASTAL STATES

Fourteen States were original signatories of the Spitsbergen treaty whilst the Soviet Union and Germany signed the agreement in 1924 and 1925, respectively. The Treaty came into force on 14 August 1925 whilst in 2018 there were 46 parties to the treaty. For instance, Greece ratified the text in 1925 without enacting a particular role on the matter. It is to put the stress on the fact that the Law of the Sea has a 'democratic' orientation, not ignoring the legitimate interests of landlocked countries. Some States of this very common category are endowed with military navy, such as Bolivia, for their

national waters, such as lake and river ones. This remark is also valid for private ships, as it has been traditionally the case of the Grand Duchy of Luxembourg. This country has its fleet of ships flying the Luxembourg flag whilst about 335 shipping companies are registered in Luxembourg. So, it is obvious that dealing with military navy or shipping is not merely a geographical matter and the Law of the Sea has an important autonomy against conventional institutions and approaches to the source of wealth. It goes without saying that the 'big State of the sea' is available for the enhancement of national prestige, if not for the completion of sovereignty of States, particularly the ones marked by important geographical or historical limitations in their identity.

To date, the doctrine has omitted to remark that landlocked countries, with only three (essentially two) exceptions, have abstained from acquiring rights resulting from the Svalbard treaty. More concretely, Hungary ratified the treaty on 29 October 1927 and Czechoslovakia acceded to this text on 9 July 1930. As a result, the Czech Republic in 2006 and Slovakia in 2017 informed that they considered themselves bound to the treaty since their independence on 1 January 1993, as successor States of the dissolved State of Czechoslovakia. It is obvious that landlocked States have not been literally indifferent on the matter but have been traditionally discouraged from getting involved in an area far away from their territory, not to speak about other parameters like transport controversies of old times. So, Svalbard archipelago has proved to be a *de facto* opportunity for differentiation between coastal countries, particularly the mainstreaming ones, and the rest ones. However, in the current era of globalization and climate change implicating Arctic ice melting, even landlocked countries are motivated to get benefit from the Svalbard Archipelago, as the last years some coastal countries, such as Spain, have begun to do in the Fisheries Protection Zone (FPZ) off Svalbard. A journey from metropolitan Spain to Svalbard lasts from 5 to 6 days but it is obviously value for money.

In a similar way, the Greek nation is the world leader in terms of mercantile navy and so is motivated to get benefit from the Svalbard archipelago in terms of shipping. However, severe criticism has been raised against Hellenic Republic for its traditional minimalism relevant to the economic and geopolitical opportunities offered by the International Law and particularly the Law of the Sea. We recommend Greece acquire a specialized, single Shipping and Fishery Ministry, essentially a 'Svalbard Archipelago Ministry', being competent for Hellenic Coastguard, shipping and fishery, and oriented *inter alia* to internationalize the Greek fishery activities. Greek fishermen, the last years, have been led to destruct about 13.000 private fishery vessels due to the official EU policy against overfishing. The Greek State has not adopted a counterbalancing policy to safeguard these ships, representing a traditional, national shipbuilding art, not to speak about the promotion of fishery activities in the Svalbard archipelago.

CURRENT QUESTIONS RELEVANT TO THE SVALBARD ARCHIPELAGO

Despite the fact that the important military restrictions have been imposed, as already signalized, the archipelago is not entirely demilitarized.

Furthermore, Norway argues that the text offers to other countries equal economic access but only to the territories of Article 1 and their territorial waters, whose breadth was 4 nautical miles then (and 12 nautical miles currently). It adds that the continental shelf is a part of mainland Norway's continental shelf and should be governed by the aforementioned Geneva Convention on the Continental Shelf, adopted in 1958. However, it has to cope with the permanent reaction of its powerful neighbor country, namely initially Soviet Union and currently the Russian Federation, which supports the position that the Spitsbergen Treaty is applicable to the entire zone.

More precisely, on 1 January 1977, Norway's 200 nm Economic Zone off its mainland came into effect, followed by a 200 nm FPZ off Svalbard later in 1977 and a 200 nm Fishery Zone (a de facto EFZ) off Jan Mayen in 1980 (Molenaar, 2015). According to this country, the usual Law of the Sea regime applies seaward of the outer limit of the territorial sea and entitles it to a continental shelf and EEZ and their associated sovereign rights and jurisdiction. However, no other parties to the Treaty support this position and an important number of them take the view that Svalbard generates – or can generate – all the usual coastal State maritime zones but that the Treaty applies to all of these. In view of these different positions, Norway established a FPZ off Svalbard, while insisting on its right to establish an EEZ or on its customary right to acquire an EFZ – and has granted certain allocations of fishing opportunities to a limited number of parties, largely based on historic track records. A scholar has supported the opinion that this FPZ is a new maritime zone of the Law of the Sea (Molenaar, 2015). In view of the uniqueness of the situation – in particular the fact that sovereignty over Svalbard was granted by, and subject to, the 1920 Svalbard Treaty – no other coastal States will feel compelled or have an incentive to establish a similar maritime zone off part or all of their territory. While several other coastal States have also established FPZs, for instance Spain in 1997 relating to most of its coast in the Mediterranean Sea, and Libya in 2005, their enactments show that they are really de facto EFZs. However, we consider that the position that the FPZ of Norway is the unique authentic zone of this category has not been proved (as for its unique character) whilst it is also to add that the regime of various zones relevant to fishery is not quite clear. For instance, Spain has established its own EEZ in the aforementioned region of FPZ, without considering that the FPZ has been abolished through the creation of the new zone on the matter.

Anyway, scholars have taken the position that rapid ice melting and conditions of global warming, together with technological advances and increasingly accessible resources, have awakened competing interests over the legal regime that both confers on Norway full and absolute sovereignty

and limits that sovereignty by establishing equal access and non-discrimination rights for all states parties to the Svalbard treaty (Rossi, 2015).

Besides, the doctrine has argued that the Svalbard Treaty is outdated, a victim of the passage of time and unanticipated developments now producing ambiguities in its application.

Furthermore, the Svalbard case can offer invaluable food for thought for anyone who cares about the Arctic and is ready to grapple with its full legal, political and psychological complications (Bayles, 2011). The existing Treaty regime aims at two of the same things that all serious players say they want for the whole Arctic region: peace and stability in 'hard' military terms, and responsible resource management with fair shares for all.

CONCLUSION: A TREATY GENERATING INNOVATIONS LIKE THE RIGHT TO RELAXATION

We conclude that the first thing to highlight as for the Spitsbergen treaty is the fundamental right of both ships, put into Svalbard ports, and of private individuals, exemplified by seafarers working in the ships on the matter, to relax. Relaxation is omitted by the English version of the treaty, which is a quite paradoxical matter but goes in with the spirit of the very recent creation of the ILO. So, the treaty could be slightly seen as a precursor of the fourth pillar of International Maritime Law, consisting in the ILO text 'MLC'. In general, the Spitsbergen treaty is also indicative of the wider phenomenon of the anthropomorphism of ships in Maritime Law. So, it results a paradox coming from the content of this classical treaty of the Law of the Sea, which is not uniquely a pioneer convention of this branch of law, being still customary, but also emblematic and modern as far as Maritime Law is concerned. This phenomenon could be called the 'Maritime Law paradox'. It is to add that this syllogistic could be concluded with a reference to the (future) fundamental rights to tourism and hospitality as long as tourism is conducted through maritime journeys. Anyway, tourism and hospitality constitute 2G fundamental rights in the world history, namely belonging to the same era to the Spitsbergen treaty, which had recently begun (in 1918).

Besides, the Svalbard treaty has generated a very uncommon status quo, which has to do with a restricted national sovereignty of Norway and with exploitation rights of nationals of many other countries whilst Soviet Union made use of its mining rights on land, in contradiction to other countries. If the ideas of conferring and restricting sovereignty (of the coastal State of Norway) have been the Treaty's most unusual features, they have also indirectly led Norway to innovate, by creating an authentic FPZ off Svalbard, instead of an EFZ, so an original new maritime zone of the Law of the Sea. Anyway, not only Norway but also its great competitor, Russia, are hardcore players in the Arctic region, whose legal status could be regulated eventually through a region-specific international treaty.

Last but not least, the paper hypothesis has been confirmed, given that coastal countries besides Norway, such as Greece, are motivated to proceed to economic activities and confirm their interest in this region, marked by peaceful international economic coexistence. The Arctic Ocean and particularly the Svalbard Archipelago should become the field of an original, anthropocentric, peaceful approach of a wider set of countries, the landlocked included...

REFERENCES

- Alexopoulos, A. and Fournaraki, N. (2015), *International Regulations – Maritime Policy and Law of the Sea*, Eugenidou Foundation, Athens (in Greek).
- Bayles A. (2011), "Spitsbergen in a Sea of Change in The Spitzbergen Treaty", in Wallis D & Arnold St (Eds.), *The Spitsbergen Treaty: Multilateral governance in the Arctic*.
- Duperron S, Gaill F., "La clé du futur réside dans les abysses", *La Vie - Le Monde*, hors-série, pp. 166-169.
- De Pooter, H., "Une Constitution de l'ONU pour les océans", *La Vie - Le Monde*, hors-série, pp. 144-145.
- Maniatis, A. (2018a), "Le Droit Maritime", *Neptunus E.revue*.
- Maniatis, A. (2018b), *The Archaeological Zone in the Constitution for the Oceans*, 11th Annual Conference of the EuroMed Academy of Business, pp. 881-887.
- Molenaar, E. (2015), "New Maritime Zones and the Law of the Sea", *Jurisdiction over Ships – Post-UNCLOS Developments in the Law of the Sea*, Vol.80, pp. 249-277.
- Rossi, Ch. (2016), "A Unique International Problem': The Svalbard Treaty, Equal Enjoyment and Terra Nullius: Lessons of Territorial Temptation from History", *Wash. U. Global Stud. L. Rev.*, Vol. 15, pp. 93-136.
- Roukounas, E. (2006), *International Law Second Issue The state and the territory – The law of the sea*, Ant. N. Sakkoulas Publishers (in Greek).
- Vergé – Franceschi, M., "Gênes et Venise souveraines maritimes", *La Vie - Le Monde*, hors-série, pp. 42-43.

BLOCKCHAIN WITH EMPHASIS ON TAX LAW

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ABSTRACT

Blockchain constitutes a relatively new technology, on the basis of decentralization, proof-of-work consensus and practical immutability. Its mainstreaming application, since 2009, consists in virtual cryptocurrencies, mainly exemplified by Bitcoin (BTC), which has been officially admitted as a form of currency, initially by the USA jurisprudence. In October 2015 the Court of Justice of the European Union, interpreting Directive 2006/112/EC on the common system of value added tax, did not consider bitcoin as a material good and judged that the exchange of traditional currencies (such as krona, euro...) against bitcoins is exempted from value added tax. If virtual cryptocurrencies have been recognized as means of payment, being similar to the rest currencies, many investors have preferred them as an alternative means of investment. Blockchain, having got rid of traditional figures of trade, such as banks, is comparable with another application of Internet, sharing economy, in the field of tourism. This application has recently overridden traditional figures, such as the hotelier, through digital platforms, like Airbnb.

Keywords : Bitcoin (BTC), blockchain, cryptocurrency, taxation, tax law

INTRODUCTION: BLOCKCHAIN AND CAPITALISM

Blockchain or Distributed Ledger Technology (DLT) constitutes a kind of technology, which is not absolutely new, as its first application started in 2009. This technology was associated to new means of payment, but its consequences are not limited to this domain. As it was the case of other previous new technologies, blockchain, let alone cryptocurrency, is linked with a political ideology supporting capitalism although it is marked by skepticism against States.

It is to underline that capitalism tends to favorize competition and mobility of the market, for instance in the sector of fashion. The doctrine remarks that this sector has an ambiguous character, namely utilitarian – practical (reminding of the French etymological origin “façon” of the English word “fashion”) or artistic – not functional (Donaud, 2017). It is to pay special attention to the fact that the USA have promoted the development of the very prosperous domain of clothing products upon the utilitarian approach, through legalizing the copying of original works against conventional institutions, such as the author’s copyright. Of course, this is not the case of other countries, such as

France, which is a pioneer worldwide as far as the intellectual and industrial property rights of fashion designers are concerned. So private initiative, particularly in the domain of trade, is encouraged, in the framework of capitalism whilst taxation continues to be a constant competence of States.

The enthusiasm which has resulted from blockchain have led some scholars to make speech of a new revolution, which could be compared with the (much wider) Internet revolution. It is to signalize that applications of this technology have been localized in almost all branches of economy. Financial markets, simple contracts, probate, property transfers, taxes, corporate governance, and insurance agreements are areas already penetrated by blockchain, mainly for monetary transactions and tracking data changes (Fulmer, 2019). In February 2018 European Commission announced the foundation of an observatory and a forum on blockchain, to monitor the developments on the matter.

We suppose that regulations relevant to cryptocurrency are suitable to promote trade.

Exploring every application of blockchain is beyond the scope of this paper, which includes a description of the operation of blockchain. Afterwards, the paper introduces to blockchain regulation issues and then analyzes cryptocurrency, particularly bitcoin, upon Tax Law.

DESCRIPTION OF BLOCKCHAIN

Blockchain technology emerged on the basis of the following three elements: decentralization, proof-of-work consensus, and practical immutability (Fulmer, 2019). Combined, these core components provide a unique solution to any digital transaction that eliminates the need for an intermediary to legitimize the transaction. It results a network of users to maintain and monitor the distributed record, which is called "ledger". The ledger is broadcast through a network of computers and, as already signalized, eliminates the need for a central intermediary. To ensure an accurate record of transactions, blockchain incentivizes a group of users on the network to verify valid transactions. Once verified, the transaction is incorporated into a block and cryptographically linked to the previous transaction. That transaction is itself linked to the preceding transactions, infinitely. Thanks to the technique of cryptographic linking, it is proved to be nearly impossible (or at least highly impractical) to falsify a transaction. The reason is that if this kind of criminality is committed, all the previous transactions would also have to be altered, following the concept of an authentic chain of interdependent components. As far as the aforementioned feature of immutability is concerned, this element, alternatively called "extreme resistance to tampering", offers cryptocurrencies and other blockchain applications their intrinsic value, given that most business and industries rely on accurate untampered records. To clarify the function of blockchain through its most frequent application to date, bitcoin, when Anna wants to send a Bitcoin to Bill, Anna enters Bill's public key, the amount of

bitcoin, and signs the transaction with his private key. The transaction is then broadcast to all nodes on the network and a subset of those nodes, miners, compete to verify the transaction. The miner solves the cryptographic hash function that certifies that the information contained in the transaction is correct and valid. At last, the group of verified transactions enhances blockchain, in the sense that these transactions are contained in a block and added in the blockchain.

As the nodes of a decentralized ledger can span multiple locations around the world, it is often difficult to establish which jurisdictions' laws and regulations apply to a given application (Salmon & Myers, 2019).

CRYPTOCURRENCY REGULATION

Regulatory and legislative bodies do not find it easy to keep up with variations on cryptocurrency transactions given its rapid growth and innovations (Fulmer, 2019). In addition to using cryptocurrencies as currencies to buy goods, many entrepreneurs are also issuing their own cryptocurrencies to raise money to fund their products.

The need for legal definition of cryptocurrency implicates its classification in the legal system (Logaras, 2018). Although this term reminds of currencies, the answer does not prove to be so obvious, given that almost no cryptocurrency functions as a currency. To take advantage of the blockchain technology, there are the tokens (such as "ether" for the platform of Ethereum), which are indispensable for the participation in the platform. It results that the nature and the operation of cryptocurrency fit in mainly with digital elements of fortune, whose value exists only in the framework of the "ecosystem" of operation of a concrete blockchain protocol. The notion of tokens is more understandable through the architecture and the structure of companies that issue and offer them, usually through the procedure called "Initial Coin Offering or ICO". This term reminds of the "Initial Public Offering – IPO" but has nothing to do with public registration.

As for bitcoin, the mainstreaming question consists in the question whether bitcoin constitutes a means of payment or a means of hoard. It is to signalize that bitcoin was for the first time admitted as a form of currency in the sentence of the Texas District Court, in the case "Securities and Exchange Commission v. Trendon T. Shavers and Bitcoin Savings and Trust", which was emitted in 2013. Upon this tribunal, *"Bitcoin ("BTC") is a virtual currency that may be traded on online exchanges for conventional currencies, including the U.S. dollar, or used to purchase goods and services online. BTC has no single administrator, or central authority or repository"*.

CRYPTOCURRENCY UPON TAX LAW

In October 2015, the Court of Justice of the European Union, interpreting Directive 2006/112/EC of 28 November 2006 "on the common system of value added tax", adopted a jurisprudence on bitcoins (C-262/14). Upon this sentence, bitcoin cannot be characterized as a material good in the sense of article 14 of this directive because its exclusive target is to constitute a means of payment. The exchange of traditional currencies against bitcoins is exempted from value added tax, in other words article 135 par. 1e is applicable, which refers to all forms of currency as means of payment. The disposition on the matter is the following: "*The Member States shall exempt the following transactions:... e. transactions, including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors' items, that is to say gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest;*".

According to the same sentence, bitcoin is classified among the so-called virtual currencies on the basis of exchange rates. These virtual currencies, on the one hand, are similar to the rest currencies being exchanged (such as krona, euro...), as for their use in the physical world and, on the other hand, are different from electronic money as long as the sums of money are expressed not in conventional units, such as euro, but in virtual ones, like bitcoin. Therefore, the European Central Bank turns down any submission of bitcoin to the dispositions of directive 2009/110/EC on the taking up, pursuit and prudential supervision of the business of electronic money institutions (Theodosaki, 2018).

In spite of the recognition of bitcoin as a means of payment according to the aforementioned sentences in the framework of comparative law, many investors since years have preferred it as an alternative means of investment, taking an approach to bitcoin as a means of store of value. The value of bitcoin, whose emission is going to be stopped (probably in 2140), is nowadays enhanced against its initial value (Kehagia, 2018). However, this value is marked by strong fluctuations (20% - 30%) whilst in January 2017 it cost just 998,12 dollars. Due to these economic data, many investors are motivated to buy bitcoins to get benefit from its goodwill which is likely to result from an eventual resale.

Besides, it is notable that the Internal Revenue Service (IRS), which constitutes the revenue central service (of the USA federal government) has tried to classify cryptocurrencies as "virtual currency". On 25.03.2014 IRS emitted some notices, according to which virtual currency will be treated as means of fortune, as far as taxation policy is concerned. It is obvious that a regulation like this adequately resolves the issue relevant to the revenue resulting from the use of bitcoin as a means of investment. Despite the name "virtual currency", currencies of this category are not taxed as currencies, which presents challenges for users who use cryptocurrencies in different ways (Fulmer, 2019). That public finance service defined the term "virtual currency" as a "*digital representation of value that functions as a medium of exchange, a unit of account, and/or a store of value*". Most, if not all, blockchain currency would

fall under this category, but there is still uncertainty revolving around the classifications and taxation of digital assets. Bitcoin is further classified, by the doctrine, as a “*convertible virtual currency*”, which means that it “*can be easily valued and exchanged for real currency or that acts as a substitute for real currency*” (Fulmer, 2019).

The aforementioned approach of IRS has raised criticism as long as it underestimates the fundamental function of bitcoin, which is compatible with the initial scope of cryptocurrency, consisting in means of payment (Kehagia, 2018). For this reason, in September 2017, a bill was tabled in the US House of Representatives, which aimed at introducing an exception to the rule of virtual currency as means of fortune, in case of purchases through virtual currency inferior to 600 dollars. It is also notable that in the same legal order bitcoin is defined as money in criminal law cases whilst in October 2017 the independent authority “Commodity Futures Trading Commission (CFTC)” classified it among commodities.

As far as Greece is concerned, the eventuality of use of cryptocurrency is not subject to any particular tax regulation (Kehagia, 2018). Taking into account the aforementioned European jurisprudence, it is not easy to link bitcoin to the cases of tax income coming from of transmission of titles (article 42 of Income Taxation Code). Anyway, it is difficult for the tax authorities to identify the possessor of bitcoin, with the exception of deals which are endowed with transparency by law, such as transactions taking place in a shop compatible with bitcoin as a means of payment. Even in case that the possessor of this cryptocurrency makes a voluntary statement, it is to examine the purpose of the use of cryptocurrency (payment or investment).

CONCLUSION: BLOCKCHAIN, A TAXABLE BARGAIN LIKE AIRBNB

The hypothesis of the current paper has been partly confirmed, essentially there are no regulations, at least specific legislative ones, for blockchain cryptocurrency. European Union has reserved the privilege of tax exemption to virtual cryptocurrencies, such as bitcoin, as far as value added tax is concerned. The lack in this form of tax (as it was for instance the case for lawyer’s profession in the Greek legal order) obviously facilitates the market and so enhances competition.

However, the doctrine finds it important to introduce norms for the clear differentiation of bitcoin as means of payment against its investment use (Kehagia, 2018). If this virtual currency is not linked to any central power, it is subject to power of national legislators in various terms, such as taxation. The adoption of tax law rules on the matter is recommended, particularly due to the intensive fluctuation of the value of bitcoin and to the speculative trends that this fluctuation implicates. Besides, as bitcoin is used mainly in international transactions, the inexistence of a single normative approach to it causes

further problems. It goes without saying that the advent of new technologies and the use of Internet as a means of transactions have led to rapid developments in the field of trade and economy. It results that the legislative power should be constantly alert, coping with new challenges. On 11 July 2017, about 900 cryptocurrencies in use were localized, so the need for regulation and control is self-evident. Nevertheless, it is also to highlight the wind of change, thanks to the use of Internet applications. If blockchain has got rid of traditional figures of trade, such as banks, and has facilitated commercial relations and competition, another application of Internet, sharing economy in the field of tourism, has changed the landscape in tourism market, in a quite similar way. Indeed, the role of another traditional figure of merchant, the hotelier, is overridden through platforms such as Airbnb, let alone about at the same time that bitcoin was introduced in the market. It is to add that current tourists making use of cyberspace have gained in general their autonomy, against travel agencies and tour operators. Last but not least, States should cope with tax evasion (Maniatis, 2018) and not let modern transactions become uncontrollable, particularly exempted from their classical competence of taxation promoting public interest...

Blockchain is a subversive bargain towards privatization whilst conventional currency, such as Euro, has to do with a very important economic crisis, particularly exemplified by the case of Greece, which coincides with the brief history of virtual cryptocurrencies, such as Bitcoin...

REFERENCES

- Donaud, F. (2017), "Les droits de propriété intellectuelle sont-ils « à la mode » ?", *Juris art etc.*, décembre 2017, p. 41 f.
- Fulmer, N. (2019), "Exploring the Legal Issues of Blockchain Applications", *Akron Law Review*, Vol. 52, Iss. 1, Article 5, pp. 160-192, <https://ideaexchange.uakron.edu/akronlawreview/vol52/iss1/5>.
- Kehagia, Ch. (2018), "Do the purchase and sale of "bitcoin" constitute a taxable act? A difficult answer for a challenge of our era", *Tax Law Bulletin*, Volume 72, Number 1618 A' January, pp. 3-5 (in Greek).
- Logaras, D. (2018), "The Blockchain Technology, its appliances and its legal aspects", *I naftemporiki*, 21 June, (in Greek), <https://www.naftemporiki.gr/story/1363055/i-texnologia-blockchain-oi-efarmoges-tis-kai-oi-nomikes-ptuxes-tis>.
- Maniatis, A. (2018), "Tax evasion", *e-JST*, 13(3), pp. 1-13, http://e-jst.teiath.gr/issues/issue_56/Maniatis_56.pdf
- Salmon, J. & Myers, G. (2019), "Blockchain and Associated Legal Issues for Emerging Markets", *IFC*, a member of the World Bank Group, Note 63, Jan, pp. 1-8, https://www.hlengage.com/_uploads/pdfs/EMCompass-Note-63-Blockchain-and-Legal-Issues-in-Emerging-Markets.pdf.
- Theodosaki, K. (2018), "Bitcoin and cryptocurrencies", *Capital.gr*, 15 Feb., (in Greek), <https://www.capital.gr/me-apopsi/3272145/bitcoin-kai-kruptonomismata>.

IS THERE A FASHION LAW?

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ABSTRACT

Fashion designers in the French legal order, although with a very protracted delay against authors of “major arts”, are subject to the Industrial Property Law regime of protection for designs and models. In virtue of the principle of unity of art, almost simultaneously they acquired the Literature and Artistic Property Law authors’ rights. Besides, the principle of public presentation of cultural goods seems to implicate or at least to justify restrictions on rights of involved factors (museums, mannequins). One of the conditions for the operation of a private French museum consists in the existence, in the statutes of the institution concerned, of a clause providing for the irrevocable dedication of acquired goods, through donations or bequests or the assistance of the State or a self-government local authority, to the presentation to the public. This condition is obviously set in order to avoid the expropriation of the goods of each collection. In a similar way, mannequins have evolved from dolls to women in the nineteenth century and are defined as persons intended for public presentation of a product, a service or an advertisement spot or to pose. They are deprived of neighboring rights, let alone the fact that French jurisprudence made use of this legislative definition, which is based on the presentation concept, to ensure the delimitation of neighboring rights of performing artists, who proceed to interpretation instead of presentation. It results that Fashion Law is being emerged as a specific, not autonomous (independent) branch of law.

Keywords : Fashion Law, mannequins, museums, presentation of cultural goods, fashion designers, neighboring rights

INTRODUCTION: FASHION AND LAW

Fashion constitutes a word coming from Middle English (in the sense “make, shape, appearance”, also “a particular make or style”) and furthermore from Old French “*façon*”. This French word resulted from a Latin one coming from the infinitive “*facere*”, meaning “to do” or “to make”. So, this etymological approach proves to be useful for the following two reasons; it highlights the “constructive” character of this art, aiming at covering concrete practical needs of individuals in everyday life. Besides, it is quite indicative of the fact that the French nation is obsessed with fashion and has managed to transform this practice gradually to an authentic branch of economy, being a

separate kind of industry. So, it is without saying that France deserves the academic interest of this paper, which focuses on the question of existence of Fashion Law.

We suppose that the legal regime of fashion constitutes a branch of law.

INTELLECTUAL PROPERTY RIGHTS IN THE FASHION SECTOR

The fashion sector is a sui generis domain as it is submitted to extremely short circles. Its creations for a very big period were endowed with no legal protection and finally began to be protected on the basis of the already adopted design and model law, in the French legal order. This protection has merely resulted from the jurisdictional mission of judges, who decided, from 1913 and on, to place all creations on the matter in the field of law of 18th March 1806 (which was the legislative text on designs and models), as modified afterwards by law of 14th July 1909. By the way, it is to signalize that the first regulation on industrial designs or models was adopted in France, in the era of Louis XI, in 1466 (Panagiotara, 1999).

As time passed, French tribunals kept distance from their jurisprudence, which had the tendency to reject any protection of those creators, because of the ephemeral character of their products. It is to pay special attention to the fact that on the basis of this ephemeral feature, Justice had the pleasure to localize a point of phantasy.

However, this jurisprudential development was not the same as far as the law on the author's rights is concerned. That regime denied any legal interest relevant to creations of the fashion sector, alleging the fact that it was impossible to assimilate these creations to the major arts, which were situated in the classical field of the artistic property, submitted to laws of 19th and 24th July 1793, relevant to the extension of the monopoly on the author's right (Donaud, 2017). The unique exceptions available consisted of the clothes of theatre or of the clothes of court (namely of the King's social environment), which were protected as they constituted pieces of art "by destination". We consider that this singularity of history, favorizing theatre, could be interpreted as an artistic forum, which would be associated, much later, to neighboring rights of actors, endowed with the particular status of performing artists. Besides, according to the opinion of Professor of the University of Vlora Ergysa Ikonomi, stage clothes are considered pieces of art because these help the actors shape or create a character with individuality. Sometimes they are so important when they hit public more than words.

Just in 1920 jurisprudence unanimously admitted the protection of fashion creations through 1793 law, by considering that the criterion of originality itself was enough for the application of the regime of protection. One more time, it was the judicial power which decided to make a step forward, whilst the rest State powers were reluctant. Judges adopted a pioneer jurisprudential line consisting in the principle of unity of art and so they assimilated designers to other categories of authors, whilst in

other legal orders, such as the Greek one, the same year the author's rights were explicitly recognized, although with some odd restrictions, by the first intellectual property law.

The principle of unity of art was later consecrated in the French positive law, namely in the law of 11th March 1957. The author's right is available, in the sense of article L. 112-1 of Intellectual Property Law, for all works, independently of their kind, the form of expression, the value and the destination.

According to article L. 112-2 14th of Intellectual Property Code, the creations of the seasonal industries, of clothing and adornment, may be characterized as works of the spirit and protected as such, as long as they comply with the condition of originality.

The doctrine comments that the concept of originality is deprived of any legislative definition and corresponds to the imprint of the author's personality, to his creational and intellectual contribution (Donaud, 2017). It is to clarify that the form and the originality are the two components of the notion of spirit work, which is protected by intellectual property law. In other words, creativity ensures originality of the author's intellectual activity.

The criterion of originality is based on the combination or on the concentration of some preexistent elements, given that the sector of fashion is – as already signalized – cyclical. In view of this important, intrinsic feature, the components that form the models may individually belong to a common tank, but it is about their particular (renewable) combination which generates the required originality. As a matter of fact, originality is not assessed in each component of the fashion product because these elements would be already known, let alone banal. The global manner prevails “ *with the function of the appearance of the total, which is produced by the disposition of the elements* “. Given that the fashion sector is situated at the crossroads between creation and imitation, it is logical to think that the principle of analogy, commonly called proportionality, which includes a notion of balance and is linked with the grade of creativity, can have its own place in the matter of this sector.

THE QUESTION OF THE JURIDICAL RELATION BETWEEN FASHION AND INNOVATION

Literature has been recently endowed with a monograph made by a couple of jurists, which focuses inter alia on fashion (Dumez, 2012). This research supports the opinion that innovation can coexist in some domains with copying and that mass copying is likely to promote sometimes, if not frequently, innovation (Raustiala & Springman, 2012). This result, already much earlier, had been called by these authors “the piracy paradox”. (Raustiala & Springman, 2006).

The lesson that results is that society should be prudent in the matter of regulation aiming at restricting copying, given that regulation may sometimes have a reverse result and block innovation while attempting to promote it. The logical concept would consist in elevated speeds of development

in the domains of creativity that are protected by patents and a very limited creativity in the rest domains, in which innovation is not consecrated by law. The aforementioned authors conducted an empirical research, in various sectors, such as fashion and music, and proved that there are domains extremely creative, in which innovation is unprotectable whilst sometimes the lack in legal protection sparks creativity of the interested factors. According to the opinion of Professor of the University of Vlora Ergysa Ikonomi, this

has to do with the priority already given to subjective innovation in industrial design over objective innovation, which demands that the design must be entirely new compared to any known design in the world. As in fashion design this is impossible, it is widely accepted the subjective innovation that demands the design to be new and different from all designs already known from the fashion designer involved.

As far as fashion is concerned, this research highlights it as the branch of economy which represents an annual sales turnover of about 1.300.000.000 dollars (Dumez, 2012). We think that it is about quite impressive data, given that fashion is endowed with a huge turnover, being superior to the turnover of the sectors of cinema, book, software and registered music. In the legal order of the USA, there is no legal protection of innovation of the fashion industry, at least as for the level of creativity, namely of the conception of design. The reason consists in the fact that the Supreme Court has been always reluctant to make use of the Intellectual Property Law for sectors producing necessities (clothing, nutrition, furniture). Author's copyright is applicable for artistic products, which are not operational, such as music. It results that copying is a particular feature of the fashion sector.

It is quite indicative of this legal regime that the aforementioned monograph begins with the following example: In 2007, Paris Hilton showed up on a TV show, wearing a dress with designs of flowers. This cloth was designed by the fashion company «Foley + Corinna», founded by Dana Foley and Anna Corinna. Shortly afterwards, a retail clothing company, "Forever 21", placed in the market a copy of this dress. According to the established theory, this practice should kill any creativity relevant to fashion design. However, empirical data do not confirm this assumption. Even Coco Chanel thought that the fact that she was copied was the price of her talent and success. However, an in-depth analysis of this legal regime highlights the fact that the function itself of the sector of fashion is under doubt: as creations are copied, they gradually lose a part of their power of attraction and that is why authors are motivated to create more and more, in a permanent way. Furthermore, the absence of copyright in a design and its derivatives allows creative variations or copies. Finally, the copy creates the tendency: among all creations, some are enhanced because they are imitated, therefore the season is structured. The key factor is the consumer on the lookout, called "early adopter": the fact that copies appear quickly, pushes him to look for differentiation in permanent terms, so to create new

markets. In other words, fashion offers an example confirming the remark that the absence of juridical protection does not kill innovation but it favors it.

LITERATURE DISCUSSION

From law science literature it results that Cultural Law (in a wide sense, including Intellectual Property Law) comprises two fields almost diametrically opposite, as far as the question of legal protection is concerned. On the one hand, antiquities and the rest monuments of cultural heritage belong, as a general rule, to the State and are submitted to traditional principles of Administrative Law, such as inalienability and the exemption of State claims from prescription. Monuments are strictly related with museums, as places for the public exhibition of collections. The "Museum of France" label constitutes an institution for the exclusive certification of museums in the French legal order, from 2002 and on. One of the conditions for the operation of a private museum consists in the existence, in the statutes of the institution concerned, of a clause providing for the irrevocable dedication of the acquired goods, through donations or bequests or the assistance of the State or a self-government local authority, to the presentation to the public. This condition is obviously set in order to avoid the expropriation of the goods of each collection.

In contraposition to this intense privilege of the State, prevailing over individuals, there is a mobility in the sector of fashion whilst the doctrine remarks that this sector has an ambiguous character, namely utilitarian – practical (reminding of the aforementioned etymology of the word "fashion") or artistic – not functional (Donaud, 2017). As already analyzed, the USA have promoted the development of the sector of clothing products upon the utilitarian approach, through legalizing the copying of original works. It is also to add that not only have they denied intellectual property rights to fashion designers but they have also begun to recognize a branch of law on the matter. Indeed, if American literature has produced the term "paradox of piracy", perhaps it seems also paradoxical that since some years the USA have made speech of "Fashion Law", implying the existence of a new field of law. Just the opposite, the recognition of this branch remains marginal, if not thoroughly inexistent, in Europe (Blaise-Engel, 2018).

However, the legal regime on professionals of the fashion community has in common the marginalization of mannequins. Mannequins have evolved from dolls to women in the nineteenth century and are defined, by the French Labor Code, as persons intended for public presentation of a product, a service or an advertisement spot or to pose. They are deprived of neighboring rights, let alone the fact that jurisprudence, of the Paris Court of Appeal, of 27th January 1995 (in the case *Chaudat vs Soc. Coccinelle et autres*), made use of this legislative definition, which is based on the presentation concept, to ensure the delimitation of neighboring rights of performing artists, who proceed to an

authentic “interpretation” instead of a (legally unprotectable) “presentation” (Tafforeau, 2015). Anyway, we consider that the exclusion of mannequins from the field of Literature and Artistic Property Law is particularly useful for the academic approach to fashion. For instance, the following conclusions may be drawn:

a. Fashion Law not being limited to Intellectual Property Law

It results that the normativity on fashion has a particular nature, given that fashion is not submitted uniquely to the rules of Intellectual Property Law, in its double version (a. Literature and Artistic Property Law or Intellectual Property Law in a narrow sense, upon which fashion designers have acquired the authors’ rights, and b. Industrial Property Law, mainly the subcategory of law on designs and models). The normativity on the matter has to do with various norms, such as Labor Law on mannequins, being endowed with labor rights.

b. The principle of public presentation of cultural goods

We have localized a fundamental principle in Cultural Law, consisting in public presentation of cultural goods (for instance through museums and mannequins), which seems to implicate, or at least to justify, due to reasons of public interest, restrictions on rights of involved factors (museums, mannequins).

CONCLUSION: A NEW BRANCH OF LAW FOR A TWO-CENTURY-OLD SECTOR

It seems rather paradoxical to make speech of “Fashion Law” as even the current new generation of law scientists has made no studies and has got no acquaintance on such a branch of law. However, from the current analysis we draw the conclusion that the paper hypothesis has been confirmed. Indeed, a new branch of law is being emerged, Fashion Law, whilst its scope has about a two-century history. It is no more about “legislation”, namely a mere normativity on heterogeneous matters. It is about a separate field of law, having to do with the fashion market and the status of each category of professionals involved, such as designers, mannequins and photographers. Anyway, Intellectual Property Law itself has recently been transformed to a single, synthetic branch, including the Literature and Artistic Property Law, traditionally associated to the autonomous branch of Civil Law, and Industrial Property Law, classified in the autonomous field of Commercial Law. Mannequins have no neighboring rights yet, they are regarded as “presenters” in contradiction to actors who are regarded as “performing artists” and so have been endowed with neighboring rights. However, these emblematic figures of the fashion community have gained territory, at least in the field of Labor Law. In a similar way, a legal approach to photographers is not merely based on Intellectual Property Law but is also enhanced through a new branch of law, the Personal Data Protection Law.

Fashion is an important sector of economy which nowadays does deserve its own branch of law. This specific field of private law is not autonomous branch, in the sense of independent, against other traditional branches, such as Civil Law and Commercial Law. Anyway, it is comparable with Cultural Law, particularly the subcategory of rules on cultural heritage, although these two sets of normativity belong to different sectors of economy (heritage owned by State against the private market of fashion).

Fashion law exists but it is doubtful whether, in the closed community of fashion, law (against social norms) is the main device regulating the relevant relationships or not (La Diega, 2018).

REFERENCES

- Blaise-Engel, Ch. (2018), " Fashion Law : L'Europe s'empare du droit de la mode", Le Monde du Droit, 12 octobre, <https://www.lemondedudroit.fr/decryptages/60272-fashion-law-europe-empare-droit-mode.html>.
- Donaud, F. (2017), " Les droits de propriété intellectuelle sont-ils «à la mode » ?", Juris art etc., décembre 2017, p. 41 f.
- Dumez, H. (2012), " A-t-on raison de vouloir protéger juridiquement l'innovation ? ", Le Libellio d'Aegis, Vol. 8 n° 4 - Hiver 2012, pp. 55-60.
- La Diega, G. N. (2018), "Can the law fix the problems of fashion? An empirical study on social norms and power imbalance in the fashion industry ", Journal of Intellectual Property Law & Practice.
- Panagiotara, Z. (1999), Fundamental Principles of Law and Management, Volume C Commercial Law, Hellenic Open University, Patras (in Greek).
- Raustiala, K. & Springman, Ch. (2006), " The Piracy Paradox: Innovation and Intellectual Property in Fashion Design", 92 Va L Rev, 1687 f.
- Raustiala, K. & Springman, Ch. (2012), The knockoff economy How imitation sparks innovation, Oxford University Press, New York.
- Tafforeau, P. & Monnerie, C. (2015), Droit de la propriété intellectuelle, Gualino lextenso éditions.

LABOR COST AND PROFITABILITY: AN ANALYSIS OF NORTH WEST ITALY

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ABSTRACT

The paper deals with Labor Cost in SMEs (Small and Medium size enterprises) and investigates its role of key success factor in enterprise performances. A better understanding of the labor cost variable is crucial in these companies, as SMEs account for more of 90% of the economic fabric both in Italy and in the rest of the European Union.

Moreover, Labor and occupation have a major social impact in our society that triggers the close attention of politics: work is one of the primary means people have to reach self-fulfillment and to guarantee to the families a respectable lifestyle.

Starting from these assumptions, this paper has three main purposes. First, we describe northwest of Italy (Piedmont, Lombardy, Ligure and Aosta Valley) in terms of SMEs and we set the database for our analyses including variables such as economic dimensions and main financial indicators (revenue, R.O.E. total labor cost, labor cost per employee, economic result). We made this choice since we wanted to investigate this very important area of Italy which is part of the “economic engine” of the Country.

Second, we want to analyze and compare small versus medium sized enterprise in order to draw some conclusion and highlight similar trend.

Lastly, the final part of the paper focuses on the correlation between labor costs and profits: we verify if (and to what extent) a rise in labor cost leads to an increase in the economic performance of the SMEs.

Keywords: Labor Cost, investments, resources, Corporate Welfare, profitability, growth.

INTRODUCTION

Scholars have been wondering about what the main purpose of an enterprise is. The most obvious answer may appear to be “profit”. Even if positive economic results are vital for an Enterprise, we cannot assume profit as the only driver for the Company success in the actual Society.

For example, one of the most widespread business theories, argues that the creation of value represents the main long-term goal for a company. Value creation itself is not easily decomposable, due to the complexity and number of variables interacting with each other.

Stakeholders for example are often involved in value creation: more specifically, they are all those individuals who bear interests in the organization. They can be internal or external to the company (e.g. members of the management, shareholders, employees, suppliers, customers, Treasury etc.). Some then, argue that the creation of value towards stakeholders is a necessary condition for the success of a company.

To the extent of this paper, it is very important the relationship between the company and its employees: in fact they are those who make possible the production of the goods/services object of sale and, from their productivity, also depends the trend of the corporation. It is necessary a serene and stimulating working environment to be able to have an active production cycle.

From this point of view, an adequate and fair treatment of the personnel, granting the appropriated benefits to the employees, creating a stimulating working environments with possibility of growth, are some elements which certainly lead to an higher yield and, as a consequence a productivity growth, which then lead to the fulfilment of the market and to the improvement of the results.

This paper investigates the role of work cost in small-medium sized enterprises which represent the vast majority of the Italian enterprises: for these indeed, labor cost can be considered a critical success factor as they usually have less resources compared to Larger companies.

For the aim of this paper we consider labor cost as an investment (or Asset) which should lead to high economic benefits and guarantee the prosecution of the company's activities.

In these terms it can be argued that labor cost represents an asset for the company: it requires a constant expense that results into a favorable context, which guarantees a performance improvement.

Everything we have seen and defined so far is part of a general concept called "*corporate Welfare*".

This theme of Welfare and the various benefits granted to employees has changed over time, in relation with changes in the lifestyle of people and in their needs. Some examples are Company Canteens, Cars, Mobile Phones, Nursery for children of Employees, assistance the abroad workers and additional insurance protection.

All these elements demonstrate the increasing attention on the part of the companies to the conditions of their workers also aimed at motivating the employees.

Surely, the global economic crisis has hindered the concept of corporate Welfare and has put the strain on companies. The work has been strongly affected: In Italy, for example, youth unemployment rate has soared over 30%.

Despite this the corporate Welfare and social balance will surely have a role to play in the years to come, along with the economic recovery, with an increasing number of companies (small or large) that in different ways will follow this road.

This paper then will reinforce the concept that labor cost is not a simple cost, but rather a resource, and like all resources must be protected and facilitated, in order to draw more advantages and to be able to pursue the objectives set.

The paper is organized as follows: Section 1 presents a literature review on the topic, Section 2 introduces the research design and methodology illustrating the sample for the analysis. Section 3 includes findings while section

LITERATURE REVIEW

The importance of labor costs in the business context is demonstrated by the numerous studies that have analysed this subject under different circumstances for companies, including those who have tried to provide labor cost has a strategic relevance for the enterprises.

Bowers, Martin and Luker (1990) – stressing the importance of workforce for the Companies – suggested strategies to improve the relationship with employees in order to obtain strategic advantages. One of the ways they illustrated, for example, was to treat them as customers (and vice-versa) in order to improve the quality of services offered by decreasing costs and increasing customer satisfaction. This statement was born from the fact that employees are usually more in contact with the customers.

Also recent Scholars and Consultancy firms such as John Wiley & Sons LTD (2014) or Punjaisri, Balmer (2016) reflect on the relevance of the workers, in order to increase the overall business value.

Another element related to the matter of this paper, is the U.C.L (Unit Labor Cost) or the cost of work per unit produced (referred to a single employee). Indeed, it represents an important indicator of productivity and it has been crucial also in several studies. For example, Van Bart, Stuivenwold, YPMA, (2005) used the U.C.L. to study of competitiveness, while on the contrary Myant (2016), argued that UCL may not be the best indicator in measuring it.

Another element taken into account is the economic crisis that has affected Europe since 2007. Cuestas, Ordóñez, Staehr (2018), analyzed the effects of production cost reduction measures to "exit" the recession in the four *GIPS Countries* (Greece, Italy, Portugal and Spain) and comparing them to German and Dutch benchmarks with the effects on production and employment.

From a social point of view, a recent issue that is at the heart of debates in European countries is the policies geared towards guaranteeing the legal minimum wage; Herzog-Stein, Alexander; Logeay, Camille; Stein, Ulrike; Zwiener, Rudolf (2016) take into account the case of Germany and the effects that this law produced. Moreover they compare Germany to other European countries, concluding that legal minimum wage-oriented policies lead to advantages in relation to the macroeconomic context. More specifically, all the positive aspects that these policies generate and which are not limited only to

income earners, but to the economy as a whole. On this issue also Fabo, Belli (2017) gave their contribution by analysing the differences between the minimum wage and the minimum wage for living, highlighting strong deviations of values especially in the peripheral EU countries.

Finally, directly linked to the subject of this paper, Lavoie, Stockhammer (2013) argue how workers' wages influence domestic demand and therefore, a policy geared towards them would lead to an increase in productivity and economic growth. This process, opinion of the authors, has a greater impact rather than profits.

This paper supports the thesis that labor cost is one of the main variables that lead to positive results for business and consequently to general economic growth.

This work aims to be a starting point for a broader investigation focused on the labor cost and the effects it brings in European Economies, as well as the analysis of its structure in the different European countries.

METHODOLOGY

Research Design

This paper involves a quantitative methodology: a sample of enterprises was selected in order to observe some data and indicators and to draw objective conclusions. Descriptive statistics methodologies were adopted to outline the labor cost trend under analysis.

The sample included companies from the North-West Italy and investigated some balance sheet items and financial ratios. These in fact represent a primary source of information and are strictly regulated by the Italian Legislation; the main normative source is the Italian Civil Code, on the fifth Book (Labor), V Title (Companies).

	Small Companies	Medium-Sized Companies
Legal Status	Actives	Actives
Registered office	Piemonte, Lombardia, Liguria, V. Aosta	Piemonte, Lombardia, Liguria, V. Aosta
Legal Form	Limited Liability Companies	Limited Liability Companies
Number of employees	Between 10 and 50	Between 50 and 250
Revenues	Between 2 Mln € and 10 Mln €	Between 10 Mln € and 50 Mln €

Table 1. *Research Strategy for Aida.*

In addition to the data exposed in the "Table 1", we considered only companies that have a known value of: Cost of Labor per Employees, R.O.E. (Net Result on Equity), total amount of cost of labor and net profit. We considered the data for the three years 2015-2017. The sample included more than 14,000 companies and this allows to draw some relevant and reliable trends. However, this paper presents some limitations: first of all it focuses on a single area which, although vast, does not represent a macro-

region at European level but only at national level. Anyway, the research may be considered as a starting point to underline differences between North-West of Italy and other European regions. Secondly, by inserting the research strategy shown in the next paragraph, certain companies that do not have the necessary requirements are excluded. Therefore, it should be recalled that the research conducted has conclusions that do not reflect the whole area taken into account but a part of it.

The study has been conducted on the small and medium-sized enterprises, established in the north-west part of Italy. It represents the initial step of a broader research, which will compare the data of the entire Northern Italy with those of the Center/South Italy to verify the accuracy of the definition of Italy as a "two-speed" Country. A further step of the research will be represented by the enlargement of the sample taking into account enterprises from European countries to verify the homogeneity of labor cost trend between the various EU States.

Data Collection and Procedures

The research was conducted using the Aida database provided by Bureau Van Dijk, which contains the data of a multitude of Italian companies. As already mentioned in the introduction, it was decided to focus on small and medium-sized enterprises: for the definition of SME's (small and Medium-Sized Companies), we followed the "User guide to the SME Definition" (by the European Commission, Ref. Ares 956541 - 24/02/2016) which includes in small businesses those with less than 50 employees (but at least 10) and with a turnover of between 2 Million € and 10 Million €. An enterprise is considered medium-sized if it employs between 50 and 250 workers and it has a revenue between 10 and 50 million Euros.

As anticipated in the previous paragraph, legally active limited companies have been selected in the research strategy (located in Piedmont, Liguria, Lombardy and Aosta Valley), which had among the available data the Return On Equity, revenue (between 2 million and 10 million for the Small and between 10 million and 50 million for averages), the number of employees (between 10 and 50 for small and between 50 and 250 for averages), the total cost of labor, the index of labor cost per employee and the net profit/loss.

These research criteria led to a sample of 12,354 "Small" companies and 2,616 "Medium" companies; For a total of 14,970 enterprises.

In order to investigate the different aspects of the labor cost the following research questions were formulated:

- 1) How are the Small-Medium Sized Enterprises subdivided in the North West Italy and what are the main differences of the SMEs among the different regions?
- 2) What are the main differences and similarities between small and medium-sized enterprises?
- 3) Does a higher cost per employee also correspond better results for companies?

In order to answer the three research questions, the results were synthesized in tables to highlight the data and divide them into the various categories (analyzed by region or by size).

With reference to the first RQ, a comparative analysis of the results was carried out displaying on a table the composition in the various regions and the economic data available and the same was done for the second question.

In order to answer the third question, the labor cost per employee was analysed. The enterprises in the sample were ordered in ascending order, then divided into quartiles. Lastly, the economic data was analysed with reference to the quartile range in order to draw conclusions about the possible correlation between labour costs and economic indices of profitability in the various sub-categories. Differently from the first two points, in order to focus the attention on the cost of the worker, it was necessary to remove the outliers from the sample. This, in order to avoid including in the research data that could have a distorting effect on the result; in these terms, the choice of excluding the companies that had a labor cost per employee less than €30,000 (annually). As a result of this modification, the sample went from 14,070 companies to 13,531 companies, i.e. eliminating about 3.8%.

FINDINGS

As already mentioned in section 2 “*Methodology*”, data was extracted from the “Aida” database which included results for more than 14,000 companies. The extracted data refer to the three-year period 2015-2017 and for these the average of the three-year period was calculated to obtain a single datum to be able to compare. The results obtained have been summarised in tables.

As a starting point, as already mentioned, the 14,070-company sample is decomposed into 12,354 small and 2,616 Medium-size enterprises. Since the sample is limited to SMEs incorporated in the form of limited companies, as can be easily predicted, S.R.L (Ltds) constitute over 90% of the sample while S.p.A. represent only 10% of the sample.

With reference to the medium enterprises instead, the S.P.A constitute 58% of the sample while the S.R.L. represent 42%. Thus, it is observed an increase of the companies by shares and of the limited liability companies which constitute however a good number.

After having obtained an indication on the structure of the sample, we proceed with the presentation of the data obtained in reference to the three questions of the paper:

1) How are the Small-Medium Sized Enterprises subdivided in the North West Italy and what are the main differences of the SMEs among the different regions?

It is a widely known that Lombardy, and the area nearby Milan in particular, is the “economic engine of Italy. The results observed within the research seem to confirm this hypothesis, at least with reference to the sample: about 74% of the small and medium-sized enterprises, have the registered

office in Lombardy; followed by the Piedmont (around 20.5% of SMEs); while about 5% of the SMEs have the registered office in Liguria (for both categories) and lastly, only 0.5% in the Aosta Valley. As can be seen from data, Enterprises are not distributed evenly on the territory: Lombardy region, although smaller than Piedmont, has about 3.5 times the number of companies included in the sample. After this first glance of the enterprises distribution among the regions, other different trends may emerge in terms of economic results. Starting from the occupation point of view, the average number of employees is almost homogeneous among all of the regions, which count more than 20 employees in small enterprises and around 100 employees in the Medium-sized ones. Also, in relation to employment, it is relevant to underline the results on the of labor cost per worker index. With reference to this index similar results among the regions are observed: Lombardy ranks first in terms of Labor cost per worker (46,803 Euro per worker), followed by Liguria (45,927 Euro per worker), Piedmont (44,283 Euro per worker) and eventually by Aosta Valley (42,345 Euro per worker).

It is also relevant to observe the average revenues (for the three-year period 2015-2017) in the different regions. In this case, however, it is necessary to split the analysis between small and medium-sized enterprises, as revenue is one of the parameters adopted by for the definition of the categories. Even in this situation, the trend already seen stands in line with each other the ones observed above: small companies performe an average amountof 4.5 million € in all of the four regions, while Medium-sized perform:

- about 23 million Euro in Lombardy, Piedmont and Liguria;
- around 18 million in the Aosta Valley.

This can be explained by the nature of the territory and of the economic pattern of the Aosta Valley which may foster smaller entrepreneurship.

Having completed a general analysis on the dimensions, it is worth to analyze the profitability of the companies. This analysis relies on the net profit (or loss) for each observation and on the R.O.E. (one of the most important profitability index, which is often taken into account by shareholders and stakeholders).

First, the net result reflects the economic management of the company. As said in the introduction, profit is a necessary (even if not sufficient) condition for Enterprises willing to survive on the market. In this sense it is still a fundamental indicator of status of the health of enterprises, so it is worth noting the excellent trend showed by Lombardy. Inded it presents an average net profit of the three-year period of about € 170,000 for small companies and about € 938,000 for the Medium-sized. However, there is also an excellent result for the Piedmont, with € 166,000 of small and almost € 970,000 of Medium-sized; a bit "lower" the Liguria companies, with € 108,000 (Small) and € 780,000 (Medium). At last, the Valle

d'Aosta, which is the one with the lowest number of companies, presents €76,500 (the lowest) of net profit in smalls and €1,460,000 in Medium-sized (the highest).

The Return on Equity (R.O.E.) is one of the best-known profitability index: it measures the remuneration of the equity, namely, of the resources provided by shareholders to the Company. R.O.E. is a key index for the investors as it measures the (potential) profitability of the investment.

From this point of view, as for the other indicators, the ROE analysis show convergent results amonge the diferrent regions. The small enterprises in Lombardy, Piedmont and Liguria regions show a ROW around 13% while the Aosta Valley alone stops at 6.53% (this in line with its lower net profit). Differently from small sized enterprises, medium-sized ones show an average R.O.E. aligned among all four regions. In this case the index exceeds 10% and Liguria has the highest one at 12.04%.

Based on the above, we can anticipate some conclusion and observe that small-medium sized enterprises based in the North-West of Italy usually have excellent economic results and, generally speaking, aligned among them. Nonetheless, Lombardy emerges among the others.

2. What are the main differences and similarities between small and medium-sized enterprises?

The second research question focuses on the difference that may emerge between the two categories of enterprises rather than on their geographical location.

This second part of the analysis then highlights the interesting differences that emerge comparing enterprises on the base of their size.

This analysis adopts, of course, a different approach from the previous part and it is based on the parameters adopted to define the categories that are:

- Revenue, a company is considered a small enterprise if its revenue is below 10 million euro, while it is considered to be a medium sized enterprise if its revenue between is between 10 and 50 million Euro;
- Number of employees, a company is considered a small enterprise when it does not employ more than 50 workers, while it is considered a medium sized enterprise if it employs 50 to 250 workers.

Starting from the latter, it is observed that small enterprises employ on average of 22 workers while medium sized enterprises employ 100 workers on average.

As far as revenue is concerned, the value of small enterprises amounts to 4.5 million euros while for Medium-sized it is 23.2 Million euros. In order to make objective comparisons between the two categories, the average incidence of labor cost on revenue has been computed.

Both the two categories present an average incidence of labor cost over revenue above 20%. More specifically, small sized enterprises present 21.97% while medium sized present 22.94%.

This indicates that, regardless to the dimension of the company, the labor cost absorbs a relevant portion of the revenue.

Moreover, the labor cost per worker is higher in medium sized enterprises (49.8 k euro compared to 42.5%).

From another point of view, a significant difference emerges however comparing the average operating results; Even in this case the same is inevitable given the values that make up the balance sheets of the two types of companies. With regard to Medium-sized we have an average of about € 943,000 while for the small the value is around to €166,000.

Focusing on the R.O.E. index, which allows to make comparisons, we observed that small companies have a higher ROW compared to Medium-sized (13.27% versus 10.31%).

We may ask where does this difference come from?

In this case we observe that smaller companies usually have a lower equity, so we can argue that the answer lies in the denominator of the ROE formula.

In conclusion, we can affirm that, albeit composed of quantitatively different data, we have the similarities between small and medium-sized enterprises in the values related to the incidence of labor costs on revenue, of the cost per worker (albeit slightly different) and ROE. These elements help to understand the Italian realities of the northwest that can be defined on average with good performances.

3) Is it true that at a higher cost per worker also corresponds better results for companies?

The third question of the paper is perhaps the most interesting one as it is closely linked with what has been said so far about the cost of work and the role that it has within a company.

As anticipated in the *methodology* section, we eliminated the outliers of the sample to avoid taking into account unrealistic data (the Aida software provides data and, in some cases, there may be errors) and thus obtaining a final sample of 13,531 companies.

The evaluation was done separately for small and medium-sized enterprises (as for the previous ones). The companies were ordered in ascending order according to the labor cost index per employee excluding values below euros 30,000. The order obtained was thus subdivided into homogeneous quartiles so as to have in the first the set of companies with the lower value of labor cost per worker, to arrive at the last quartile, the one with the highest value.

With regard to small companies, the following table summarizes the results.

Quartiles	Cost per employee average	Average turnover	Average personal cost Tot.	Incidence% labor cost on turnover	Average result of Es.	ROE Medium
Q1	34,090	4,181,502	715,571	18.91%	132,799	13.22%
Q2	39,874	4,439,254	884,893	21.78%	164,406	12.77%
Q3	45,722	4,675,815	1,033,218	24.00%	166,385	12.20%
Q4	58,740	5,089,258	1,230,996	26.42%	229,836	13.76%

Table 2. *Small companies divided by quartiles in relation to the labor cost per worker*

The first column displays the quartiles, while the second displays the average cost per employee.

The table shows that an increase of labor cost is followed by an increase of the average result of the company, while ROE does not seem to be influenced by the cost per employee. This evidence is also followed by the average percentage incidence of labor costs on revenues, since between the first and the last quartile the distance is about 8%. As for the two final values, the average of the net profit increases by moving from one quartile to another while the ROE of the last quartile is higher than that of the first, although the latter is greater than the two intermediates.

With reference to medium-sized enterprises are concerned, Table 2 summarizes the results.

Quartiles	Cost per average attendant	Average turnover	Average personal cost Tot.	Incidence% labor cost on turnover	Average result of Es.	ROE Medium
Q1	38,003	20,695,399	3,939,950	21.02%	640,803	9.85%
Q2	45,707	21,911,973	4,504,177	22.63%	823,694	9.22%
Q3	52,363	24,720,641	5,203,387	22.81%	931,069	10.52%
Q4	66,521	26,059,730	6,214,999	26.10%	1,440,834	11.07%

Table 3. *Medium-sized companies divided by quartiles in relation to the labor cost per worker*

Leaving aside obviously the trend of the cost of labor per worker (which follows the quartiles in ascending order), it is worth noting how the average revenue increases much more than in the small companies. The average cost of total work also almost doubles the value in the last quartile with respect to the first.

The average percentage incidence of labor costs on revenue increases but less than small ones (the last quartile is greater than the first of about 5 percentage points). As regards the average operating result and ROE, we observe a greater increase than in small companies. With the average of Q4 profit more double than Q1 and with ROE rising by nearly 2 percentage points (while in the case of small about 0.5%).

CONCLUSIONS

As anticipated, this study represents the beginning of an analysis that is going to be extended to a broader sample, in order to be able to draw a trend at national level and to make a comparison with other European countries.

Despite the geographically limited sample, this research has provided interesting data in order to draw a general picture of the Italian northwest.

Firstly, Lombardy has confirmed to be the region, among those analyzed, with the strongest presence of enterprises, both small and medium-sized, counting over 70% of the sample, with about 11,000 companies on 14,970 totals. The economic data confirm this trend, albeit less evident. Lombardy is the leading region for average sales and for labor costs per worker. With regard to the average R.O.E., the Piedmont region has the highest value in relation to small businesses, while Liguria is the one for the medium-sized. Lastly, the average operating result presents the highest values in Lombardy for the only small companies, as for the averages the Valle d'aosta, which is certainly complicit in the privileged fiscal aspect and the lower number of the sample.

It can therefore be concluded that, overall, the average economic data of the sample analyzed are homogeneous and positive; which means that the area of the Northwest, at the entrepreneurial level, is generally full of resources.

Moving on to the second point dealt with in this paper, that is the comparison between small and medium-sized companies apart from the region of belonging, an interesting general picture emerges. For example, the average incidence of staff costs on revenue can be seen that in both cases this item of income statement exceeds 20% (albeit with different nominal values); This shows that regardless of the size, the cost of labor is a component that "weighs" in a business balance sheet. Another comparable data is ROE, which is around 13% in small and 10% in averages; They are both positive results but which show that in this case the equity is important, because at the numerical level, the average profit of medium-sized enterprises is inevitably higher than that of small ones, this makes the denominator in ratio for the calculation of ROE (the equity) is decisive to make it invert the tendency on the index (a lower asset leads to a greater result being the denominator in the ratio). From this evidence you can see how small businesses in the northwest are a pulsating engine of the economy albeit with smaller numbers.

In The final analysis we see the importance of labor costs demonstrated by the numbers; Taking in fact as a reference the labor cost index per employee we have seen how it is shown that the increase in the index on average increases the incidence percentage of labor cost on revenue, increases the average of the operating result (net profit) and finally, the ROE also increases; What does all this mean? That the cost of labor is a variable that is not limited to the cost function but which, together with a whole range of other components, can allow companies to improve their results. This type of analysis can obviously not be limited to the numbers, but it cannot be separated from them as they are the only tool to be able to do it.

The importance of labor costs, as anticipated in the introduction, is also demonstrated by other factors such as corporate Welfare or political attention, etc.; But it must find (and it found) inevitably reflected in the numbers.

REFERENCES

- Herzog-Stein, A., Logeay, C., Stein, U., Zwiener, R., 2016, European comparison of trends in labour and unit labour costs in 2015: German labour costs in stabilizing; IMK Policy Brief.
- Myant, M., 2016, Working Paper: Unit labour costs: no argument for low wages in eastern and central Europe.
- Fabo, B. and Belli, S., 2017, IZA Journal of Labor Policy: (Un)believeable wages? An analysis of minimum wage policies in Europe from a living wage perspective.
- Van Bart, A., Stuivenwold, E., Ypma, G., 2005, Unit labour costs, productivity and international competitiveness.
- Cuestas, J.C., Ordóñez, J., Staehr, K., 2018, Unit Labour Costs and the Dynamics of Output and Unemployment in the Southern European Crisis Countries.
- Lavoie, M., Stockhammer, E., 2013, Wage-led Growth: An Equitable Strategy for Economic Recovery.
- Devereux, M.B., Yu, C., 2018, Evaluating the role of capital controls and monetary policy in emerging market crises, *Journal of International Money and Finance*.
- Devereux, M.B., Young, E.R., Yu, C., 2018, Capital controls and monetary policy in sudden-stop economies, *Journal of Monetary Economics*,
- Tamura, R., Dwyer, J., Devereux, J., Baier, S., 2019 Economic growth in the long run, *Journal of Development Economics*, Volume 137, Pages 1-35.
- Jabátek, J., Arthur van Soest, Stancanelli, E., 2014, Income taxation, labour supply and housework: A discrete choice model for French couples, *Labour Economics*, Volume 27, Pages 30-43.
- Albertini, J., Poirier, A., 2015, Unemployment benefit extensions at the zero-lower bound, *Review of Economic Dynamics*, Volume 18, Issue 4, Pages 733-751.
- Bhattacharya, M., Narayan, P., 2015, Output and labor productivity in organized manufacturing: A panel cointegration analysis for India, *International Journal of Production Economics*, Volume 170, Part A, Pages 171-177.
- Bertola, G., 2019, Case study research: Wedges: Distribution, distortions, and market integration, *European Journal of Political Economy*.
- S.L. Berman, H.J. Van Buren, 2015, Mary Parker Follett, managerial responsibility, and the future of capitalism, *Futures*, Volume 68, Pages 44-56.
- Bertola, G., 2016, Labor policies and capital mobility in theory and in EMU, *European Economic Review*, Volume 87, Pages 62-77.
- Bertola, G., 2017, European unemployment revisited: Shocks, institutions, integration, Volume 71, Issue 3, Pages 588-612.
- Berrendorf, B., Rogerson, R., Valentinyi, A., 2014, Chapter 6: 'Growth and Structural Transformation', *Handbook of Economic Growth*, Volume 2, Pages 855-941.
- Martin, G., Farndale, E., Paauwe, J., Stiles P.G., 2016, Corporate governance and strategic human resource management: Four archetypes and proposals for a new approach to corporate sustainability, *European Management Journal*, Volume 34, Issue 1, Pages 22-35.
- Kwon S.W., Ruef, M., 2017, The imprint of labor markets on entrepreneurial performance, *Journal of Business Venturing*, Volume 32, Issue 6, Pages 611-626.
- Leung, W.S., Mazouz, K., Chen, J., Wood G., 2018, Organization capital, labor market flexibility, and stock returns around the world' *Journal of Banking & Finance*, Volume 89, Pages 150-168.
- Been-Lon Chen, Mei Hsu, Chih-Fang Lai, 2016, Relation between growth and unemployment in a model with labor-force participation and adverse labor institutions, *Journal of Macroeconomics*, Volume 50, Pages 273-292.
- Tsu-ting Tim Lin, 2015, Working capital requirement and the unemployment volatility puzzle, *Journal of Macroeconomics*, Volume 46, Pages 201-217.
- Been-Lon Chen, Chih-Fang Lai, 2015, Effects of labor taxes and unemployment compensation on labor supply in a search model with an endogenous labor force, *Journal of Macroeconomics*, Volume 43, Pages 300-317.
- Kluve, J., Puerto, S., Robalino, D., Romero, J.M., Witte M., 2019, Do youth employment programs improve labor market outcomes? A quantitative review, *Development*, Volume 114, Pages 237-253.

- Eggertsson, G., Ferrero, A., Raffo A., 2014, Can structural reforms help Europe? *Journal of Monetary Economics*, Volume 61, Pages 2-22.
- Devereux, M.P., Fuest, C., Lockwood, B., 2015, The taxation of foreign profits: A unified view, *Journal of Public Economics*, Volume 125, Pages 83-97.
- Andreas Lichter, A., Peichl, A., Siegloch, S., 2015, The own-wage elasticity of labor demand: A meta-regression analysis, *European Economic Review*, Volume 80, Pages 94-119.
- Dou, Y., Khan, M., Zou, Y., 2016, Labor unemployment insurance and earnings management, *Journal of Accounting and Economics*, Volume 61, Issue 1, Pages 166-184.
- Aparna Mitra, 2003, Establishment size, employment, and the gender wage gap, *The Journal of Socio-Economics*, Volume 32, Issue 3, Pages 317-330.
- Suresh Radhakrishnan, Albert Tsang, Rubing Liu, 2018, A Corporate Social Responsibility Framework for Accounting Research, *The International Journal of Accounting*, Volume 53, Issue 4, Pages 274-294.
- Tengfei Zheng, Yao Zhao, Jiarong Li, 2019 Rising labour cost, environmental regulation and manufacturing restructuring of Chinese cities, *Journal of Cleaner Production*, Volume 214, Pages 583-592.
- Andy Snell, Heiko Stüber, Jonathan P. Thomas, 2018, Downward real wage rigidity and equal treatment wage contracts: Theory and evidence, *Review of Economic Dynamics*, Volume 30, Pages 265-284.

SYSTEMS OF INNOVATION AND QUINTUPLE HELIX: PRELIMINARY RESULTS OF A SYSTEM DYNAMIC APPROACH

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ABSTRACT

Recent developed innovation model such as the Quintuple Helix framework, in which the natural environments of society and the economy also are seen as drivers for knowledge production and innovation, calls for an effort for better understanding and forecasting the relationships between ecology, knowledge and innovation, deeply analyzing synergies between economy, society, and democracy. Moreover, current developments within the innovation systems field are calling for less static and descriptive approaches and more dynamic and forward looking ones, such as the system dynamics modeling, a widely used methodology for modelling complex socio-economic systems. However, little is known about its use in the innovation studies domain in general and in the innovation systems field in particular. This paper focuses on the relationships between the Quintuple Helix model and system dynamics modelling from a quantitative perspective. Using Global Innovation Index indicators and modelling their interactions, we have designed a Casual Loop Diagram that represent the process of knowledge generation and innovation diffusion within the Quintuple Helix model. Results show that, even if there is the need and the awareness of enlarging the Triple Helix to the Quadruple and Quintuple Helix from a theoretical perspective, from a quantitative one it comes to light that “government-industry-university” behaves as the real actuator in the generation of knowledge and innovation, while society and environment experience the changes. This approach could possibly be a powerful decision-making tool, allowing to make simulations and understand what could be the impacts of some particular planned actions.

Keywords: quintuple helix, innovation systems, system dynamics, global innovation index,

INTRODUCTION

The issue of innovation ecosystems has been a topic largely debated with different contributions shaping from the regional development to the open innovation. The premises at the basis of the systemic view on innovation ecosystem is that innovation is not more a linear but a systemic process that grows within a network of inter-organizational relationships (Zajac and Olsen, 1993; Powell et al.,

1996) able to promote the interrelation and integration of different knowledge sources and providers (Romano, et al., 2014). Designing and managing of these complex network of actors, also defined as innovation ecosystems, become mandatory to assure the achievement of innovation goals by assuring participation and user-centrality for the sustainable, inclusive and intelligent growth of individuals, companies and territories (Passiante and Romano, 2016). Innovation ecosystems are institutional infrastructures supporting networking and collaboration among a plurality of stakeholders by activating virtuous and knowledge-intensive flows of knowledge (Asheim and Gertler, 2005; Romano et al., 2014). The debate on innovation ecosystems identifies the attribute of sustainability within its main characteristics (Passiante and Romano, 2016). The inbound and outbound flows of knowledge activated by the interaction of the stakeholders within the ecosystems, make these environments as sustainable contexts to booster the process of value creation, in its larger definition. A useful framework for mapping and managing the dynamics undertaken in such contexts is identifiable into the Quintuple Helix model (Carayannis and Campbell, 2011). Inspired at the logic at the most well-known framework of the Triple Helix model (Garner and Ternouth, 2011; Etzkowitz, and Zhou, 2006), representative of the fruitful and knowledge relevant interactions between governments, academia, industries and institutions, the Quintuple Helix model embeds the Quadruple Helix (Carayannis and Campbell, 2009), that included the media based and culture based public, with the context of the natural environment, by demonstrating a more visible attention at the sustainability dimension. Despite the topic of systems of innovation results to be intrinsically linked to a dynamic and evolutionary perspective, very few studies have explored its meaning and the research on approaches useful for its dynamic management needs of more investigations. Framed in the above premises, this paper aims to demonstrate as system dynamic approach can be opportunely adopted for managing and forecasting the performances of an innovation systems configured according to a Quintuple Helix model.

This paper is structured as follows: in the next section the literature background is presented, then the design process that lead us to build the Casual Loop Diagram has been described. Last sections of this paper discuss the results achieved and highlights some limitations of the study, which can open new paths for further research.

BACKGROUND

The concept of the “national system of innovation” (or national innovation system), developed by Lundvall (1992) and Nelson (1993), contextualizes innovation in the perspective of societies at the level of nation states. According to Lundvall (1992), in a modern economy knowledge is the most important resource, while learning is the most important process and in a system of innovation elements and relationships interact with each other in the production, diffusion, and use of new, and economically

useful, knowledge. Besides, a national system includes such elements and relationships, either located within or rooted inside the borders of a nation state. As pointed out by Carayannis and Campbell (2019), it can be argued that innovation is an engine that exploits or translates knowledge into application and use. Moreover, knowledge may be potentially used in order to generate financial revenues and profits, therefore innovation is able to convert the creation and production of knowledge into economic activities. In this sense, innovation is seen as a driving force that exploits and nourishes knowledge in both society and economy of a knowledge society and a knowledge economy (Carayannis and Campbell, 2019). Thus, the concept of Triple Helix innovation systems has been introduced by Etzkowitz and Leydesdorff (2000) and focuses on knowledge production and use in context of “government-industry-university” relations. The Triple Helix thesis is that the potential for innovation and economic development in a Knowledge Society lies in a more prominent role for the university and in the hybridization of elements from university, industry and government to generate new institutional and social formats for the production, transfer and application of knowledge. This vision encompasses not only the creative destruction that appears as a natural innovation dynamic (Schumpeter, 1942), but also the creative renewal that arises within each of the three institutional spheres of university, industry and government, as well as at their intersections. Through subsequent development, a significant body of Triple Helix theoretical and empirical research has grown over the last two decades that provides a general framework for exploring complex innovation dynamics and for informing national, regional and international innovation and development policy-making.

Afterwards, the Triple Helix has been extended in the Quadruple Helix by adding the helix of a “media-based and culture-based public” (Carayannis and Campbell, 2009), that integrates and combines two forms of “capital”: on the one hand a “social capital”, through its values, experience, traditions, and visions (the culture-based public); on the other hand, a “capital of information” (i.e. news, communication, social networks) thanks to television, internet, newspapers, etc. (the media-based public). Later, the Quadruple Helix has been enlarged in the Quintuple Helix, by further adding on the helix of the “environment” (“natural environments”, Carayannis and Campbell, 2009). In this sense, it can be argued that the Quintuple Helix's innovation system is ecologically trustworthy and it can be seen as a framework for interdisciplinary analysis and transdisciplinary problem-solving in relation to sustainable development, as it is built on the understanding of the production of knowledge (research) and application of knowledge (innovation), both to be contextualized by the natural environment of society (Carayannis and Campbell, 2019; Carayannis et al., 2016). In other words, Quintuple Helix is a five-helix model that embeds the Triple Helix and the Quadruple Helix and it visualizes the collective interaction and exchange of knowledge in a nation-state through five helices or subsystems: (1) education system, defined as academia, universities, higher education systems and

schools, in which the necessary “human capital” is being formed by diffusion and research of knowledge; (2) economic system, defined as industry, firms and banks, that focuses on the “economic capital” of a state; (3) the political system, that has to define, to plan, organize and administer the general condition of the nation-state in order to follow a strategic plan, and hold the “political and legal capital”; (4) media-based and culture-based public, that holds both the “social capital” and the “capital of information”; (5) the natural environment, that is decisive for a sustainable development and that provides people with a “natural capital” (Carayannis et al., 2012). Therefore, in an innovation system outlined by the Quintuple Helix model, the exchange of knowledge in a nation-state means that all the subsystems have to be in conjunction in order to promote knowledge-production-based sustainable development (Carayannis et al., 2012).

In the last years, many authors have pointed out the complexity and dynamicity associated with the innovation systems from a theoretic perspective, due to the continuous exchange and evolutions of agents, organizations and institutions (Uriona and Grobbelaar, 2017; Niosi, 2011; Hekkert et al., 2007). Instead, researchers have recently been invited to propose less static and descriptive advancements within the innovation systems field. In fact, there is the need to suggest more dynamic and forward looking approaches, such as the system dynamics modeling, a widely used methodology for modelling complex socio-economic systems.

System Dynamics (SD) originated in the late 1950s as a method to manage the complexity characterizing systems where several elements interact with each other as well as to analyze from a qualitative and quantitative point of view their evolutionary dynamics (Gallo, 2008). This methodology studies the dynamic interactions and feedback effects among a set of variables that compose a system (Forrester 1961; Sterman, 2002), where variables are conceptualized as stocks whose values, at a given time, are defined by inflows and outflows, while information flows link the various stock variables together. In particular, a SD model is driven by different feedback mechanisms (the so called causal loop) that connects two or more variables and could lead either to a reinforcing loop (when the variables support each other) or to a balancing loop (where one variable attenuates the growth of the other).

The dynamics of a system over time is therefore determined by the whole set of causal loops and the better way to represent them is constituted by a causal loop diagram (CLD). A CLD concisely capture and communicate cause and effect relationships that can explain dynamic issues in a concise manner, by using a graphical representation that provides a clear visualization of the model. It is composed by a set of nodes, that represent the variables of a system, and edges, that are arrows links those variables which have a causal connections between them (Barlas, 1996; Sterman, 2002). Two basic feedback loops are at the root of all systems behavior – balancing and reinforcing loops. Balancing loops tend to keep

the system in its current stage and reinforcing loops tend to compound change in one direction. These two loops are the building blocks for describing all complex social and economic systems. CLDs limitation is not to provide a detailed representation of the structure producing the dynamics. That purpose is served by stocks and flows diagrams.

Due to the appeal of the systems thinking perspective, the notion of complex systems and a growing computational processing power (Uriona and Grobbelaar, 2017), SD has been adopted in different industrial fields. It is in this direction that some contributions have focused on their general application for the improvement of company performances (Bianchi, 2009); for managing risks (Santillo et al., 2014; Dubois and Holmberg, 2000); for evaluating patterns of diffusion in the innovation (Milling, 2002; Maier, 1998); for the decision making in strategic management and policy agenda (Fong et al., 2009); for the project management (Sterman, 1992; Rodrigues, 1994); for the analysis and definition of political agendas (Fiorani, 2010); for environmental policy and management (Fiddaman, 2002; Meadows et al., 1972); for urban planning (Forrester, 1969) and economic policy (Radzicki and Sterman, 1994; Forrester et al., 1976), etc.

Framed in the above premises, in the next section it has been described the design process that allows us to outline the CLD through the adoption of the Global Innovation Index as variables of the system.

DESIGN PROCESS

As previously discussed, several works in literature have used SD as to model the dynamics within the innovation systems. Nevertheless, more studies are of conceptual nature (about 65% of them) and have employed SD only as explorative models and for conceptual use. This approach meant that either no data or dummy data have been used for the simulations (Uriona and Grobbelaar, 2017). Besides, some works have exploited "real data", gathering them from innovation surveys, expert interviews/surveys, regional/national government, firm-level, and so on.

In our research, we have used indicators provided by Cornell University, INSEAD, and the World Intellectual Property Organization (WIPO) and which the Global Innovation Index (GII) is built on. Within the Global Innovation Index report, innovation indicators have been measured since 2013 on more than 100 countries worldwide. In the 2018 release of the GII report, 80 indicators have been identified.

The GII is an annual classification of countries, ranked by their capacity for making innovation and it is based on both subjective and objective data derived from several sources, including the International Telecommunication Union, the World Bank and the World Economic Forum (Global Innovation Index 2018). The GII is built on seven pillars: the first five called Input pillars which enable innovative activities (Institution, Human Capital & Research, Infrastructure, Market Sophistication and Business

Sophistication), the last two called Output pillars which capture actual evidence of innovation (Knowledge and Technology Outputs and Creative Outputs). Each pillar is divided into three sub-pillars. Additionally, each sub-pillar is composed of two to five individual indicators. So, each sub-pillar score is done by the weighted average of its individual indicators, and, contextually, each pillar score is calculated as the weighted average of its sub-pillar scores. The weights have been decided *a priori* by GII analyst, in order to ensure a greater statistical coherence of the model. The GII distinguishes between Innovation Input Sub-Index, that is the arithmetic average of the first five pillar scores, and Innovation Output Sub-Index, which is the arithmetic average of the last two pillar scores. The GII is the arithmetic average of the Input and Output Sub-Indices. The GII model includes 80 indicators: 57 belong to the quantitative / objective / hard data category, drawn from a variety of public and private sources and often correlated with population, gross domestic product (GDP), or some other size-related factor; 18 belong to the composite indicators / index data, coming from a series of specialized agencies and academic institutions such as the World Bank, the International Telecommunication Union (ITU), the UN Public Administration Network (UNPAN), and Yale and Columbia Universities; 5 belong to the survey / qualitative / subjective / soft data category, drawn from the World Economic Forum's Executive Opinion Survey (EOS) and aimed to capture subjective perceptions on specific topics.

In 0 the design process is shown. The first step of our analysis has consisted in identifying those indicators relevant for our aims and making a first associations with the five helices of the Quintuple Helix model. In particular, each indicator has been mapped on one or more helix, investigating on its contribution in terms of interaction and exchange of knowledge respect to the five subsystems in the Quintuple Helix model. From each indicator, one or more variables have been identified for casual loop diagram design.

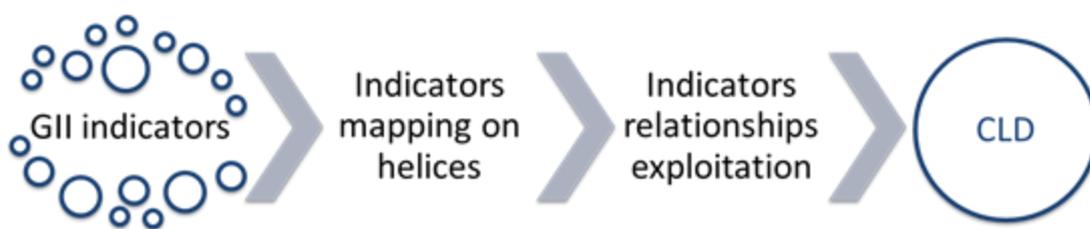


Figure 1. *Design process.*

Then, causal relationships between indicators have been identified by considering:

- qualitative description provided in the GII report for each indicator;
- indicator definition and composition (sub-indicators, pillars, issues, etc.);
- diagram characterization.

As for the latter point, i.e. the diagram characterization, links have been marked with (+) when they indicate a positive relation (the two nodes change in the same direction) and with (-) when links indicate a negative relation (the two nodes change in opposite directions). Furthermore, closed cycles in the diagram have been identified as a reinforcing or balancing feedback loop. A reinforcing loop is a cycle in which the effect of a variation in any variable propagates through the loop and returns to the variable reinforcing the initial deviation (i.e. if a variable increases in a reinforcing loop the effect through the cycle will return an increase to the same variable and vice versa). A balancing loop is the cycle in which the effect of a variation in any variable propagates through the loop and returns to the variable a deviation opposite to the initial one (i.e. if a variable increases in a balancing loop the effect through the cycle will return a decrease to the same variable and vice versa). With this deeper analysis, after several iterations, a CLD, representing the knowledge flow measured by GII within the subsystems of the Quintuple Helix model, has been designed.

RESULTS

As described in the previous paragraph, the GII indicators have been explored in order to find mutual causal relationships and build a CLD, aiming at representing the process of knowledge generation and innovation diffusion in a Quintuple Helix model.

In 0 the CLD is shown. As it can be seen, through the exploitation of the GII indicators, different reinforcement loops has been identified. In particular, three reinforcement loops correspond to the three helices that represent the educational system, the economic system and the political system. Starting, for example, from the educational system (in 0 it is in red), all the indicators encourage the formation and the nourishment of the human capital, in line with the Quintuple Helix model, and it is the reason why the reinforcement loop has been named in this way. In fact, the expenditure on education and the government fundings generally allow to form students and a part of them will graduate in scientific and technological subjects and increase the number of researchers, who, in turn, will contribute to the knowledge creation, impact and diffusion.

Besides, in the economic system (in 0 in blue) the Gross Expenditure in Research and Development (GERD) helps to invest in the employment of qualified employees in knowledge intensive services, impacting on the knowledge creation, impact and diffusion in the whole system and increasing the economic capital.

It is clear that these two subsystems, the education one and economic one, are in collaboration between them (in 0 in purple). In fact, students who graduated in scientific and technological subjects have a positive impact on both the number of researchers and in the number of employment in knowledge intensive services inside the companies. Moreover, through the collaboration between industries and

universities and the research talent in business enterprises, the educational system gives support to the growth of the economical capital and vice versa.

Together with these two subsystems there is the political system (in 0 in orange). The aim of the political system is to design a strategic plan in order to organize and well administer the general condition of the nation-state. Therefore, if good rules are taken and the perception of a strong political system by citizens is high, then there is a reinforcement in the political and legal capital.

This helix has an important role in the production of knowledge and the diffusion of innovations, together with the education system and the economic one. In particular, the political system interacts with them by enabling business facilities (in 0 in teal), that allow new formation of companies or help the existing ones to improve their business. Moreover, a good perception of government implies a growth in the attractiveness from abroad and an increase of GERD financed by abroad, in support of both the education and economic subsystems. On the other hand, a good political system incentives and makes accessible the ICT infrastructures to all the citizens (in 0 in turquoise), in line also with the actual global regulations that aims at simplifying bureaucracy. In doing so, it gives support to the creative goods and services (in 0 in magenta), that is at the basis of the capital of information (in 0 in rose) held by media- and culture- based public, and to the *ICTs and business model creation* and *ICTs and organizational model creation*, all contributing in the creation and diffusion of knowledge.

Finally, the political system has to establish some rules that everybody must observe in order to preserve the natural capital. This measure is given by a set of indices that are all represented by *Environmental performance*, regarding the quality of water, the air pollution, the CO₂ level, and so on. It is clear that the knowledge creation and impact should be done in observation of such regulations (in 0 in green).

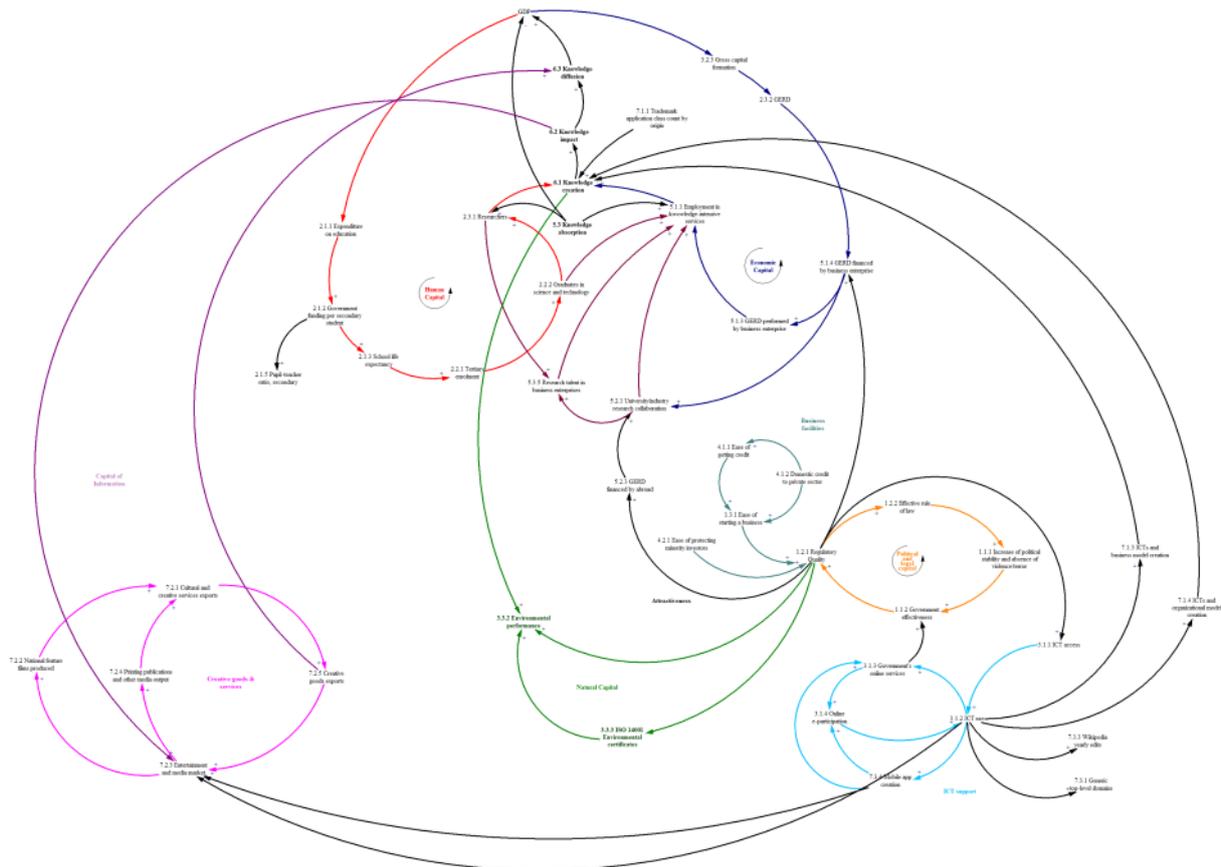


Figure 2. Causal LoopDiagram (CLD).

The CLD illustrated above shows that, even if from a theoretical point of view there is the need and the awareness of enlarging the model to the Quadruple and Quintuple Helix, by including society and environment, from a measurement (and therefore quantitative) point of view the available tools do not cover all the forms of capital envisaged in the Quintuple Helix model, even using the GII which currently is the most complete tool available. In fact, regarding the media- and culture- based public, it is measured only the capital of information, while measurements about the social capital are not available. Furthermore, regarding the natural environment, the measurement of the natural capital is limited to the part of environment performance, as described above.

Moreover, it comes to light that the real “core” of innovation is founded on the Triple Helix “government-industry-university”, that acts as an actuator in the generation of knowledge and in the processes of innovation that, on the contrary, society and environment experience.

This is a confirmation of the importance of simulation in order to evaluate the effects “suffered” by the media- and culture- based public and environment subsystems in a period of time greater than that to which the government-industry-university is subjected.

DISCUSSIONS AND CONCLUSIONS

This paper aimed to provide a contribution at the comprehension of performances of systems of innovation in a Quintuple Helix perspective through the adoption of a SD approach. Despite its novelty and original contribution, the current version with its preliminary exploration presents several limitations: as mentioned before, the first step in building a SD model has been presented, and furthermore only one set of indicators, i.e. indicators from GII, has been used. Besides, the novelty of our approach need to be considered. In fact, in the past years, SD has been adopted in order to conceptualize complex behaviours and developing causal assumptions, especially regarding innovation systems. Nevertheless, these SD models have often been focused only on some specific parts of the innovation system, usually losing sight of its big picture. Thus, in this paper, System Dynamics modelling for the Quintuple Helix framework has been proposed in order to measure quantitatively the knowledge created in each helix subsystem through the exploitation of Global Innovation Index indicators. A Causal Loop Diagram including variables, links and loops has been designed. A CLD is the first step in the SD modelling that puts the basis for Stock and Flow Diagrams and simulations. Actually, using GII indicators for modelling all of the Quintuple Helix subsystems do not cover all the forms of intellectual capital. In particular, the social capital, belonging to the culture-based public, and the natural capital of a nation-state, remain still uncovered.

This research opens new perspectives for researchers, in the study of system dynamics applied to the innovation systems. In fact, this work lays on a quantitative approach, bringing out the relationships between the Quintuple Helix model and the GII indicators. For practitioners, this approach is potentially a powerful decision-making tool, as it allows to make simulations and understand what could be the impacts of some particular actions that are going to be planned. In particular, it could be very useful in order to understand policy impacts on environment and society, that usually are visible in a time scale of the order of ten years.

In future research, the proposed CLD could be the basis for the development of a Stock and Flow Diagram, useful for simulations of the real data and to deeply understand the behavior of the five helices of the model. Moreover, the GII dataset could be expanded and enriched by other available indicators, in order to obtain a better coverage of all the intellectual capitals forms and enhance the complex structure of the whole innovation system.

REFERENCES

- Asheim, B. T., & Gertler, M. S. (2005). The geography of innovation: regional innovation systems. in the Oxford handbook of innovation.
- Barlas, Y. (1996), "Formal Aspects of Model Validity and Validation in System Dynamics", *System Dynamics Review*, Vol. 12 No. 3, pp. 183–210.

- Carayannis, E. G. and D. F. J. Campbell (2009), "Mode 3" and "Quadruple Helix": Toward a 21st century fractal innovation ecosystem", *International Journal of Technology Management*, Vol. 46 No. 3-4, pp. 201-234.
- Carayannis, E. G. and Campbell, D. F. J. (2010), "Triple Helix, Quadruple Helix and Quintuple Helix and how do knowledge, innovation and the environment relate to each other? A proposed framework for a trans-disciplinary analysis of sustainable development and social ecology", *International Journal of Social Ecology and Sustainable Development*, Vol. 1 No. 1, pp. 41-69.
- Carayannis, E. G., Barth, T. D. and Campbell, D. F. J. (2012), "The Quintuple Helix innovation model: Global warming as a challenge and driver for innovation", *Journal of Innovation and Entrepreneurship*, Vol. 1 No. 1, pp. 1-12.
- Carayannis, E. G., Campbell, D. F. J. and Rehman, S. S. (2016), "Mode 3 knowledge production: Systems and systems theory, clusters and networks", *Journal of Innovation and Entrepreneurship*, Vol. 5 No. 17, pp. 1-24. <https://doi.org/10.1186/s13731-016-0045-9>
- Carayannis, E. G. and Campbell, D.F.J. (2019), *Smart Quintuple Helix Innovation Systems*, Springer, Switzerland.
- Dubois, D., and Holmberg, S. (2000), "SDA: System Dynamics Simulation of Inter Regional Risk Management", *International Food and Agribusiness Management Review*, Vol. 3 , pp. 281-296.
- Etzkowitz, H. and Leydesdorff, L. (2000), "The dynamics of innovation: From National Systems and "Mode 2" to a Triple Helix of university-industry-government relations", *Research Policy*, Vol. 29, pp. 109-123.
- Etzkowitz, H., & Zhou, C. (2006), "Triple Helix twins: innovation and sustainability", *Science and public policy*, 33(1), 77-83.
- Fiddaman, T. S. (2002), "Exploring Policy Options with a Behavioral Climate - Economy Model", *System Dynamics Review*, Vol. 18 No. 2, pp. 243-267.
- Fiorani, G. (2010), "System Thinking, System Dynamics e politiche pubbliche", Milano, Egea.
- Fong, W.K., Matsumoto, H. and Lun, Y.F., (2009), "Application of System Dynamics model as decision making tool in urban planning process toward stabilizing carbon dioxide emissions from cities", *Building and Environment*, Vol. 44 No. 7, pp.1528-1537.
- Forrester, J. (1958), "Industrial Dynamics: A Major Breakthrough for Decision Makers", *Harvard Business Review*, Vol. 36, pp. 37-66.
- Forrester, J. W. (1969), *Urban Dynamics*, Productivity Press, Cambridge MA.
- Forrester, J. W., Mass, N. J. and Ryan, C. J. (1976), "The System Dynamics National Model: Understanding Socio-Economic Behavior and Policy Alternatives", *Technological Forecasting and Social Change*, Vol. 9 No. 1/2, pp. 51-68.
- Gallo, G. (2008), "PROBLEMI, MODELLI, DECISIONI Decifrare un mondo complesso e conflittuale", available at <http://pages.di.unipi.it/gallo/Books/Decisions&Complexity2008.pdf> (accessed 30 April 2019).
- Garner, C., & Ternouth, P. (2011). "Absorptive capacity and innovation in the triple helix model". *International Journal of Knowledge-Based Development*, 2(4), 357-371.
- Global Innovation Index (2018), "Energizing theWorld with Innovation", available at <https://www.globalinnovationindex.org/Home> (accessed 30 April 2019).
- Hekkert, M. P., Suurs, R. A. A., Negro, S. O., Kuhlmann, S. and Smits, R. E. H. M. (2007), "Functions of innovation systems: A new approach for analysing technological change", *Technological Forecasting and Social Change*, Vol. 74 No. 4, pp. 413-432.
- Lundvall, B.-Å. (Ed.) (1992), *National systems of innovation. Towards a theory of innovation and interactive learning*, Pinter Publishers, London, UK.
- Maier, F. (1998), "New product diffusion models in innovation management - a system dynamics perspective", *System Dynamic Review*, pp. 285-308.
- Meadows, D. H., Meadows, D. L., Randers, J. and Behrens, W. W., III. (1972), *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*, Universe Books, New York, NY.
- Milling, P. (2002), "Understanding and managing innovation processes", *System Dynamics Review*, Vol. 18 No. 1, pp. 73-86.
- Nelson, R. R. (Ed.) (1993), *National innovation systems. A comparative analysis*, Oxford University Press, Oxford, England.
- Niosi, J. (2011), "Complexity and path dependence in biotechnology innovation systems", *Industrial and Corporate Change*, Vol. 20 No. 6, pp. 1795-1826.
- Passiante, G., & Romano, A. (Eds.). (2016). *Creating Technology-Driven Entrepreneurship: Foundations, Processes and Environments*. Springer.
- Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). "Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology". *Administrative science quarterly*, 116-145.

- Radzicki, M. J., and Sterman, J. D. (1994), "Evolutionary Economics and System Dynamics", England, R. W. (Ed.), *Evolutionary Concepts in Contemporary Economics*, Ann Arbor: University of Michigan Press, pp. 61–89.
- Rodrigues, A. (1994), "The Role of System Dynamics in Project Management: A comparative Analysis with traditional models", presented at International System Dynamics Conference, Department of Management Science, University of Sterling.
- Romano, A., Passiante, G., Del Vecchio, P., and Secundo, G. (2014) "The innovation ecosystem as booster for the innovative entrepreneurship in the smart specialization strategy" *International Journal of Knowledge-Based Development*, Vol. 5, No.3 , pp. 271–288.
- Santillo, L., Gallo, M., Di Nardo, M., Monica, L., Madonna, M. and Giacobbe, F. (2014), "System Dynamics: modellazione e simulazione dei rischi", Safap.
- Schumpeter, J.A. (1942), *Capitalism, Socialism and Democracy*, Harper & Row, New York, NK.
- Sterman, J. (1992), "System Dynamics Modeling for Project Management", Cambridge: Sloan School of Management, MIT, available at <http://scripts.mit.edu/~jsterman/docs/Sterman-1992-SystemDynamicsModeling.pdf> (accessed 30 April 2019).
- Uriona, M. M. and Grobbelaar, S. S. (2017), "System Dynamics modelling in the Innovation Systems literature", paper presented at the 15th Globelics International Conference – Athens, Greece, available at https://www.researchgate.net/profile/Mauricio_Uriona_Maldonado/publication/319545608_System_Dynamics_modelling_in_the_Innovation_Systems_literature/links/59b2911c458515a5b48cf82b/System-Dynamics-modelling-in-the-Innovation-Systems-literature.pdf.
- Zajac, E. J., & Olsen, C. P. (1993). "From transaction cost to transactional value analysis: Implications for the study of interorganizational strategies". *Journal of management studies*, 30(1), 131-145.

DIGITAL TRANSFORMATION IN THE LUXURY INDUSTRY- A SYSTEMATIC MAPPING STUDY

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ABSTRACT

Digital transformation is increasingly becoming top agenda item for businesses across sectors and geographies. The question is no longer when they need to make it a strategic priority. It is all about how to embrace it for achieving new types of competitive advantage. In the luxury goods sector in particular, practitioners like the consulting firm McKinsey, indicate that by year 2025, one out of five luxury purchases will happen online, causing significant changes in how luxury firms will need to operate. This article's main aim and contribution is to provide an initial mapping of current research/practitioner efforts in order to depict the current state of digital transformation in the luxury goods sector. A preliminary search pointed to an under-researched field, so a Systematic Mapping Study (SMS) methodology was chosen and deployed, as the most appropriate one for achieving the goal of this research. The results were clear: a) luxury goods firms have not yet embraced digital transformation; b) both the sector and the related fields of scientific research seem to stand at a point of passive recognition for the digital need. The lack of strategic frameworks (academic or otherwise) for digital transformation in this sector indicate an opportunity for further scientific research in areas such as: a) the emerging Luxury 4.0 operating model, with which luxury goods firms can use big data to build customer intimacy, capture luxury customer preferences and streamline the process of turning ideas into new products; b) luxury business ecosystems, where luxury good firms, along with players from other industries, will co-design innovation and co-develop new types of joint competitive advantage.

Keywords: transformation, digital, luxury, systematic mapping study, innovation, management, business, organizational development, change, change management

INTRODUCTION

The luxury market includes a wide range of categories from fashion, accessories and cars to art and luxury experiences, comprising a global market valued at \$260 billion (D'Arpizio and Levato, 2018). (Achille *et al.*, 2018) identify an increasingly significant trend in this market, accounting for about 8%

(i.e. about \$20 billion) of its size: the use of digital channels for purchases of personal luxury goods – apparel, footwear, accessories, jewelry and watches, leather goods, and beauty. Digital is having an even greater impact on how luxury shoppers select and relate to brands: nearly 80% of luxury goods sales are “digitally influenced” meaning that, in their luxury shopping journeys, consumers hit one or more digital touch points (Achille *et al.*, 2018).

From a luxury firm’s viewpoint, digital can thus be considered a positive lever: it creates new opportunities for providing bespoke services to many more customers. So, should the industry jump on the digital bandwagon? The answer is not straightforward. Besides obvious strategic considerations, the experience from other industries indicates that success in exploiting digital channels is pre-conditioned upon potentially vast internal changes – what is known as digital transformation: digital technologies need to become central to how a business operates, effectively re-thinking and possibly re-inventing its business model to quickly and timely anticipate competitors’ next moves, monitor market tastes and adapt its products and structure (Carcary *et al.*, 2016; Bresciani *et al.*, 2013).

To explore this challenge, the authors of this article focused on cataloguing research efforts of digital transformation in the luxury goods industry. This led to the development of a systematic mapping study (SMS), aiming at identifying research gaps and relevant clusters of evidence (Engstrom and Runeson, 2011).

Presenting the development of the study and the mining of key insights are the goals of this article. First, the context of the study is highlighted, by discussing key concepts relevant to the two fields of interest: digital transformation, and the luxury goods sector. The SMS methodology steps that were implemented are then described, with particular emphasis on the definition of the study’s research questions, inclusion and exclusion criteria, the classification scheme, and the final mapping. A number of key findings/insights are then analyzed, followed by certain lessons learnt and future research directions.

BACKGROUND

The luxury industry

The concept of luxury exists since ancient times (Berry, 1994). The term “luxury” itself comes from the Latin “luxus”, which means “soft or extravagant living, sumptuousness, opulence” (from the Oxford Latin Dictionary in Dubois *et al.* 2005). Luxury goods have been associated with wealth, exclusivity and power, as well as somewhat superfluous needs. Sombart (1913) emphasizes that a luxury good is

characterized by a unique aura and its possession is something exceptional, which breaks the serial production of the mass market.

Under the Standard Industrial Classification system, luxury firms cannot be collectively recognized as an independent industry, as goods and services produced by such firms vary from wristwatches to valet driving. Even though luxury firms might serve different needs, they provide consumers with symbolic and experiential benefits (such as prestige and social status) that mostly come from the intangible attributes of their brands (Kapferer and Bastien, 2009). Therefore, the luxury industry refers to an exclusive group of firms across different product segments that are distinguished by their ability to offer exclusivity and consumer-perceived luxuriousness (Vigneron and Johnson, 2004). This research effort focuses on a sector of this industry, namely the personal luxury goods sector, which includes apparel, footwear, accessories, jewelry and watches, leather goods, and beauty.

From the consumers' perspective, the word "luxury" reflects the lifestyle of High Net Worth Individuals (HNWI; with at least \$1million in cash) and ultra-High Net Worth Individuals (with at least \$30million). In reality, the luxury goods sector creates goods that are also accessible to various market segments. For example, when Chinese consumers refer to 'luxury goods', they refer to products available in premium department stores (Kapferer, 2016).

This further explains how luxury creates value. It is true that millionaires and billionaires in the world are a significant source of luxury goods' demand. However, the ultra-rich customer segment alone cannot explain the increase in the luxury industry from \$90billion to \$217 billion in 24 years. The luxury marketplace has grown so much because "this sector aims at everyone, without seeming to aim at everyone" (Kapferer, 2016). Nevertheless, varying economic trends, and evolving consumer preferences and tastes are creating a new competitive landscape where luxury goods firms will need to rethink their strategies.

Digital transformation

The market-changing impact of digital disruptions is often wider than products, operating processes, or supply chains—entire business models are being reshaped and new ones emerge, oftentimes from left-field competitors (Hess *et al.*, 2016).

As a result, digital transformation is increasingly becoming top agenda item for businesses across sectors and geographies. The question is no longer when they need to make it a strategic priority. It is all about how to embrace it for achieving new types of competitive advantage (Hess *et al.*, 2016).

At its core, digital transformation is about “a fundamental change, a metamorphosis, in how companies generate value for their owners and other stakeholders, achieved by applying digital technologies and ways of working to all aspects of the business” (Reichert and Hutchinson, 2019). The combination of such technological advances means that an enormous number of business processes and structures will be redesigned and automated in the coming years, potentially creating (or destroying) huge amounts of business value. The overall goal is to identify and exploit growth opportunities and deploy new business models (Reichert and Hutchinson, 2019).

In the academic world, the above challenge is mostly addressed in a piecemeal way and there is limited effort in developing a holistic approach to the development of a company-wide digital transformation strategy (Hansen and Sia, 2015). For example, (Matt *et al.*, 2015) developed a Digital Transformation Framework (DTF) for formulating a digital transformation strategy along four axes: a) developing capabilities to deploy disruptive information technologies; b) defining value drivers; c) reshape organizational structures, processes and skill sets; and d) securing financial resources for achieving change. However, this is a rather generic and theoretical framework and its practical use remains to be seen.

In this context, managers across sectors and geographies are struggling to approach digital transformation as a strategic move, and their actions are oftentimes ad hoc. The result points to a “winner takes all” situation, for now: ‘born digital’ pioneers (e.g., Amazon, Facebook and Google) have grown into titans, while companies that long dominated their industries face a threat in their traditional value propositions as they struggle to define digital transformation paths (Sebastian *et al.*, 2017; Zinder and Yunatova, 2016).

Appreciating these realities is particularly important for managers from traditional industries (such as the luxury industry), as the underlying logic of digital business models is often fundamentally different from their experience. There are many examples of companies that have not been able to keep pace with the new digital marketplaces, such as the movie-rental titan Blockbuster, largely resulting from the firm’s inability to quickly develop and implement a new digital transformation strategy (Hess *et al.*, 2016). Researchers suggest that the development of such strategies requires strong capabilities: high levels of organizational flexibility, learning and knowledge transfer skills, and flexible corporate culture (Eisenhardt and Martin, 2000). Ultimately, in a constantly shape-shifting business environment, true competitive benefit comes from companies’ capability to innovatively transform when their competitors cannot (Vrontis *et al.*, 2012; Vrontis *et al.*, 2016).

Independent of the industry or firm, practical digital transformation strategies seem to share certain elements. These elements can be ascribed to four dimensions: harnessing data and advanced

technology, digitizing customer relationships, building digital talent and organization, digitizing operations and automating processes (Reichert and Hutchinson, 2019). This means, that a company has to make a variety of major changes across its structure and culture, and incorporate “digital” into everyone’s job. Such changes are never easy, especially on the culture of businesses that have deep legacy roots (Bilefield, 2016). This may explain why academic research has not yet come up with a set of accepted guidelines on how to formulate, adopt and evaluate digital transformation practices (Matt *et al.*, 2015).

Trends in the luxury industry and the need for digital transformation

The consumption of luxury goods is influenced by a number of trends. These trends are: a) cultural, such as globalization; b) social, such as the emergence of new market segments; c) external to the industry, such as the growing popularity of internet shopping (Seo and Buchanan-Oliver, 2015).

In recent years, the luxury goods industry has been strongly affected by the rapid evolution of technology, including social media, e-commerce and mobile shopping. The growing role of digital channels leads luxury goods firms to enter an omni-channel world that they are hardly prepared for. Moreover, they are faced with new technologies such as 3D-printing and high-tech materials, which may allow producing unique luxury goods for low costs (Gutsatz and Heine, 2018).

Although this evolution has been a blessing for other businesses, in the luxury goods sector it has been encountered with great concern (Escobar, 2016; Ribeiro and Nobre, 2016). This was further fueled by the fact that some luxury goods firms have spent billions trying to approach the concept of “digital”, but the results have yet to translate into economic value (Ventura, 2017; Kansara, 2017).

Many researchers and practitioners have pointed out the urgent need for digital transformation in the luxury goods sector and proposed a series of steps towards it. (Beauloye, 2018) has focused on digital storytelling and search engine optimization, while (Jain *et al.*, 2018) suggest that big data may drive luxury goods firms’ growth beyond digital. (Ventura, 2017) points that successful digitally-minded luxury firms that position themselves as “technological” leaders are systematically searching for and exploiting digital opportunities, understand the importance of human resources, and respond quickly to luxury customers’ needs. However, most firms in the sector seem to address the issue of digital transformation by using marketing techniques that simply make their brand more appealing.

In reality, digital is penetrating the value chain and creating opportunities to be more effective and responsive (Jankowska and Polowczyk, 2016). While luxury goods firms and retailers recognize that it is essential to experiment on this front, there is a wide variation in what companies are doing to transform for exploiting these opportunities. The most forward-looking firms are focusing on

digitizing their businesses and building an operating model that increases their speed and agility. They are using data to take customer knowledge and relationships to a new level, and form partnerships within and outside the luxury goods sector to accomplish what they cannot do on their own (Achille *et al.*, 2018).

A case in point is Burberry. By 2006, the firm had lost much of its sparkle; its British heritage and luxury outerwear products, pricing and store design were inconsistent and outdated. To regain control, Burberry made the strategic choice to digitally transform. Internally, a new digital collaboration platform, Burberry Chat, allowed employees, suppliers, partners and investors to link up and its use was encouraged and incentivized. Customer-facing activities were also revamped, in sync with internal transformation: the firm started spending more than 60% of its marketing budget on digital media (triple the industry average), attracting millions of viewers to its Twitter, Facebook and YouTube sites (Wade, 2016). The above initiatives were complemented by major investments across Burberry's technology landscape, thus creating a digital ecosystem of mobile apps, websites and data analytics.

In conclusion, digital transformation has not yet been widely accepted and adopted by the luxury goods sector, although this sector has gone under big strategic changes during recent years. However, major players have started embracing it and it is expected to drive, on average, 40% of projected sales growth till 2020, as opportunities to open physical retail space diminish and consumers increasingly look for digital-rich shopping experiences (Kansara, 2014).

METHODOLOGY

A systematic mapping study (SMS) provides a broad review of a research area that aims to identify the quantity and type of research and results available within it (Kitchenham and Charters, 2007). It also provides a structure of the type of research reports and results that have been published, by categorizing them. The research questions in mapping studies are rather broad, as they aim to discover research trends (Petersen *et al.*, 2015), which can be also detected by mapping the frequencies of publications over time (Petersen *et al.*, 2008). Overall, five main steps are usually conducted: definition of research questions, searching for relevant papers, screening papers, key wording of abstracts, and data extraction and mapping (Fauzi *et al.*, 2010).

The main goal of an SMS study is the classification and thematic analysis of literature on a topic. The research questions are related to research trends, the search process is defined by the topic area and the scope of systematic mapping is broad- all papers related to a topic area are included, but only classification data about them are collected. The result is a set of papers related to a topic area

categorized in a variety of dimensions, along with the number of papers in each category (Petersen *et al.*, 2015, James *et al.*, 2016). What is more, systematic mapping follows the same rigorous, objective and transparent processes as do systematic reviews to capture evidence that is relevant to a particular topic, thus avoiding the potential pitfalls of traditional literature reviews (e.g. reviewer and publication bias).

The method of systematic mapping was selected for two reasons. First, because of its adequacy for the exploration of a research area in a systematic way. Systematic mapping is used frequently in the field of software engineering, but it was developed in social sciences due to the small amount of empirical data and to the need for a method to describe the literature across a broad subject of interest (James *et al.*, 2016).

Second, because of its novelty. To the best of the authors' knowledge, there is only one mapping study concerning the luxury goods sector, which focuses on a multidisciplinary, bibliometric overview of the state of the luxury research field up to 2016 and its intellectual foundations (Gurzki and Woisetschläger, 2017).

Definition of the research questions

The driving research questions for this mapping study are:

- RQ1: Are there any existing approaches that may drive digital transformation in the luxury goods industry?
- RQ2: What are the most investigated topics related to the combination 'luxury goods sector' and 'digital transformation' and how have these changed over time?

Conduct search

Initial search was conducted by using search strings in scientific databases or browsing manually through journal publications - a preliminary search was conducted in Google Scholar and Science Direct, using the keywords "luxury industry" and "digital transformation". From these identified keywords, sets of keywords were formulated which are listed in Table 1.

"luxury industry" (set 1)	"digital transformation" (set 2)	"digital transformation of the luxury industry"
"luxury brand"	"big data analytics" and "digital transformation"	"digital transformation" and
"luxury brand management"	"disruption" and "digital"	"luxury industry"

"digitalization" and "luxury industry"	transformation"	
"digitization" and "luxury industry"		
"consumers perceptions" and "luxury industry"		

Table 1: Searched keywords

Each keyword and set of keywords have a significant part in this study. For example:

"Consumers' perceptions": As emphasized by (Dubois and Duquesne 1993a), "we believe that an analysis of the direct relationship between consumers and brands is the key to an improved understanding of such a market." This could be used not only in the creation of a luxury brand but also in the constant investigation of existing luxury brands and in basic research in consumers' attitudes (Vigneron and Johnson, 2004).

"Big data analytics": Big data analytics is typically characterized by a "focus on very large, unstructured and fast-moving data" (Davenport, 2014). Their analysis in different ways may help pave the way to digital transformation and the creation of sustainable competitive advantage, by driving internal realignments to capture opportunities identified through data mining.

Study selection (inclusion and exclusion criteria)

The outcome of the previous step was a large number of articles, which were then filtered based on titles and abstracts, as well as on full text reading, as suggested by (Petersen *et al.*, 2015). The relevant inclusion and exclusion criteria are shown in Table 2.

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> • Books or book chapters that provide information on the topic of digital transformation, luxury brand management or trends in the luxury goods sector. • Reports describing empirical studies on the topic of digital transformation and the luxury goods sector. Empirical studies with results based on observed and measured phenomena and derived knowledge from actual experience rather than from theory or belief. • Papers that provide scientific research findings or reviews of research on the topic of digital transformation or the luxury goods sector (opinion papers, validation papers, evaluation papers, case studies) • Time frame: 2009- 2019. Before 2009, business and 	<ul style="list-style-type: none"> • Studies without empirical findings. • Studies that cover the topic of luxury as a concept, but do not focus on its digital aspects. • Duplicates. • Studies not available in full text. • Studies written in languages other than English. • MSc and PhD theses on digital transformation or the luxury industry.

creative opportunities of the Internet were not really on the radarscope of by luxury firms (Okonkwo, 2010).	
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Table 2: Inclusion and exclusion criteria

Classification of selected studies

The result from the previous step was a pool of 60 papers. The authors then proceeded with the classification step, based on a topic-related classification scheme, as proposed by (Petersen *et al*, 2015).

First, abstracts were studied and searched for keywords and concepts reflecting the contribution of a paper and its context. Then, the set of keywords from different papers were combined to develop a high-level understanding of the various concepts involved. In cases that abstracts could not offer the necessary information, the authors chose to further study the introduction and/or conclusion sections of the corresponding paper, as suggested by (Petersen *et al*, 2008).

Data extraction and mapping of studies

During this SMS step, articles were sorted into the scheme derived in the previous step, and a table was used to document the data extraction process. The table contained each category of the classification scheme. When the data of a paper were included in the scheme, a short justification was provided about why the paper should be in a certain category. At completion of the table, the frequencies of publications in each category were calculated. This made it possible to see which categories have been emphasized in past research and thus to identify gaps and possibilities for future research.

RESULTS OF THE MAPPING

As a result of the SMS implementation process, a number of insights emerged, linked to the study's research questions:

RQ1: Are there any existing approaches that may drive digital transformation in the luxury goods industry?

Digital is a reality that can make a transformative difference in the luxury goods sector (Abtan *et al.*, 2016). It opens up new opportunities to create personalized offerings (Ataíde *et al.*, 2018), it can help design and deliver bespoke experiences to many more customers, it widens the distribution channels and it provides new ways to engage with customers online in markets where a luxury goods firm has no stores. Top consulting firms (McKinsey, BCG, Deloitte) set digital transformation as the number

one priority for competitive advantage in the luxury industry, acknowledging the need for the luxury sector to fully embrace digital (Reichert and Hutchinson, 2019; Deloitte, 2018).

Despite the above realization, adoption of digital technologies by luxury goods firms is still in its infancy, due to their willingness to maintain exclusivity and prestige, as well as due to the lack of relevant technical and strategic skills. This has led to the inability of those firms to reposition themselves, to react to shifts in their operational context and to be competitive in emerging markets. In fact, one of the reasons they react passively towards digital is because it implies an idea of modernity that may contrast with a luxury brand's image (Tauriello *et al.*, 2017). This is particularly evident in the luxury fashion sub-sector, where managers struggle to understand innovation logic that may deviate fundamentally from their *modus operandi* (Remane *et al.*, 2017).

As a result, digital transformation approaches in the luxury goods sector mostly concern digital marketing strategies, the engagement to social media, and deployment of new information technologies (Pappas *et al.*, 2018; Mikalsen *et al.*, 2018; Remane *et al.*, 2017; Romao *et al.*, 2019; Choi *et al.*, 2014). However, no study (academic or otherwise) within the scope of this research effort recognized an urgent need for further actions.

In addition, these approaches emphasize the viewpoints of digital-first firms, rather than the concerns of traditional luxury goods firms that are facing a tsunami of digital and strategic disruptions (Remane *et al.*, 2017).

RQ2: What are the most investigated topics related to the combination 'luxury goods sector' and 'digital transformation' and how have these changed over time?

Most of the articles were published in scientific journals, such as the Journal of Global Fashion Marketing; the Journal of Business Research; the Journal of Retail & Distribution Management; the Journal of Fashion Marketing & Management.

Overall, they provide an examination of the landscape of the luxury goods sector either from the consumers' or the firms' perspective (e.g. Kapferer and Valette-Florence, 2016; Miller and Mills, 2012). Some studies describe generic frameworks for luxury brand management and propositions for digital brand enforcement (e.g. Cavender and Kincade, 2015; Hung *et al.*, 2011). Others examine the steps to digital transformation as applied in other industries (e.g. Remane *et al.*, 2017; Berman, 2012). Finally, some studies focus on examining some less trending but equally important aspects of the luxury industry, such as synergies and brand extension (e.g. Som and Pape, 2015; Kim and Kim, 2017).

Topics were classified according to the keywords of each study (see tables 3 and 4). The term “digital” is classified into 3 main typologies: (i) digital technologies, which include social media and the online channels for e-commerce (Gao *et al.*, 2013; Pantano and Verteramo, 2017), (ii) mobile technologies, which include mobile apps (Pantano *et al.*, 2017; Varnali and Toker, 2010), and (iii) immersive/pervasive in-store technologies (Pantano and Verteramo, 2017; Papagiannidis *et al.*, 2017). However, most of the studies included the topics of social media and e-commerce, without considering the other forms/types of digital. For example, they are concerned with the online shopping experience (Liu *et al.*, 2013), luxury branding on the internet (Seo and Buchanan- Oliver, 2014), and social media marketing (Phan *et al.*, 2011).

TOPICS	FREQUENCY (# of papers)
Digital	28
Fashion	18
Consumers' attitudes/perceptions	11
Management	10
Marketing	6
Purchase intention	6
Brand extension	5
Asia	4
Innovation	3

Table 3: Most investigated topics in the field of luxury industry and digital transformation

YEAR	FREQUENCY (# of papers)
2009	4
2010	5
2011	3
2012	8
2013	2
2014	4
2015	8
2016	6
2017	7
2018	13

Table 4: Timeline of publications

It is important to note that the selected studies which included the term “digital” were published after 2015. Based on this observation, this is a rather recent trend in the luxury goods industry. Other trends were also identified, which link digital transformation in the luxury goods sector with new strategic directions. For example, (Bellaiche *et al*, 2013) highlighted the topic of digital-driven luxury ecosystems, as a way to help luxury goods firms reduce the risk and costs of innovation, while becoming more agile and competitive. (Achille *et al*, 2018) proposed Luxury 4.0, inspired by Industry 4.0 – the fully digitized model for manufacturing. Luxury 4.0 will be about creating a new seamless system that ties together smart logistics, customer data, and design. This will enable rapid response to shifts in demand and luxury customer needs, and will allow luxury goods firms to turn customer data into new products and business models that drive growth.

Last but not least, (Jain *et al*, 2018) highlighted the topic of “big data” in the luxury goods sector, based on the fact that 85% of luxury goods sales come from customers already registered in luxury firms’ databases. Big data analytics should further enable luxury goods firms to better identify and connect with their affluent consumers, fully understand their lifestyle and purchase behaviors, and build long-term engagement. Luxury goods firms can then deliver personalized content and connect with their consumers as a result of insights generation, which may further lead to the identification and commercial exploitation of new markets (Neubert, 2018).

CONCLUSIONS

Based on the above findings, it seems that the link between the luxury goods sector and digital transformation is either ignored or misconceived. In fact, most studies do not consider the impact that digital transformation can have for the future of the luxury goods sector.

Practitioners, like (Achille *et al.*, 2018) of the consulting firm McKinsey, indicate that by year 2025, one out of five luxury purchases will happen online, causing significant changes in luxury marketplaces. However, there are no definitive approaches for aligning the luxury goods sector with the practical aspects of digital transformation.

At the same time, academic studies only partially discuss the issue of digital transformation and resulting business strategies. Instead, they focus on the effect of social media and online or omni-channel shopping on luxury consumers’ purchase intentions. To make things worse, such partial digital activities have cost luxury goods firms significant amounts of money with questionable returns on their investments (Annie-Jin, 2012).

Hence, it can be safely stated that: a) luxury goods firms have not yet embraced digital transformation; b) both the sector and the related fields of scientific research seem to stand at a point of passive recognition for the digital need. In addition, luxury goods firms seem to fear the shift to digitalization and have been slow to the transformation process, due to their concern for losing their exclusivity and sense of uniqueness (Tauriello *et al.*, 2017). In order to move one step towards digital transformation, it is imperative that luxury goods firms overcome these fears which leave them unprepared for the disruptions ahead: digital has driven consumers to expect continuous excitement from their digital shopping experiences and luxury goods firms must find a balance between their traditional strategies and disruption-driven innovation.

Moda Operandi is a case in point. This digital-first luxury goods firm with physical stores in New York and London, was founded in 2010 with a unique value proposition: let luxury shoppers preorder clothes and accessories straight off the catwalk. By creating a unique business ecosystem with over 1,300 designers (from newly-minted ones to Prada and Givenchy), Moda connects directly luxury goods brands with luxury shoppers. Behind the scenes, though, Moda is becoming the data analytics disruptor in the luxury goods industry, through its “runway reports” – detailed ‘maps’ of luxury buyers’ shopping habits, including forecasts for new fashion trends. These reports capture key customer interests (styles, colors, sizes) along with preferred store locations, days and times they like to shop. More importantly, runway reports are shared with collaborating fashion houses and designers, thus co-creating rich business value: by using the reports, Moda’s ecosystem knows which luxury products appealed more to customers and they can design their next collections of luxury products according to clearly defined needs and preferences.

The need for a digital shift in the luxury goods sector is thus imperative. For a traditional firm in this sector, redesigning the business strategy with digital in mind, means moving from a mindset of control to one of agility. Executives must realize that a complete embrace of digital requires nothing less than a companywide transformation effort encompassing all business areas and all employees. This should further push scientific research in relevant but groundbreaking directions, such as:

- the emerging Luxury 4.0 operating model, with which luxury goods firms can use big data to build customer intimacy, capture luxury customer preferences and streamline the process of turning ideas into new products;
- luxury business ecosystems, where luxury good firms, along with players from other industries, will co-design innovation and co-develop new types of joint competitive advantage.

REFERENCES

- Abtan O., Barton C., Bonelli F., Gurzki H., Mei- Pochtler A., Pianon N. and Tsusaka M. (2016) "Digital or die: The choice for luxury brands". Boston Consulting Group.
- Achille A., Marchessou S. and Remy N. (2018) "Luxury in the age of digital Darwinism." McKinsey & Company. Available at: <https://www.mckinsey.com/~media/McKinsey/Industries/Retail/Our%20Insights/Luxury%20in%20the%20age%20of%20digital%20Darwinism/The-age-of-digital-Darwinism.ashx>.
- Annie-Jin S.A. (2012) "The potential of social media for luxury brand management". *Marketing intelligence and planning*. Vol. 30(7). Pp. 687-699.
- Ataíde A. A., Brandão A. M. P. and Loureiro S. M. C. (2018) "Luxury on omni-channel retail: A literature review approach" in *Proceedings of the 11th Annual Conference of the EuroMed Academy of Business*. Pp. 1481-1483. Valetta, September 2018.
- Beauloye F.E. (2018) "Search engine optimization". Available at: <https://luxe.digital/digital-luxury-speakeasy/search-engine-optimisation-seo/>.
- Beauloye F.E. (2018) "Digital storytelling for luxury brands : 5 trends to succeed online". Available at: <https://luxe.digital/digital-luxury-reports/luxury-digital-storytelling-trends/>.
- Bellaiche J.M., Achille A. and Lui V. (2013) "Luxury ecosystems: Controlling your brand while letting it go". Boston Consulting Group. Available at: http://image-src.bcg.com/Images/BCG%20Luxury%20Ecosystems%20June%202013_tcm9-94933.pdf.
- Berman Saul J. (2012) "Digital transformation: opportunities to create new business models". *Strategy and leadership*. Vol. 40(2). Pp. 16-24. Available at: <https://doi.org/10.1108/10878571211209314>.
- Berry C. (1994) *The idea of luxury: a conceptual and historical investigation*. Cambridge university press. Cambridge.
- Bilefield J. (2016) "Digital transformation: the three steps to success". McKinsey digital. Available at: <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/digital-transformation-the-three-steps-to-success>.
- Bresciani S., Bertoldi B., Giachino C. and Ferraris A. (2013) "The approaches of family businesses in the luxury industry". In *Proceedings of the 6th Annual conference of the EuroMed Academy of Business*. Pp.437-448. Portugal, September 2013.
- Carcary M., Doherty E. and Conway G. (2016) A dynamic capability approach to digital transformation—a focus on key foundational themes. In: *10th European Conference on Information Systems Management*. Academic Conferences and publishing limited. Pp. 20– 28.
- Cavender R.C. and Kincade D.H. (2015) "A luxury brand management framework built from historical review and case study analysis". *International journal of retail and distribution management*. Vol. 43(10/11). Pp. 1083-1011.
- Choi S., Chai S., Nam Y., Yang S. and Protoppa C. (2014) "Success factors for luxury e-commerce: Burberry's digital innovation process". *International journal of information systems*. Vol. 4(1).
- D'Arpizio C. and Levato F. (2018) *Altagamma 2018- worldwide luxury market monitor- the future of luxury: a look into tomorrow, to understand today*. Bain and Company.
- Davenport T. (2014) *Big Data @ Work*. Harvard University Press, Cambridge, MA.
- Deloitte (2018) "Global powers of luxury goods 2018. Shaping the future of the luxury industry".
- Dubois B. and Duquesne P. (1993b) "The market for luxury goods: Income versus culture". *European Journal of Marketing*. Vol. 27(1). Pp. 35–44.
- Dubois B., Czellar S. and Laurent G. (2005) "Consumer segments based on attitudes towards luxury: empirical evidence from twenty countries". *Mark Lett*. Vol. 16. Pp.115–128.
- Eisenhardt K. M. and Martin J. A. (2000). "Dynamic capabilities: what are they?" *Strategic Management Journal*. Vol. 21(10/11). Pp. 1105–1121.
- Engstrom E. and Runeson P. (2011) "Software product line testing – A systematic mapping study", *Information and Software Technology*. Vol. 53. Pp. 2–13.
- Escobar A. (2016) "The impact of the digital revolution in the development of market and communication strategies for the luxury sector (fashion luxury)". *Central European business review*. Vol. 5.
- Fauzi S.S.M., Bannerman P.L. and Staples M. (2010) Software configuration management in global software development: A systematic map, in: *2010 17th Asia Pacific Software Engineering Conference (APSEC)*, IEEE. Pp. 404–413.
- Gao T.T., Rohm A.J. Sultan F. and Pagani M. (2013) "Consumers un-tethered: a three market empirical study of consumers' mobile marketing acceptance". *Journal of Business Research*. Vol. 66 (12). Pp. 2536–2544.

- Gurzki H. and Woisetschlager D.M. (2017) "Mapping the luxury research landscape: A bibliometric citation analysis". *Journal of business research*. Vol. 77. Pp. 147-166.
- Gutsatz M. and Heine K. (2018) "Luxury brand-building and development: new global challenges, new business models". *Journal of Brand Management*. Vol. 25. Pp. 409-410.
- Hansen R. and Sia S.K. (2015) "Hummel's digital transformation toward omnichannel retailing: Key lessons learned". *MIS Quarterly Executive*. Vol. 14(2).
- Hess T., Matt C., Benlian A. and Wiesböck, F. (2016) "Options for formulating a digital transformation strategy". *MIS Quarterly Executive*. Vol. 15(2). Pp. 123-139.
- Hung K., Chen A.H., Peng N., Hackley C., Tiwsakul R.A and Chou C. (2011) "Antecedents of luxury brand purchase intention". *Journal of product and brand management*. Vol. 20(6). Pp. 457-467.
- Jain V., Bernal J. and Gupta P. (2018) "Big data drives luxury brands growth beyond digital". Available at: <https://luxe.digital/digital-luxury-reports/big-data-drives-luxury-brands-growth-beyond-digital/>.
- James K.L., Randall N.P. and Haddaway N.R. (2016) "A methodology of systematic mapping in environmental sciences". *Journal of the Collaboration for Environmental Evidence*. Vol. 5(7). Available at: <https://rdu.be/bi8nu>.
- Jankowska B. and Polowczyk J. (2016) "Digitalization fostering business cooperation- reality or fiction?" in *Proceedings of the 9th Annual conference of the EuroMed Academy of Business*. Pp. 1066-1078. Poland, September 2016.
- Kansara V. A. (2014) Burberry remains digital luxury leader, while Céline trails industry. Available at: <http://www.businessoffashion.com/articles/fashion-tech/burberryremains-digital-luxury-leader-celine-trails>.
- Kansara V.A. (2017) Inside Farfetch's store of the future. Available at: <https://www.businessoffashion.com/articles/bof-exclusive/inside-farfetchs-store-of-the-future>.
- Kapferer J.N. and Bastien V. (2009) "The specificity of luxury management: turning marketing upside down", *Journal of Brand Management*, Vol. 16(5). Pp. 311-322.
- Kapferer J.N. (2016) "The challenges of luxury branding". *The Routledge companion to contemporary brand management*. Routledge Taylor & Francis group. London. Pp. 473-491.
- Kapferer J.N and Valette- Florence P.(2016) "Beyond rarity: the paths of luxury desire. How luxury brands grow yet remain desirable". *Journal of product and brand management*. Vol. 25(2). Pp. 120-133.
- Kim Y.H. and Kim Y.K. (2017) "A technology- fashion collaborative product : its impact on consumer attitudes and purchase intention". *Journal of global fashion marketing*. Vol. 8(4). Pp. 283-297.
- Kitchenham B. and Charters S. (2007) Guidelines for Performing Systematic Literature Reviews in Software Engineering, Tech. rep., Technical report, EBSE Technical Report EBSE-2007-01.
- Liu X., Burns A. and Hou Y. (2013) "Comparing online and in-store shopping behavior towards luxury goods". *International Journal of Retail & Distribution Management* Vol. 41 (11/12). Pp. 885-900.
- Matt C., Hess T. and Benlian A. (2015) "Digital transformation strategies". *Business and information systems engineering*. Vol. 57(5). Pp. 339-343.
- Mikalsen M., Stray V., Moe N.B. and Nyrud H. (2018) "Agile digital transformation: a case study of interdependencies" in *proceedings of the 39th international conference on Information Systems*. San Francisco, 2018.
- Miller K.W. and Mills M.K. (2012) "Contributing clarity by examining brand luxury in the fashion market". *Journal of business research*. Vol. 65. Pp. 1471-1479.
- Neubert N. (2018) "SMES perception on the impact of digitalization on internationalization". In *Proceedings of the 11th Annual Conference of the EuroMed Academy of Business*. Pp. 1019-1027. Malta, September 2018.
- Okonkwo, U. (2010) *Luxury Online: Style, Systems, Strategies*. Palgrave Macmillan. New York.
- Pantano E., Priporas C.V., Sorace S. and Iazzolino G. (2017) "Does the innovation-orientation lead to retail industry growth? Empirical evidence from patent analysis". *Journal of Retailing and Consumer Services*. Vol. 34. Pp. 88-94.
- Pantano E. and Verteramo S. (2017) "How technologies are changing the social relationships in the shopping experience?" *International Journal of Technology and Marketing*. Vol. 12 (2). Pp. 151-164.
- Papagiannidis S., Pantano E., See-To E., Dennis C. and Bourlakis M. (2017) "To immerse or not? Experimenting with two virtual retail environments". *Info Tech People*. Vol. 30(1). Pp. 163-188.
- Pappas I., Mikalef P., Giannakos M. and Krogstie J. (2018) "Big data and business analytics ecosystems: paving the way towards digital transformation and sustainable societies". *Information Systems and e-Business Management*. Vol.16. Pp. 479-491. Available at: <https://doi.org/10.1007/s10257-018-0377-z>.
- Phan M., Thomas R. and Heinne K. (2011) "Social Media and luxury brand management: the case of Burberry". *Journal of global fashion marketing*. Vol. 2-4. Pp. 213-222.
- Petersen K., Feldt R., Mujtaba S. and Mattsson M. (2008) Systematic mapping studies in software engineering, in: *12th International Conference on Evaluation and Assessment in Software Engineering*. Vol. 17. Pp. 1.

- Petersen K., Vakkalanka S. and Kuzniarz L. (2015) "Guidelines for conducting systematic mapping studies in software engineering: An update", *Information and Software Technology*. Vol.64. Pp. 1–18.
- Reichert T. and Hutchinson R. (2019) "Digital transformation", Boston Consulting Group. Available at: <https://www.bcg.com/digital-bcg/digital-transformation/overview.aspx>.
- Remane G., Hanelt A., Nickerson R.C. and Kolbe L.M. (2017) "Discovering digital business models in traditional industries". *Journal of business strategy*. Vol. 38(2). Pp. 41-51.
- Ribeiro R. and Nobre H. (2016) "E-retail of luxury products in the fashion industry". In *Proceedings of the 9th Annual Conference of the EuroMed Academy of Business*. Pp. 1535-1542. Poland, September 2016.
- Romao M.T., Moro S., Rita P. and Ramos P. (2019) "Leveraging a luxury fashion brand through social media". *European research on management and business economics*. Vol. 25. Pp. 15-22.
- Sebastian I., Ross J., Beath, C. Mocker M., Moloney K. and Fonstad N. (2017) "How Big Old Companies Navigate Digital Transformation". *MIS Quarterly Executive*. Vol. 16(3). Article: 6.
- Seo Y. and Buchanan- Oliver M. (2015) "Luxury branding: the industry, trends and future conceptualizations". *Asia Pacific Journal of marketing and logistics*. Vol. 27(1). Pp. 82-98.
- Som A. and Pape N. (2015) "Brand and line extensions: an empirical study from the new age luxury industry". *Luxury research journal*. Vol. 1(1).
- Sombart W. (1913) *Luxus und Kapitalismus*. English translation: *Luxury and capitalism*. University of Michigan Press, Ann Arbor.
- Tauriello F., Abbafati L. and Festa A. (2017) *Disruptive innovation in luxury e-commerce: the case of Farfetch*. Tesi.luiss.it
- Varnali K., Toker A. (2010) "Mobile marketing research: the-state-of-the-art". *International Journal of Information and Management*. Vol. 30 (2). Pp. 144–151.
- Ventura P. (2017) "5 fundamentals of successful digital luxury brands". Available at: <https://www.luxurysociety.com/en/articles/2017/04/5-fundamentals-of-successful-digital-luxury-brands/>.
- Vigneron F. and Johnson L.W. (2004) "Measuring perceptions of brand luxury", *Journal of Brand Management*, Vol. 11 (6). Pp. 484-506.
- Vrontis D., Thrassou A., Chebbi H., and Yahiaoui D. (2012) "Transcending innovativeness towards strategic reflexivity". *Qualitative Market Research: An International Journal*. Vol.15(4). Pp. 420-437.
- Vrontis D., Santoro G. and Bresciani S. (2016) "External knowledge sourcing and new product development: Evidence from the food and beverage industry". In *Proceedings of the 9th Annual Conference of the EuroMed Academy of Business*. Pp. 1881-1891. Poland, September 2016.
- Wade M. (2016) *Digital Business transformation, the game changer*. Available at: <https://www.thedigitaltransformationpeople.com/channels/strategy-and-innovation/digital-business-transformation-the-game-changer/>.
- Zinder E. and Yunatova I. (2016) "Synergy for digital transformation: person's multiple roles and subject domains integration". *Digital Transformation and Global Society*. First International Conference, DTGS 2016, St. Petersburg, Russia. Pp. 155–168.

FISCAL INCENTIVES FOR TENANTS OF SPECIAL ECONOMIC ZONES IN RUSSIA'S FAR EAST

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ABSTRACT

The article analyzes the findings of a survey regarding the influence that various types of fiscal instruments have on the behavior of economic entities in the special economic zones of Russia's Primorsky Region. The article also looks at the current business climate in the region with regard to fiscal support measures provided to the areas of the Far East. The basic research methods were statistical methods, as well as tools for correlation and regression analysis. The authors argue that fiscal instruments are an indispensable part of a package of measures for attracting investors and that they have a significant influence on investment decisions. The authors prove that tax incentives for corporations and lower social security contribution rates find the highest demand among investors. At the same time, all respondents note the significance of individual preferences, for example, lower tariffs for insurance premiums over 10 years at a rate of 7.6% instead of 30% for non-residents. Accelerated procedure for VAT refunds and shortened inspection periods are not topical preferences for residents due to an effective automated VAT tax administration system in the Russian Federation. The study did not confirm the presence of closer attention to residents by the inspection structures. The purpose of the article is to evaluate the attractiveness of fiscal instruments facilitating business development by using the results of a survey of special economic zone tenants in Russia's Far East.

Keywords: tax incentives, Russia's Far East, Free Port of Vladivostok.

1 RELEVANCE OF RESEARCH

The Far East is Russia's window into the Asia-Pacific and is regarded as one of the most promising regions of Russia with huge economic and geopolitical significance for the country's development. The Asia-Pacific is the most fast-developing area of the world where special economic zones (SEZs) have been sprouting up. Such zones actively use tax instruments to facilitate business development and attract foreign investors. Russia's Far East is no exception as it has been home to free economic

zones (Free Port of Vladivostok²⁰ and territories of advanced social and economic development.) offering preferential treatment to businesses since 2015. The policy of creating a friendly investment environment for SEZ tenants envisages the provision of preferential treatment to businesses. Tenants enjoy various incentives, such as tax concessions, trade preferences, and administrative incentives. Tax incentives are particularly relevant as they are having a much stronger influence on investment decisions than in previous years. The distribution of tenants across the special economic zones of the Far East is uneven. The free port of Vladivostok and Primorsky Region have the largest number of tenants (70% of them are registered in Vladivostok); the territories of advanced social and economic development (ASEZ) in Primorsky Region account for 25% of tenants²¹. In 2018, the number of tenants in the territories of advanced social and economic development and the free port of Vladivostok nearly tripled (from 454 to 1,200). This is a sign of the growing interest of the entrepreneurial community in developing business in the Far East. SEZ tenants are entitled to customs preferences (customs clearance procedures of the free customs zone) and administrative incentives (shorter audits, one-stop shops for investors, legal representation of tenants in court) as well as tax incentives.

ASEZ	Tax exemption terms		
	Corporate income tax	Corporate property tax	Land tax
Territories of advanced social and economic development			
«Amur-Khingan»		0% for the first 5 years	0% for 3 years
«Komsomolsk», «Khabarovsk», «Nikolayevsk»; «Beringovsky»	Federal tax (FT): 0% for the first 5 years since the first profit-making year; 2% for the subsequent 5 years.	0% for the first 5 years; 1,1% for the subsequent 5 years	0% for 3 years
«Nadezhdinskaya», «Mikhaylovsky», «Bolshoy Kamen», «Neftekhimichesky»	Regional tax (RT): 0% for the first 5 years since the first profit-making year, 10% for the subsequent 5 years	0% for the first 5 years; 0.5% for the subsequent 5 years	0% for 3-5 years
«Yuzhnaya», «Gorny Vozdukh», «Kurils»	0% for 5 years	0% for 5 years	0% for 5 years
«Priamurskaya», «Belogorsk», «Svobodny»	0% for 5 years, at least 10% for the subsequent 5 years	0% for 5 years; 1% for the subsequent 5 years	0% for 3 years
«Kangalassy», «Yuzhnaya Yakutia»		0% for 5 years	0% for 5 years
«Kamchatka»	FT: 0% for 5 years; RT: 5% for 5 years	0% for the project payback period, but not more than 5 years	0% for 5 years
Free Port of Vladivostok (FRV)			
Free port of Vladivostok	0% - for 5 years; 12% - for the subsequent 5 years	0% for 5 years; Up to 2,2% for the subsequent 5 years	0% for 5 years

Compiled by the authors (Sinenko, O., *et al.*, 2018)

Table 1. Tax incentives for tenants in advanced special economic zones (ASEZ) of Russia's Far East

²⁰ Federal Law No 212 "On Free Port of Vladivostok" adopted 13 Jul 2015 (as last amended on 3 Jul 2018)

²¹ Far East Development Corporation (2018). Available at: <http://www.ercd.ru>.

The specifics of exemptions from the corporate income tax, property, and land tax available to the tenants of the advanced development territories in Russia's Far East and the free port of Vladivostok are summarized in Table 1.

An additional advantage available to tenants of advanced development territories is a reduction on social security contribution rates from the standard 30% to 7.6% for 10 years. Additionally, tenants are entitled to an accelerated VAT refund procedure (15 days) and a tax reduction factor for mineral extraction tax (from 0 to 1 for 10 years).

2 LITERATURE REVIEW

The key issue for countries setting up special economic zones today is the provision of proper tax benefits (Sinenko, 2016). Another point worth mentioning is competition for investors and taxpayers that generates new approaches to taxation of investments (Ślusarczyk, 2018), which in turn increases tax migration (Wiedemann & Finke, 2015; Moberg, 2018). The impact of special economic zones in Poland on the sustainable development of municipalities, taking into account measurable economic, social and environmental criteria, has been investigated by Slusarczyk (2018).

The work of Lamantia and Pezzino (2018) is devoted to the study of tax migration of taxpayers in the EU. In order to prevent business from migrating to special economic zones, some cities close to Shanghai announced an 'X+1' plan for policy support in 2000, meaning these cities offered one additional form of policy support in addition to the policy support offered by Shanghai (X). In response, Shanghai expanded the planning area of the Economic and Technological Development Zones from 67 square kilometers to 173 square kilometers.

Kaneko (2018) revealed the positive impact of special economic zones in creating an investment climate in Poland, where 35% of foreign direct investment in the manufacturing sector was attracted. In a study by Quaicoe (2017), opposite conclusions were made that the free zones of Ghana have a negative impact and retard economic growth in the country. The author proposes to abandon the free zones and at the same time create the infrastructure and provide tax incentives throughout the country to ensure a balanced and sustainable development of the economy of Ghana. The impact of tax structures on economic growth in Jordan over the period 1980-2015 was investigated by Metri Fayeze Mdanat et al. (2018). The analysis shows that consumption and tariffs have a positive effect on per capita gross domestic product growth, whereas income taxes negatively influenced this growth measure.

The impact of tax benefits on investing activities of Chinese businesses was investigated by Zhang et al. (2018). Researchers are curious about the experience of Asia-Pacific countries in creating

mechanisms of tax incentives in special economic zones and the outcomes of investment attraction programs in such zones (Zeng, 2015, 2017). There is a number of studies dedicated to fiscal policies in free ports of the Asia-Pacific region (Chen, 2018; Tian, 2018).

3 MATERIALS AND METHODS

The authors use both quantitative and qualitative research methods. The qualitative method used is a survey conducted in a focus group consisting of tenants of the free port of Vladivostok and the advanced special economic zones of the Far East. The list of the quantitative methods employed includes systematization, the processing of the survey results by means of correlation and regression analysis tools. The survey of the economic entities operating as tenants of the special economic zones of Russia's Far East was conducted by master's degree students at the School of Economics and Management of the Far Eastern Federal University in 2018 as part of the project "Effects of special institutional regimes on the behavior and performance of companies (the case of Russia's Far East (Sinenko, 2018)). At the time of the survey, the free port of Vladivostok had 556 tenants; the advanced special economic zones – 248 tenants. The survey sample contained 126 respondents, 99 of them being tenants of the free port of Vladivostok and 27 - tenants of the special economic zones. The majority of the respondents operated in the free port of Vladivostok, Primorsky Region, which is due to the survey site. The survey questionnaire contained the full spectrum of questions about the company's operations. It was divided into the following sections: company information; the company's strategic goals; the company's internal characteristics; external environment etc. The response options for the questions included a 0-7 rating scale (ranging from 7 -"very important" to 0 "have difficulty answering the question").

The purpose of the study was to evaluate the attractiveness of fiscal instruments facilitating business development in the special economic zones by using the results of the survey. The following hypotheses were verified as part of the survey:

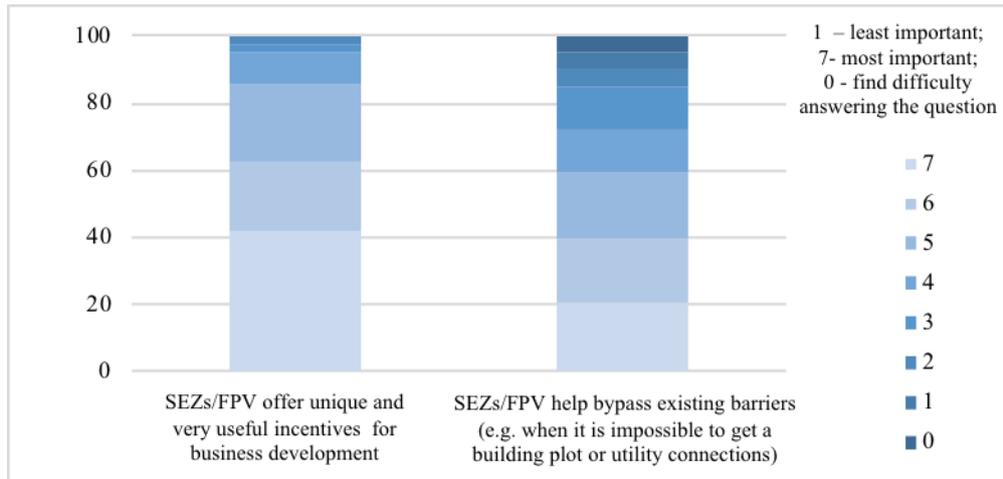
1. Various tax incentives and preferences help boost business development;
2. By offering tax incentives to SEZ tenants it is possible to have an impact on their activities and the business climate;
3. The need to file tax returns (the absence of simplified tax accounting and reporting forms) negatively impacts the activities of tenants.

Construction was the most represented sector in the survey (23% of respondents), followed by services (21%), including logistics, transportation and warehouse services, and processing industries

(15%). The location of the free port of Vladivostok is the reason why many of its tenants are involved in fishing and fish farming.

4 ANALYSIS OF THE RESULTS

One of the core business performance questions for SEZ tenants has to do with the investment climate, including the available incentives. Figure 1 presents an analysis of the distribution of the respondents' answers as to why they became a SEZ tenant in Russia's Far East.



Compiled by the authors

Fig. 1 – Distribution of respondents' answers as to their motivation for becoming a SEZ tenant in the Far East

The analysis confirms the importance of fiscal incentives for businesses. As part of the survey, SEZ tenants were asked to indicate the degree to which the suggestions below accurately described their behavior in case there were no tax incentives available to them. The results are presented in Table 2. The analysis of the answers given by 76% of the surveyed companies that said they would carry on with their business without any tax incentives confirms one of the hypotheses of the study.

Taxpayer's actions in case of lack of preferences	Mean score	Construction	Other services
The company is ready to develop its business because it has been in the industry for a long time	3.63	3.50	3.44
The company is ready to develop its business because it is profitable and interesting	4.28	4.83	4.19
The company would not start a business in this region	3.00	2.50	2.63

Compiled by the author

Table 2. Taxpayers' assessment of accuracy of behavior descriptions in case of absence of tax incentives

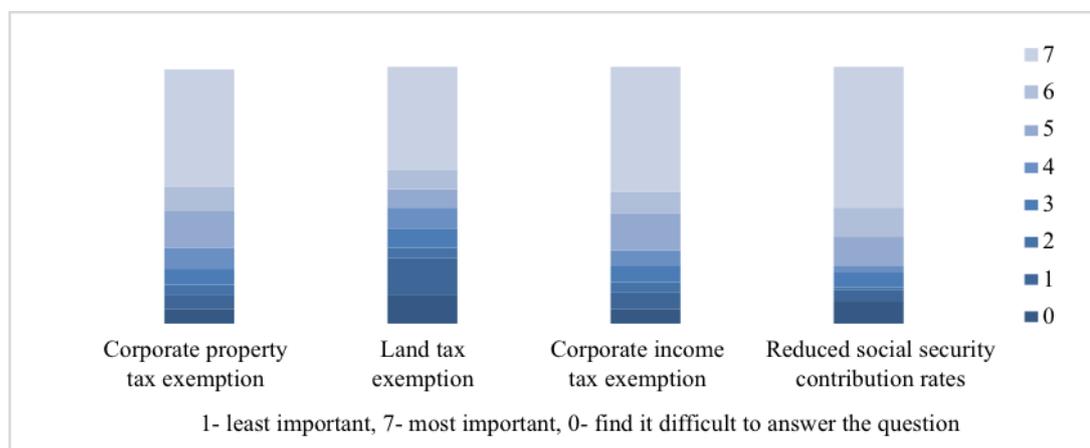
Table 3 presents an analysis of the significance of tax preferences for SEZ tenants. Due to their application peculiarities, the reduction factor for mineral extraction tax and customs incentives were not valued highly by the surveyed group. Moreover, an accelerated VAT refund procedure and shorter time limits for tax audits are not of prime importance thanks to an efficient automated system of VAT administration in Russia. Thanks to electronic invoicing, the automated system quickly traces each product as it passes from the manufacturer to the end-buyer through a chain of intermediaries.

Available preferences	Mean score	Construction	Services
Exemption from corporate income tax	5.21	4.77	5.59
Exemption from property tax	5.16	5.03	4.85
Accelerated VAT refund procedure	4.05	2.93	4.33
Exemption from land tax	4.40	3.93	4.78
Reduction factor for mineral extraction tax	1.46	1.00	1.56
Lower social insurance contribution rates	5.46	5.20	5.15
Customs incentives	3.55	2.43	4.04
Shorter audits by oversight agencies	4.32	4.33	4.22

Compiled by the authors

Table 3. Analysis of the significance of tax preferences for tenants of special economic zones in the Far East

Figure 2 depicts the distribution of the respondents' answers about the importance of the key tax incentives to them.



Compiled by the authors

Fig. 2 – Distribution of the respondents' answers about the importance of the key tax incentives to them

All respondents view lower social insurance contribution rates as significant: for the first 10 years, SEZ tenants pay a reduced social contribution rate of 7.6%, compared to the standard rate of 30% outside the SEZs. This supports the hypothesis that the provision of tax incentives to SEZ tenants influences their business and the business climate.

When assessing the significance of possible new incentives for their company, all respondents pointed to the need of extending the duration of tax concessions. Table 4 presents an analysis of the relevance of currently available fiscal preferences to SEZ tenants. The analysis of the data indicates that SEZ tenants assign the biggest importance to modifications to the incentives on property tax and reduced social insurance contribution rates. The respondents also noted that the tax incentives did not help them recoup the funds invested in fixed assets.

Improvement proposals for available preferences	Mean score
Land tax exemption should be extended beyond the 5-year time limit	5.62
Reduced social security contribution rates should be extended beyond the 10-year time limit	6.01
Corporate property tax should be extended beyond the 5-year time limit	6.01
Nil rate of corporate property tax encourages purchase of fixed assets (as opposed to leasing them)	5.75
Property tax exemption for new buildings should be extended beyond 5-year time limit	6.02
Tax preferences enabled the company to fully recoup its investments in fixed assets	2.28
Corporate income tax exemption should be extended beyond 5-year time limit	5.98
Nil rate of land tax encourages purchase of land plots (as opposed to leasing)	5.44

Compiled by the authors

Table 4. Evaluation of the relevance of currently available fiscal preferences

In order to analyze correlations between responses within business sectors, a correlation matrix was built (using the Pearson correlation coefficient) on the basis of the responses obtained from the respondents involved in the construction business and provision of services (primarily logistics). For testing the statistical significance of the obtained correlation coefficients, Student's t-test was used (Table 5).

Corporate income tax exemption	Sales growth	Number of employees	Market share	Higher profitability
Correlation coefficient	0.631	0.680	0.602	0.621
Student t-test	10.22	11.65	9.48	9.96

Compiled by the authors

Table 5. Analysis of the effect of corporate income tax exemption on respondents' business performance evaluation vs. competition

Within the framework of interpreting the statistically significant correlations, the study hypotheses will be verified. It is possible to speak about a moderate positive relationship between the significance for a business entity of being exempt from corporate income tax and the respondent's assessment of their company's dynamics versus its competitors: the more value they attribute to a specific preference, the higher they evaluate their own performance.

Interestingly enough, representatives of the construction business do not see a strong link between tax incentives and business performance. While admitted the value of tax incentives, they attributed their

economic success, such as sales growth and profitability, to fast-paced development, improvements to the quality of work and customer service. However, the hypothesis about various tax incentives and preferences helping to further business development proves valid for respondents who provide other services. An analysis of the effect of a trusting relationship with government on how respondents from the construction industry evaluated their business performance is presented in Table 6.

Industry: Construction	Trusting relationship has been built with government	
	Correlation coefficient	Student t-test
A land plot for construction of infrastructure facilities has been	0.655	10.87
An infrastructure facility has been built	0.507	7.37
Utility connections have been provided	0.381	5.16
Phone line and internet connections have been provided	0.265	3.44
Productivity and profitability have grown	0.385	5.22
Quality of workforce has improved	0.689	6.66
It is much easier now to hire foreign workers	0.639	6.48
Red tape has been reduced	0.488	11.75
Rental costs have decreased	0.736	5.54

Compiled by the authors

Table 6. Analysis of how trusting relationship with government impacts business performance evaluation by respondents

When assessing the achievements and complications faced by SEZ tenants in the Far East it has to be noted that building a trusting relationship with government proved to be one of the easier goals for them. There is a statistically significant correlation ($r=0.684$) between responses to the questions "Building a trusting relationship with government" (mean score 4.36) and "Reduced red tape" (mean score 3.51). This therefore means that having a trusting relationship with government resulted in reduced red tape for SEZ tenants.

The hypothesis about the requirement of filing numerous tax reports (the absence of simplified tax accounting forms for SEZ tenants) having a negative impact on tenants' business was also confirmed. Tenants mentioned an increased amount of tax reporting, while the amount of expected tax reporting and compliance requirements coincided with the amount of unscheduled reporting requirements and a heightened interest of oversight agencies, as shown in Table 7.

Questions about heightened attention of oversight agencies to the company	Correlation coefficient		Student t-test	
	Construction	Other services	Construction	Other services
Amount of expected tax reporting requests has grown	0.008	0.441	0.095	6.181
Amount of unexpected tax reporting has grown	- 0.015	0.196	0.192	2.515
Our company has experienced heightened attention of	0.277	0.518	3.606	7.613

Compiled by the authors

Table 7. Analysis of relationship between the question about building a trusting relationship with government and the question about the heightened attention of oversight agencies to the company

As part of this hypothesis it has to be noted that depending on the industry a company is in, it might be requested to file additional tax reports if its business is successful. Requests for additional reporting are more frequently faced by companies operating in the services sector (moderate and weak correlation), unlike construction where a weak negative correlation was observed between business performance and expected reporting. It is possible to speak about a certain increase in the attention that oversight agencies paid to successful businesses in both industries.

The hypothesis about the status of SEZ tenant having a negative impact on business due to heightened attention of oversight agencies proved invalid.

5 CONCLUSION

Special economic zones are an instrument of limiting government's influence on regional economies. It is extremely important, however, to have a clear development concept in place that would take into account the investor's view and be in line with the priorities of national economic policy and global trends. The analysis showed that incentives available in special economic zones constitute a unique and useful tool for facilitating business development. All respondents highlighted the significance of specific incentives, such as reduced social insurance contribution rates: SEZ tenants qualify for a reduced rate of 7.6% on annual remuneration for 10 years instead of the standard 30% rate. When asked about possible new incentives that could be introduced in special economic zones, all respondents mentioned the need for a lower tax on personal income. In order to improve the appeal of Russia's Far East for investors, factors that have an impact on the conditions of doing business in special economic zones. Further research is aimed at designing a universal approach to assessing the effectiveness of the preferences available in the special economic zones of the Far East.

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REFERENCES

- Ślusarczyk, B. (2018), "Tax incentives as a main factor to attract foreign direct investments in Poland", *Administrative and Management Public*, Vol. 30, pp. 67-81. DOI: 10.24818/amp/2018.30-05.
- Chen, J.H., Wan, Z., Zhang, F.W., Park, N.K., Zheng, A.B., Zhao, J. (2018), "Evaluation and comparison of the development performances of typical free trade port zones in China", *Transportation research part a-policy and practice*, vol. 118, Dec., pp. 506-526.

- Kaneko, H. (2018), "Special economic zones in Poland: A black hole swallowing state budget or a messiah for regional development?" *Law in Eastern Europe*, vol. 67, pp. 57-74.
- Lamantia, F., Pezzino, M. (2018), "The dynamic effects of fiscal reforms and tax competition on tax compliance and migration". *Review of international economics*, vol. 26, no. 3, pp. 672-690. DOI: 10.1111/roie.12318
- Mdanat, M.F., Shotar, M., Samawi G., Mulot J., Arabiyat T.S., Alzyadat M.A., (2018) "Tax structure and economic growth in Jordan, 1980-2015", *EuroMed Journal of Business*, Vol. 13 Issue: 1, pp.102-127. <https://doi.org/10.1108/EMJB-11-2016-0030>
- Moberg, L. (2018), *Political Economy of Special Economic Zones: Concentrating economic development*. New York: Routledge. 192 pp.
- Quaicoe, A., Aboagye, A.Q., Bokpin, G.A. (2017), "Assessing the impact of export processing zones on economic growth in Ghana". *Research in International Business and Finance*, Elsevier, vol. 42(C), pp. 1150-1163. <https://doi.org/10.1016/j.ribaf.2017.07.052>
- Sinenko, O. (2016), "Methods of assessing of tax incentives effectiveness in special economic zones: An analytical overview". *Journal of Tax Reform*, vol. 2, no. 3, pp. 168-178. <http://dx.doi.org/10.15826/jtr.2016.2.3.022>
- Sinenko, O., Mayburov, I., Gafforova, E., (2018), "Attractiveness of Fiscal Instruments of Business Development in Russia's Far East: Evaluations by Tenants of Special Economic Zones", 32th International Business Information Management Association Conference (IBIMA), 15-16 November 2018, pp. 6644-6651.
- Tian, W., Xu, Z., Yu, M. and Zhu, H. (2018), "China's Free Trade Ports: Effective Action Against the Threat of De-globalization", *China & World Economy*, vol. 26, pp. 62-81. doi:10.1111/cwe.12249
- Wiedemann, V., Finke, K. (2015), "Taxing investments in the Asia-Pacific region: The importance of cross-border taxation and tax incentives", discussion paper, ZEW, No. 15-014, February, 32 pp. Available at: <http://hdl.handle.net/10419/107420>
- Zeng, D.Z. (2015), *Global Experiences with Special Economic Zones with a focus on China and Africa*. The World Bank. Trade and Competitiveness Global Practice, February, 17 pp. Available at: <http://www.worldbank.org/content/dam/Worldbank/Event/Africa/Investing%20in%20Africa%20Forum/2015/investing-in-africa-forum-global-experiences-with-special-economic-zones-with-a-focus-on-china-and-africa.pdf>
- Zeng, D.Z. (2017), *Special Economic Zones: Lessons from the Global Experience*. PEDL Synthesis Paper Series, no. 1, 28 pp. Available at: http://pedl.cepr.org/sites/default/files/PEDL_Synthesis_Paper_Piece_No_1.pdf
- Zhang, L., Chen, Y.Y., He, Z.Y. (2018), "The effect of investment tax incentives: evidence from China's value-added tax reform", *International tax and public finance*, vol. 25, no. 4, pp. 913-945. DOI: 10.1007/s10797-017-9475-y

THE IMPACT OF CULTURE ON RELATIONS BETWEEN PARENT COMPANIES AND FOREIGN SUBSIDIARIES

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ABSTRACT

The purpose of this research is to study the relationship between parent companies and their foreign subsidiaries, a key aspect in order to obtain a better understanding of how to manage a multicultural organization. Factors such as the autonomy of the subsidiary shape the relations between companies and it is necessary that the managers of the headquarters make the necessary adjustments to the surrounding environment. In this follow-up, we try to find out the impact of the dimensions of cultural distance on the autonomy of the subsidiaries, still little explored in this scope. Several subsidiaries were surveyed in Portugal through a research questionnaire and using hypothesis tests it is analyzed the impact of cultural distance specifically on the decision-making power of various components associated with the management of a subsidiary. The obtained results indicate that the effects of distance, although smaller than initially expected, remain significant and influence the autonomy of certain strategic decisions.

Keywords: Multinationals, subsidiaries, autonomy, cultural distance

INTRODUCTION

One of the most relevant internationalization mechanisms is the expansion of multinational companies. When the parent company has at least 50% the capital, or when there is the power to appoint and dismiss the majority of the members of the administration, it is a subsidiary company, otherwise it is called an associated company (UNCTAD, 2005). Currently, there are around 100,000 Multinationals and more than 860,000 foreign subsidiaries, numbers exponentially larger than the reality of the early 1990s, where the number of multinationals did not reach 40,000 (UNCTAD, 2017). In turn, in 2016, overseas subsidiaries accounted for about 11% of world GDP and employed more than 80 million people (UNCTAD, 2017). These values demonstrate the relevance of the study of these companies that thrive in the global market, some of them being economic agents more relevant than certain countries.

The creation of subsidiaries implies a relationship of control and coordination, central in the area of International Management and therefore the target of several analyzes, with distinct focuses over the

years (Kostova et al., 2016). The autonomy is a determining aspect in the relations between units of the same organization and greatly influences the results obtained by the Multinational. It is important to note that this variable may be influenced by several factors, from the country of origin of the multinational, or from the country of destination of the subsidiary. Although the world is increasingly globalized and geographical distance has become, seemingly, less important, other dimensions stand out, such as cultural, administrative and economic distance. For any manager is decisive to have a thorough understanding of the adjustments required to invest in a new market (Ghoshal and Nohria, 1989; Martinez and Jarillo, 1989). Therefore, the central objective of this study is to analyze how cultural distance between countries influences the management of foreign subsidiaries.

LITERATURE REVIEW

Several studies (Ginsberg and Venkatraman, 1985, Hofer, 1975, Kostova et al., 2016, Tian and Slocum, 2014) indicate that there is not an optimal strategy for the management of subsidiaries that allow having the best results in all circumstances, because these organizational decisions are, of course, dependent on the external environment (Roth and Morrison, 1990). Influenced by the level of local resources, as well as by the environmental complexity of Multinational's other subsidiaries, relations between headquarters and its subsidiaries are based on three structural elements: Centralization "corresponding to the lack of subsidiary's autonomy in decision-making"; Formalization, "allusive to the systematic use of rules and procedures in decision-making"; Normative Integration, "consensus and shared values as a basis for decision-making" (Ghoshal and Nohria, 1989, p.323).

At the organizational level, Multinationals can present two distinct models. The hierarchical structure, in which from the center all subsidiaries are monitored, is the most traditional. Symbolizes stable relations and strategic control by headquarter, however, limits the ability to manage the heterogeneity of the subsidiaries (Hedlund 1993). In this way it is thus important to use a heterarchical organization system that, on the opposite, assumes that subsidiaries are important strategic sources, that is, decision making is decentralized (Kostova et al., 2016). There are centers with different attributes and a normative control, attentive in the objectives. The heterarchical Multinational is characterized by "actively seeking advantages deriving from the company's global expansion" (Hedlund, 1986, p.20).

Autonomy

Inherent in the relation between parent company and subsidiary is the concept of autonomy, which is fundamental to its characterization. Autonomy is seen as the degree of independence available, or

acquired by a subsidiary, allowing making decisions on their own (Young and Tavares, 2004). Taggart and Hood (1999) consider it to be the result of an ongoing process of negotiation between the subsidiaries and the parent company. It should be noted that the differences between the definitions are related to the distinction proposed by

Autonomy can be seen as a synonym of decentralization, however there is a difference to be noted, which distinguishes one concept from the other. Gupta and Govindarajan (1991) define decentralization as the decision-making power that headquarters managers entrust to their branch managers. Therefore, it is explicit that decentralization refers to the attribution of autonomy by the parent company, while autonomy can also be developed by the subsidiary.

Control and coordination are two factors that can simultaneously affect the level of autonomy of a subsidiary. It may be low, as a result of the headquarters desire to maintain a comprehensive control over the activities carried out in the subsidiary, or due to the need to operate in coordination with the rest of the Multinational network (Hou (2005) cf Tong et al 2012). At the highest level of autonomy, subsidiaries have the ability to make all decisions without consulting the parent company; in the opposite scenario, all decisions are subject to headquarters approval (Tong et al., 2012).

Cultural Distance

Although the development of means of transport and communication increasingly brings geographically distant markets closer, distance remains a barrier to international trade not only through its geographical dimension but also through the cultural, administrative and economic dimension (Ghemawat, 2001). Often market attractiveness is overstated as they support their decisions in analyses models based on the sales potential such as the Country Portfolio Analysis (CPA) that uses measures such as GDP and the level of consumer income to define the ideal market . In this way, there can be an erroneous assessment by ignoring the effects associated with distance, incurring large financial losses. Each dimension can affect different firms in different ways (Ghemawat, 2001), but cultural distance seems to have a great impact.

The concept of culture is not consensual. Hofstede (1984) defines it as the collective programming of the mind that distinguishes members of one group or category of people from another, emphasizing the role of value systems as the basis for the formation of cultures. A country is by itself a collective, a group, so the study of a country's culture is decisive in order to know and understand its surroundings, as well as the opportunities and challenges that an investor may encounter.

Hofstede (1983) proposed a classification to measure the national culture, supported by a research work carried out among the employees of several worldwide subsidiaries of IBM between 1967 and 1973. He identified four cultural dimensions that distinguish employees from different countries: distance to power, individualism, masculinity and uncertainty avoidance. Later, Hofstede and Bond

(1988) added a new dimension, Confucian Dynamism, which after a rename is currently titled Long-term orientation. Finally, in 2010 a sixth dimension called indulgence was added (Hofstede et al., 2010).

The first dimension, also known as hierarchical distance, evaluates the level of inequality accepted by the people of a country, that is, the degree of centralization of authority. In societies with a great distance from power, those who do not have it are equally satisfied because they feel dependent on authority (Hofstede, 1983). Individualism contrasts the level at which people act according to self-interest, where the bonds between individuals are weak, with societies called collectivists, where the bonds are strong and all act for the good of the group. In these, the degree of integration is higher (Hofstede, 1983). The third dimension measures the prevalence of so-called masculine values such as aggressiveness, success and competitive drive, or feminine values of solidarity and quality of life. A country is considered "masculine" when there is a large division of social roles through sex and the typical masculine values dominate society. In the opposite case, when the quality of life and relations overlap with success, the country is considered "female" (Hofstede, 1983). Uncertainty avoidance is defined as the extent to which societies are willing to accept uncertainty from an unknown future. When aversion is low, people feel safe, take risks, and tolerate other people's behavior. On the other hand, in societies with a high degree of risk aversion, people tend to have higher levels of anxiety and aggressiveness, seeking regulatory institutions that increase safety. This can be created through technology, clear laws and rules and religions (Hofstede, 1983). On the other hand, the dimension that evaluates the temporal orientation refers to the way in which the investments are realized, if in the perspective of obtaining dividends in the short term, or slowly and with more care with the available resources. It differentiates in the same way societies by the predominance of norms and traditions, in contrast to those that are more pragmatic and susceptible to change (Hofstede, 2011). Finally, indulgence is complementary to the dimension of long-term or short-term orientation. It distinguishes societies in which the most basic human desires for enjoyment of life are freely gratified, so-called "indulgent", from those which impose restrictions on the satisfaction of natural needs, so-called "restrictive" (Hofstede, 2011).

The contribution of Hofstede obtained universal repercussion; however, other authors also presented proposals of classification of cultures. Hall (1976), for example, divided the cultures through the forms of communication, which could be either high context (where information is implicit) or low context (where messages are explicit). For its part, Trompenaars and Hampden-Turner (2011), Schwartz (1994) and House et al. (2004) are other examples that, inspired by the work of Hofstede, gave their contribution, presenting new cultural dimensions of country distinction.

These differences among nations demonstrate that the management of subsidiaries in different countries cannot be identical and there will never be full convergence. The dependence on cultural aspects stems from the fact that managing an organization encompasses "manipulating symbols that are meaningful to the people who are managed" (Hofstede 1983: 88). All that can be done is to understand how culture itself affects the way of thinking differently from people in other societies, and how it will influence the management strategy of a multinational organization (Hofstede, 1983). Managers should be flexible and open to new ideas, no matter how different from what they are accustomed to (House et al., 2004).

In countries where power distance is high, the ideal strategy involves greater centralization of decision-making; managers who encourage the participation of all can be seen as incompetent. On the other hand, control and integration mechanisms are more effective in cultures with high aversion to uncertainty, since there is preference for well-established rules (Hofstede, 1983; Newman and Nollen, 1996). As collaborators of more individualistic countries, being more focused on self-interest, they desire more autonomy, however, subsidiaries of collectivist countries are more likely to act in the interests of the group, and a greater sharing of acquired knowledge is expected. When the parent company comes from an individualistic culture there is a tendency to opt for greater control of its foreign affiliates. Among the so-called masculine or feminine cultures there is a greater preponderance of interdependence in the second, which is characterized by emphasizing the importance of relationships (Brock et al., 2008; Newman and Nollen, 1996).

Considering that culture only exists by comparison, Hennart (1991), cf. Richards (2000) argues that the difficulty in controlling affiliates increases with cultural distance, since the cost of communication with headquarters becomes higher. One way to get around this problem is by using expatriate managers. However, other obstacles arise because not only relations with customers, suppliers and local authorities can be damaged, but the lack of autonomy of host country managers prevents a rapid and effective response to changing local market conditions. On the other hand, greater autonomy of the local managers can give rise to conflicts of interest, hindering the coordination of the activities of the subsidiaries. It is therefore crucial to find the balance between autonomy and control of international partners (Richards, 2000).

METHODOLOGY

A research questionnaire was used, since it was considered the most appropriate method of collecting information to obtain a sample with a high number of observations.

The questions that compose the questionnaire were withdrawn, with due adaptations, from pre-existing investigations. In a first phase the questionnaire intends to draw the profile of the

multinational, parent company and subsidiary, with open-ended and multiple-choice questions. In the second part, through which we intend to measure the autonomy of the subsidiaries, based mainly on the study of Tong et al. (2012), closed-ended questions are elaborated using a 7-point Likert scale. Cultural distance was measured on the basis of Hofstede's four classic dimensions: distance to power, individualism, masculinity, and uncertainty avoidance. It was calculated the differential of the values of the countries of the parent companies compared to the values obtained by Portugal (since every subsidiaries are Portuguese) in these classifications, each being analyzed separately.

The chosen test, using the data obtained and used in this investigation was the Student-T parametric test for two independent samples. The null hypotheses are rejected when p-value is lower than the level of significance chosen, and in this investigation the hypotheses will be examined for a significance level of 5%. Before analyzing the values, it is important to take into account the Levene test to determine the homogeneity of the variances.

The samples referring to the variables "Power Distance", "Individualism", "Masculinity", and "Uncertainty Avoidance were divided into two groups through the mean value of the study values, the Hofstede classifications used the absolute values of the countries of the parent companies and not the difference with the country of the subsidiaries. Taking into account that all the subsidiaries are in Portugal, the conclusions to be drawn are identical.

RESULTS

Through the SABI database, all companies located in Portugal, active, with e-mail addresses and not listed on the stock exchange, were selected. An indicator of independence was added in order to obtain only those companies with "A registered shareholder with more than 50% direct participation", that is, taking into account the definition of subsidiary company (UNCTAD, 2005) all subsidiaries in Portugal. From a total list of 66 489 companies, one by one, were found which of them had their headquarters abroad.

Of the 2679 e-mails delivered, 157 responses were obtained, however only 100 were considered valid since the rest were not from the company management team. The number is small, but it is not surprising given that the percentage of responses to online questionnaires is below 10% (Maholtra (2007) cf Tong et al., 2012). In addition, this questionnaire was exclusively directed to the management team of the companies, which makes it difficult to obtain a large number of responses. In comparison, in the study by Tong et al. (2012), 115 valid answers were collected from a total of 2,500 questionnaires sent (4.60%), while in the present study 3.73% of valid answers were obtained.

The sample subsidiaries have their parent companies in a diverse range of countries, from all continents. This factor is important for a correct analysis of the impact of distance in relations between

companies. However, not surprisingly, there is a greater incidence in European countries, and especially in France and Spain, which together account for 41% of the sample, or in other words, are the location of 41 of the 100 subsidiaries that entered the study. The CEOs of the subsidiaries are, for the most part, from Portugal, which demonstrates the trust that the parent companies have in Portuguese managers. 34% of them have another nationality, which, together with the nationality of Marketing, Production, R & D, Finance and Human Resources staff, makes it possible to assess whether the parent companies use expatriate or non-expatriated managers. There is no newly established company, with the youngest being at least two years old. The highest incidence is 25 years, held by 10 companies. About 9 of the total sample are less than 5 years old and only 15 are over 45 years old. With respect to the sector of activity of the subsidiaries, there are companies from several areas, with more than 50% belonging to wholesale and retail trade and manufacturing, which represent 35% of the total sample. The existence of companies from different sectors also has relevance, so that the results cannot be biased by the predominance of companies of a certain industry. Finally, 33% have between 10 and 49 employees and 31% have between 50 and 249, i.e. predominant those that according to the European criterion are defined respectively as small and medium enterprises (European Commission, 2006). Fourteen of the subsidiaries are microenterprises with less than 9 employees, while the remaining twenty-two have 250 or more.

Hypothesis Testing

CULTURAL IMPACT
H1.0: The average of autonomy of subsidiaries when their headquarters is in a country with a high or reduced power distance is identical.
H2.0: The average of autonomy of the subsidiaries when their headquarters are in a more individualized or more collectivist country is identical.
H3.0: The average of autonomy of subsidiaries when their headquarters is in a country with a high or low level of masculinity is identical.
H4.0: The average of autonomy of subsidiaries when their headquarters is in a country where aversion to uncertainty is high or reduced is identical.

Table 1 - *Null hypotheses tested*

In this analysis the autonomy variable is disaggregated in nine components: (1) Human Resource management; (2) Research and Development management; (3) Finance; (4) Corporate Structure; (5) Strategic Planning; (6) Expansion for External Markets; (7) Budgeting; (8) Manufacture and (9) Marketing. The null hypotheses formulated can be seen in table 1, each of them referring to the power of decision in each of the nine divisions.

Power Distance

		Levene test for equality of variances		T-test for equality of averages		
		F	Sig.	T	Sig. (bilateral)	Difference in average
1	Equal variances assumed	0,997	0,320	0,285	0,776	0,112
	Equal variances not assumed			0,291	0,772	0,112
2	Equal variances assumed	0,324	0,570	-0,427	0,670	-0,174
	Equal variances not assumed			-0,426	0,671	-0,174
3	Equal variances assumed	1,815	0,181	-0,365	0,716	-0,129
	Equal variances not assumed			-0,375	0,709	-0,129
4	Equal variances assumed	0,000	1,000	-2,045	0,044	-0,747
	Equal variances not assumed			-2,029	0,046	-0,747
5	Equal variances assumed	0,037	0,848	0,309	0,758	0,105
	Equal variances not assumed			0,308	0,759	0,105
6	Equal variances assumed	0,534	0,467	-1,546	0,125	-0,651
	Equal variances not assumed			-1,574	0,119	-0,651
7	Equal variances assumed	0,808	0,371	0,229	0,820	0,076
	Equal variances not assumed			0,234	0,816	0,076
8	Equal variances assumed	1,148	0,287	-1,574	0,119	-0,711
	Equal variances not assumed			-1,602	0,113	-0,711
9	Equal variances assumed	0,171	0,680	0,222	0,825	0,085
	Equal variances not assumed			0,221	0,825	0,085

Table 2 - Student's T-test for power distance

Starting with the "Power Distance", Table 2 shows the results of the differences in mean between the two groups in comparison.

Analyzing the T-Student test for two independent samples, it is concluded that statistically significant differences are only detected for the average of decision power of the subsidiary in the management of the Corporate Structure (4). The value of the p-value for this test is 0.046, less than 0.05, so it is possible to state that, for a 95% confidence interval, the means of autonomy of the subsidiaries by classifying distance to the power of the headquarter country are many different. When the classification is higher than 51, they have less autonomy in the management of the Corporate Structure, with a difference in the sample mean, compared to those with a lower rating of 0.747.

Individualism

		Levene Test		T-test		
		F	Sig.	T	Sig. (bilateral)	Differences in average
1	Equal variances assumed	0,274	0,602	-1,622	0,108	-0,656
	Equal variances not assumed			-1,601	0,114	-0,656
2	Equal variances assumed	2,273	0,135	0,496	0,621	0,210
	Equal variances not assumed			0,514	0,609	0,210
3	Equal variances assumed	0,424	0,516	-0,996	0,322	-0,363
	Equal variances not assumed			-0,972	0,335	-0,363
4	Equal variances assumed	0,001	0,979	0,671	0,504	0,259
	Equal variances not assumed			0,672	0,504	0,259
5	Equal variances assumed	0,360	0,550	-0,099	0,921	-0,035
	Equal variances not assumed			-0,100	0,920	-0,035
6	Equal variances assumed	0,059	0,808	1,347	0,181	0,590
	Equal variances not assumed			1,341	0,184	0,590
7	Equal variances assumed	0,403	0,527	-0,367	0,715	-0,127
	Equal variances not assumed			-0,360	0,720	-0,127
8	Equal variances assumed	0,100	0,752	-0,075	0,940	-0,036
	Equal variances not assumed			-0,074	0,941	-0,036
9	Equal variances assumed	1,857	0,176	0,417	0,678	0,165
	Equal variances not assumed			0,426	0,672	0,165

Table 3 - Student's T-test for individualism

As far as the cultural dimension of "Individualism" is concerned, it can be seen from table 3 that for both a significance level of 5%, there are no statistically significant differences between groups. Thus, the null hypotheses formulated for this dimension of the classification proposed by Hofstede are all not rejected. The level of individualism of the country of the parent company does not appear to have an impact on the autonomy of the subsidiaries.

Masculinity

		Levene Test		T-test		
		F	Sig.	T	Sig. (bilateral)	Differences in average
1	Equal variances assumed	0,649	0,422	-2,356	0,020	-0,908
	Equal variances not assumed			-2,333	0,022	-0,908
2	Equal variances assumed	1,453	0,231	-0,835	0,406	-0,342
	Equal variances not assumed			-0,821	0,414	-0,342
3	Equal variances assumed	1,436	0,234	-1,745	0,084	-0,608
	Equal variances not assumed			-1,713	0,091	-0,608
4	Equal variances assumed	7,086	0,009	0,200	0,842	0,075
	Equal variances not assumed			0,191	0,849	0,075
5	Equal variances assumed	0,317	0,575	-1,260	0,211	-0,425
	Equal variances not assumed			-1,240	0,219	-0,425
6	Equal variances assumed	0,350	0,556	0,253	0,800	0,108
	Equal variances not assumed			0,253	0,801	0,108
7	Equal variances assumed	2,568	0,112	-0,701	0,485	-0,233
	Equal variances not assumed			-0,730	0,467	-0,233
8	Equal variances assumed	0,447	0,505	-0,181	0,856	-0,083

	Equal variances not assumed			-0,180	0,857	-0,083
9	Equal variances assumed	0,619	0,433	-1,542	0,126	-0,583
	Equal variances not assumed			-1,515	0,134	-0,583

Table 4 - Student's T-test for masculinity

Finding the results of the T-Student test for the impact of the "Masculinity" of the headquarter country on the autonomy of the subsidiaries, it is validated, at a significance level of 5%, that autonomy in management of Human Resources (1) is different in the subsidiaries of Multinational companies located in countries more feminine and more masculine. The sample mean is higher when the values in the Masculinity dimension are less than 46. The difference in the mean between the two samples is 0.908, as can be seen in table 4.

Uncertainty Avoidance

		Levene test for equality of variances		T-test for equality of averages		
		F	Sig.	T	Sig. (bilateral)	Difference in average
1	Equal variances assumed	0,914	0,341	0,495	0,622	0,195
	Equal variances not assumed			0,502	0,617	0,195
2	Equal variances assumed	0,396	0,531	-0,224	0,823	-0,092
	Equal variances not assumed			-0,223	0,824	-0,092
3	Equal variances assumed	0,615	0,435	0,104	0,917	0,037
	Equal variances not assumed			0,106	0,916	0,037
4	Equal variances assumed	0,023	0,879	-1,237	0,219	-0,458
	Equal variances not assumed			-1,223	0,225	-0,458
5	Equal variances assumed	0,555	0,458	0,187	0,852	0,063
	Equal variances not assumed			0,185	0,853	0,063
6	Equal variances assumed	4,603	0,034	-2,475	0,015	-1,023
	Equal variances not assumed			-2,565	0,012	-1,023
7	Equal variances assumed	0,594	0,443	0,104	0,917	0,035
	Equal variances not assumed			0,107	0,915	0,035
8	Equal variances assumed	2,681	0,105	-1,480	0,142	-0,670
	Equal variances not assumed			-1,516	0,133	-0,670
9	Equal variances assumed	0,005	0,942	0,005	0,996	0,002
	Equal variances not assumed			0,005	0,996	0,002

Table 5 - Student's T-test for uncertainty avoidance

Finally, regarding the cultural impact, analyzing the dimension of Uncertainty Avoidance corroborates the idea that, at a significance level of 5%, the decision-making power of the subsidiaries in the process of Expansion for External Markets (6) is different when its headquarter is located in countries with high or low aversion to uncertainty.

DISCUSSION

The first null hypothesis formulated - "The average of autonomy of subsidiaries when their headquarters is in a country with a high or reduced power distance is identical." - is validated for eight of the nine components under analysis. However, for a 95% confidence interval, subsidiaries with headquarter in a country with the lowest power distance have more autonomy in the Corporate Structure. This result is curious, since of the nine strategic decisions analyzed, this is the most interconnected with the distance to power, which measures the level of inequality accepted by the people of a country. Thus, parent companies in countries where this distance is accepted give less power to their subsidiaries in terms of how it will be structured, since they are accustomed to having more centralized power.

For the second dimension used to ascertain the cultural impact - "The average of autonomy of the subsidiaries when their headquarters are in a more individualized or more collectivist country is identical." - it is verified that the averages are equal in all indicators, so all null hypotheses are validated. This indicates that the level of individualism in the country of the parent company, that is, the level at which people act according to self-interest, does not influence the autonomy of the subsidiaries. This conclusion is contrary to what would be expected, since when thirst comes from an individualistic culture a trend towards greater control of its subsidiaries is expected (Brock et al., 2008).

The null hypothesis - "The average of autonomy of subsidiaries when their headquarters is in a country with a high or low level of masculinity is identical" - is rejected with respect to the management of Human Resource. For a 95% confidence interval, it is possible to affirm that there are differences in the averages, with subsidiaries based in more feminine countries having more autonomy in the management of Human Resources. These countries are characterized by emphasizing the importance of relationships, so one would expect their subsidiaries to have more autonomy (Brock et al., 2008). About Finance, with a only for a 90% confidence interval, happens the same.

Curiously, these two indicators are related to human relations and financial success, values that define the distinction between so-called masculine cultures of so-called feminine. The second is characterized by the relationships ahead of success, giving more value to the quality of life than to financial results (Hofstede, 1983). In this way, one could expect a greater autonomy in the two components in which, in fact, there were significant differences. For the remaining indicators the null hypothesis is validated.

Finally, as far as the cultural impact is concerned, the null hypothesis - The average of autonomy of subsidiaries when their headquarters is in a country where aversion to uncertainty is high or reduced is identical - is only rejected in the component concerning decision-making power of the subsidiary in the process of Expansion for External Markets. For a level of significance of 5%, it is verified that the

sample mean of this decision-making power is lower when the aversion to the uncertainty of the headquarters' country is higher.

Again, given the cultural dimension under analysis, i.e. the extent to which societies are willing to accept uncertainty (Hofstede, 1983), this impact is to be expected, especially in the decision in which it occurs. Expansion for External Markets requires a great deal of uncertainty from the unknown from a new market, so the parent companies opt for greater control of this strategic decision in order to reduce risks.

CONCLUSION

Analyzing the existing literature on the relationships formed within multinational companies and pointing out the main factors associated with them, it was concluded that autonomy is a fundamental concept inherently inherent to the management of a Multinational, serving as the basis for different studies within the area of management International. Not only the internal environment of the companies was studied, but also, and above all, the external environment. In this sequence, the effect of each cultural distance on the autonomy of the subsidiaries was studied.

The comparison with the existing and observed studies on this theme revealed significant differences in the results, which led to the rejection of the great majority of the hypotheses stated. Sometimes the effects, although significant, have opposite directions than expected. The results analyzed are, however, derived from a moderately reduced sample and specifically from Portuguese subsidiaries.

For the cultural impact, measured by the classification of the country of the headquarters in Hofstede's four classic dimensions, it was found that increasing the distance to power decreases the decision-making power in the Corporate Structure, as one might expect. The decrease in masculinity, in turn, results in more autonomy in terms of finance and human resource management, while increasing uncertainty aversion diminishes decision-making power in Expansion to External Markets. These effects have the expected direction and curiously occur only in the departments most interconnected with the definition of the cultural dimensions that evaluate them.

Through the analysis of the results, it is important to take into account the cultural in order to make the necessary adjustments to the different contexts in which the subsidiaries are inserted. Multinationals from countries most risk-averse, preferring to have greater control over their subsidiaries, may have worse results when they are internationalized for Portugal, because Portuguese subsidiaries have better results when they have more autonomy. Thus, ideal countries of origin are those that are most apt to accept uncertainty. Also, lower levels of acceptance of the distance to power in the country of the headquarter, as well as the predominance of so-called feminine values favor the correct management of Portuguese subsidiaries, with a greater preponderance so that these

hold high levels of autonomy. First of all, the option of sending the questionnaire online is justified by the ease with which information can be transmitted and a response in a very short space of time. Nevertheless, obtaining a large number of answers from companies is always problematic, but in the case of a questionnaire directed to the management team of the subsidiaries, this task becomes even more herculean, since the time available to participate in academic research is reduced. Thus, the percentage of responses obtained is not surprising; however, it is still an important limitation, since a larger sample could help in obtaining different results. As an example, a greater percentage of subsidiaries with headquarters in less developed or farthest countries of Portugal would be important for a better investigation of the impact of distance.

The criterion for measuring the variables associated with distance, although it was defined based on that evidenced in other studies, could also have been different. By way of example, several authors use the Kogut and Singh index (1988), which aggregates four dimensions proposed by Hofstede, to measure the cultural distance. However, since all the subsidiaries are from the same country, were measured, not the cultural distance itself, but the classification of the headquarters countries in each of the components. In future investigations one can try to analyze the effects of the distance supported by other measurement criteria, since by the scale used the results can be different. The focus of research rather than on the effects on the autonomy of subsidiaries could be in the knowledge flows and in the various factors that influence them.

REFERENCES

- Brock, D. M., Shenkar, O., Shoham, A., and Siscovick, I. C. (2008). "National Culture and Expatriate Deployment", *Journal of International Business Studies*, Vol. 39, No8, pp1293-1309.
- Ghemawat, P. (2001), "Distance Still Matters. The Hard Reality of Global Expansion", *Harvard Business Review*, Vol 79, No 8, pp.137-147.
- Ghoshal, S., and Nohria, N. (1989). "Internal Differentiation Within Multinational Corporations", *Strategic Management Journal*, Vol 10, No 4, pp 323-337.
- Ginsberg, A., and Venkatraman, N. (1985), "Contingency Perspectives of Organizational Strategy: A Critical Review of the Empirical Research", *The Academy of Management Review*, Vol 10, No 3, pp 421-434.
- Gupta, A. K., and Govindarajan, V. (1991), "Knowledge Flows and the Structure of Control within Multinational Corporations", *The Academy of Management Review*, Vol 16, No 4, pp 768-792.
- Hall, E. T. (1976). *Beyond Culture*. Anchor. Garden City, NY.
- Hedlund, G. (1986). The hypermodern MNC – A heterarchy? *Human Resource Management*, 25(1), 9-35.
- Hedlund, G. (1993). "Assumptions of Hierarchy and Heterarchy, with Applications to the Management of the Multinational Corporation", Ghoshal, S. and Westney, D.E. (Eds.), *Organization Theory and the Multinational Corporation*, London: Palgrave Macmillan UK, pp 211-236
- Hofer, C. W. (1975), "Toward a Contingency Theory of Business Strategy", *The Academy of Management Journal*, Vol 18, No 4, pp. 784-810.
- Hofstede, G. (1983), "The cultural relativity of organizational practices and theories", *Journal of International Business Studies*, Vol 14, No 2, pp. 75-89.
- Hofstede, G. (1984). *Culture's consequences: International differences in work-related values* (Vol. 5): Sage.
- Hofstede, G. (2011), "Dimensionalizing cultures: The Hofstede model in context", *Online Readings in Psychology and Culture*, Vol 2, No 1, p.8.

- Hofstede, G., and Bond, M. H. (1988), "The Confucius connection: From cultural roots to economic growth", *Organizational Dynamics*, Vol 16, No 4, pp. 5-21.
- Hofstede, G., Hofstede, G. J., and Minkov, M. (2010). *Cultures and Organizations: Software of the Mind* (Rev. 3rd ed.). New York: McGraw-Hill.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., and Gupta, V. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*: Sage publications.
- Kogut, B., and Singh, H. (1988), "The effect of national culture on the choice of entry mode", *Journal of International Business Studies*, Vol 19, No 3, pp 411-432.
- Kostova, T., Marano, V., and Tallman, S. (2016), "Headquarters–subsidiary relationships in MNCs: Fifty years of evolving research", *Journal of World Business*, Vol 51, No 1, pp 176-184.
- Newman, K. L., and Nollen, S. D. (1996), "Culture and Congruence: The Fit between Management Practices and National Culture", *Journal of International Business Studies*, Vol 27, No 4, pp 753-779.
- Pisoni, A., Fratocchi, L., and Onetti, A. (2013), "Subsidiary autonomy in transition economies: Italian SMEs in Central and Eastern European countries", *Journal for East European Management Studies*, Vol 18, No 3, pp 336-370.
- Richards, M. (2000), "Control exercised by U.S. multinationals over their overseas affiliates: does location make a difference?", *Journal of International Management*, Vol 6, No 2, pp 105-120.
- Roth, K., and Morrison, A. J. (1990). "An Empirical Analysis of the Integration-Responsiveness Framework in Global Industries", *Journal of International Business Studies*, Vol 21, No 4, pp 541-564.
- Schwartz, S. H. (1994). *Beyond individualism/collectivism: New cultural dimensions of values*: Sage Publications, Inc.
- Taggart, J. H., and Hood, N. (1999), "Determinants of autonomy in multinational corporation subsidiaries", *European Management Journal*, Vol 17, No 2, pp 226-236.
- Tian, X., and Slocum, J. W. (2014), "What determines MNC subsidiary performance? Evidence from China", *Journal of World Business*, Vol 49, No 3, pp 421-430.
- Tong, C., Wong, A., and Kwok, E. Y.-f. (2012), "Major determinants affecting the autonomy of multi national corporation subsidiaries in China", *Journal of Management Research*, Vol 4, No 1, pp 1-33.
- Trompenaars, F., and Hampden-Turner, C. (2011). *Riding the waves of culture: Understanding diversity in global business*: Nicholas Brealey Publishing.
- Young, S., and Tavares, A. T. (2004), "Centralization and autonomy: back to the future", *International Business Review*, Vol 13, No 2, pp 215-237.

SOCIAL ENTREPRISES' PROFITABILITY IN ITALY: RESULTS OF A STUDY ON 161 FINANCIAL STATEMENTS OVER THE FIVE-YEAR- TERM

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ABSTRACT

The economic activity has an undeniable social relevance which becomes prevalent in some economic activities often classifiable in the so-called "third sector". There are numerous studies which analyse the "social enterprises" according to different perspectives that emphasise the social, managerial, economic aspect, etc. Obviously the internal dynamics and the outcomes of these institutions are strongly conditioned by the regulatory framework and by the economic and social reality in which they operate.

This paper presents the outcome of a comparative spatial and temporal analysis of the profitability evinced by the financial statements of 161 Italian enterprises operating in different production segments, while also distinguishing it according to their operations in the three macro-areas of the nation (North, Central and South). Roe, Roi and Ros trend has been analysed over five consecutive years (2012-2016). Contrary to the pessimistic preliminary hypothesis which considered the social objectives prevailing over the economic ones, the analysis showed a moderate average profitability of those companies belonging to the sample. Even if with physiological differences in the three macro-areas, the trend is still satisfactory. The paper is original for a methodology often ignored in bibliography. The outcomes are useful to Italian entrepreneurs and government authorities.

In the future the investigation will also have to assess the financial and patrimonial balances in order to be able to reach a more comprehensive picture. It will also have to consider the effects of the recent reform of the Italian regulations which may also lead to a different profitability.

Keywords: Italian social enterprise, Profitability, Return on equity, Return on investment, Return on sales, Balance sheet balances.

* This paper is the result of a collaborative work. However, it is possible to attribute to Maria Assunta Molinaro: "Research Methodology: Data collection and Sample Characteristics" and "Results and Discussion: Trend Analysis" with all its paragraphs. The other sections are of Guido Migliaccio.

INTRODUCTION AND PURPOSE: STRUCTURE OF THE ESSAY

The economic activity has an undeniable social relevance. There are protagonists of production which emphasise this social aspect while trying to operate in conditions of affordability that guarantee autonomy and sustainability on the long term.

All over the world, and particularly in Italy, there are productive subjects belonging to the “third sector” which presents institutions that mediate the typical characteristics of the companies of public distribution and of those for profit (Civitillo, 2016; Fici, 2018; Rivetti, 2017; Loffredo, 2018). The social enterprise is among these.

The difficult mediation between economic and social purposes induced numerous reflections about the topic, some of which emphasise, highlighting it, the social aspect (Borzaga *et al.*, 2016; Borzaga *et al.*, 2010; Pirmi and Raffini, 2016; Scarlato, 2012; Gonzales, 2010); others emphasise the managerial problems (Yang *et al.*, 2010; Sanchis-Palacio *et al.*, 2013; Meadows and Pike, 2010; Linzalone and Lerro, 2014; Bridgstock *et al.*, 2010); the organisational (Hsieh *et al.*, 2018; Nicolás-Martínez and Rubio-Bañón, 2015; Sardi *et al.*, 2019; Granados *et al.*, 2017; Zamora, 2012; Smith *et al.*, 2010) and therefore the income problems.

The crisis of 2008 has obviously, also, directly affected such enterprises, above all in consideration of the lower public resources available.

This paper focuses on the profitability of the Italian social enterprises through the analysis of financial statements, also analysing the five-year trends of three income indicators (Roe, Roi and Ros) for the whole nation and in relation to the three macro-areas into which the territory is traditionally distinguished: North, Central, South and islands. The main purpose is verifying which is the economic balance, and therefore the profitability, often subjected to the prevailing social objectives.

The preliminary hypothesis (H0) is that the social enterprise could mortify its profitability. This would compromise the durability and, in any case, an autonomous management, being submitted to public contributions. A more complete framework may occur when the subsequent economic analysis will be adequately integrated with future studies on the trend in assets over the considered period.

Consequently, the research questions to which the successive analysis responds, are the following:

RQ1: what is the situation of balance and economic imbalance in the considered period (5 consecutive years: 2012-2016)?

RQ2: are there any substantial and significant differences among the Italian macro-areas in relation to the different profitability of the social enterprises, regardless of the sector to which they belong?

In order to answer these research questions, the study carries out a quantitative analysis based on the financial statements by analysing the time trend of Roe, Roi and Ros.

The study, after explaining some evidences from international literature review, shows some data on the social enterprises in Italy. Subsequently, the methodology of the empirical research is described, it makes use of numerous balance sheets of the Italian social enterprises, distinguished according to the geographical area (North, Central and South Italy), independently from the belonging sector.

To follow, the illustration of the trends of the three aforementioned ratios.

Finally, we presented the conclusions and possible future developments of the research, also in order to answer the questions still unanswered.

LITERATURE REVIEW

International Bibliography

We must first specify that the social enterprises' model is affected by the different regulations in force in a nation. Even if with similar intentions, as a matter of fact, the civil and fiscal discipline greatly affects management dynamics. Many considerations presented by the international author, should, therefore, be contextualized in time and space.

The main writings can be divided according to the prevailing aspect treated. The social enterprise, due to its intrinsic nature, obviously lends itself to social, managerial, organizational considerations.

With reference to Italy, the beneficial effects on sociality are highlighted, first of all, by Borzaga *et al.* (2016) who remarked the advantages of collective participation for social enterprises' appearance and growth. The contribution is on the same outline of what previously highlighted in Borzaga *et al.* (2010) by testing the distributive effects of social enterprises.

The social enterprise has been considered as a valuable tool to overcome the problems of the international economic crisis, considering that it could be protagonist of a sustainable development. It is what emerges from a study by Pirni and Raffini (2016): the hypothesis is that the social enterprise represents a proactive tool for generating responses to the crisis, promoting economic and social trajectories of innovation and contributing to a sustainable developmental model. The authors specify, however, that the innovative nature of the social enterprise does not merely arise from the externalization of social services from the public to the third sector, in order to reduce public expenditure. It is characterized by a novel integration between solidarity action and economic action, in entrepreneurial practices serving a social purpose.

In Italy, moreover, the social enterprise can become a precious tool for the welfare policies, as explained by Scarlato (2012) who shows the importance of social economy in the Italian regions with regard to the welfare system and development policies. Moreover, he indicates both the institutional dynamics that could strengthen social enterprise in Italy and the potential contribution of these enterprises to the economic and human development of poorer southern regions.

The spirit of the social enterprise, in Italy, can and has to be integrated with that of the mutuality, typical of the cooperative enterprise. It is this the hypothesis of the contribution proposed by Gonzales (2010) according to which a productive institution of this type could face the two typical problems of the Italian reality that often slow down its development: parochialism and clientelism.

The importance of social and welfare dynamics of such enterprises is also highlighted by writings which consider the social enterprise as protagonist of services in the health sector. Among the others: Savio and Righetti, 1993; Millar, 2012; Fioritti *et al.*, 2014.

If we move from a socio-economic perspective to a managerial one, it is necessary, first of all, to read the contribution by Yang *et al.* (2010) which deals well with the delicate balance between economic needs and social purposes of such enterprises. The study, as a matter of fact, focuses on the management strategies and the revenue management of social enterprises to clarify how social enterprises are able to create critical social value on one hand while increasing their market value on the other hand.

The problem of the mediation between social and managerial needs is typical of all the international writings about the topic. It is also reiterated by Sanchis-Palacio *et al.* (2013) who focuses on the influence of the use of strategic tools in business performance. It is based on the consideration that the social enterprises have to be competitive in the marketplace, they must use Strategic Management tools to improve efficiency, while maintaining their effectiveness levels. With articulate arguments, it is shown the existence of a statistically significant relationship between the application of Strategic Management tools, more commonly found in for-profit organizations, and the effectiveness and efficiency of social enterprise.

The same basic principles inspire the writing by Meadows and Pike (2010) focused on performance management for social enterprises. The traditional economic-financial parameters suggested for the profit enterprises, as a matter of fact, proved to be insufficient. More useful could be the Balanced Scorecard model, conveniently adapted.

The peculiar aspects of the cooperative enterprise with social approach, in Italy, are highlighted by Linzalone and Lerro (2014).

In managerial literature it is also necessary to mention the writing by Bridgstock *et al.* (2010) which suggests the social enterprise as a privileged model for the application of diversity management's logics. It presents a relative accentuation on the organisational problems that are treated above all by other authors. First of all, Hsieh *et al.* (2018) who propose an attraction-selection-socialization model, suggesting that, to foster identification, social enterprises need to manage their hybrid organizational identities and embed the new common identity into members' daily work through attraction, selection, and socialization processes. This recent focus follows what already suggested few years earlier, by

Nicolás-Martínez and Rubio-Bañón (2015) with their study totally based on human resource management in social enterprise which has highlighted the need for workers to share a social vision of the company. Their motivation is absolutely necessary for the achievement of optimal results. The attention to the competences of social enterprises' workers is also object of the very recent study by Sardi *et al.* (2019) which also highlights the necessity of a democratic and participatory approach in performances' management.

All the scholars of company organization underline the importance of motivated workers and the need to create an environment that is fertile to develop a satisfied and productive human capital. Granados *et al.* (2017), on this outline, have developed a study on knowledge management activities in social enterprises. Zamora (2012) has even shown that such learning environment also favours the assimilation of specialized accounting problems. Smith *et al.* (2010) too, have built their outline on social enterprises and the timing of conception, focusing on organizational identity tension, management and marketing.

Therefore, the contributes related to managerial sciences devoted to the social enterprises' strategic and organisational peculiarities are numerous and articulated. Far less, instead, are those devoted to financial problems. Among them it is possible to highlight the contribution by Fedele and Miniaci (2010) who, referring to the case of social residential services in Italy, have tried to answer the question "Do social enterprises finance their investments differently from for-profit firms?".

As it is evident, there is a lack, in international literature, of quantitative studies based on the analyses of the balance sheet that focus above all on the income aspect, erroneously considered marginal. They are, as a matter of fact, the first index of a balanced management, in spite of the overriding social objectives, typical of this type of companies. This paper aims to be an example of such application.

Italian Bibliography

A necessary hint must be reserved to the wide Italian production, considering that the study proposed here refers to the financial statements of social enterprises of this nation. It must first be specified that the regulation has undergone a remarkable updating in recent years, also in order to reorganize the different figures that characterize the third sector. It is not surprising, therefore, that there is a copious production of scientific contribution, interpretative and critic of the new regulation (Castaldi, 2018; Angeli and Cinque, 2018; Fici, 2018; Felicetti, 2018; Giustolisi, 2018; Briganti, 2018; Mosco, 2018; Grumo, 2017; Di Stasio and Pasquini, 2017; Fazzi, 2017; Rondinone, 2017). In these, however, useful reflections can also be found on the influence on management regulation, considering that the discipline influences the organization of the internal controls, the statistical survey and the financial report, the taxation, etc.

In Italian bibliography too, it is possible to identify writings that highlight the political and social role of these enterprises (Bernardoni, 2017; Zandonai and Venturi, 2017; Grieco, 2013)

and others, instead, that accentuate the reflection on management and on governance (Tortia and Poledrini, 2018; Meo, 2017; Zandonai and Puccio, 2015; Ricci, 2015; Scagnelli and Corazza, 2014; Delledonne, 2014; Benevolo and Gasparre, 2013).

However, the writings that question the profile of the social enterprise and on its same persistence in the national productive panorama are prevalent, (Marocchi, 2016; Vecci, 2016; Bancone, 2016; Fontana, 2015; Manes, 2015; Fazzi, 2014; Zandonai, 2014; Stringa, 2013; Mazzullo, 2013; Randazzo and Taffari, 2013; Cannata, 2013; Scalvini, 2013).

Even in the national bibliography, however, there are not empirical researches related to economic balances deduced by these enterprises' financial statements. Obviously, this comes from the mainly social calibre which emerges, above all, from the social balance sheet and not from the classic economic - financial report (Grumo, 2017)

Nevertheless, quantitative analysis as those suggested, by integrating the knowledge of the internal dynamics, favoring the identification of possible problems which could undermine the enterprises' stability on the long term.

RESEARCH METHODOLOGY: DATA COLLECTION AND SAMPLE CHARACTERISTICS

Retaining Specifications

The data reported in this analysis have been taken from the *AIDA* database (<https://aida.bvdinfo.com/ip>). The examined sample consists of 161 enterprises. Headings have been observed and financial ratios of 5 years have been calculated: 2012, 2013, 2014, 2015 and 2016.

The companies in the sample have been divided using the geographical area of belonging as parameter, arriving to the distinction in three categories: "North", "Central" and "South". All the samples are compared with the average values of Italy.

The Northern macro-area includes: Aosta Valley, Lombardy, Piedmont, Liguria, Emilia-Romagna, Friuli Venezia Giulia, Trentino-South Tyrol and Veneto. The Central macro-area includes: Lazio, Marche, Tuscany, Umbria and Abruzzo. Finally, the Southern macro-area includes: Basilicata, Campania, Apulia, Molise, Calabria and the two islands, Sardinia and Sicily. The distribution of companies in the three macro-areas is shown in chart 1

Chart 1: N. sample companies			
Italy	North	Centre	South
161	100	27	34

Profitability ratios have been calculated in order to estimate the ability of the different management areas to generate a return on invested capital in the company. They compare the economic result with the capital used to obtain it.

RESULTS AND DISCUSSION: TREND ANALYSIS

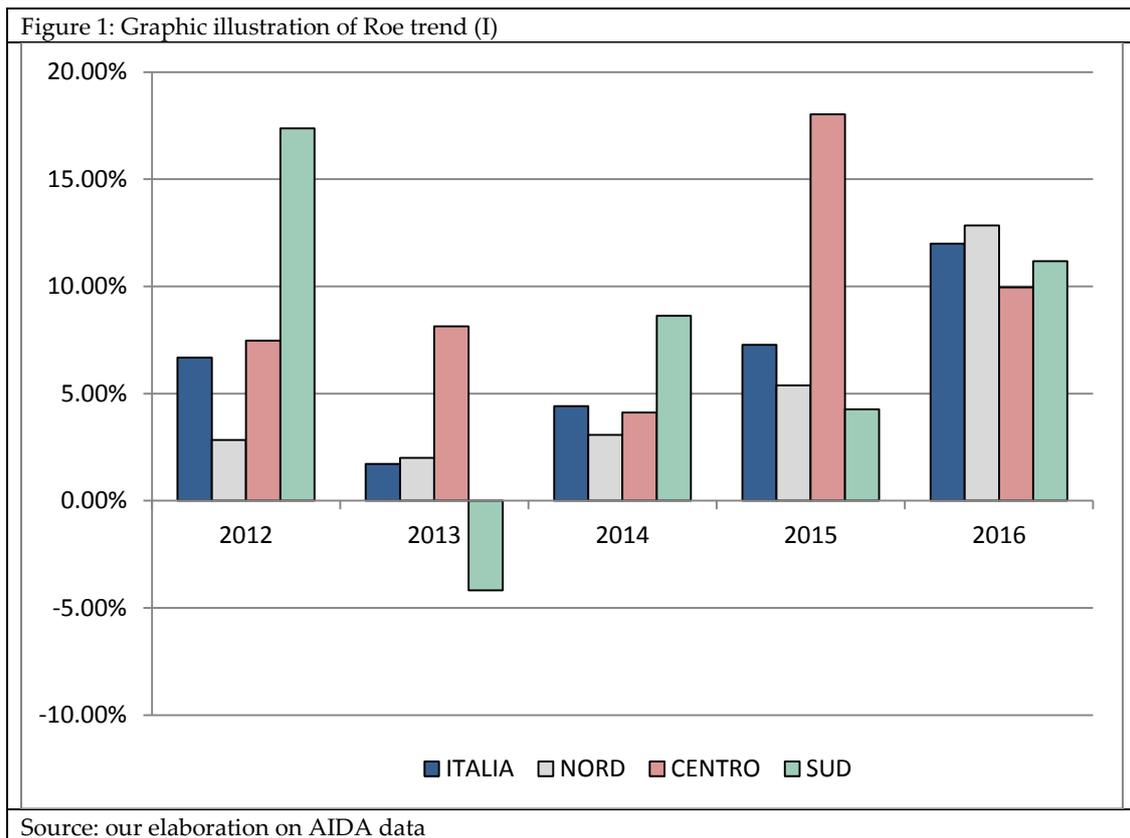
ROE (Return on equity)

The index indicates the company's overall profitability in percentage terms. ROE is not only determined by the choices accomplished in the environment of the distinctive management, but also by the decisions regarding the financial and asset management. Its value should be as high as possible. The ROE formula is $(\text{Net Income}/\text{Net Equity}) * 100$. The data obtained is shown in chart 2 and graphically illustrated in figures 1 and 2.

Years	ITALY	NORTH	CENTRE	SOUTH
2012	6,68%	2,83%	7,46%	17,37%
2013	1,72%	2,00%	8,13%	-4,18%
2014	4,42%	3,07%	4,12%	8,63%
2015	7,27%	5,38%	18,02%	4,27%
2016	12,00%	12,84%	9,95%	11,17%

Source: our elaboration on AIDA data

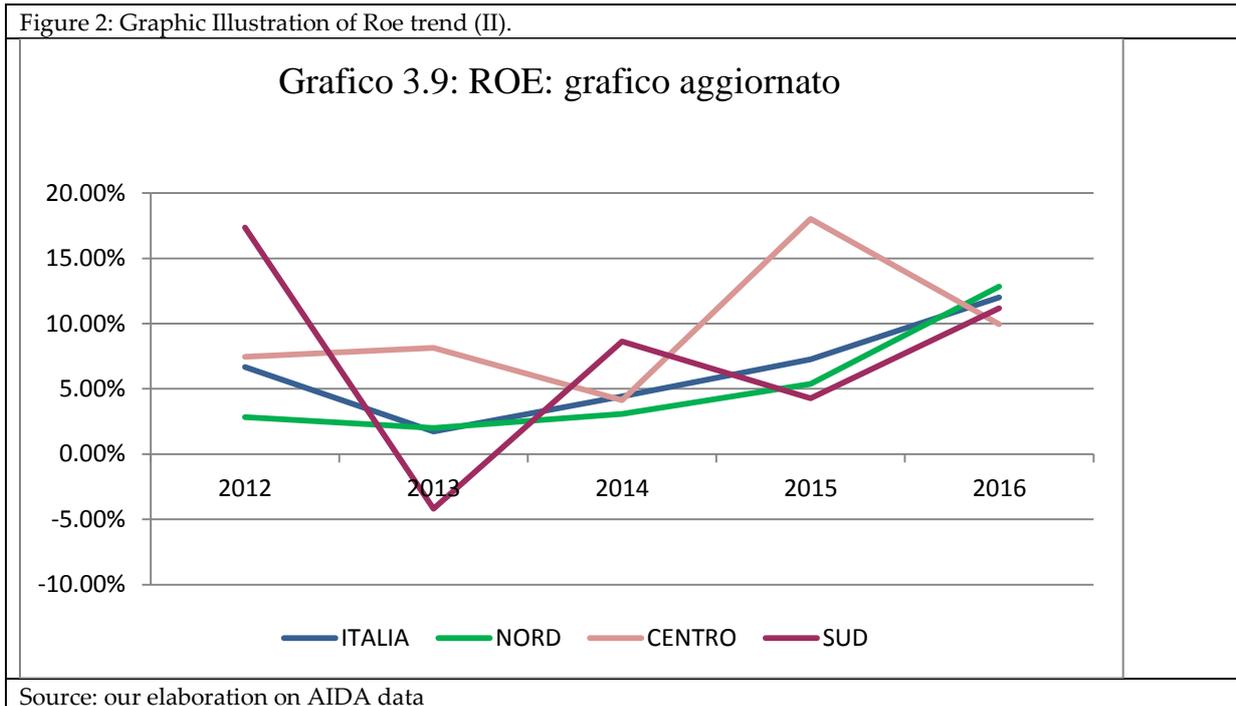
ROE trend is fluctuating in the examined years. We can observe a negative value in "South" in 2013; there are growing years and years with decrease. For the sample "North" the highest value has been noticed in the last year considered, in the sample "Central" in 2015, while in the sample "South" in 2012.



The graph highlights the peaks per sample as indicated above. ROE in the sample "North" since 2013 has been constantly growing; while in the other two samples the situation is more cyclical and varied. The graph shows, moreover, that in the last year analysed, the situation is more stable and the three samples show small percentage differences, while over the other years the values of ROE differ a lot from sample to sample. The average values observed in the sample "Italy" have been constantly growing since 2014.

Another graph is proposed below to better detect the fluctuating trend.

Figure 2: Graphic Illustration of Roe trend (II).

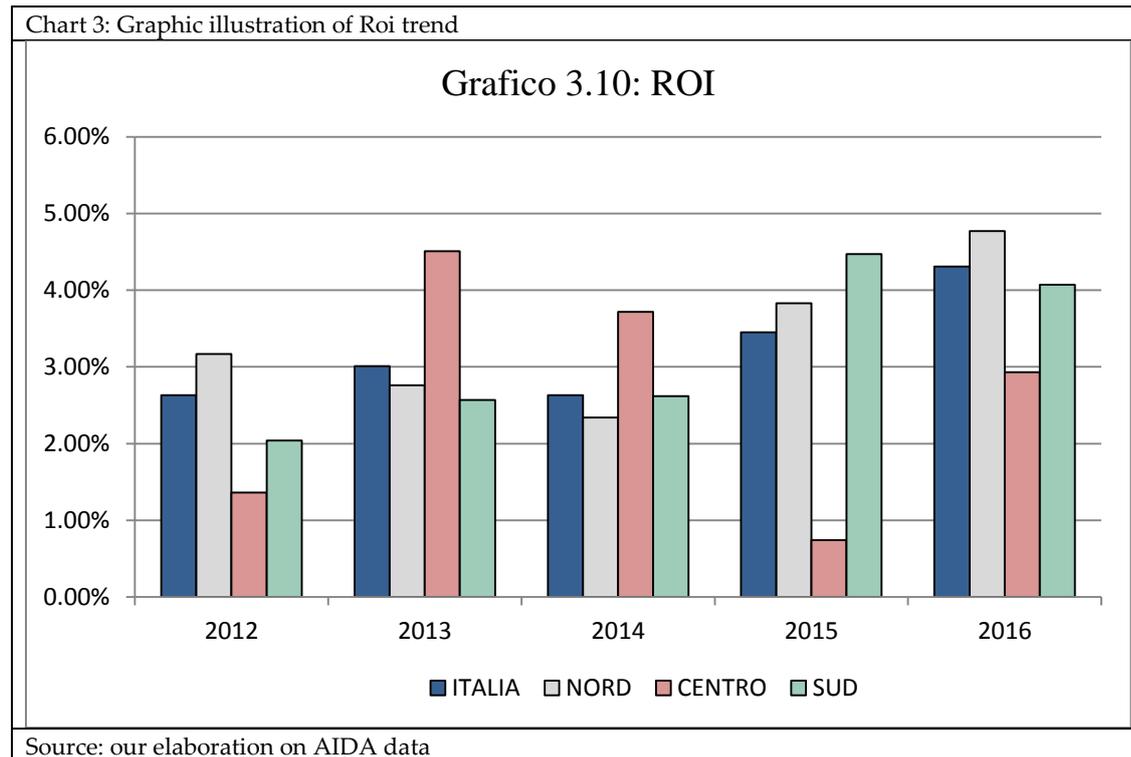
**ROI (Return on investment)**

ROI index expresses the profitability of the sole characteristic management of the enterprise in terms of percentage. It represents the synthetic indicator of the effectiveness and efficiency with which the management and operational areas of the enterprise (purchasing, production and commercial) have been managed. For the calculation of ROI, it is essential the reclassification of the Income Statement as it is not considered the full amount of income, but only the income produced by the characteristic management, that is the management that includes all the acts that characterise the enterprise. Its optimal value must be as high as possible. The ROI formula is: $(\text{Operating Income}/\text{Invested Capital}) * 100$. The data obtained is shown in chart 3 and graphically illustrated in figure 3.

Years	ITALY	NORTH	CENTRAL	SOUTH
2012	2,63%	3,17%	1,36%	2,04%
2013	3,01%	2,76%	4,51%	2,57%
2014	2,63%	2,34%	3,72%	2,62%
2015	3,45%	3,83%	0,74%	4,47%
2016	4,31%	4,77%	2,93%	4,07%

Source: our elaboration on AIDA data

Chart 3 shows that the social enterprises in question have a positive ROI with higher values in the sample "North" and in the sample "South". As for the "Central", the highest value has been observed in 2013, while the lowest one, also in relation to the other two samples, has been observed in 2015, and then increased again in 2016.



The graph shows the values divided first by year and then by sample. It seems from this, that for the “North” there has been a reduction of ROI from 2012 to 2015, year in which a growing trend is observed. For the “Central”, the situation is more fluctuating because since 2012 ROI has been increasing, and then reducing since 2014, up until the minimum value 0,74% in 2015, and finally a growth is observed over the last year examined. In the sample “South” there has been a steady growth since 2012 that has seen a slight turnaround only in 2016.

ROS (Return on sales)

This index will express the sales’ operating profitability. It expresses the company’s operative profitability in relation to the sales made within a predefined time-frame. Basically, ROS expresses the amount of net revenue achieved for each Euro of turnover. Also in this case, the value should be as high as possible. ROS formula is: $(\text{Operating Income} / \text{Total Revenues}) * 100$. The obtained data is shown in chart 4 and graphically illustrated in figure 4.

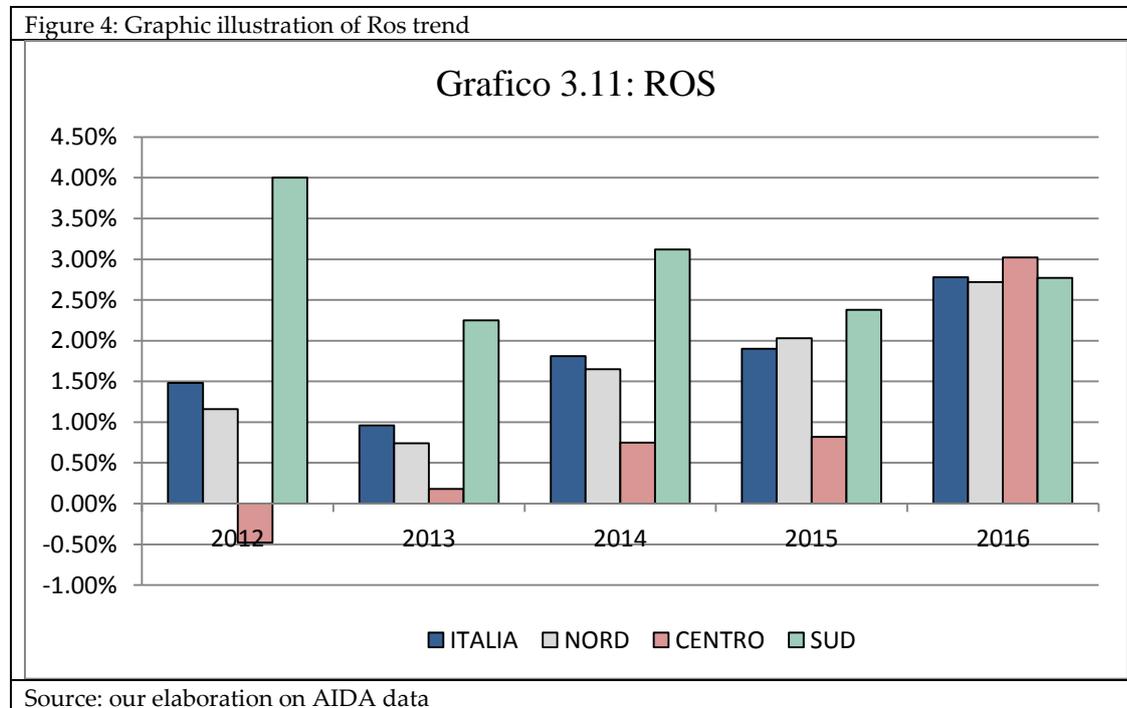
Chart 4: ROS trend

Years	ITALY	NORTH	CENTRAL	SOUTH
2012	1,48%	1,16%	-0,48%	4,00%
2013	0,96%	0,74%	0,18%	2,25%
2014	1,81%	1,65%	0,75%	3,12%
2015	1,90%	2,03%	0,82%	2,38%
2016	2,78%	2,72%	3,02%	2,77%

Source: our elaboration on AIDA data

The chart shows that ROS is different among the various samples and also in relation to years. There is, as a matter of fact, a negative value for the “Central” in the first year analysed and then always positive values, which in the case of the “North” are almost always growing. In the case of the “South” the

values vary from year to year, but are overall the highest observed among the various samples, as also shown by the following graph. The average value observed by the sample "Italy" are always positive. From 2012 to 2013 there has been a reduction of ROS while since 2013 onwards the values have been always growing.



From the analysis carried out in this chapter, it is noticed that the *economic balance* of the analysed social enterprises, is on a sufficiently balanced average from the economic point of view. They present, as a matter of fact, an average ROE, considered overall over the 5 year-term, in the amount of a 6,42%. ROI is also very positive and amounts to an average of 3,21%. ROS is on average positive, but with a lower average value than the other two indices; it is, as a matter of fact, in the amount of 1,77%.

CONCLUSIONS AND IMPLICATIONS: LIMITATIONS AND FUTURE PERSPECTIVES

The difficult mediation among social aims and necessary economic and financial balances requires extensive quantitative analyses that are placed next to the already numerous writings on the specific connotations of the social enterprise in Italy, with peculiar connotations deriving from a recently reformed legislation.

The initial hypothesis according to which the Italian social enterprise could mortify its profitability to the benefit of prevailing social purposes has not been confirmed.

The profitability of the examined sample appears satisfactory, above all considering that it is placed next to the social and welfare role of many such companies, even if organized in a cooperative manner.

Therefore, a satisfactory picture emerges, in which the economic balance is not undermined by the social object. This suggests that such companies can develop and grow adequately over time: an adequate profitability is a logical prerequisite for durability. Obviously, such a conclusion should be confirmed by a precise analysis of the main economic items which have led to these positive results. It is necessary, rather, to verify the effect of possible public contributions to the rebalancing of the economic situation.

The territorial analysis of Italian social enterprises, as well, can induce a positive assessment, considering that the physiological differences among the macro-areas do not lead to significant differences: it seems, therefore, that similar managerial logics have a correct diffusion everywhere. This conclusion, however, cannot fail to consider that the majority of the companies in the sample belongs to the Northern Italy area where it seems that such initiatives are widely present and in any case certainly prevalent compared to the Central and the South.

Subsequent similar studies could lead us to considerate also the balance sheets and financial balance of these companies, so as to add complete conclusions in relation to the judgment that can be drawn from financial statements.

In order to obtain a complete and insightful picture of the economic and social value of this type of companies, however, might be necessary if not mandatory on top of the research conducted above, taking into consideration investigating whether social goals were effectively met. Further analyses on social statements on Italian companies would increase greatly the current state of this research considering the attention that these matters attract within the focus of the current jurisdiction (Grumo, 2017; Ricci, 2010; Costa and Ramus, 2010; Verde, 2009; Signori and Stiz, 2006; Puddu, 2005).

A deeper statistical research might ease the understanding of the existing gaps among the geographical areas studied. I.e. a comparison among clusters of companies could be done through the ANOVA method (Gu, 2013; Solari *et al.*, 2009; Strang, 1980; Ross e Willson, 2017; HackerJoel e Angiolillo-Bent, 1981; Quirk, 2012; Liao e Li, 2018) which has already proven to be effective in previous research. (Iovino e Migliaccio, 2018¹, 2018², 2019; Fusco e Migliaccio, 2016¹, 2016², 2018, 2019; Migliaccio e Fusco, 2018; Migliaccio e Arena, 2018²).

This study wanted to implement the existing bibliography, which is rarely based on quantitative analysis, favoring business cases (Yang *et al.*, 2010; Meadows and Pike, 2010; Sardi *et al.*, 2019; Hsieh *et al.*, 2018; Nicolás-Martínez and Rubio-Bañón, 2015; Zamora, 2012; Fedele and Miniaci, 2010) or qualitative cases that exploit results taken by questionnaires (Bridgstock *et al.*, 2010; Linzalone and Lerro, 2014). Due to the profound differences in the method of conduction of the study it would be useless to try and compare these results with existing publications.

It is certainly useful to evaluate the management of such companies. It can provide useful parameters for those who already work with social forms of this type and, above all, it can contribute to outline development policies both at national and regional level for these companies, increasingly useful for improving the standard of living of modern societies.

This paper and the results reached might be meaningful for research work that share a similar methodology. Equally, it might be of interest for courses dedicated to social management, with the objective of spurring new ideas and discussion on the complex equilibrium that exists between economic profitability and social responsibility.

REFERENCES

- Angeli, M. and Cinque, S. (2018), "Impresa sociale e concorrenza", *Analisi giuridica dell'economia*, Vol. 32 No 1, pp. 151-174.
- Bancone, V. (2016), *Il ruolo dell'impresa sociale ai tempi della crisi economica*, *Il Foro Napoletano*, Vol. 5 No 2, pp. 309-323.
- Benevolo, C. and Gasparre, A. (2013), "Imprenditorialità e socialità nell'impresa sociale: alcune proposte per la ricerca", *Studi organizzativi*, No 1, pp. 56-86.
- Bernardoni, A. (2017), "Impresa sociale: la sfida dello sviluppo locale dopo la riforma", *AUR&S*, Vol. 12 No 14, pp. 99-108.
- Borzaga, C., Depedri, S. and Tortia, E. (2010), "Testing the distributive effects of social enterprises: The case of Italy", *Social Capital, Corporate Social Responsibility, Economic Behaviour and Performance*, pp. 282-303.
- Borzaga, C., Fazzi and L., Galera, G. (2016), "Social enterprise as a bottom-up dynamic: part 1. The reaction of civil society to unmet social needs in Italy, Sweden and Japan", *International Review of Sociology*, Vol. 26 No 1, pp. 1-18.
- Bridgstock, R., Lettice, F., Özbilgin, M.F. and Tatli, A. (2010), "Diversity management for innovation in social enterprises in the UK", *Entrepreneurship and Regional Development*, Vol. 22 No 6, pp. 557-574.
- Briganti, R. (2018), "La riforma del 'Terzo settore' tra sussidiarietà orizzontale e impresa sociale", *Notariato*, No 5, pp. 511-516.
- Cannata, M. (2013), "Il futuro nell'impresa sociale", *L'impresa*, No 11, pp. 15-19.
- Castaldi, L. (2018), "La disciplina fiscale dell'impresa sociale. Spunti di sistema?", *Analisi giuridica dell'economia*, Vol. 32 No 1, pp. 175-186.
- Civitillo, R. (2016), *L'aziendabilità del volontariato. Il non profit nella Provincia di Benevento*, FrancoAngeli, Milano, Italy.
- Costa, E. and Ramus T., (2010), *Il bilancio sociale nell'impresa sociale: da vincolo giuridico ad opportunità di accountability globale* 235, *Impresa sociale*, Vol. 79 No 4, 235-262.
- Delledonne, G. (2014), "Le novità in materia d'impresa sociale: i profili finanziari", *Non profit*, Vol. 20 No 3, pp. 179-184.
- Di Stasio, G. and Pasquini, F. (2017), "Impresa sociale: riforma del D.Lgs. 112/2017", *Guida alla contabilità & bilancio*, No 10, pp. 16-19.
- Fazzi, L. (2014), "Il compito di innovazione dell'impresa sociale", *Animazione sociale*, Vol. 44 No 284, pp. 13-25.
- Fazzi, L. (2017), "La riforma del terzo settore e dell'impresa sociale. Tra enfasi retoriche, diffusi corporativismi, segnali di innovazione", *Animazione sociale*, Vol. 47 No 312, pp. 25-37.
- Fedele, A. and Miniaci, R. (2010), "Do social enterprises finance their investments differently from for-profit firms? The case of social residential services in Italy", *Journal of Social Entrepreneurship*, Vol. 1 No 2, pp. 174-189.
- Felicetti, R. (2018), "L'impresa sociale negli altri ordinamenti", *Analisi giuridica dell'economia*, Vol. 32 No 1, pp. 221-254.
- Fici, A. (2018), "L'impresa sociale e le altre imprese del terzo settore", *Analisi giuridica dell'economia*, Vol. 32 No 1, pp. 19-44.
- Fici, A. (Ed.) 2018, *La riforma del terzo settore e dell'impresa sociale. Una introduzione*, Editoriale Scientifica, Napoli, Italy.

- Fioritti, A., D'Alema, M., Barone, R. and Bruschetta, S. (2014), "Social enterprises, vocational rehabilitation, supported employment: Working on work in Italy", *Journal of Nervous and Mental Disease*, Vol. 202 No 6, pp. 498-500.
- Fontana, C. (2015), "L'impresa sociale conquista il mondo", *Valori*, Vol. 15 No 131, pp. 33-33.
- Fusco, F. and Migliaccio, G. (2016), "Cooperatives and Crisis: Financial Dynamics on the Italian Primary Sector Cooperatives", in Marchi, L., Lombardi, R., Anselmi, L. (Eds.), *Il governo aziendale tra tradizione e innovazione*, FrancoAngeli, Milano, pp. VII 99-114.
- Fusco, F. and Migliaccio, G. (2016), "Profitability of Italian cooperatives: the impact of geographical area and business sectors", in Vrontis, D., Weber, Y., Tsoukatos, E. (Eds), *Conference readings book proceedings, 9th Annual Conference of the EuroMed, Varsavia, September 14th-16th, 2016*, EuroMed Press: Cyprus, pp. 757-770.
- Fusco, F. and Migliaccio, G. (2018), "Crisis, Sectoral and Geographical Factors: Financial Dynamics of Italian Cooperatives", *Euromed Journal of Business*, 13(2), pp. 130-148.
- Fusco, F. and Migliaccio, G. (2019), "Cooperatives and Crisis: Economic Dynamics in Italian Context", *International Journal of Business and Globalisation*, Vol. 22, n. 4, pp. 638-654.
- Giustolisi, C. (2018), "La nuova disciplina dell'impresa sociale", *Ianus*, No 17, pp. 69-84.
- Gonzales, V.A. (2010), "A different kind of social enterprise: Social cooperatives and the development of civic capital in Italy", *Community Development*, Vol. 41 No 1, pp. 50-75.
- Granados, M.L., Mohamed, S. and Hlupic, V. (2017), "Knowledge management activities in social enterprises: lessons for small and non-profit firms", *Journal of Knowledge Management*, Vol. 21 No 2, pp. 376-396.
- Grieco, C. (2013), "Impresa sociale e creazione di valore: una tassonomia dei modelli di misurazione dell'impatto sociale sul territorio", *Sinergie*, Vol. 31 No 91, pp. 61-82.
- Grumo, M. (2017), *Bilancio, bilancio sociale e controlli: le nuove norme introdotte dalla riforma degli Enti del Terzo settore e dell'impresa sociale*, Non profit, Vol. 23 No 4, 136-145.
- Gu, C. (2013), *Smoothing Spline ANOVA Models*, II ed., Springer, New York.
- HackerJoel, M.J., Angiolillo-Bent, S. (1981), A BASIC package for N-way ANOVA with repeated measures, trend analysis, and user-defined contrasts, *Behavior Research Methods & Instrumentation*, 13 (5), pp 688-688.
- Hsieh, Y.-C., Weng, J. and Lin, T. (2018), "How social enterprises manage their organizational identification: a theoretical framework of identity management approach through attraction, selection, and socialization", *International Journal of Human Resource Management*, Vol. 29 No 20, pp. 2880-2904.
- Iovino, F. and Migliaccio, G. (2019), "Financial Dynamics of Energy Companies During Global Economic Crisis", *International journal of Business and Globalisation*, Vol. 22, n. 4, pp. 541-554.
- Iovino, F. e Migliaccio, G. (2018), "Profitability dynamics of tourism companies during the crisis period 2007-2015", in Vrontis, D., Weber, Y., Tsoukatos, E. (Eds), *Conference readings book proceedings, 11th Annual Conference of the EuroMed, Valtetta, Malta, September 12th-14th, EuroMed Press: Cyprus*, pp. 663-677.
- Iovino, F. e Migliaccio, G. (2018), "Financial dynamics of tourism companies, travel agencies and tour operators, during the crisis period", in *Conference Proceedings: 2nd International Scientific Conference on Economics and Management - Eman 2018*, Ljubljana, Slovenia, March 22, Printed by: All in One Print Center, Belgrade, pp. 693-702.
- Liao, Q. and Li, J. (2018), An adaptive reduced basis ANOVA method for high-dimensional Bayesian inverse problems, arXiv:1811.05151 [math.NA].
- Linzaone, R. and Lerro, A. (2014), "Between solidarity and business management: Assessing management factors for social enterprise: A survey in Italy", *Measuring Business Excellence*, Vol. 18 No 1, pp. 66-77.
- Loffredo, F. (2018), *Gli enti del Terzo settore*, Giuffrè, Milano, Italy.
- Manes, V. (2015), "Il ruolo non marginale dell'impresa sociale in Italia", *Harvard business review*. Edizione italiana, No 5, pp. 80-0.
- Marocchi, G. (2016), "Impresa sociale: sarà rilancio?", *Welfare oggi*, Vol. 21 No 3, pp. 83-85.
- Mazzullo, A. (2013), "Impresa sociale '3.0'", *Enti non profit*, Vol. 13 No 10, pp. 32-34.
- Meadows, M. and Pike, M. (2010), "Performance management for social enterprises", *Systemic Practice and Action Research*, Vol. 23 No 2, pp. 127-141.
- Meo, G. (2017), "Impresa sociale e valori d'impresa", *Banca impresa società*, Vol. 36 No 2, pp. 183-200.
- Migliaccio, G. and Arena, M.F. (2018), "La redditività delle industrie conciarie italiane durante la crisi (2007-2015)", in Corbella, S., Marchi, L. and Rossignoli, F. (Eds.), *La comunicazione agli stakeholders tra vincoli normativi e attese informative*, Franco Angeli, Milano, 2018, pagg. 1237-1264.
- Migliaccio, G. e Fusco, F. (2018), *Gli equilibri finanziari delle cooperative di assistenza sociale e sanitaria durante la crisi*, in Corbella, S., Marchi, L. and Rossignoli, F. (a cura di), *La comunicazione agli stakeholders tra vincoli normativi e attese informative*, FrancoAngeli, Milano, 2018, pp. 1265-1293.

- Millar, R. (2012), "Social enterprise in health organisation and management: Hybridity or homogeneity?", *Journal of Health Organization and Management*, Vol. 26 No 2, pp. 143-148.
- Mosco, G.D. (2018), "Scopo e oggetto nell'impresa sociale e nella società di benefit", *Analisi giuridica dell'economia*, Vol. 32 No 1, pp. 81-94.
- Nicolás-Martínez, C. and Rubio-Bañón, A.M. (2015), "Human resource management in social enterprise", *Universia Business Review*, No 47, pp. 82-105.
- Pirni, A. and Raffini, L. (2016), "Social enterprise in Spain and Italy during the crisis. A laboratory for economic and social innovation?", *OBETS*, Vol. 10 No 1, pp. 127-158.
- Puddu, L. (2005), *L'impresa sociale, il bilancio sociale, Impresa commerciale e industriale*, Vol. 27 No 7/8, 1128-1129.
- Quirk, T.J. (2012), *One-Way Analysis of Variance (ANOVA)*, in Quirk, T.J. (Ed.), *Excel 2010 for Social Science Statistics. A Guide to Solving Practical Problems*, Springer, New York, pp. 175-193.
- Randazzo, R. and Taffari, G. (2013), "Impresa sociale: che fare?", *Enti non profit*, Vol. 13 No 6, pp. 9-15.
- Ricci, S. (2010), *Il bilancio sociale dell'impresa sociale, Terzo settore*, n. 1, 57-59.
- Ricci, S. (2015), "L'impresa sociale e la cooperativa sociale", *Finanziamenti & credito*, Vol. 17 No 12, pp. 55-60.
- Rivetti, G. (2017), *Enti senza scopo di lucro. Terzo settore e impresa sociale. Profili di specialità tributaria tra attività no profit o for profit*, Giuffrè, Milano, Italy.
- Rondinone, N. (2017), "Il nuovo modello dell'impresa sociale a lucratività limitata", *Rivista delle società*, Vol. 62 No 4, pp. 851-857.
- Ross, A. and Willson V.L. (2017), *One-Way Anova*, in Ross, A. and Willson V.L. (Eds.), *Basic and Advanced Statistical Tests*, SensePublishers, Rotterdam.
- Sanchis-Palacio, J.R., Campos-Climent, V. and Mohedano-Suanes, A. (2013), "Management in social enterprises: The influence of the use of strategic tools in business performance", *International Entrepreneurship and Management Journal*, Vol. 9 N. 4, pp. 541-555.
- Sardi, A., Garengo, P. and Bititci, U. (2019), "Measurement and management of competences by enterprise social networking", *International Journal of Productivity and Performance Management*, Vol. 68 No 1, pp. 109-126.
- Savio, M. and Righetti, A. (1993), "Cooperatives as a social enterprise in Italy: a place for social integration and rehabilitation", *Acta Psychiatrica Scandinavica*, Vol. 88 No 4, pp. 238-242.
- Scagnelli, S.D. & Corazza, L. (2014), "La creazione di valore condiviso: alcuni segnali a livello globale tra profi, no-profit e impresa sociale", *ImpresaProgetto*, No 3, pp. 1-9.
- Scalvini, F. (2013), "Cooperazione e impresa sociale", *Studi Zancan*, Vol. 14 No 3, pp. 86-89.
- Scarlatto, M. (2012), "Social Enterprise and Development Policy: Evidence from Italy", *Journal of Social Entrepreneurship*, Vol. 3 No 1, pp. 24-49.
- Signori, S. and Stiz, G. (2006), *Accountability e bilancio sociale nella nuova normativa sull'impresa sociale*, *Enti non profit*, Vol. 8 No 10, 596-601.
- Smith, B.R., Knapp, J., Barr, T.F., Stevens, C.E. and Cannatelli, B.L. (2010), "Social enterprises and the timing of conception: Organizational identity tension, management, and marketing", *Journal of Nonprofit and Public Sector Marketing*, Vol. 22 No 2, pp. 108-134.
- Solari, A., Salmaso, L., Pesarin, F., Basso, D. (2009), *Permutation Tests for Stochastic Ordering and ANOVA. Theory and Applications with R*, Springer-Verlag, New York.
- Strang, H.R. (1980), *A BASIC factorial ANOVA program with a repeated-measures option for microprocessors*, *Behavior Research Methods & Instrumentation*, 12 (4), 477-478.
- Stringa, P. (2013), "L'impresa 'sociale'", *L'impresa*, No 6, pp. 38-42.
- Tortia, E. and Poledrini, S. (2018), "L'impresa sociale italiana nella prospettiva economico-manageriale", *Analisi giuridica dell'economia*, Vol. 32 No 1, pp. 45-70.
- Vecci, A. (2016), "Global minds dell'impresa sociale. Rendere circolari finanza e società", *Valori*, Vol. 16 No 139, pp. 42-43.
- Verde, M. (2009), *Bilancio sociale: un obbligo per l'impresa sociale*, *Prospettive sociali e sanitarie*, Vol. 39 No 5, 5-8.
- Yang, M.-H., Ben Wu, J.T., Su, C.J., Kao, T.-Y. and Lin, C.-C. (2010), "The study of social enterprise management", *International Journal of Revenue Management*, Vol. 4 No 2, pp. 145-162.
- Zamora, V.L. (2012), "Using a social enterprise service-learning strategy in an introductory management accounting course", *Issues in Accounting Education*, Vol. 27 No 1, pp. 187-226.
- Zandonai, F. (2014), "Sbloccare l'innovazione. Le buone pratiche di impresa sociale", *Welfare oggi*, Vol. 19 No 1, pp. 40-43.
- Zandonai, F. and Puccio, A. (2015), "Due chiavi bastano? L'impresa sociale alla prova della sostenibilità", *Harvard business review. Edizione italiana*, No 5, pp. 82-0.

Zandonai, F. and Venturi, P. (2017), "Impresa sociale: i tre impatti della riforma", *Non profit*, Vol. 23 No 2, pp. 223-241.

ECONOMIC-FINANCIAL DIMENSION OF ITALIAN SOCCER TEAMS AND SPORTS RESULTS: SOME RELATIONSHIPS

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ABSTRACT

Football is one of the most popular sports, especially in some countries like Italy. It has a remarkable social and educational importance. In recent decades, the high investments and business that characterizes this sport has highlighted the need for more careful regulation with respect to the economic and financial dynamics of each team.

This quantitative research based on the balance sheets of Italian Serie A soccer teams highlighted the patrimonial, financial and economic characteristics of the clubs divided into two groups in relation to sports results. The major teams, often placed at the top of the rankings, have lower incomes, despite higher revenues. They have a better balance of medium-long-term sources/investments but, on the other hand, they have short-term solvency risks only mitigated by better cash flow.

Further future developments of the research and an appropriate comparison with the international bibliography will allow more precise conclusions useful for the managers at the strategic level of the sector, as well as at the top of each individual company.

Keywords: Italian soccer; Financial statement; Ratios; Performance; Economic And Financial Balance.

INTRODUCTION AND PURPOSE: STRUCTURE OF THE ESSAY

Sport is a complex phenomenon in constant evolution. It is a derivative of the dominant culture of a place that, with a peculiar feedback mechanism, affects the formation of new generations, considering its great educational function (Pollo *et al.*, 2011). The social value of sport is underlined by the wide importance of mass media events and by the involvement of a large part of populations of all ages and social classes (Del Guercio and Bifulco, 2016; Benacchio, 2015; Greco, 2014).

All sports can spread values such as mutual respect and acceptance of results. Unfortunately, however, the growing economic importance assumed by different sports has gone beyond the original intentions; some sports results are considered questionable, sometimes derived from pathological phenomena

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such as corruption, use of drugs, etc. (Becattini, 2014). The mutual influences between sport and crime have unfortunately emerged in numerous investigations, without however affecting the need for populations to abandon a sedentary lifestyle harmful to their physical and mental health.

Each country has a sport that is mainly practiced or attracts many spectators. In Europe, and in Italy in particular (Leopardi, 2006), and in South America, football has always had a prominent role since its origins, but it is now also spreading to other continents.

The history of football is very ancient (Bortolotti, 2002; Romanato, 2008). Its origins date back even to decades before Christ; more modern features appear in the mid-nineteenth century, in England. Its diffusion and the proliferation of teams made it necessary to set up national and international federations and start sporting competition in several championships.

The growing interest and the advent of the mass media (Martin *et al.*, 2015; Bromberger, 2015) has developed the social value of football (Porro, 2004; Abete, 2004; Papa and Panico, 2000) and economic interests that have attracted substantial investments in facilities and training, transforming this sport into a true "business" (Cavallito, 2012; Tirrito, 2005).

Sports associations have often turned into corporations that have had to equip themselves with an adequate accounting information system and publish the economic and financial results in their financial statements. From the balance sheets of the football clubs it became clear that the economic dynamics of the sector presented significant problems, considering that the growing revenues for tickets, television rights and sponsorship did not compensate for the increase in costs, especially of the best football players. Therefore, new legislative provisions have been introduced until reaching the current legislation that introduced, in Europe, financial fair play aimed at optimizing the economic-financial management of the clubs (Bernoldi and Sottoriva, 2011; Ghio *et al.*, 2019).

At the same time, a possible relationship emerged between the economic dimension of the teams and their sports results, up to the hypothesis that the sports results were almost exclusively the result of the investments (Howard and Crompton, 2002; Lago-Peñas and Sampaio, 2015).

The theme has been the subject of reflection all over the world and also in Italy where football is certainly the national sport with the most beautiful championship in the world.

From these brief premises we highlight the need to analyze the relationship between the economic-financial dimension of the teams and their sports results, hypothesizing that (H1) the most economically and financially solid teams are those that most easily reach better competitive results.

Therefore, the research questions are:

RQ1: What are the economic and financial balances of Italian soccer teams in the Serie A league?

RQ2: Is there a connection between sporting results and the patrimonial and economic balance of the Serie A championship teams?

To answer these questions, a quantitative analysis was developed using the balance analysis technique considered representative of internal economic dynamics, especially if compared in their time development.

The findings are, in part, surprising, even if compared with similar results that characterize the national and international bibliography, which constitutes a necessary premise to the analytical illustration of the survey and its results.

LITERATURE REVIEW

Along with a vast bibliography on the social, medical, psychological and educational aspects of sport and football, in particular (among others: Pollo *et al.*, 2011; Del Guercio and Bifulco, 2016; Benacchio, 2015; Greco, 2014; Porro, 2004; Abete, 2004; Papa and Panico, 2000), there are not many international studies about economic dynamics.

First, the research of Büch (2004) at the beginning of the millennium, which has clearly proposed a careful examination of the relationships between sport, economy and law, with attention to professional football.

A few years later, Gerrard (2006) outlines the main financial innovation in professional team sports, analyzing the case of English Premiership soccer. This paper is emblematic of a growing attention to the economic and financial problems of football teams. However, the problem had already been highlighted at least a decade earlier in North America as it correctly outlined, in 2002, the study by Howard and Crompton, about the financial status of local professional sports leagues, comparing them with the English ones. Even then, increasing annual operating losses were noted, mainly due to the high cost of players' bids.

Since the richest teams have often dominated competitions for twenty years, the problems that would have exploded later were underlined.

In recent years the problem has affected the best international doctrine with a growing number of studies.

The first publication that had the merit to argue for the necessity of regulating European club football financially, in order to create a fair structure of sporting competition was that of Storm in 2012 that develops an understanding of why the majority of European top league clubs are loss-makers and why regulation is needed. The paper's findings demand action to be taken to secure financial fair play in order to deal with issues of equal sporting competition. It argues that this must be done through a central regulation scheme covering all European leagues, thus endorsing the new UEFA financial fair play program.

In 2014, an interesting focus on Brazilian football teams was proposed by Proni and Zaia. The authors outline the situation after about 15 years since the launch of “Lei Pelé” in 1998, which began the transition to corporate management of soccer clubs. This essay looks back at this modernization process while analysing the clubs' results and their financial ratios with the aim of understanding their main difficulties and how successful they have been in trying to modernize.

Subsequently, the more complete study is published about the relations between economic and financial dynamics and the sports results of football teams. This is the article by Lago-Peñas and Sampaio (2015) which identifies how important is a good season start on elite soccer teams' performance and to examine whether this impact is related to the clubs' financial budget. The study is important because it has collected data from the English FA Premier League, French Ligue 1, Spanish La Liga, Italian Serie A and German Bundesliga for three consecutive seasons (2010-2011 to 2012-2013) and has grouped the different teams into different clusters to facilitate comparison. The results suggested that the better the team performance at the beginning of the season, the better the ranking at the end of the season. However, the impact of the effect depended on the clubs' annual budget. Therefore, it is evident that there is a concrete relationship between the economic-financial dynamics of the company and sports results, in addition to the intuitive relations between local economic development and football events of international interest, as happened in South Africa which hosted the world championship in 2010 (Mofokeng and Ndlovu, 2018).

The most recent studies also consider the updated legislation in force, and its effects on economic and sports results. In this regard, the study by Mourão and Gomes (2017) focused on financial sustainability of portuguese amateur soccer teams should be noted and especially the very recent one by Ghio *et al.* (2019) about the impact of financial fair play on Italian soccer clubs. The validity, in Europe, of the rules of financial fair play lead to disappointing results compared to the issues of Financial constraints on sport organizations' cost efficiency. In fact, from this study it seems that the new rules do not significantly improve the average efficiency of the Italian top-flight teams. This research is very close to the proposal outlined later and it will be interesting to verify the possible convergence on the conclusions.

Some conclusive bibliographical notes must be proposed with respect to the copious Italian bibliography, considering that this paper arises exclusively from quantitative data referring to the teams participating in the Italian Serie A championship.

The origins of the diffusion of football in Italy are outlined in Bortolotti (2002) and in the essay by Romanato (2008) which focus on a period in which the problems were very different, compared to the current ones. Instead, the progressive intertwining between football and the economy and therefore the

advent of alternative powers to sports meritocracy, are outlined in the book by De Ianni (2015) with reference to a century of Italian national history.

The writings of Lago *et al.* are more recent. (2004) and are dedicated to the football business, also focusing on the related financial crises. Di Maio's study (2014), in dealing with the economic perspective of football, also makes use of a comparison with the genetic homeland of sport which is England. On football as a business see also Cavallito (2012) and Tirrito (2005).

The accounting of football business management has been the subject, in Italy, of numerous writings, even modulated in relation to the evolution of the legislation. From the first proposals on the balance sheet of the Cesarini football clubs of 1985 and of Rusconi of 1990, we move on to the reflections of Bianchi and Corrado (2004) who, through the study of reports, also try to explain the reasons for the crisis in the sector. In 2004 it was also the study by Busardò which focused the accounting treatment of the "stock players", similar in terms of its basic logic, to that of the following year by Ragno (2005) which illustrated the "characteristic balance sheet items" of a football club: capitalization of costs for the stock of young players, players' registration rights, temporary assignment of the right to sports services, revenues for advertising, sponsorship, sale of television and image rights, etc. The 'Save Football' decree (Decree Law No. 282 of December 24, 2002, later converted into Law No. 27 of February 21, 2003) had effects on the accounting highlighted by Mancin (2007). Interesting the contemporary reflections of Pezzoli (2007).

The other scientific contributions are certainly more recent, typical of the last decade. The contribution of Frau in 2007 and that immediately following by Valeri in 2008 are important among the first publications concerning the application of the IAS / IFRS Standards in the balance sheet of football clubs. This is followed by the monograph by Mancin (2009) dedicated to the balance sheet of soccer companies and the contemporary article on the same theme (2009) by Nicolliello. Then we come to the very useful contribution of Bernoldi and Sottoriva (2011) who compare the Italian situation with international experience, highlighting above all the impact of the cd. "Financial fair play".

In 2017 the number of domestic scientific productions increases: that of Tortorano (2017) dedicated only to football teams listed, and two of Guarna (2017a and 2017b) related to the subject of financial reporting of professional football clubs and to the most restricted problem of accounting of the costs of the stock of young players of the teams. The last contribution is from 2018, again curated by Guarna and reserved for the consolidated balance sheet of professional football clubs.

RESEARCH METHODOLOGY: DATA COLLECTION AND SAMPLE CHARACTERISTICS

This study is based on the calculation of some economic and financial indices obtained from the balance sheets of the football teams that played in the Italian Serie A championship for the sports seasons 2012/13, 2013/14, 2014/15 e 2015/16. The teams are divided into two groups.

- Group 1: includes the clubs that in these four seasons have prevailed over all the others and that have always achieved positive results, placing themselves in the top 10 places in the final ranking (A.C. Milan S.p.A., A.S. Roma S.p.A., ACF Fiorentina S.p.A., F.C. Internazionale Milano S.p.A., Juventus Football Club S.p.A., S.S. Lazio S.p.A. and S.S.C. Napoli S.p.A.);
- Group 2: includes clubs that in these seasons are relegated to Serie B or that do not enjoy the popularity and sporting success of the previous group (A.C. Chievo-Verona S.R.L., Empoli F.B.C. S.P.A., Frosinone Calcio S.R.L., Hellas Verona Football Club S.P.A., S.P.A.L. 2013 S.P.A., Unione Sportiva Città di Palermo S.P.A. and U.S. Sassuolo Calcio S.R.L.).

Using the Aida database of the Van Dick Bureau, the indices and margins listed in table 1 are calculated, developing their temporal and spatial comparison.

Table 1: Indices and margins	
Economic and income analysis	Sales Revenue Profit/Loss for the period Ebitda Ebitda /Sales Roa Consumption margin
Financial and asset analysis	Total of Activities Equity Debt ratio Net Working Capital Treasury Margin Cash Flow

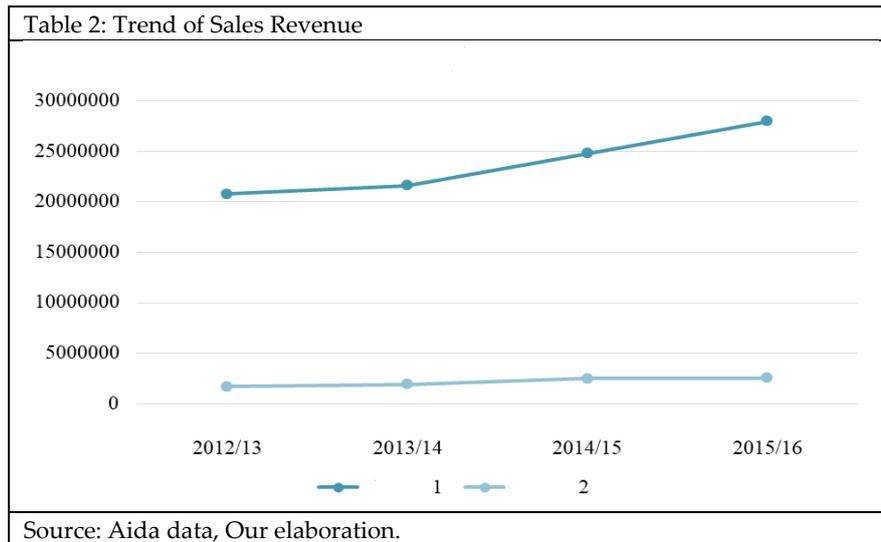
From this comparison it is possible to highlight the relationships between the economic, patrimonial and financial situation of each team with the sports results.

RESULTS AND DISCUSSION

Trend Analysis: Economic and Income Analysis

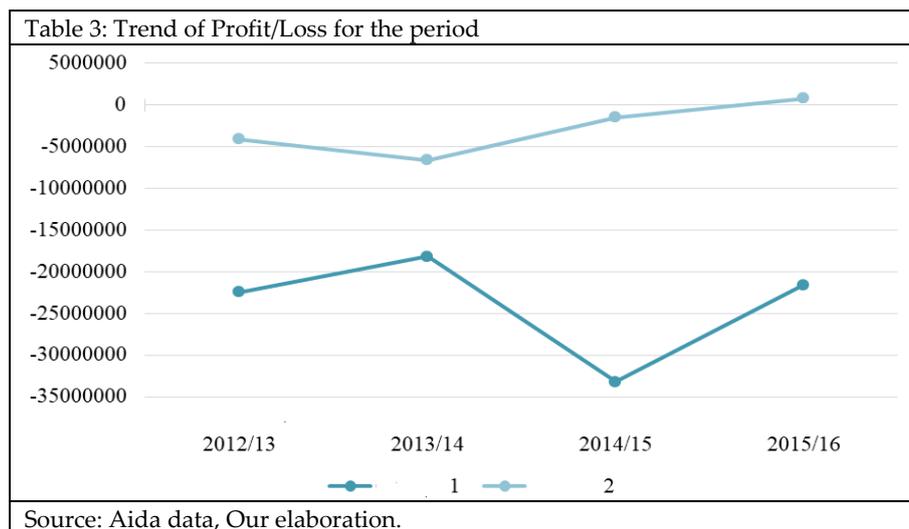
Sales Revenue

This quantitative parameter is obtained from the Income Statement. From table 2 it is possible to notice the gap existing between the top-ranking clubs and the less successful clubs. The difference is accentuated starting with the 2014/15 season.



Profit/Loss for the period

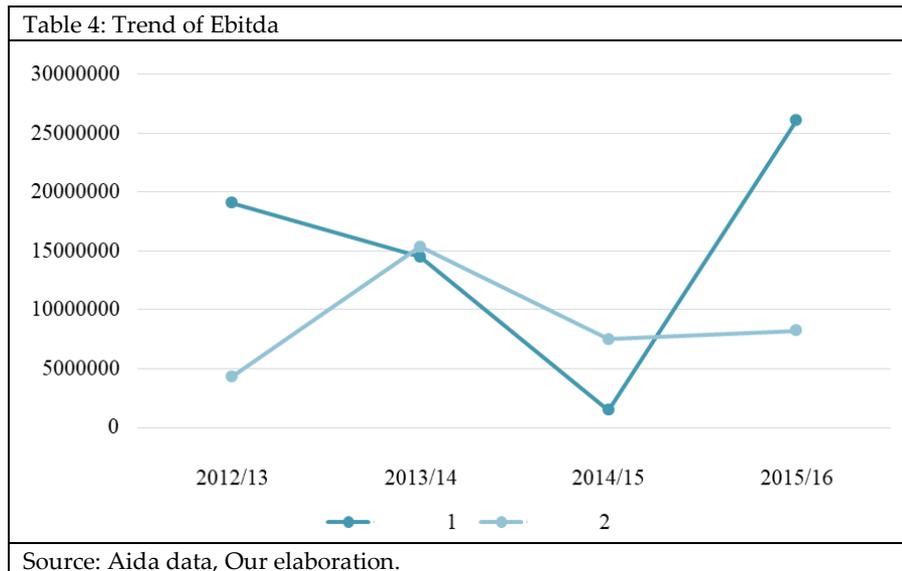
It measures the gap between accrued revenues and accrued costs. In the two groups it takes the form illustrated in table n. 3.



The situation is paradoxical: smaller teams can easily achieve positive management results. Serious losses, on the other hand, for Group 1 teams especially in the 2014/15 season, due to particularly negative results of the AC. Milan (-93.466.015 €) and the F.C. Internazionale Milano (-73,985,539 €) which considerably reduce the average result of their group

EBITDA

Earnings Before Interest Taxes Depreciation and Amortization is an accounting measure calculated using a company's net earnings, before interest expenses, taxes, depreciation, and amortization are subtracted. It is an objective indicator of the economic performance of ordinary operations and represents a potential monetary flow because all non-monetary costs are excluded. If it assumes a negative value, the company presumably also has problems with monetary flows (table 4).



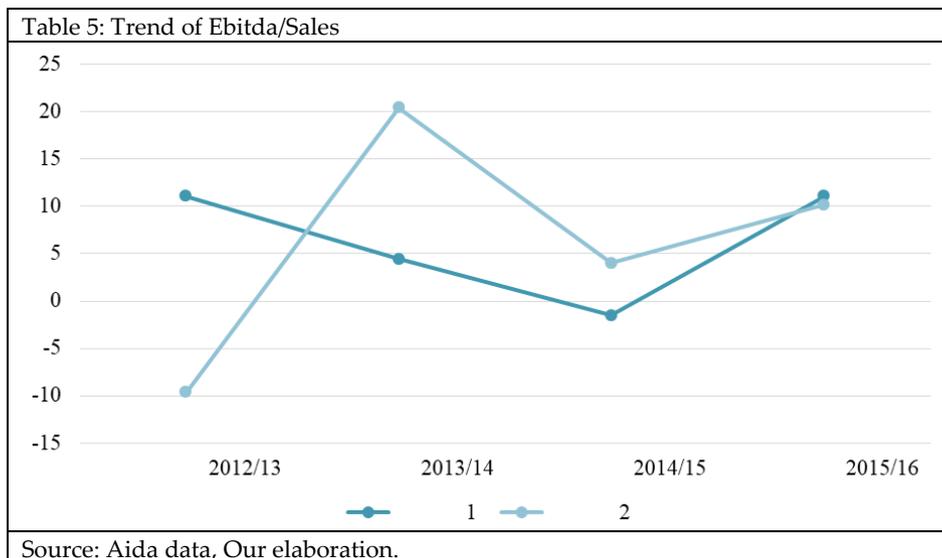
There is no constant trend for the two groups.

Group 1: the negative season is 2014/15, with a reduction of about 90% compared to the previous year, but followed by a decisive recovery in 2015/16.

Group 2: there are no strongly negative or positive results. The results are not very far from the standard average of 5,000,000 / 10,000,000. In the 2013/14 season, Group 2 reaches and exceeds (with just over 850,000) the Group 1.

EBITDA/Sales

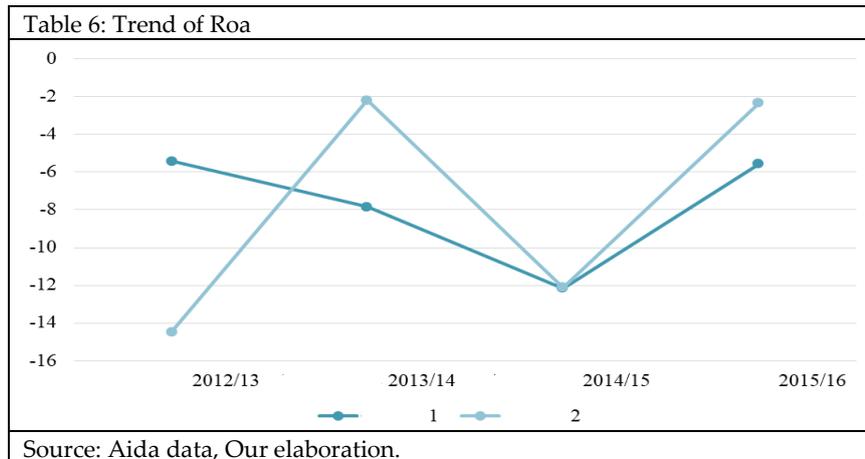
It is a percentage index that interprets the operating profitability of a company: when this index increases, there is a reduction in the incidence of operating costs. The trend is shown in table 5.



It is not easy to define a standard trend for the two Groups: sometimes opposite results are achieved (for example in the 2012/13 season) or very similar (for example in the 2015/16 season).

ROA

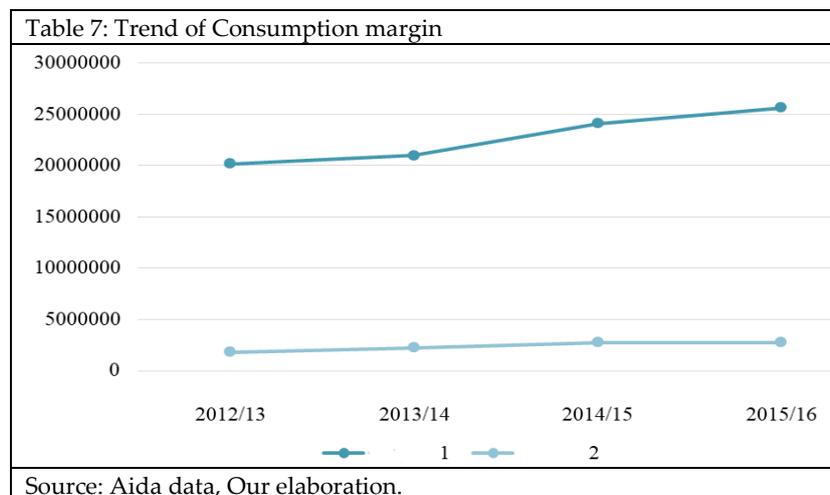
Return on Assets, index that expresses the performance of the resources used in the business activity. It is obtained from the formula $\text{Operating income} / \text{Total assets}$ (table 6).



It is emphasized that both groups, in the seasons examined, always report negative results, with operating incomes lower than zero.

Consumption margin

It is an exclusively income index, for the calculation in fact only economic quantities are used. It consists of Revenues + Internal Works + Change in Works + Change in Inventory Products - Change in Raw Materials (table 7).



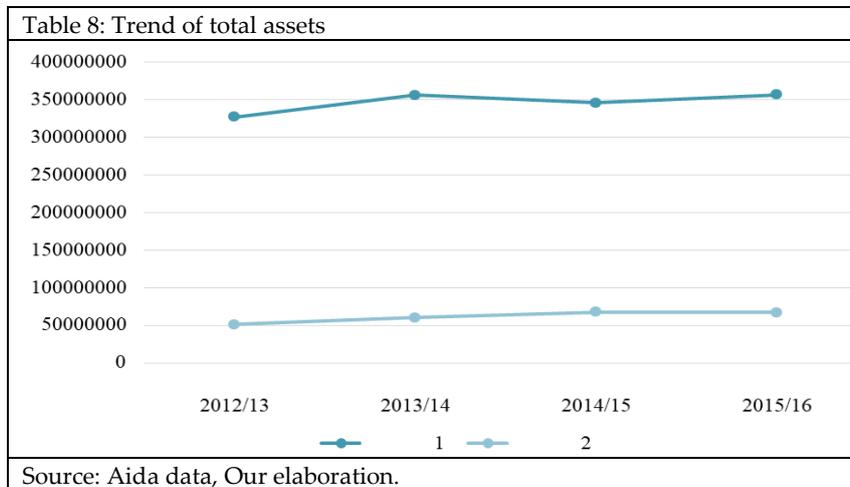
The top clubs maintain their primacy over smaller clubs, and the difference increases over time.

Trend Analysis: Financial and Asset Analysis

Total assets

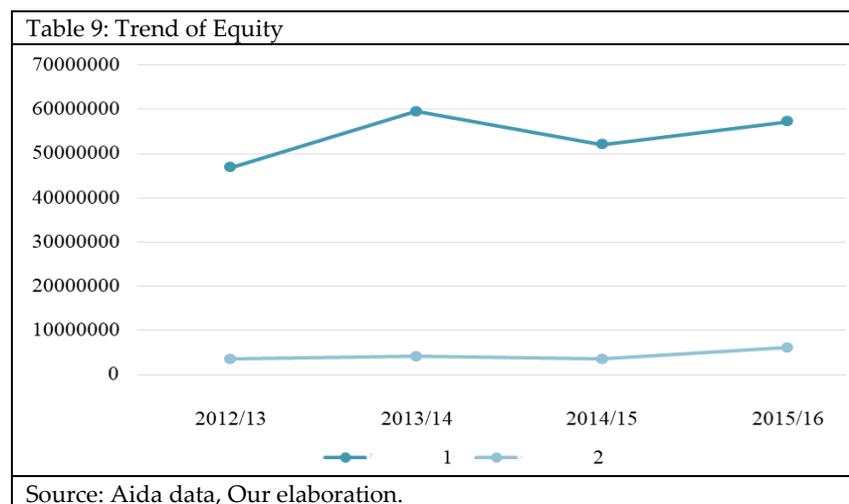
The Balance Sheet provides a representation of the equity and financial position of the company. This value includes the four macro-classes of the Assets: Receivables from shareholders, Fixed assets, Current assets and Accruals and Prepayments.

From table 8, we note that the average of Total Group 1 Activities has values significantly higher than those of Group 2 (approximately 300,000,000 more). The gap derives from the active consistency of the best teams.



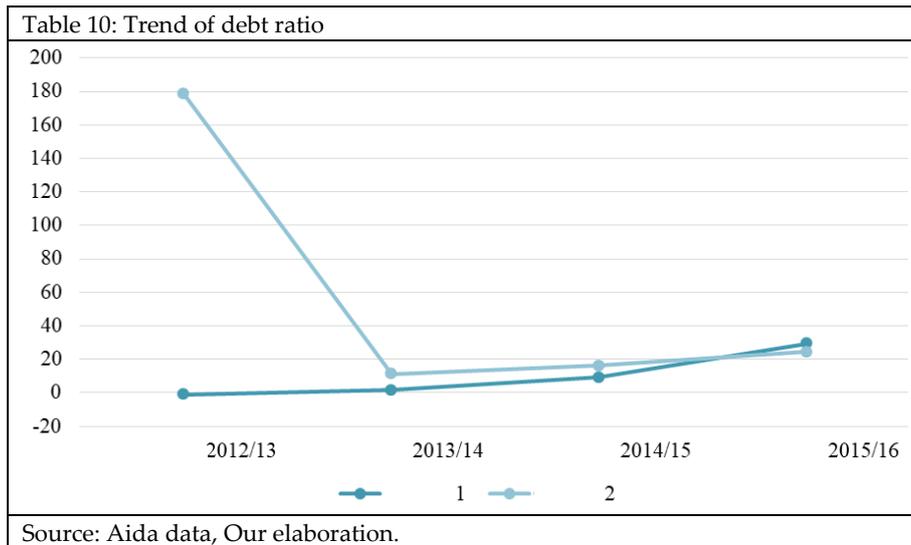
Equity

Table 9 confirms the superiority of the top-flight clubs, due to the solidity of the net assets of the big teams.



Debt ratio

This index expresses the proportion existing between the total Assets and the Net Equity: it is calculated as the ratio between the two quantities (table 10).

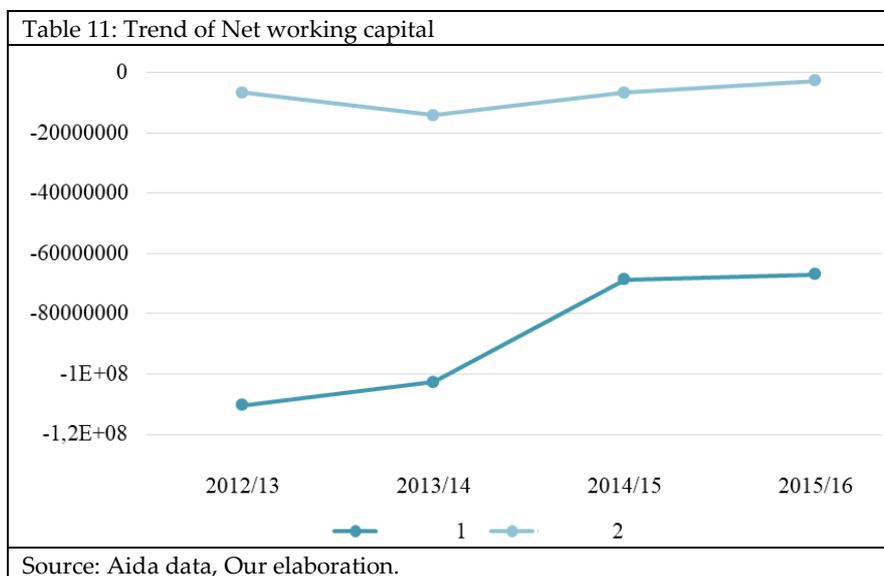


In the first season the Group 2 has much higher values due above all to S.P.A.L. In the following two seasons the results align.

Net working capital

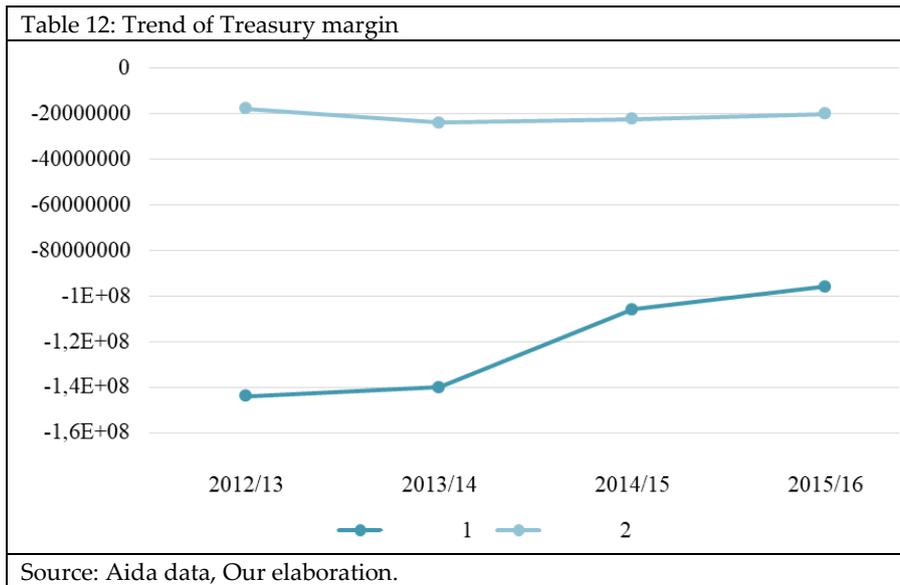
Net working capital results from the difference between current assets and short-term debts: it expresses the suitability of current and near-term liquidity to face debts with next maturity.

Table 11 shows that the “lower” teams can manage liquidity and cover short-term debts more easily, although both groups in the sample report negative results.



Treasury margin

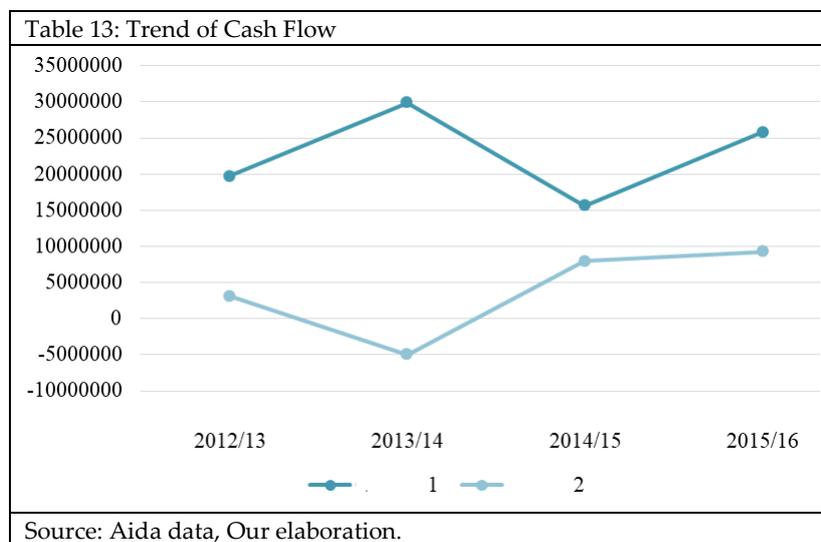
It represents the capacity of present and future liquidity to cover debts with short-term maturity. The trend is in table 12.



Completely negative results, especially for the top-class clubs due, above all, for the 2012/13 and 2013/14 seasons, to A.C. Milan and F.C. Milan international. Opposite situation for S.S.C. Naples which, in the last three seasons, has achieved positive results, the only one of the “d 'élite” group.

Cash Flow

The last index analyzed is the operating cash flow, calculated using the synthetic method: Profit (Loss) for the year + Amortization and Depreciation (table 13).



CONCLUSIONS AND IMPLICATIONS: LIMITATIONS AND FUTURE PERSPECTIVES

The proposed tables do not allow a single judgment on the economic and financial situation of the Italian soccer teams in the A series. Therefore, it is necessary to distinguish the economic profile from the patrimonial one, to formulate some final considerations.

Compared to the typically profitable parameters, obviously, the winning teams present much higher revenues and margins on consumption compared to those with modest sports results. Their attractive power is greater and attributable to their successes. However, it is to be assumed that the operating costs are very high, considering that the income of the best teams is worse than that of the smaller ones. This consideration favors the smaller dimensions, evidently more suitable for a balanced economic management. This conclusion is only partially confirmed by the other income ratios such as EBITDA, EBITDA/Sales and ROA: their fluctuating trend, in fact, does not allow for a single judgment.

The size of the balance sheet assets is consistent with the sports results: obviously the winning teams present greater investments and are more capitalized than the smaller ones. The judgment on the debt is substantially similar for the two groups, at least in the tendential aspects. Therefore, the most important teams present an adequate balance between financing and medium-long term investments, certainly better than that of the smaller ones. Instead, the judgment is contrary to the short-term perspective considering that the values of treasury margins and net working capital are more favorable for teams in group B.

The static analysis leads to significant critical points on the short-term solvency of the major teams, only partially mitigated by a better cash flow.

These considerations add to similar findings that have been formulated by the best international doctrine. The results should be compared with the studies of Gerrard (2006) and of Howard and Crompton (2002). Further useful considerations could be made by comparing these conclusions with the more recent conclusions of Storm (2012) and Lago-Peñas and Sampaio (2015). It could be a subsequent study, considering now the difficulties of comparison because the researches were conducted on different samples at different times.

In any case, such studies have the merit of highlighting the problems of economic and financial sustainability that are often sacrificed, considering the prevailing social and educational value attributed to football. Football is a phenomenon that must necessarily tend to rebalance its management dynamics, avoiding unbearable investments often induced only by a desire for merely sporting success. Therefore, love for one's team must not obscure the economic and financial logic that must necessarily be respected to guarantee the durability of this sport.

The limitation of this research is its merely quantitative nature and the relatively small sample of teams in addition to the short period of time considered. Similar methods could also be applied to teams participating in the Serie B championship and also to those of the minor series. In fact, it is very likely that the outcomes may be significantly different, depending on the different characteristics of the league which may be attractive in terms of financial and income resources.

It would also be appropriate to integrate the quantitative dimension with qualitative findings and, in addition, to adequately investigate the social aspect of these companies. Sport, and football, as already repeated, is not limited to a mere business, instead involving subjective psychological, relational and therefore social aspects.

However, these presented results can be useful to the scholars of the managerial dynamics of companies, but also and above all to those who supervise the regularity of the sector, as well as the leaders of the football teams involved in the study.

Moreover, the methodology can be easily exported even in contexts different from the Italian one: other championships, other economic and financial dimensions, different sporting outcomes but however similar analyzes with reflections that can improve the durability of the companies and, with it, also the sports results and fan loyalty.

In this way, from Italy to the rest of the world, not only pleasant competitive shows can be exported, but also and above all scientific analyzes of the phenomenon that can have very useful practical implications.

Finally, the paper can be used in sports management courses. Future football team managers should be trained in classrooms with respect to these analysis tools so that they can transfer the logic of constant monitoring of economic and financial trends into the world of football, to intervene promptly in the event of symptoms of decline and crisis. The construction of a managerial mentality for the best management of football teams must be a continuous and widespread process, so that even sport can make use of the most recent control and programming methods.

This, of course, does not reduce the right passion for the sporting dimension that can also be reinforced by the evidence of correct balance-sheets. Furthermore, there would also be benefits for tax offices for the constant revenue that would be generated. Even the administrative directors of football teams have an interest in balanced management to replace instinctive and improvised directions.

The solidity of the football teams would benefit all the related industries that develop around sports competitions.

Finally, it must be considered that sports tourism represents a significant and appreciated phenomenon, naturally hoping that it will not turn into intemperance and violent clashes.

REFERENCES

- Abete, G. (2004), "Sport e calcio, un fenomeno sociale da salvaguardare e preservare", GDC. Il giornale dei dottori commercialisti, Vol. 3, p. 12.
- Becattini, G. (2014), "Sport e società: dalla competizione alla corruzione", Il ponte, Vol. 70 No 3, pp. 44-45.
- Benacchio, G.A. (2015), "Lo sport e il dialogo sociale in Europa", Informator, Vol. 22 No 3, pp. 90-94.

- Bernoldi, A. and Sottoriva, C., (2011), "La disciplina della redazione del bilancio di esercizio delle società di calcio. Confronto con l'esperienza internazionale e impatto del cd. «Financial fair play»", *Rivista di diritto ed economia dello sport*, Vol. VII No 1, pp. 147-191.
- Bianchi, L. A. and Corrado, D. (2004), *I bilanci delle società di calcio. Le ragioni di una crisi*, Egea, Milano, Italy.
- Bortolotti, A. (2002), "Il calcio dalle origini ad oggi", in Various Authors, *Enciclopedia dello sport*, Treccani, Roma, Italy.
- Bromberger, C. (2015), "La televisione e il business hanno cambiato il calcio: l'arretramento della casualità", *Problemi dell'informazione*, No 1, pp. 195-202.
- Büch, M.-P. (2004), "Corporate management in professional soccer - Symbiosis of sports, economy and law", *Sportwissenschaft*, Vol. 34 No 3, pp. 359-362.
- Busardò, P. (2004), "Il bilancio delle società di calcio professionistiche: trattamento contabile del 'parco giocatori'", *Rivista dei dottori commercialisti*, Vol. 55 No 6, pp. 1277-1313.
- Cavallito, M., (2012), "Calcio-business una metafora finanziaria", *Valori*, Vol. 12 No 101, pp. 22-23.
- Cesarini, G. (1985), "Aspetti particolari del bilancio di esercizio delle società di calcio", *Rivista italiana di ragioneria e di economia aziendale*, No 12, pp. 606
- De Ianni, N. (2015), *Il calcio italiano 1898-1981. Economia e potere*, Rubbettino, Soveria Mannelli, Italy.
- Del Guercio, A. and Bifulco, L. (2016), "Lo sport come veicolo di inclusione sociale dei migranti", *Diritti dell'uomo*, No 3, pp. 569-596.
- Di Maio, G.R. (2014), *L' economia del calcio. Una prospettiva comparata Italia-Inghilterra*, Tabula Fati, Chieti, Italy.
- Frau, A. (2007), "Prima adozione degli Ias-Ifrs nelle società di calcio quotate in borsa", *Rivista italiana di ragioneria e di economia aziendale*, Vol. 107 No 7/8, pp. 377-394.
- Gerrard, B. (2006), "Financial innovation in professional team sports: The case of English Premiership soccer", in Andreff, W. and Szymanski, S., *Handbook on the Economics of Sport*, Edward Elgar Publishing, Cheltenham and Northampton, UK, pp. 709-718.
- Ghio, A., Ruberti, M. and Verona, R. (2019), "Financial constraints on sport organizations' cost efficiency: the impact of financial fair play on Italian soccer clubs", *Applied Economics*, Vol. 51 No 24, pp. 2623-2638.
- Greco, G. (2014), "Il valore sociale dello sport: un nuovo limite alla c.d. specificità? (comm. a Corte di giustizia dell'Unione Europea, 18 luglio 2013, causa C-201/11)", *Giornale di diritto amministrativo*, Volume 20 No 8/9, pp. 815-824.
- Guarna, C. (2017a), "La contabilizzazione dei costi del vivaio nel bilancio delle società di calcio", *Amministrazione & finanza*, Vol. 32 No 2, pp. 35-41.
- Guarna, C. (2017b), *Le società di calcio professionistiche e l'informativa di bilancio*, Aracne, Roma, Italy.
- Guarna, C. (2018), *Il bilancio consolidato delle società di calcio professionistiche*, *Amministrazione & finanza*, Vol. 33 No 6, pp. 27-36.
- Howard, D.R. and Crompton, J.L. (2002), "The growth and financial status of professional sports in North America: Insights for English soccer leagues?", *Managing Leisure*, Vol. 7 No 3, pp. 145-163.
- Lago, U., Baroncelli, A. and Szimanski, S. (2004), *Il business del calcio. Successi sportivi e rovesci finanziari*, Egea, Milano, Italy.
- Lago-Peñas, C. and Sampaio, J. (2015), "Just how important is a good season start? Overall team performance and financial budget of elite soccer clubs", *Journal of Sports Sciences*, Vol. 33 No 12, pp. 1214-1218.
- Leopardi, B. (2006), "Il calcio da 'gioco fascista' a sport nazionale", *Studi e ricerche di storia contemporanea*, No 66, pp. 98-104.
- Mancin, M. (2007), "Decreto 'salva calcio': effetti nel bilancio delle società sportive alla luce dei recenti interventi legislativi", *Rivista dei dottori commercialisti*, Vol. 58 No 3, pp. 477-500.
- Mancin, M. (2009), *Il bilancio delle società sportive professionistiche. Normativa civilistica, principi contabili nazionali e internazionali (IAS/IFRS)*, Cedam, Padova, Italy.
- Martin, H.J. and Rennhoff, A.D. (2015), "Spanish TV Regulations and Audiences for Soccer Matches, Factors Influencing Utility from Watching TV, and How Media Coverage Influences Financial Returns for Australian Companies", *Journal of Media Economics*, Vol. 28 No1, pp. 1-3.
- Mofokeng, N.E.M. and Ndlovu, T.P. (2018), "Mega sporting events and their structural legacies: A focused look at the attendance of Premier Soccer League games at four 2010 FIFA World Cup flagship stadia in South Africa", *African Journal of Hospitality, Tourism and Leisure*, Vol. 7 No 2, pp. 1-16.
- Mourão, P. and Gomes, J. (2017), "Designing inquiries into the financial sustainability of local associations: The case of portuguese amateur soccer teams", in Peris-Ortiz, M., Álvarez-García, J. and de la Cruz Del Río-Rama, M., *Sports Management as an Emerging Economic Activity: Trends and Best Practices*, Springer, Berlin, Heidelberg, New York, London, Paris, Tokyo, pp. 139-153.

- Nicoliello, M. (2009), "Profili di bilancio nelle società di calcio italiane", *Rivista italiana di ragioneria e di economia aziendale*, Vol. 109 No 7/8, pp. 439-451.
- Papa, A. and Panico, G. (2000), *Storia sociale del calcio in Italia. Dai campionati del dopoguerra alla Champions League (1945-2000)*, Il Mulino, Bologna, Italy.
- Pezzoli, S. (2007), "Capitale e reddito delle società sportive con particolare riferimento alle società di calcio", *Rivista italiana di ragioneria e di economia aziendale*, Vol. 107 No 5/6, pp. 249-257.
- Pollo, M., Floris, F., Grasso, L., Caio, G. and Gallo, G. (eds.) (2011), "Quale sport per quale educazione?", *Animazione sociale*, Vol. 41 No 250, pp. 38-78.
- Porro, N. (2004), "La metamorfosi del calcio come fenomeno sociale", *Quaderni di sociologia*, Vol. 48 No 34, pp. 9-18.
- Proni, M.W. and Zaia, F.H. (2014), "Financial condition of Brazilian soccer clubs: An overview", *Soccer and Society*, Vol. 15 No 1, pp. 108-122.
- Ragno, M. (2005), "Le 'voci caratteristiche' di bilancio delle società di calcio", *Analisi giuridica dell'economia*, No 2, pp. 337-366.
- Romanato, M. (2008), *Francesco Gabrielli (1857-1899). Le origini del calcio in Italia. Dalla ginnastica allo sport*, Antilia, Treviso, Italy.
- Rusconi, G. (1990), *Il bilancio d'esercizio nell'economia delle società di calcio*, Cacucci, Bari, Italy.
- Storm, R.K. (2012), "The need for regulating professional soccer in Europe: A soft budget constraint approach argument", *Sport, Business and Management: An International Journal*, Vol. 2 No 1, pp. 21-38.
- Surujlal, J. (2016), "Influence of organizational support on retirement planning and financial management of professional soccer players", *Polish Journal of Management Studies*, Vol. 13 No 2, pp. 164-174.
- Tirrito, G.D. (2005), "Il modello inglese: il calcio business", *Analisi giuridica dell'economia*, No 2, pp. 427-440.
- Tortorano, G. (2017), *Le società quotate nel mondo del calcio. Profili di bilancio e della governance*, *Rassegna di diritto ed economia dello sport*, No 1, pp. 67-70.
- Valeri, M. (2008), *Standard IAS/IFRS e nuove esigenze di disclosure nel bilancio delle società di calcio*, Giappichelli, Torino, Italy.

ASSET BALANCE OF ITALIAN FUEL DISTRIBUTION COMPANIES DURING AND AFTER THE CRISIS*

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ABSTRACT

Energy is everywhere the first factor of production. Countries, such as Italy, that import energy must activate all possible strategies to reduce their cost, also operating on the market where the distribution companies are located. Starting from the hypothesis that the international crisis of 2008 has generated an imbalance about the relations between sources and patrimonial uses that led to subsequent restructuring, this paper shows the result of a comparative spatial and temporal analysis about the financial statements of 1,761 Italian commercial companies, even distinguishing them in relation to their operation in the three national macro areas. The trend of the current ratio and the fixed asset to equity capital margin for 10 years was analysed. The results were also subjected to the analysis of variance (ANOVA).

The sector is imbalanced, especially in the medium-long term, therefore in need of significant contributions of equity. There are substantial differences between Italian macro areas but they cannot be ascribed to the international economic crisis and its consequences in subsequent years. The starting hypothesis has not been confirmed. The trend in financial statement indicators does not appear in relation to the international economic events of 2008 and their consequences. The trend of the analysed quantities probably originates in different factors typical of the sector and the territory. It will be necessary to develop similar but more detailed analysis using other indices and asset margins, while also allowing them to economic and financial ratios. The paper is original for a methodology never applied to companies in the sector. The results are useful for Italian entrepreneurs and government authorities.

Keywords: Financial statement; Ratios; Performance; Balance Sheet; Italian Companies; Distribution Fuel; International Crisis.

* This paper is the result of a collaborative work. However, it is possible to attribute to Carmelina Ciotta: "Research Methodology: Data collection and Sample Characteristics" and "Results and Discussion: Trend Analysis" with all its paragraphs. The other sections are of Guido Migliaccio.

INTRODUCTION AND PURPOSE: STRUCTURE OF THE ESSAY

Energy has been the first factor of production in any nation.

Italy, in particular, has an economy heavily dependent by the importation of oil that conditions greatly its trade balance and gross domestic product (Colombo, 2000). This makes it necessary to activate all the possible strategies to reduce the cost of the energy bill to businesses and families. The rationalization of the sector also requires assessments relating to the market structure (Juvenal and Petrella, 2014; Panas and Ninni, 2000; Smith, 2009. With particular reference to Italy: Roncaglia, 1983; Dorigoni and Pontoni, 2008; Riboldazzi, 2011a and 2011b; Di Benedetto, 2015) and therefore to the more or less articulated presence of fuel distribution companies, moreover subject to specific legislation also to protect public safety.

The 2008 crisis has obviously directly affected the entire energy and oil sector in particular, including the distribution companies that represent the last phase of the supply chain before final consumption.

This paper focuses on the asset structure of Italian fuel marketing companies through the analysis of financial statements, also analysing the ten-year trends of two asset indicators (Current ratio and Fixed asset to equity capital margin) for the entire nation and respect to the three macro areas in which traditionally the territory is divided: North, Centre, South and islands. The main purpose is to verify what has been the impact of the crisis on the short and medium-long term capital structure and how companies have subsequently reacted to the challenges, with the related consequences on the economic balance.

The starting hypothesis (H_0) is that the crisis has generated an imbalance in the relationships between sources and uses and that the necessary restructuring has subsequently led to the search for new capital structures which are better for results. A more complete picture can be had when the subsequent patrimonial analysis will be adequately integrated with future studies on the economic and financial trend in the decade considered.

Consequently, the research questions to which the subsequent analysis answers are the following:

RQ1: what was the situation of asset balance/imbalance in the year of the crisis?

RQ2: what has been the consequences on the asset structure of post-crisis recovery strategies implemented in following years?

RQ3: are there substantial and significant differences between Italian macro-areas respect to the different asset structure of companies in the sector?

In order to answer to these research questions, the study carries a quantitative analysis based on the financial statements of a sample of companies for ten consecutive years. By analysing the time trend of Current ratio and Fixed asset to equity capital margin, a first view on companies trend was developed.

The study, after explaining some evidences from international literature revue, shows some data on fuel distribution companies in Italy. Subsequently the methodology of the empirical research is described which uses numerous financial statements of the companies that operate in the sector, distinguished by geographical area (North, Centre and South Italy). Below is an illustration of the trends of the two mentioned indicators.

Finally, the conclusions and possible future has been presented to ask clear open questions.

LITERATURE REVIEW

The analysis of the management balances of the fuel distribution companies has been substantially neglected by the international and Italian doctrine.

These companies, in fact, have often been subjected to studies concerning market balances, considering their incidence in fuel price formation. The managerial problems faced are mainly dedicated to the optimization of the distribution processes, to the problems of respecting the environment and the health of the employees who, obviously, also consider the legislation in force in a given country.

It is possible to outline a different literature distinguishing the international one from the typical contributions of Italian doctrine.

International bibliography

The richest contributions are certainly related to the trends of the fuel market which obviously affect the fixing of the international price characterized by relative volatility, also in relation to the more or less marked competition of the productive countries and to the alternative energy choices now widespread everywhere.

The most typical aspects of this particular market are highlighted by Hulsshod *et al.* (2016) with particular reference to natural gas. More numerous are, instead, the contributions related to the oil market, among which the writings of Juvenal and Petrella (2014) that highlight the speculative aspects, Panas and Ninni (2000) that try to emphasize the bearing elements in a market that appears initially chaotic, as subsequently also Smith (2009) hypothesizes. In the market analysis, obviously, an explicit reference to the OPEC that has characterised the history of fuels' supply throughout the world cannot be missing. In this regard, reference is made to the recent contribution of Al Rousan *et al.* (2018).

Once the supply and demand dynamics have been framed, the "price" summary is the subject of numerous international studies. With reference to Europe, refer to Wlazlowski *et al.* (2009). A global dimension is instead proposed already by Baumeister and Peersman (2013) who focused on the role of time-varying price elasticities in accounting for volatility changes in the crude oil market, and then

from Belyi (2016) who tried to answer the question “Why is the oil price not about equilibrium?”, developing an acute socio-economic survey on the oil market.

These are important contributions, however, characterised by a general economic caliber that provide the manager of the individual companies with trend indications on the possible future developments of the oil supply and its demand for the consumption of households and companies.

They, like others, therefore provide general indications without, however, entering into the specific managerial problems of the single distribution company.

Closer to the business administration features of this paper, the studies that outline the organizational, and more specifically logistic, problems of the commercial companies in the sector. The broader theme of planning, execution and control system for fuel distribution, although limited to Chile, was developed by Nussbaum *et al.*, in 1997. More recently, however, the study with some similar intentions by Azimi *et al.* (2010) who proposed RFID technology in “Iranian fuel distribution system”: the interesting case study has aimed at outlining a new model to identify and evaluate critical success factors in Information Technology (IT) projects.

Naturally, the subjects that contribute directly and indirectly to the placement of the product affect distribution logics. In this regard, some interesting ideas have been proposed analysing the governance of transactions adopted by fuel distributors with gas station retailers in the state of São Paulo (De Souza Siqueira Soares *et al.*, 2015).

However, the topics dealt with most analytically in the international arena are those of logistics and in particular those of the supply chain. In this regard, we refer for example to the study by Thunnissen *et al.* (2015) dedicated to a plan for the Liquefied Natural Gas (LNG) distribution network which is a sustainable fuels for the transport and maritime sector.

Logistics and supply chain in China, with reference to fuels, were also the subject of reflection by Jin *et al.*, already in 2010.

Obviously international authors do not neglect the delicate current issue of environmental sustainability and the safety of workers in companies in the sector which must be combined with customer satisfaction. Among others, it is important to read the essay by Hauptmann (2009) which proposes a Quality-Environment-Occupational Health and Safety Integrated Management System for a fuel distribution station: the client’s satisfaction, the preservation of the environment, the safety and labor health are deeply connected with the development strategy and the definitive values of the fuel distribution stations.

A better organization of the system about each distribution company would improve the incomes of each protagonist and would also reduce the serious road accidents in the logistics cost distribution of liquid fuels (Cattaneo *et al.*, 2016).

A turning point in the management of fuel distribution companies could be proposed by the adaptation of the balanced scorecard in fuel distribution companies (De Barros and Wanderley, 2016).

Italian bibliography

Italian scholars have also focused on analysing trends in fuel markets in order to provide a general economic framework within which national companies operate. Surely it is useful to read the text by Colombo (2000) which provides a complete picture about the historical evolution and the scenarios relating to the wider energy sector.

The analysis of the fuel market has been followed over time, primarily by Roncaglia, (1983), which was followed by the research of Dorigoni and Pontoni, in the 2008. The studies of Riboldazzi (2011a and 2011b) are more recent, although they are almost exclusively dedicated to automotive fuel. More recent, instead, is the research by Di Benedetto (2015) which extends his observation also to biofuels.

However, Italian bibliography has also focused on regional situations induced by current legislation. Thus, territorial specialist publications tracing the situation of fuel distribution in the regions can be traced: Sardegna (Scanu and Ugolini, 1995), Toscana (Regione Toscana, 1991), Umbria (Agenzia Umbria Ricerche, 2010), Lazio (Cardoni and Linguanti, 2010), Lombardia (Regione Lombardia, 2010) and Campania (Regione Campania, 2016).

Interesting are the predominantly legal considerations that in any case affect the management of fuel distributors. Problems arise for the location near the protected areas for the risks of pollution (Perillo, 2014), or in shopping centers, considering the health risks of the numerous customers (Bassani, 2008). The lawyer also reflects on the different types of contracts that relate to this particular commodity (Munzone and Sciuto, 2000) and on the land to be considered pertinent to the fuel distribution system (Vaccà, 1990).

The reading of the specialised volume on automotive fuel by Salvadorini (2010) and the more recent one by Fiammelli (2015) is also useful.

It is evident that, in the international and Italian bibliography, there are no specialised studies on the economic and financial balance based on the analysis of financial statements. The only writing that methodologically approaches, while dealing the broader topic of energy, is the publication Iovino and Migliaccio, G. (in press). This paper, therefore, would like to fill a gap by providing a first interpretation of the problem using recent information.

RESEARCH METHODOLOGY: DATA COLLECTION AND SAMPLE CHARACTERISTICS

The focus of this study is the application of the principles of balance analysis, through the determination and temporal comparison of two asset indicators about the companies that characterise

the distribution sector and in the retail fuel trade, so as to be able to consider the trend of the values assumed by them in the period considered, from 2008 to 2017: focusing on a broad time frame, it has been possible to better assess the reactions of companies to the different phases of the economic cycle that has affected the international scene with obvious repercussions in Italy.

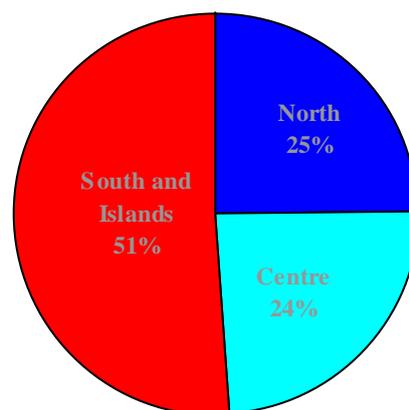
The distribution of companies on the national territory is very varied, which is why it has been considered necessary to carry out territorial discrimination. Italian companies have been grouped into three macro-areas: North, Centre and South, according to the geographical distribution that is used by the National Statistics Institute (ISTAT).

Object of the research has been the financial statements of a sample of medium-large companies with turnover exceeding 800,000 euros, in ten consecutive years.

The choice of financial statements has been based on the Ateco 2007 classification which in Italy divides the various economic activities into different classes and subclasses. Within Class G: Wholesale and retail trade; repair of motor vehicles and motorcycles, group 47 is related only to retail trade (excluding motor vehicles and motorcycles). It is subdivided into different groups, including the 47.3 - Retail trade in automotive fuel in specialised stores, to which this study refers.

The financial statements of 1,761 companies has been analysed with different locations in the three macro-areas of the country (figures 1). Southern Italy appears to be the largest macro-area: in addition to the 6 regions of the South it groups together the two largest islands, for a total of 892 companies; a value far higher than in the North which, although collecting the North-East and the North-West, has a total of 447 companies. Centre comprises 4 regions, for a total of 422 companies.

Figure 1: Geographical distribution by large area

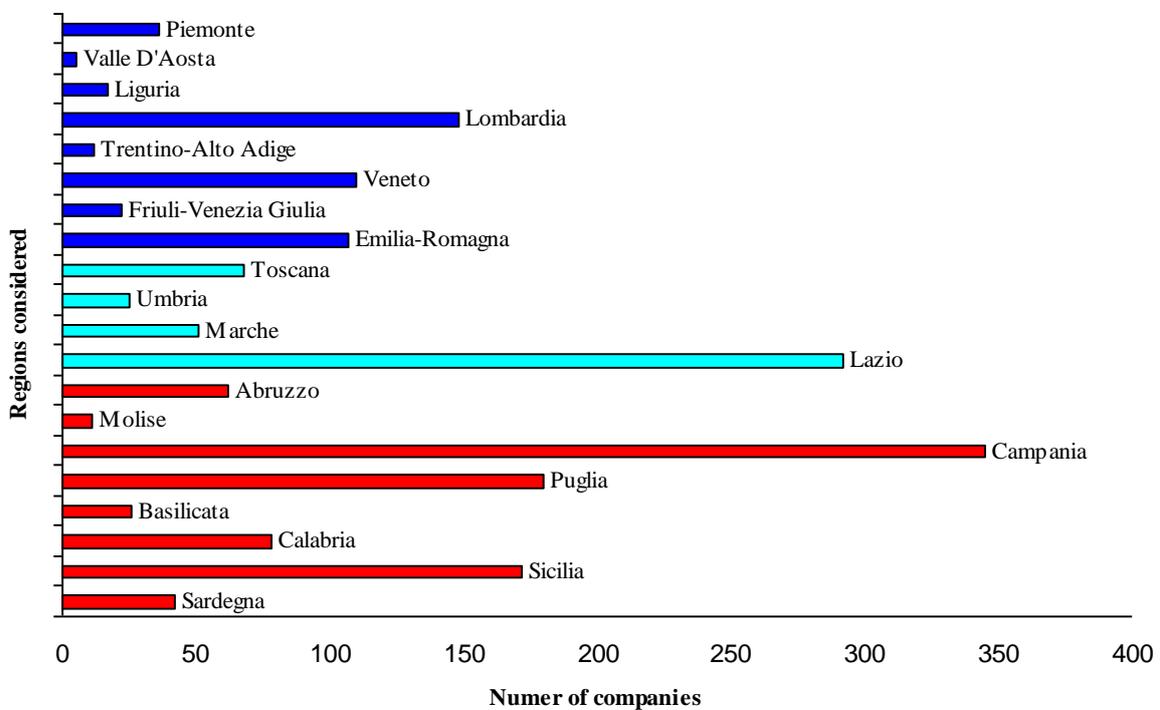


Source: elaboration on AIDA database

Specifically, and as shown in Figure 2, among the Italian regions Campania appears to have the record for the largest number of companies engaged in the distribution and retail trade of fuel with 339 companies, according to Lazio with 281, while in third place Apulia is represented with 173 companies.

The dominance of Campania is the result of the expansion about international trade and mobility of goods and people in the Mediterranean, as a transit area for trade flows between Europe and Asia, which have given the South a central role in the context of maritime transport. In this context, the port of Naples has acquired a significant position among the Mediterranean ports, being directly connected with the Middle and Far East, Central and North America, Africa and, via transhipment, with the whole world.

Figure 2: Geographical distribution by region



Source: elaboration on AIDA database

It should be pointed out, however, that the financial statements of the 1,761 companies that, overall, operated in the sector considered, were not always available. The disaggregated data of the sample investigated by geographical area and year is shown in Table 1:

Table 1: Number of available financial statements										
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ITALY	799	860	929	1008	1045	1108	1158	1222	1240	1132
NORTH	244	271	286	307	316	332	331	342	345	338
CENTRE	206	219	223	238	243	254	263	282	279	268
SOUTH AND ISLANDS	349	370	420	463	486	522	564	598	616	526
Source: elaboration on AIDA database										

The evolution of the two main asset indicators chosen is illustrated below: the annual value is the average of the available data, applying, where possible, the Anova test for calculating variance. (Gu, 2013; Solari *et al.*, 2009; Strang, 1980; Ross e Willson, 2017; HackerJoel e Angiolillo-Bent, 1981; Quirk, 2012; Liao e Li, 2018).

RESULTS AND DISCUSSION: TREND ANALYSIS

Current ratio

The current ratio expresses the proportion between circulating assets and liabilities by relating them. According to commonly accepted and widespread practice, a value of this index:

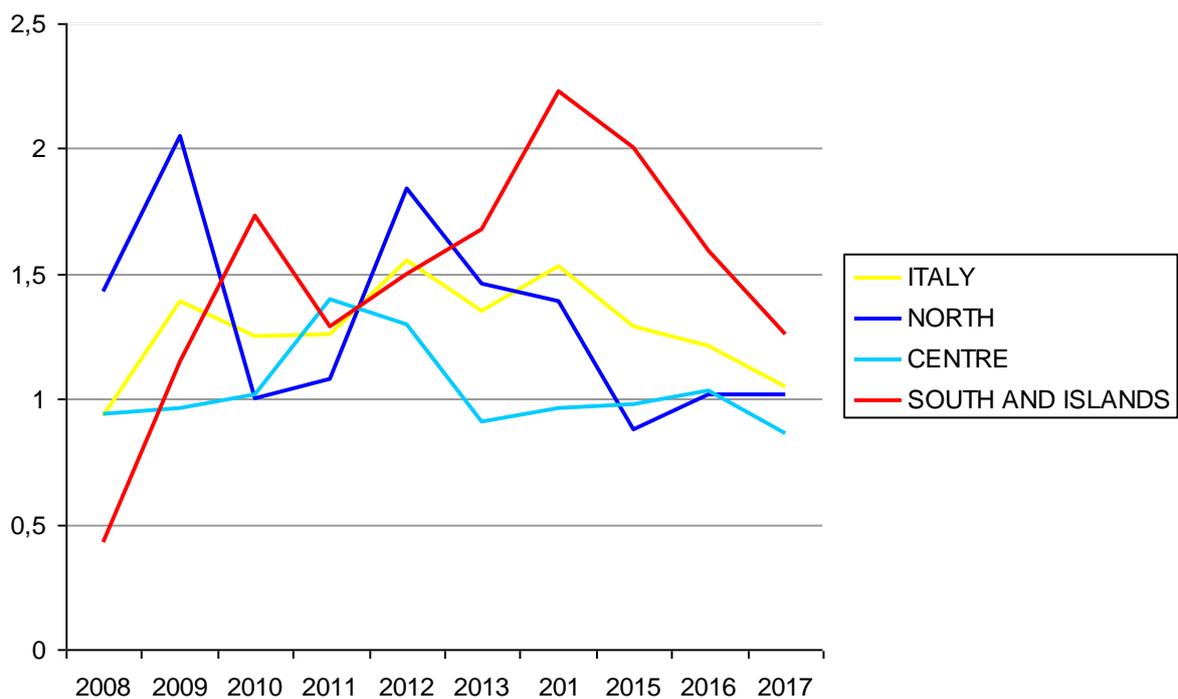
1. greater than 2, expresses an optimal situation;
2. between 1.5 and 1.7, a satisfactory situation;
3. less than 1.25, a situation subject to control;
4. less than 1, a situation of imbalance.

The analysis generated the data of table 2, which highlights the national average and the disaggregated values by macro area. They are then represented graphically in Figure 3.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
ITALY	0,93	1,39	1,25	1,26	1,55	1,35	1,53	1,29	1,21	1,05
NORTH	1,43	2,05	1,00	1,08	1,84	1,46	1,39	0,88	1,02	1,02
CENTRE	0,94	0,96	1,02	1,40	1,30	0,91	0,96	0,98	1,03	0,86
SOUTH AND ISLANDS	0,43	1,15	1,73	1,29	1,50	1,68	2,23	2,00	1,59	1,26

Source: elaboration on AIDA database

Figure 3: Evolution of current ratio



Source: elaboration on AIDA database

The evolution of the index is not homogeneous. There are significant gaps in 2008 (one point between North and South), in 2009 (there is a gap of more than one point between North and Centre) and also in 2015 (North remains at 0.88, while South reaches the optimal value equal to 2). The optimal situation with an index greater than 2 therefore occurs only for South in 2014 and 2015, and in 2009 for Northern

Italy. There are also situations in which the ratio takes values below the critical threshold of 1, especially in Central Italy. The lowest value is recorded in 2008 in Southern Italy, the year of the international crisis. Speculation has affected the increase in the price of oil between 2004 and 2008 (Smith, 2009), generating significant consequences on the working capital of companies operating in the sector. The variance has been therefore analysed to verify whether the differences between the three groups are statistically significant (table 3).

Table 3: Analysis of variance of current ratio						
Groups	Count	Sum	Average	Variance		
North	10	13,17	1,317	0,152601		
Centre	10	10,36	1,036	0,03036		
South and Islands	10	14,86	1,486	0,249271		
Source of Variation	SS	df	MS	F	P-value	F crit
Between groups	1,033407	2	0,516703	3,58629	0,041568	3,354131
Within groups	3,89009	27	0,144077			
Total	4,923497	29				
Source: elaboration on AIDA database						

Table 3 shows that in the current ratio $F > F_{crit}$ and P-value is less than 0.05; for which the hypothesis H_0 cannot be confirmed: at least one of the groups considered differs significantly from the others, but the exact nature of the difference is not specified. This constitutes one of the main limitations of this analysis: the averages are all different from each other or one is different from the others and, if so, which one? It would be advisable to make a comparison between the averages in order to identify a subset of all the populations whose averages can be considered statistically equal.

The fixed asset to equity capital margin

The fixed asset to equity capital margin is determined by deducting the value of the net fixed assets from the net capital. The higher this indicator, the lower the financial risk: if this margin is positive, it means that the fixed assets have been completely financed with equity. If the margin is negative, it means instead that the fixed capital is partly financed with debts and this can expose the company to considerable problems, given that even a part of the stock (permanent stock) represents a lasting financial requirement.

Table 4: Analysis of fixed asset to equity capital margin				
	ITALY	NORTH	CENTRE	SOUTH AND ISLANDS
2008	- 493	- 235	- 1.039	- 206
2009	- 407	-249	- 726	- 245
2010	- 402	-93	- 876	-237
2011	- 265	- 107	- 499	- 191
2012	- 408	-80	- 965	-179
2013	- 413	-149	- 953	-137
2014	- 454	-163	- 1.104	-96
2015	- 420	- 233	- 939	-89
2016	- 335	- 250	- 655	-101
2017	- 289	- 213	- 539	- 60
Source: elaboration on AIDA database				

Table 4, with figures expressed in thousands of euro, expresses the drama of the Italian situation: in each geographical area the companies record negative values.

Given the wide gap between the macro-areas it has been difficult to construct a graph to measure the evolution of the structure margin in the decade in question.

Table 5: Analysis of variance of fixed asset to equity capital margin						
Groups	Count	Sum	Avarage	Variance		
North	10	- 1.772	- 177,2	4.517,067		
Centre	10	- 8.349	- 834,2	41.448,77		
South and Islands	10	- 1.541	- 154,1	4.376,767		
Source of variation	SS	df	MS	F	P-value	F crit
Between groups	2988638	2	1494319	89,04899	1,29399	3,354131
Within groups	453083,4	27	16780,87			
Total	3441722	29				
Source: elaboration on AIDA database						

From table 5 it emerges that in the fixed asset to equity capital margin $F > F_{crit}$ for which, once again, the hypothesis H_0 cannot be confirmed: at least one of the groups considered differs significantly from the others, but the exact nature of the difference is not specified.

CONCLUSIONS AND IMPLICATIONS: LIMITS AND PERSPECTIVES

This study investigated the asset balances of companies dedicated to the distribution of fuel in Italy in the decade 2008-2017, starting from the initial hypothesis (H_0) that the crisis has generated an imbalance in the relationships between sources and uses and that subsequently the necessary restructurings have induced to search for new assets with better results. To this end, responding to three research questions the national situation has been outlined by disaggregating the also in the three macro regional areas of the country. It was therefore (RQ₁) presented the balance/imbalance situation in the year of the crisis (2008) and in the subsequent ones to assess (RQ₂) the consequences on the capital structure of post-crisis recovery strategies.

The outcomes do not allow to confirm the starting hypothesis because no tendencies have been identified that could lead to the conclusion that the crisis has generated imbalances subsequently restored. The trend in values, in fact, does not follow appreciable trends. In fact, they appear extremely volatile presumably derived from factors that are independent of the economic and financial situation induced by the international crisis. Further and more in-depth analysis are needed to understand such anomalous and discontinuous trends.

The first certain fact, at national level, is a significant imbalance in relation to working capital, which is also widespread in regional macro-areas which, however, does not follow a homogeneous trend that can be interpreted only in relation to the international economic context.

A second objectionable evidence is the worrying medium-long term situation, considering the constantly negative value at the national level of the structure margin. The companies in the sector therefore present a situation of undercapitalization which presumably leads to significant debt. Also for this index we can see (RQ₃) substantial and significant differences between Italian macro-areas, without identifying tendential lines attributable to the international economic crisis.

The limit of this study is first of all in its purely quantitative nature based on a variable number of financial statements, albeit high, in the decade considered. The analysis should be implemented first of all by using additional reports and margins relating to the companies asset structure to better understand financial dynamics.

Furthermore, it should be linked to the trend of the general and operational profitability of the companies, considering the obvious relationships between economic results pertaining to each year and asset structure.

A complete and exhaustive picture of the economic and social value of this type of company could also have, by adding to the described quantitative analyzes, the results of specific investigations related to the achievement of the social purposes that also characterize them, perhaps verifying the presence of social budgets that better focus their specific mission. The study of environmental budgets would be very useful, considering the ecological and health impact that these companies could have on the sites (Hauptmann, 2009; Dainese, 2006; Mauro et al., 1996). In Italy this is possible considering the particular sensitivity shown, first of all from the best doctrine towards social and above all environmental communications (among others: Andrei and Pesci, 2009; Condosta, 2006; Paris, 2002; Mio, 1996) which recently converge towards a broader integrated report (Tardia, 2015; Busco et al., 2018; Badia et al., 2018; Gesuele, 2015; Riccaboni et al., 2014; Alvi, 2014; Indelicato, 2014; Panizza, 2014; Gherardi, 2014; Fazzini, 2014; Bianchi, 2013; Gasperini and Bigotto, 2013; Zambon et al. 2013).

Further and more in-depth statistical analysis could better favor the comparison between the different areas of the country. They could be added to the ANOVA methodology used here which has already

demonstrated its usefulness in investigations of this type (Iovino and Migliaccio, 2018¹, 2018², 2019; Fusco and Migliaccio, 2016¹, 2016², 2018, 2019; Migliaccio and Fusco, 2018; Migliaccio and Arena, 2018²). Despite these limitations, the study is among the first to investigate national business situations using the results of the financial statements. It introduces, therefore, a methodology widespread in the doctrine but still eluded with reference to this particular sector which is nevertheless fundamental for energy costs. The outcomes can be useful to individual companies that are thus able to deal with average sector data, starting a critical process on their economic, asset and financial management. Furthermore, they can be the object of attention for the government of the sector in need of financing, especially in the medium-long term. The public authorities must consider its needs, even considering its strategic importance for all the productive processes of a nation.

It can also be a valuable aid for subsequent research that uses the same methodology.

The paper can also be used in higher education courses specifically dedicated to financial statement analysis and company statistics, also to solicit adequate and useful reflections on the necessary yet complex balances between economy, economic-patrimonial relations, environmental impacts and social relations.

REFERENCES

- Agenzia Umbria ricerche (2010), *La distribuzione di carburanti in Umbria: 2009: rapporto di ricerca*, Perugia, Italy.
- Al Rousan, S., Sbia, R. and Tas, B.K.O. (2018), A dynamic network analysis of the world oil market: Analysis of OPEC and non-OPEC members, *Energy Economics*, Vol. 75, September, pp. 28-41.
- Alvi, G. (2014), Alle origini del Reporting integrato e delle varie questioni che ne derivano, *Equilibri*, Vol. 52 No 1, pp. 50-54.
- Andrei, P. and Pesci, C. (2009), L'area di riferimento del bilancio socio-ambientale nei gruppi aziendali: spunti critici di riflessioni emergenti da un'indagine empirica, *Financial reporting*, No 2, pp. 45-70.
- Azimi, A. and Sobhan Manesh, F. (2010), "A new model to identify and evaluate critical success factors in the IT projects; case study: Using RFID technology in 'Iranian fuel distribution system'", *International Journal of Information Science and Management*, (Spl. Issue 1), pp. 99-112.
- Badia, F., Petruzzelli, S., Dicuonzo, G. and Dell'Atti, V. (2018), Evoluzione dell'informativa extra-contabile e ruolo del reporting integrato nella prospettiva delle imprese. Evidenze da una indagine internazionale, *Rivista italiana di ragioneria e di economia aziendale*, Vol. 118 No 9/12, pp. 312-335.
- Bassani, M. (2008), Localizzazione di impianti di distribuzione del carburante nei centri commerciali, *Urbanistica e Appalti*, Vol. 12 No 3, pp. 336-338.
- Baumeister, C. and Peersman, G. (2013), "The role of time-varying price elasticities in accounting for volatility changes in the crude oil market", *Journal of applied econometrics*, Vol. 28 No. 7, pp. 1087-1109.
- Belyi A. (2016), "Why is the oil price not about equilibrium?: An economic sociology account of petroleum markets", *Energy policy*, Vol. 96, September, pp. 45-49.
- Bianchi, S. (2013), Linee guida internazionali per la redazione del report integrato, *Amministrazione & finanza*, Vol. 28 No 2, pp. 13-18.
- Busco, C., Izzo, M.F. and Granà, F. (2018), L'evoluzione del sistema di Corporate reporting. Lo shared value all'interno del bilancio integrato di un gruppo bancario, *Rivista italiana di ragioneria e di economia aziendale*, Vol. 118 No 1/4, pp. 16-36
- Cardoni, C. and Linguanti S. (2010), Il commercio nel Lazio : commercio in sede fissa, commercio su aree pubbliche, distribuzione carburanti, igiene e sanità, somministrazione di alimenti e bevande, strutture ricettive : approfondimenti, Maggioli, Santarcangelo di Romagna, Italy.

- Cattaneo, F.R.A., De Paula, G.L., El-Aouar, W.A., De Souza, L.A. and Barreto, L.K.S. (2016), "Influence of road accidents in the logistics cost distribution of liquid fuels", *Espacios*, Vol. 37 No 8, p. 13.
- Colombo, U. (2000), *Energia: storia e scenari*, Donzelli, Roma, Italy.
- Condosta, L. (2006), *Bilancio e comunicazione: l'importanza della componente ambientale*, *Amministrazione & finanza*, Vol. 21 No 1, pp. 34-40.
- Dainese, R. (2006), *Carburanti ecologici ed impatto ambientale*, *Qualità*, No 6, pp. 21-28.
- De Barros, O.J.E. and Wanderley, C.D.A. (2016), "Adaptation of the balanced scorecard: Case study in a fuel distribution company", *Revista Contabilidade e Financas*, Vol. 27 No 72, pp. 320-333.
- De Souza Siqueira Soares, S., Saes, M.S.M., De Oriani e Paulillo, L.F. (2015), "Plural forms in the Brazilian automotive fuel distribution sector: Profile evaluation and plural governances stability in São Paulo State", *Gestao e Producao*, Vol. 22 No 4, pp. 861-872.
- Di Benedetto, F. (2015), *Oil & bio trading. Guida al trading petrolifero, biocarburanti e margini di raffinazione*, Angeli, Milano, Italy.
- Dorigoni, S. and Pontoni, F. (2008), "I mercati internazionali dell'energia", *Economia delle fonti di energia e dell'ambiente*, Vol. 1 No 3, pp. 165-173.
- Fazzini, M. (2014), *Il sistema di reporting integrato nelle multi-utilities di servizi pubblici*, *Controllo di gestione*, Vol. 11 No 1, pp. 47-54.
- Fiammelli, M. (2015), *Benzinai e stazioni di servizio*, Fag, Milano, Italy.
- Fusco, F. and Migliaccio, G. (2016), "Cooperatives and Crisis: Financial Dynamics on the Italian Primary Sector Cooperatives", in Marchi, L., Lombardi, R., Anselmi, L. (Eds.), *Il governo aziendale tra tradizione e innovazione*, FrancoAngeli, Milano, pp. VII 99-114.
- Fusco, F. and Migliaccio, G. (2016), "Profitability of Italian cooperatives: the impact of geographical area and business sectors", in Vrontis, D., Weber, Y., Tsoukatos, E. (Eds), *Conference readings book proceedings, 9th Annual Conference of the EuroMed, Varsavia, September 14th-16th, 2016*, EuroMed Press: Cyprus, pp. 757-770.
- Fusco, F. and Migliaccio, G. (2018), "Crisis, Sectoral and Geographical Factors: Financial Dynamics of Italian Cooperatives", *EuroMed Journal of Business*, Vol. 13 No 2, pp. 130-148.
- Fusco, F. and Migliaccio, G. (2019), "Cooperatives and Crisis: Economic Dynamics in Italian Context", *International Journal of Business and Globalisation*, Vol. 22, n. 4, pp. 638-654.
- Gasparini, A. and Bigotto, P. (2013), *Il Report Integrato e l'intellectual Capital Statement*, *Rivista AIAF*, No 86, pp. 17-25.
- Gesuele, B. (2015), *Report integrato: prassi operativa. Guida alla contabilità & bilancio*, No 3, pp. 6-10.
- Gherardi, L. (2014), *Il Reporting integrato come espressione della nuova impresa*, *Equilibri*, Vol. 52 No 1, pp. 62-70.
- Gu, C. (2013), *Smoothing Spline ANOVA Models*, II ed., Springer, New York.
- HackerJoel, M.J. and Angiolillo-Bent, S. (1981), A BASIC package for N-way ANOVA with repeated measures, trend analysis, and user-defined contrasts, *Behavior Research Methods & Instrumentation*, 13 (5), pp 688-688.
- Hauptmann, D. (2009), "Quality-environment-occupational health and safety integrated management system case study for a fuel distribution station", *Quality - Access to Success*, Vol. 10 No 5, pp. 27-31.
- Hulshod D., Van Der Maat J.P. and Mulder M. (2016), "Market fundamentals, competition and natural-gas prices", *Energy policy*, Vol. 94, July, pp. 480-491.
- Indelicato, F. (2014), *Report e Reporting integrato: verso un nuovo modello di bilancio*, *Equilibri*, Vol. 52 No 1, pp. 9-37.
- Iovino, F. and Migliaccio, G. (2019), "Financial Dynamics of Energy Companies During Global Economic Crisis", *International journal of Business and Globalisation*, Vol. 22, n. 4, pp. 541-554.
- Iovino, F. and Migliaccio, G. (2018), "Profitability dynamics of tourism companies during the crisis period 2007-2015", in Vrontis, D., Weber, Y., Tsoukatos, E. (Eds), *Conference readings book proceedings, 11th Annual Conference of the EuroMed, Valletta, Malta, September 12th-14th, EuroMed Press: Cyprus*, pp. 663-677.
- Iovino, F. and Migliaccio, G. (2018), "Financial dynamics of tourism companies, travel agencies and tour operators, during the crisis period", in *Conference Proceedings: 2nd International Scientific Conference on Economics and Management - Eman 2018*, Ljubljana, Slovenia, March 22, Printed by: All in One Print Center, Belgrade, pp. 693-702.
- Jin, L., Wang, T., Wang, R. and Liang, B. (2010), "Model of fuel distribution VRP based on NCL", in Zhang, H., Zhang, H. and Zhao, R. (Eds), *International Conference on Logistics Engineering and Supply Chain. Logistics and supply chain research in China: proceedings of the 3rd International Conference on Logistics and Supply Chain Management*, Hunan, China, pp. 226-230.
- Juvenal L. and Petrella I. (2014), "Speculation in the oil market", *Journal of applied econometrics*, Vol. 30 No 4, pp. 621-649.

- Liao, Q. and Li, J. (2018), An adaptive reduced basis ANOVA method for high-dimensional Bayesian inverse problems, arXiv:1811.05151 [math.NA].
- Mauro, F., Uccelli, R., and Lombardi, C.C., (1996), *Impatto ambientale e sanitario dei carburanti per autotrazione, Energia, ambiente e innovazione*, Vol. 42 No 5/6, pp. 19-32.
- Migliaccio, G. and Arena, M.F. (2018), "La redditività delle industrie conciarie italiane durante la crisi (2007-2015)", in Corbella, S., Marchi, L. and Rossignoli, F. (Eds.), *La comunicazione agli stakeholders tra vincoli normativi e attese informative*, Franco Angeli, Milano, 2018, pagg. 1237-1264.
- Migliaccio, G. and Fusco, F. (2018), *Gli equilibri finanziari delle cooperative di assistenza sociale e sanitaria durante la crisi*, in Corbella, S., Marchi, L. and Rossignoli, F. (a cura di), *La comunicazione agli stakeholders tra vincoli normativi e attese informative*, FrancoAngeli, Milano, 2018, pp. 1265-1293.
- Mio, C. (1996), *Bilancio ambientale, nuovo campo d'azione*, GDC. Il giornale dei dottori commercialisti, No 4, pp. 18-19.
- Munzone, G. and Sciuto, D. (2000), "Terreno quale pertinenza dell'impianto di distribuzione di carburante", *Contabilità finanza e controllo*, Vol. 23 No 11, pp. 1077-1081.
- Nussbaum, M., Sepulveda, M., Cobian, A., Gaete, J., Parra, E. and Cruz, J. (1997), "A fuel distribution knowledge-based decision support system", *Omega*, Vol. 25 No 2, pp. 225-234.
- Panas E. and Ninni V. (2000), "Are oil market chaotic? A non-linear dynamic analysis", *Energy Economics*, Vol. 22 No 5, pp. 549-568.
- Panizza, A., Zambon and S., Rapeggia, E. (2014), *Il report integrato alla luce del framework dell'IIRC, Controllo di gestione*, Vol. 11 No 3, pp. 5-10.
- Paris, A. (2002), *Dal bilancio economico-patrimoniale al rendiconto etico-ambientale*, *Rivista italiana di ragioneria e di economia aziendale*, Vol. 102 No 5/6, pp. 234-247.
- Perillo, V. (2014), "Installazione di impianti di distribuzione carburante: area protetta prospiciente (contigua con) determinate zone", *Diritto e giurisprudenza agraria, alimentare e dell'ambiente*, Vol. 23 No 7/8, pp. 783-786.
- Quirk, T.J. (2012), *One-Way Analysis of Variance (ANOVA)*, in Quirk, T.J. (Ed.), *Excel 2010 for Social Science Statistics. A Guide to Solving Practical Problems*, Springer, New York, pp. 175-193.
- Regione Campania (2016), *Lo stato della rete distribuzione carburanti della Campania*, Napoli, Italy.
- Regione Lombardia (2010), *L'evoluzione della rete distributiva dei carburanti per autotrazione in una prospettiva di governo*, Milano, Italy.
- Regione Toscana (1991), *Gli impianti stradali di distribuzione carburante*, Edizioni della Giunta regionale toscana, Quaderni di commercio No 6, Firenze, Italy.
- Riboldazzi, S. (2011a), *Mercati globali e distribuzione dei carburanti per autotrazione*, Clueb, Bologna, Italy.
- Riboldazzi, S. (2011b), *Imprese e concorrenza nel mercato globale dei carburanti per autotrazione*, Giappichelli, Torino, Italy.
- Riccaboni, A., Quattrone, P. and Busco, C. (2014), *Al di là della rappresentazione: il Reporting integrato come strumento di mediazione e innovazione sociale*, *Equilibri*, Vol. 52 No 1, pp. 38-43.
- Roncaglia A. (1983), "Il petrolio e i suoi mercati", in Roncaglia Alessandro, *L'economia del petrolio*, La Terza, Roma, Italy.
- Ross, A. and Willson V.L. (2017), *One-Way Anova*, in Ross, A. and Willson V.L. (Eds.), *Basic and Advanced Statistical Tests*, SensePublishers, Rotterdam.
- Salvadorini, F. (2000), *Gli impianti di distribuzione dei carburanti per autotrazione*, Cel, Gorle, Italy.
- Scanu, G. and Ugolini, G.M. (1995), *La distribuzione dei carburanti per autotrazione in Sardegna : ricerche di geografia applicata all'assetto economico e viario della regione*, Giuffrè, Milano, Italy.
- Smith J. (2009), "World oil: Market or Mayhem?", *Journal of economic perspectives*, Vol. 23 No 3, pp. 145-164.
- Solari, A., Salmaso, L., Pesarin, F. and Basso, D. (2009), *Permutation Tests for Stochastic Ordering and ANOVA. Theory and Applications with R*, Springer-Verlag, New York.
- Strang, H.R. (1980), *A BASIC factorial ANOVA program with a repeated-measures option for microprocessors*, *Behavior Research Methods & Instrumentation*, 12 (4), 477-478.
- Tardia, T. (2015), *Flusso informativo. Dal bilancio sociale e ambientale, al bilancio sostenibile*, PMI, Vol. 21 No 10, pp. 56-62.
- Thunnissen, S.K., Van De Bunt, L.G. and Vis, I.F.A. (2015), "Sustainable fuels for the transport and maritime sector: A blueprint of the LNG distribution network", in Zijm, H., Klumpp, M., Clausen, U. and ten Hompel, M. (Eds.), *Logistics and Supply Chain Innovation: Bridging the Gap between Theory and Practice*, Springer, Cham, Switzerland, pp. 85-103.
- Vaccà, C. (1990), *I contratti di distribuzione dei carburanti : esperienze nazionali, disciplina comunitaria e tipizzazioni contrattuali*, Cedam, Padova, Italy.

- Wlazlowski S., Giulietti M., Binner J. and Milas C. (2009), "Price dynamics in European petroleum markets", *Energy Economics*, Vol. 31 No 1, pp. 99-108.
- Zambon, S., Monciardini, D. and Girella, L. (2013), Reporting Integrato: un'analisi delle risposte alla consultazione pubblica sulla Bozza di Framework, *Rivista AIAF*, No 89, pp. 39-46.

ASSIGNING DATABASES OWNERSHIP AND STEWARDSHIP IN THE HEALTH HUBS AND CLUSTERS

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ABSTRACT

This research assesses the data-related practices maturity in Romanian health establishments ware data, based on good Governance and Management approaches, on professionals involved skills, their roles and responsibilities. Bearing in mind that the correct processing of data requires data-dedicated-staffs, the research develops a model of data ownership and stewardship allocation to sustain related projects success.

Using the interview techniques, we review comparatively the data projects goals, methodologies applied, staffs selection, allocation of responsibilities and future milestones. Mixed specialists from the health establishments spend significant efforts to design related framework, potential document expectations and requirements, best ways to hire staffs up to invest in technology. Procedures and regulations implementation have been studied linked to the formal strategic engagement to assure achievements.

The findings rely on a limited number of analyzed data-centered set-ups. Analyzing the pitfalls of the current practices we suggest in this paper a plan that allows the health establishments to ensure that policies and procedures related are correctly managed. The data centered mentality can be disseminated through informal mentoring practices.

The research value consists in the method chosen to build the operating model centered on data and the steps taken to build governance, management and designate data-responsible labor-force.

Keywords: data governance; data management; data ownership, stewardship; health establishments; mentoring.

INTRODUCTION

The researches on data-centered activities allude to the huge volumes of data that currently any establishment deals with (Pierce *et al*, 2008; Weber *et al*, 2009; Fu, *et al*, 2010; Stickel and Vanderwalk, 2014; Al-Ruithe *et al*, 2018). Without entirely contradicting the statement, we go on and affirm that data exists in any organization since the very beginning and grows together with the business. In

industries like health, Pharma, care, ICT or financial services, data bases increase with time, given on one hand the number of people accessing them, and on the other hand the increasing number of activities, processes, operations, regulations, procedures, therapies, products, services, and markets they operate with.

Data diversification accompanied all the market movements, but not to the extent that would generate a paradigm shift related to new ways in which establishments could be managed. Thus, new preoccupations in management could help better value the data and design new maneuvers and upgrades. There are scientists that give special credit to few factors: ongoing, operational needs or requirements from the regulatory bodies (McDowall, 2017). Daily operations require and use preexisting data, they generate additional data and store them for the future use. Each new patient's data becomes aggregated products that will help to foresee/anticipate/predict processing operations resulting in even more data. Until these days, data wasn't used to generate new operating models. This could be the facilitator of a revolutionary way to organize data, ideas, process, and remodel the operational philosophy according to an increased regulatory systems to be used for fasten processing and use of any data in favor of both people and institutions.

Health industry in general – and the Romanian one in particular are not exceptions. Despite existing procedures and guidelines, they don't operate on a complex profit-based approach. Their functioning is unsteady because of health practices concerned, inadequate design, consistency or expected efficiency that is incompletely monitored and irregularly evaluated by the regulators based on a corporate governance and inconsistent assessment or regulatory reporting. Under this scrutiny, health industry has admitted to be facing data-related issues.

The present paper assesses the maturity of the data-related practices in the Romanian health and care system through their Data Governance and Management, the involved professionals' typology together with their roles and responsibilities.

DATA GOVERNANCE AND DATA MANAGEMENT – THEORETICAL APPROACHES

Individuals and specialists bewilder of the exponential growth of data (Wilbanks and Lehman, 2012), their complexity (Al-Ruithe *et al*, 2018) and worldly uses (Al-Ruithe *et al*, 2018). Some issues look similar in any organization or related linked to the data use: how to find the required data (Stickel and Vandervalk, 2014), how to identify the correct traceability to match different sources, how to consolidate information to allow their integration and connectivity (Stickel and Vandervalk, 2014). From this perspective, the limited knowledge management generates even more difficulties in finding solutions and responsible persons. Other non-conformities refer to the fragmented and unserviceable

content or inappropriate definition of similar data, managing (Al-Ruithe *et al*, 2018). To overcome these issues, the health establishments have recently started to allocate significant resources in designing adequate Data-centered programs, focusing on good governing and data management.

The review of the existing literature shows that Data governance is related to allocating decision-making rights, authority and consequently - duties (Otto, 2011), and that is ensured through a structural framework (Weber *et al*, 2009). The decisions to be taken refer not only to data, but also to the information technology systems that store or process the data (Wilbanks and Lehman, 2012). Data should be treated as an important asset (Khatri and Brown 2010; Early, 2011) that needs to be planned, monitored, assessed, implemented and evaluated by feed-backs; therefore data needs appropriate handling by skilled professionals (educated or mentored), able to appreciate, use and maximize its value.

Researchers identify some main pillars on which data governance is based, like the existence of standards (Otto, 2011, Pierce *et al*, 2008), well defined logical data models and a proper identification of the data lifecycle (IBM 2007, Pierce *et al*, 2008), properly framed data roles (data owners, data stewards, data modelers, data miners, data committees (Otto, 2011).

A comprehensive perspective comes from the Data Governance Institute which sees data governance as a system with the decision-rights as part of a matrix that combines persons, procedures, standards, methods, models. The matrix system includes also more volatile components like people behavior or even a code of ethical conduct (Ron *et al*, 2017).

We keep in mind all the above when analyze, comparatively, the methods chosen by two players of the health industry to create a new operating model centered on data, to solve issues related to inadequate practices of data management.

GOVERNANCE IN PRACTICE

Romanian health industry of the last 20 years did not prove to be one of the most innovative. False regulated and heavily bureaucratic, the health clinics excel with processes well described and fully documented – from the flows design, to setting up responsibilities for each step, and providing templates. Data lifecycle insufficiently documented has an obsessive focus on technological aspects, data flows, storage, backup, etc. They do not have anything linked to the dynamic of data, their aggregated simultaneous use. From the improvements point of view, the private health establishments have invested in everything that could increase the services' market share and the high technology procurement, to reduce non-performance and costs, to improve ratios. Given the central executive pathway, they are stopped from creating philosophical approaches. Or, from our point of view, data management is, above all, an attitude, and without it, nothing is enough.

Private health establishments have managed data from the first day of their inception; data quality was always one of the audit findings capable to generate action plans. Reports have always been generated and reporting capabilities have been constantly taken into account for improvements. But this was always only the result of a project carried on, or of the need to accommodate new processes, to solve encountered problems. It was a mean, not a goal in itself. Only in the last few year, as a result of increased incapacity to deal with the requirements and costs related to data management, Romanian health logistics became more aware of the international practices related to data. By analyzing two of the health networks from the Romanian market (A and B), we will see how the data governance principles have been understood and put in practice in public and private areas.

Our research methodology is qualitative, based on interviews with the data projects teams and provided documentation review. We have gather information about the following: organizational structure, data related documentation; roles and responsibilities related to data; staff; related IT infrastructure; methods of communication within the organization. The following table presents the findings:

	Establishment A	Establishment B
Period of data governance activities	Start date: beginning of 2017; not ended	Start date: mid of 2016; not ended
Organizational structure	A new division has been set up, Data Management and Business Intelligence (DMBI), under the subordination of the Risk Officer. The division consists of 4 departments: Data warehouse, Business Intelligence, Data Management, and Centralized Reporting.	#N/A One new role created: Data Officer reporting to the Risk and Safety Officer
Staffing – persons, profiles	Director; deputy director; 4 managers – from within the organization Profile: two reporting specialists (sq. literate), one data warehouse specialist, one loan administration specialist, one credit risk specialist Previous experience related to data governance: none	Loan administration specialist
Involved external parties	Consultants	Directly: Parent company; Indirectly: consultants hired by the parent company, project based
Documentation	The Data Strategy - describe the inception's vision related to data – data objectives, the approach to improving the availability, quality, management and use of data within the institution, using common language, systems and processes. The operating model policy – describes the structures involved in the management of data (IT divisions, DMBI, the business departments from the institution), the new roles and responsibilities associated to data, the governing bodies (committees) The data management policy, describing the data quality principles and the associated roles The reporting procedure, describing the flow for the reporting requests; includes templates for business	Data quality guidelines Rules for assigning the ownership for corporate data

	analysis, technical analysis, requests logs.	
Roles	Data Modeler; Data Custodian; Data Steward; Data Users	Data Officer; Data Owners; Data Users
Related IT infrastructure	Data warehouse – build in cooperation with the consultants, IT and the new division	#N/A
Communication	Occasional: Through presentations to all directors of departments, related to the status of data warehouse development and planned developments of Business Intelligence infrastructure. Formal, recurrent: Data committees – monthly and quarterly, with designated staff, related to data related issues.	Occasional, whenever projects related to data impose it or related to encountered data quality issues.

In brief, the two health establishments under analysis started three years ago to take actions related to data. During the interviews the project teams mentioned that the reasons for starting the projects have been the official authorities' recommendations, made during the annual audit, who considered that the data quality is not properly monitored and there is no single "golden source" for reporting purposes. Also, another reason was the impossibility to close the monthly economic and financial statements faster than usually and this with significant efforts and overtime from the involved personnel. This problem has been noticed also by researchers on data, for example a survey requested by Oracle on the way organizations deal with the closing process revealed that more than 80% of them need almost one month (20 man-days) for doing it. This is caused by data quality issues and by the fact that data was received from several sources, implying almost always manual interventions, but no data lineage.

The unit A created a dedicated and complex structure, with multiple managerial levels and several roles related to data management, the most specific to the data governance being the Data Steward. The unit B identified as needed one single role - Data Officer - a consultant than an employee. B is focused on Data Quality and links it to the assignment of data ownership. In terms of staffing, the staff is not experienced in data management. Neither A nor B have preoccupations of bringing on board specialized staff in data management.

One unit, advanced in terms of governance, approved, at organizational level, a Data Strategy and an Operating model that introduce the data management activity in the middle of the data related processes. Through the Data Strategy, the health units become agile using data; they intend to become data-centered and embed this culture across the unit. The other one used the Parent Company Data Quality Guidelines – a misleadingly named document, although has a comprehensive chapter dedicated to data quality. In fact it establishes the roles and the adequate responsibilities such as: Data officer, Data owners, Data users.

In terms of the communication methods, i.e. the way in which data related activities are transmitted within the organization A has created data committees, with monthly and quarterly recurrence, where the participants are the heads of Administration / IT / Data Management division and Risk. Also,

when the new Data Management division has been created, a project kick off meeting was held with all the departments, for informing them about the new operating model. Several other presentations have been made to their personnel related to the Data Warehouse project and Business Intelligence planned developments. B does not use official committees or reports to the top management on data practices developments.

FINDINGS BEHIND THE WRITTEN WORDS

Although at least in one of the two health establishments significant efforts have been made in order to set up a proper governance of data, including documented procedure, hiring personnel and investments in data warehouse, with the purpose of it to become the unique source of data for official reporting, the 2018 year reality at two years distance since the project beginning shows that in practice, there is an almost zero “*evangelization*” in what regards the data centered mentality. More specifically, both health establishments continue to focus on solving isolated business problems, at the moment of their appearance. Even if the guidelines/policy state that any new project that might involve data-related aspects (data creation, data storage, data reporting, etc.) mandatorily involve Data Management division / the Data Officer, still disparate projects appear and are implemented, which shows that neither the staff nor the decision bodies are truly involved in a real transformation process through which the organization passes in order to become data-centered.

Although A invested in building a Data Warehouse and B created automated data recording as flows generated daily, harmonized and aggregated locally), there is a limited use of this data within the unit. During the implementation process, the administration departments involved in testing the data proved a low satisfaction because of the data used without any business intelligence tools and Data dictionary/IT glossary terms, the data processing was assessed as limited in accessibility and time consuming. On the other side, the unit B did not even popularized the daily created data tables. From the starting point, it was proved a limited involvement in the overall project requiring clarifications. Also, this so-called data storage which in fact is a golden mine, has no dictionary attached. The fields’ explanations suggest unclearly and incompletely, the data content.

The automation level is at an almost satisfactory level, in what regards the creation of “consecrated” reports; still, there are parts that require manual intervention. Neither the automated parts, nor the manual ones, have a proper documented flow. Data lineage is inexistent. The A hopes to solve the issue when migrating the main reporting on the data warehouse. The B intends to identify the lineage with the involvement of the Data officer and the Data owners. Also, there is no change in management standardization, and modifications to data and/or reporting are not documented, leading to the impossibility to identify errors and correct them in an efficient manner. Some of the staffs showed that

health premises spend disproportionate amount of time for maintaining and tuning the technology and infrastructure to meet the changing requirements, some of the applications are scarcely documented, maintenance agreements with providers is lacking, while the creation of new data fields are hardly done internally. The solutions provided informally, to avoid incurring significant costs, do not satisfy a proper management of data quality.

In terms of skilled staff involvement, both units stated that the data-centricity is built only by using the technical knowledge of the IT personnel and the business knowledge of employees from key administrative areas. The availability of qualified and creative staff is seen as one of the biggest problem in the attempt to increasing establishment's data capabilities. The health industry is hardly a pioneer in addressing data issues systematically and cannot be considered a source for data trained staffing. Industries like Pharma are more advanced and data modelers or architects are easier found. With relative knowledge related to health services and Medicare practices, they need stronger pair-teams of Data Owners, flexibility in mixing the field with technical specifications. Meanwhile, consultancy is a key approach, leading to reduced visibility of data-related activities. The underlying issue that is brought into light by all interviewed persons is the improper cross-functional practices: while teams are used to cooperate for designing operational business-based processes, the cooperation doesn't look fruitful. The main reason is that the roles and the responsibilities related to data have been assigned without proper explanations on purpose, destination, and activity to be done by data steward and data owner and how they will be assigned.

The unit A nominated only Data stewards, identifying three types of them: Data Domain Stewards – role associated to heads of divisions and managers, being responsible for ensuring the duality of data in their domain and for documenting data classification rules, compliance rules and business rules. Asked about how they play their role, managers complain that they do not know what “classification rules” means, that data compliance rules should come from compliance department or IT if it relates to technical aspects. With regard to data quality, they say that this is the appanage of the departments who handle the data in the system, business being responsible only to generating business and not to managing the data related to this business. The Technical Data Steward is the second type and his role is associated to the Data Management division. The responsibilities associated cover the creation and maintenance of Business Glossary, of the Reports catalogue and proposing Key Data Elements (KDEs) and Key Data Quality Indicators (KDIs). They confirm the absence of procedures or manual regarding KDE or KDI and look for other people like consultants to provide inputs on this. The third type refers to the Operational staffs, identified as the seniors of various departments. Their responsibilities, as per the Operating model, are linked to data quality issues, to ensure adequate solutions and participation at the glossary building, etc. All the respondents stated that have several times been asked specific

questions about the data and they provided the information; still, they never use the affairs glossary, not even for requesting a report – case in which they explain to IT department their needs in their own words, then verify the outcome and correct, again with IT help, any misunderstandings.

CONCLUSIONS

Significant efforts appear to be done by premises in order to improve the way they address data issue. Still, they lack overall engagement. One reason for this is that the governance rules are set based on research about best practices. What is found as necessary to be done is transposed into internal policies and procedures.

- With the best intentions, still without much success. Without specialized personnel, data approaches get dressed in new clothing, but remain carried on in traditional ways and by people who are used to deal with data from a technical point of view (IT, MIS personnel), from the financial or risk point of view, from reporting point of view, but not holistically. Data continues to be handled in a fragmented way and for specific purposes. The lack of inner interest in data quality comes at the surface especially when it is about assuming responsibility for data, when data needs ownership allocation, or when someone needs to be held responsible for a new reporting requirement.
- A traditional way of doing things cannot, by any means, be changed by a written procedure. The “written word”, the policy or a procedure, needs to be understood as a beneficial thing, in order to be accepted and implemented. This is most all valid when we refer, in our case, to data ownership.
- Both units created data domains and allocated the ownership (called ownership, or, in case of A – just stewardship) to the heads of the departments.
- Too vague to be accepted. Too limited to be applied.

The Data owner must be the person who – based on the specific responsibilities of its department – understand and inform others about the data meaning. Data ownership is linked to the concept of the data, and not to the form this data receives when registered in the health systems. A data owner is the one who will be responsible to understand any time a new legislative requirement generates a modification in the data, or an enhancement.

Any request related to reporting patient or customer’s data must be first studied by the Data owner. The documentation of the requirements describes the “concepts” to which data refers to.

A data owner needs to read the requirements, participate in meetings related to the subject, and once the “concepts” are clear, they need to “translate” everything in the language of the organization, giving a physical form to the data. Once the concept is clear the owner will define everything else needed: data quality, integrity rules, users' roles and access privileges (McDowall, 2017). If ones request that the data owner to be directly responsible for the quality of data, the attempt is prone to

fail.

Any Data Owner must always match a Data Steward. According to some authors, the Stewards implement the requirements of the data owners (McDowall, 2017), support business departments in using the data (Otto, 2011) and ensure the conformity with the policies or guidelines (Koltay, 2016). These stewards may belong to IT, or to back office type departments or offices. Let's take other examples of data. "Branch" is a concept. It refers to an organizational structure where services are offered to patients. To establish the ownership of this data, we must try to go as close as possible to the point where someone is entitled to decide upon the creation or the modification of the data. We might be tempted to decide that the Data Owner for the Branch concept is Network division and to find exactly the person responsible. Going farther we can understand who creates the real, "physical" data from this concept and who owns it. Usually, this type of activity is performed in IT, so we will have a "technical steward" that will be directly responsible for the data quality from the moment it is entered into the system; they will bring specific knowledge to any reporting requirements or data quality assessment. And if something is unclear, they will need to collaborate with the Data Owner, for a better understanding. The compounded data refer to the data exposure. Usually, the back office staff is involved in the original set up of data or in the modifications of the data when needed. They are not involved in reporting or calculations about exposures. This responsibility should belong to the ones who created the compounded data. Like Finance, or Risk.

We value and support Seiner's opinion who considers that a proper data governance is not so out of the ordinary as some may think: organisations should simply search for the people who already, in an informal way or simply as part of the daily routine, are already involved in the data related activities, are accountant for it (Seiner, 2014). Forcing structures to fit into unnatural roles will not bring any benefit to the organization. By creating teams of people who by the nature of their roles, are anyway responsible for the data, and formalizing this authority, can improve significantly the data quality, understanding and usage, avoiding what is usually incurred when the data is bad, or badly managed: poor business decisions (Stickel and Vandervalk, 2014). With respect to the usage, data is valuable, a strong asset, only if the organization uses it widely and reuses it smartly. To be used, data must be of high quality, poor data leading to poor usage and reducing the value of the company (Otto, 2011). Effective data governance leads to well-known data that allows proactive rather than reactive decisions (Stickel and Vandervalk, 2014) concerning data quality and leading to increased trust of the organization in its data.

REFERENCES

- Al-Ruithe, M., Benkhelifa, E. and Hameed, K., (2018), A systematic literature review of data governance and cloud data governance, *Personal and Ubiquitous Computing*, Vol. Online First – Jan 4, A systematic literature review of data governance and cloud data governance, *Personal and Ubiquitous Computing*.
- Demarquet, G., (2016), Five Key Reasons Enterprise Data Governance Matters to Finance ... and Seven Best Practices to Get You There, *Journal of Corporate Accounting & Finance*, Vol. 27 (2), pp: 47-51, <https://doi.org/10.1002/jcaf.22121>.
- DAMA International, Early S. (Ed.), (2011), *The DAMA Dictionary of Data Management*, 2nd Eds, Technics Publication, Bradley Beach, N. J. ISBN-13: 978-1935504115.
- Fu, X., Wojak, A., Neagu, D., Ridley, M. and Travis, K. (2010) – Data Governance in predictive toxicology: a review, *Journal of Cheminformatics*, vol. 3, no 24, pp1-16
- IBM, (2007), The IBM Data Governance council maturity model: building a roadmap for effective data governance, https://www-935.ibm.com/services/uk/cio/pdf/leverage_wp_data_gov_council_maturity_model.pdf.
- Khatri V. and Brown C.V., (2010), Designing Data Governance, *Communications of the ACM*, Vol.3 (1), Jan., pp: 148-152.
- Koltay, T., (2016), Data governance, data literacy and the management of data quality, *IFLA Journal*, Volume 42 (4) Dec., pp: 10.
- McDowall, R.D., (2017), Understanding Data Governance, Part I & II; *Spectroscopy*, Vol.32 (2), Febtr., pp: 7 .
- Otto, Boris, (2011), Data Governance, *Business & Information Systems Engineering*, Vol.3(4), Jun.
- Pierce E, Dismute W.S. and Yonke K.L., (2008), The state of information and Data Governance – understanding how organizations govern their information and data assets, <https://www.iqint.org/publication2011/pierce-2008-04.shtml>.
- Ron G., Truong, T. and Davidson, J., (2017), Establishing an Effective Data Governance System, *Pharmaceutical Technology Europe*, Vol.29 (11), Nov., pp: 4.
- Seiner R.S., (2014), *Non Invasive Data Governance: The Path of Least Resistance and Greatest Success*, Basking Ridge, NJ: Technics Publications
- Stickel, Jack R. and Vandervalk, Anita, (2014), Data Business Plans and Governance Programs *Transportation Research Record*, Vol. 2460 (1), Jan., p: 10.
- Weber, K., Otto, B., and Osterle, H., (2009), One size does not fit all—a contingency approach to data governance, *ACM J. Data Inform. Quality*, Vol.1(1), Article 4 (June 2009), 27 pages, DOI = 10.1145/1515693.1515696. <http://doi.acm.org/10.1145/1515693.1515696>
- Wilbanks, D. and Lehman, K., (2012), Data governance for SoS, *International Journal of System of Systems Engineering*, Vol.3 (3), Jan.

DOMESTIC VIOLENCE IN VIETNAM: NATIONAL AND COMMUNITY EFFORTS TO PREVENT GENDER-BASED VIOLENCE

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ABSTRACT

Domestic violence, particularly violence against women, is registered in various countries; however, the degree of this phenomenon is predetermined by the level of development of social and economic institutions in a region. Gender-based violence implies the male-female inequality in terms of access to economic resources and involvement in social life. In Vietnam, the problem remains alarming and has a negative effect on different age groups.

The objective of the study is to assess the scope and institutional consequences of gender-based domestic violence in Vietnam.

Methods of GBV-based statistical data processing as well as analytical research methods were used.

The dynamics of domestic violence was determined, as well as the types and causes typical of this phenomenon in Vietnam were revealed. It was found that the degree of the domestic violence is correlated with the level of income. Since Vietnam is an emerging economy, the alleviation of inequality in male-female income ratio may appear to be a long term process. In Vietnam, elderly and uneducated women are subjected to domestic violence more frequently compared to other categories of the population. The percentage of rural women exposed to violence is higher compared to that of urban women. The detrimental effect of domestic violence is manifested in the gross domestic product losses and impediments to further development of the country. Institutional, legislative, and law enforcement actions (recommendations) pertinent to the prevention of domestic violence were proposed by the authors.

Keywords: domestic violence, gender inequality, gender-based violence, lifetime prevalence, involvement in the life of society, violence prevention institutions.

INTRODUCTION

Violence against women: United Nations Definition

UN 1993 Declaration on the Elimination of Violence against Women, in Article 1 and 2, states that

violence against women is any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering of women, including threats of these actions, coercion or arbitrary deprivation of liberty, whether occurring in public or private life. The Declaration also describes violence against women as: (a) physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry-related violence, marital rape, female genital mutilation and other traditional practices harmful to women, non-spousal violence and violence related to exploitation;(b) physical, sexual and psychological violence occurring within the general community, including rape, sexual abuse, sexual harassment and intimidation at work, in educational institutions and elsewhere, trafficking in women and forced prostitution; and (c) physical, sexual and psychological violence perpetrated or condoned by the State, wherever it occurs (UN, 1993).

Domestic Violence (DV) is defined in paragraph (a) of Article 2 of the Declaration as violence or other abuse by a person against another in a domestic setting. It occurs everywhere and affects everyone with no exception of age, social status, sexual orientation, gender, race, religion or nationality (NCADV, 2015). DV causes physical injury, psychological trauma and in many cases bitter end of life. The consequences of DV can be lifetime desolating and devastating for victims. As gender inequality is one of the biggest social problems, in most DV cases, women and girls are victims. Therefore, in many countries, DV is specified as violence against women.

Domestic violence as the most common epidemic around the world

Nowadays, DV is recognized by the international community as violation of human rights and discrimination against women. It causes damage to women and girls physical, psychological and reproductive health. Statistics of the World Health Organization's (WHO) 2013 Report show that intimate partner violence affects more than 30 percent of women worldwide and is the most prevalent type of violence against women (WHO, 2013, p.16).

WHO region	Prevalence %	95% CI*, %
Low-and middle-income regions:		
Africa	36.6	32.7 to 40.5
Americas	29.8	25.8 to 33.9
Eastern Mediterranean	37.0	30.9 to 43.1
Europe	25.4	20.9 to 30.0
South-East Asia	37.7	32.8 to 42.6
Western Pacific	24.6	20.1 to 29.0
High-income regions	23.2	20.2 to 26.2

Source: (WHO, 2013, p.17). *CI = confidence interval

Table 1. *The lifetime prevalence of physical and/or sexual intimate partner-induced violence among ever-partnered women by WHO region*

The prevalence of physical or sexual intimate partner violence presented in Table 1 shows that this prevalence is higher in the WHO low-income regions such as Africa (36.6%), Middle-East (37.0%) and South East Asia (37.7%), and lower in high-income regions (23.2%).

Heidi Stöckl and colleagues studied data on 492,340 murders from 66 countries and revealed that as a minimum one out of seven homicides (13.5%) is committed by an intimate partner in relation to partners who are responsible for 38.6% of all female homicides compared to only 6.3% of male homicides worldwide (Stöckl et al., 2013).

In Vietnam, according to the 2010 National Study on DV, about 58% of ever-married women experienced some form of violence in their lifetime (GSO, 2010, p. 51). All of the foregoing in turn affirms the obvious truth that DV is a pressing problem not only in Vietnam but also other developing countries. Hence, it can be considered as an epidemic that hinders the human and economic development of a nation.

PROBLEM STATEMENT

As stated by the United Nations, violence against women appears in physical, sexual and psychological forms. In Vietnam, DV is commonly known as abuse committed by male members of a family against their wives and/or girls. This phenomenon can also be referred to as gender-based violence; however in Vietnam, gender-based violence has a narrower scope (Jennifer J. K., Bhushan R. A., 2011, p.2). Article 1 of the law “On Domestic Violence Prevention and Control” states that “domestic violence is defined as purposeful acts of certain family members that cause or may possibly cause physical, mental, or economic injuries to other family members.” (ILO, 2008).

Furthermore, in Asia, DV also assumes one more form, i.e. economic violence, which is a type of abuse, when one intimate partner controls the access of another partner to economic resources (Adrienne et al., 2008). Apparently, this manifestation of violence is typical of not only Vietnam but also other middle-to low-income countries, where women and children’s life normally depends on men. As witnessed in many Vietnamese families, children are sometimes exploited by their own family members for the purpose of pressuring the mother and thus causing her physical and psychological abuse. This may even include physical and sexual abuse of children. Consequently, DV in Vietnam affects all aspects of women’s life and entails long-term institutional and social effects impeding further development of economy. Since, the consequences of DV threaten the stability of Vietnamese families and the sustainable development of the entire country; they, as well as their causes, require analysis and development of recommendations for DV prevention and control.

RESEARCH DATA

Previously, national level surveys and statistical reports on violence against women and children were limited. In 2006, the General Statistics Office (GSO), the Ministry of Culture, Sports and Tourism (MoCST), UNICEF, and the Institute for Family and Gender Studies conducted a national study, which showed that 21.2% of couples had experienced at least one type of DV, including physical, sexual, or emotional violence, over the past 12 months (MoCST&UNICEF, 2006, p. 40).

The National Study on DV against women in Vietnam was performed between December 2009 and February 2010 by the General Statistics Office (GSO) of Vietnam with technical support provided by the World Health Organization (WHO). Approximately 4,838 women of aged 18-60 were interviewed across the country, using the questionnaire of the WHO Multinational Study on Women's Health and DV against Women, which had been adjusted to the context of Vietnam. Data on physical and sexual violence with regard to education and age groups are presented in Table 2. Some percentages of violence against women by perpetrators other than husbands are also registered

	Physical violence		Sexual violence		Both physical and sexual violence		Number of ever-partnered women interviewed (N)
	In a lifetime	Past 12 months	In a lifetime	Past 12 months	In a lifetime	Past 12 months	
Vietnam	31.5	6.4	9.9	4.2	34.4	9.0	4,561
Urban	28.7	5.6	9.5	3.6	32.2	8.2	1,612
Rural	32.6	6.8	10.1	4.4	35.4	9.4	2,949
By education level							
No attended school	31.2	5.9	10.2	4.2	37.0	8.7	530
Primary education	36.9	8.1	11.3	3.9	39.2	9.7	1,111
Secondary education	33.9	6.7	10.3	4.7	37.4	10.0	1,725
Higher education*	21.6	4.9	7.9	3.5	24.7	7.3	893
College/University	17.7	2.2	6.8	3.3	19.1	5.5	301
By ages							
18-24	22.0	12.2	5.3	3.8	25.5	15.7	228
25-29	25.0	9.2	9.5	7.0	28.0	12.9	556
30-34	29.6	7.5	9.0	4.7	33.9	11.0	719
35-39	34.1	8.3	11.3	5.5	36.6	11.1	776
40-44	29.4	6.2	10.2	5.2	32.2	9.7	650
45-49	37.4	5.6	12.4	3.9	40.5	8.6	652
50-54	35.3	5.2	9.8	2.1	37.5	5.8	555
55-60	30.6	0.9	7.9	0.8	33.4	1.6	422

*In Vietnam higher, education consists of high school and vocational schools

Source: (GSO, 2010, p. 180)

Table 2. The current rate of ever-partnered women exposed to either physical or sexual violence, or both physical and sexual violence, over the past 12 months and in a lifetime (%).

According to the data, approximately 10% of women have been physically abused by someone other than their husbands since they turned 15, with wide regional variation ranging from 3-12%; 65% of

women are victims of violence committed by perpetrators who are their male family members. Nearly 2% are reported to have fallen victims of violence since age of 15. Most women claim that the perpetrators were strangers and boyfriends, and barely ever were they those women's family members. 2.8% of all women are reported as victims of sexual abuse committed before age 15. Most women report that the perpetrators were strangers or boyfriends, and there were very rare cases when the perpetrators were family members. Thirty-five percent of all women in Vietnam have been exposed to physical or sexual violence committed by an intimate partner and/or non-partner in their lives. Prevalence of intimate partner violence is three times higher than non-partners violence (GSO, 2010, p. 194). Data from reports of The Ministry of Labour - Invalids and Social Affairs (MOLISA), The Ministry of Public Security are also used to confirm the statement.

Limitation of research data

Results of the first National Study on DV are partly outdated, but are still referred to. UN agencies, Vietnamese, and foreign researchers use these results in their studies. The next National Study on DV will start at the end of 2019.

Another factor that affects the accuracy of the DV data is that local authorities did not strictly followed the regulations related to the DV report. The conference that took place on December 12, 2018 and was to summarize the 10 years of the implementation of 2007 Law No. 02/2007/QH12 on "Domestic Violence Prevention and Control" (DVPC Law), 292,268 DV cases were reported by the MoCST in the period 2009-2017. However, according to the report of the Supreme People's Court of July 1, 2008 to September 30, 2017, among 1,220,163 cases processed by the Divorce Court, there were 1,050,687 DV induced cases, accounting for 76.6% of divorce cases (MoCST, 2018, p.14).

Common Types of DV in Vietnam

Psychological and physical violence

Psychological (emotional) violence is no less serious than physical or sexual violence. Specific acts of psychological abuse include: insulting or making harmful behavior; despising, humiliating in front of other people; threatening in any way (scolding or smashing things); threatening beating or beating; threatening to expel from the house for any reason. The results of study show that the prevalence of emotional violence is very high: 54% of women report lifetime emotional abuse and 25.4% report current psychological abuse over the past 12 months (Figure 1)

Sexual violence

Due to the old ethic norms of cultural and religious origin, it is difficult for Vietnamese women to disclose experience of sexual violence. Hence, speaking about sexual violence, while being in

marriage, is considered inappropriate, and, as a consequence, only 10% of ever-married women report that they experienced sexual violence in their lifetime.

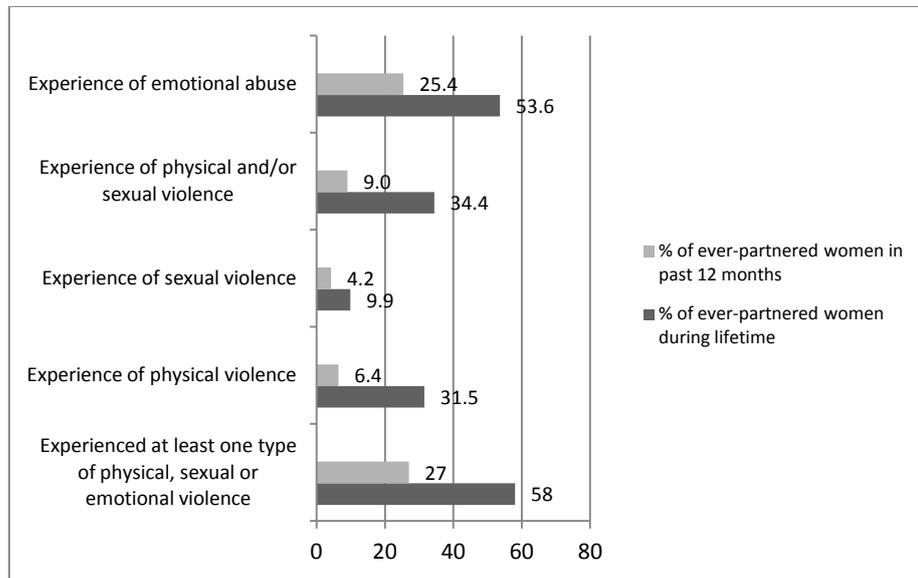


Figure 1. Prevalence of ever-partnered women over the past 12 months and in a lifetime by types of violence; source: (GSO, 2010, pp.180, 188-189)

Economic violence

In the Vietnamese family, this type of violence is normally committed by men in the following formats: denial of the maintenance of children; concealment of income; spending family money only for own needs; independent adoption of most financial decisions; strict control over the expenses of family members, and others. In most cases, women depend on men economically for different reasons, viz. birth of a child, the husband's prohibition to work, unemployment, discrimination in the labor market, etc. Women, however, could also be victims of this violent type even though they work and make money. In the survey, consistent with the forms of economic violence, the current rate for economic abuse is 9 percent. The proportion of rural women experiencing economic violence is higher than in urban areas (9.6 percent and 7.4 percent respectively) (GSO, 2010, p.192).

Violence against children in families

Not only adults but also children are victims of DV. Acts of DV in relation to children, deeply affect the formation of children's personality, life view, and their behavior in society at later stages. AretiTsavoussis and colleagues found that children who witnessed DV demonstrate psychosocial maladaptation, which is associated with demonstrable changes in the anatomic and physiological make up of their central nervous system. The USA National Epidemiologic Survey on Alcohol and Related Conditions (NESARC) indicated that emotional neglect is the most common childhood-related manifestation of maltreatment (above 3.4–9.2%) (Tsavoussis et al, 2014).

DV is a major factor that undermines family values. Violence pushes families into crisis; nearly 80% of annual divorce cases are caused by DV (Chau, 2017). Abilities of violent family children are severely impaired; some of them tend to use violence when solving conflicts. This has been a major cause of school violence in the country in recent years. Nearly 23.7% of surveyed women, with children under 15, report their children to have been physically abused by their fathers (GSO, 2010, p. 208). The survey found that violence against children is strongly coupled with violence against women by the same perpetrator.

However, in the 2010 National Study on DV, which was based on reports of women aged 18-60; child abuse cases, including child sexual abuse (CSA), were only mentioned through the interviewees' responses and did not disclose fully the situation of child abuse as well as elderly women abuse.

	Total number of child abuse cases reported	Number of sexual abuse cases from the total of CSA	Percentage in comparison with the total of CSA
2011-2015	8,200; 10,000 victims	5,300	64.63
2016	1,641	1,211	73.80
2017	1,592	1,397	87.75
6 months of 2018	720	573	79.58

Source: MOLISA, 2016; MOLISA, 2018

Table 3. *The number of child abuse cases reported in 2011-2017 and the six months of 2018*

Although the number of child abuse cases, as reported by MOLISA in Table 3, tends to decrease, the Ministry of Public Security of Vietnam states that the number of registered child abuse cases is only a small fraction of reality: the majority of victims are girls aged 12-15 (57.4 6%). A heart-breaking depression for the entire community is that the number of children under 6 exposed to sexual abused is 13.2% (Do, V.T., 2018), and about 80% of victims are female (Nguyen, T.L., 2018). Tran, Thi Bich Ngoc et al. found that the rate of CSA cases had increased, displaying the danger of this form of crime. Most of the perpetrators appeared to be relatives or familiar with the victim, viz. 21.3% were family members (father, stepfather, adoptive father, brother, cousin, uncle); 6.2% were somebody related to school staff (teachers, caregiver, and school guard); 59.9% were other acquaintances (baby-sitters, or neighbors); roughly 12% were strangers (Tran, B.N. et al). Generally, the situation reflected by the figures above is an alarming bell for Vietnamese society.

THE KEY DISTINGUISHING FEATURES OF THE CAUSES OF DV IN VIETNAM

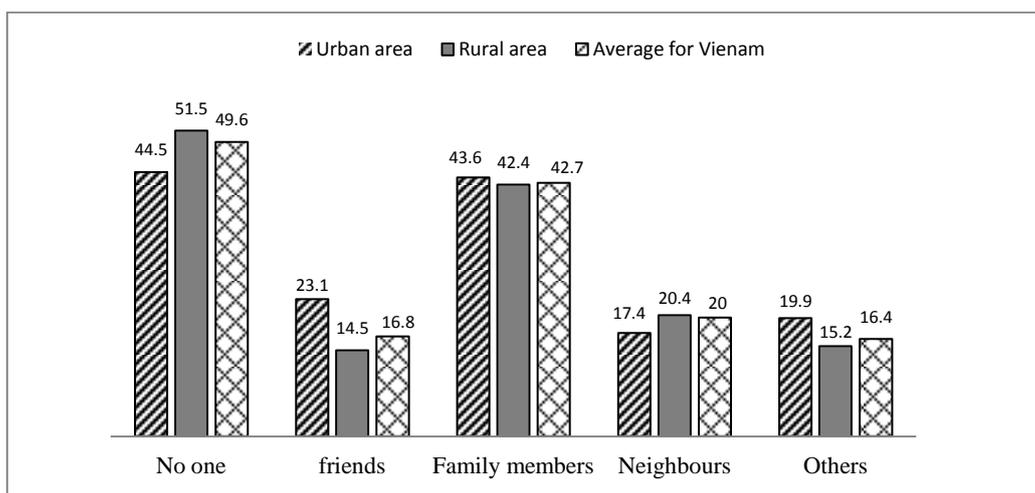
Vietnam is a developing country, so many people still experience economic difficulties, especially in rural and mountainous areas. Numerous studies show the causes of DV as the men' acts against women. Additionally, the thousand-year-old culture of Vietnam is intertwined in part with religious

theories of China and some other Asian countries, which cannot but affect the “shaping” of personality and individual behavior. From our perspective, the whole range of causes of DV in Vietnam can be classified as follows:

- Gender norms and gender inequality.

Vietnamese society is a deeply patriarchal society with a traditional view on gender, which stems from Confucianism and Buddhism. According to Confucianism ideology, men are respected, as they are bread-winners of families and are responsible for worshipping ancestors. Women play a passive role in families and should observe the “Three Obediences”: Women are to practice obedience to the father and elder brothers when young, to the husband when married, and to sons when widowed (Fu, 1974).

Boys are favored over girls in Asia, and Vietnam is tied up in the part of the Confucian belief that states that a male heir is needed “to carry on the family name”, lead the family, and take care of the family ancestors. The high imbalance of gender ratio at birth (SRB) in Vietnam (112.2 boys to every 100 girls in 2010-2017) also plays its part (GSO Vietnam, 2018, p.92). Moreover, Buddhism teaches people to be patient and considers patience to be one of the mental states that an awakened person attained to. According to the Pew Research Center data, in 2010 Vietnam had 14,38 million Buddhists (16.4% of the total population and 2.9% of the world’s total number of Buddhists (PRC, 2012). Obviously, women in Vietnam, who suffered from DV, often keep silent or just talk with their family members (Figure 2).



Source: (GSO, 2010, p. 213).

Figure 2. The proportion of women, who told someone about a case of violence they had been exposed to, among women who experienced physical or sexual violence caused by husband, Viet Nam 2010 (%) (N=1546).

The Vietnam Multiple Indicator Cluster Survey (2006) revealed that up to 64% of women age 15-49 perceive violent treatment from their husbands as normal. The percentage is high in rural areas (72%) compared to that in urban areas (42%) (UNICEF, 2007, p. 20). The figure decreased to 51.6% in 2010 (GSO, 2010, p. 199).

Women do not actively seek solutions to protect themselves. Most abused women (87.1%) never request help from formal services (police, healthcare or social facilities, local authorities, etc.) unless they find themselves in critical situations (UNWV, 2012, p. 14). Frequently, they do not feel supported because local officers still hold the perception that DV is a family matter.

- Lack of legal documents.

The lack of conformity among legal documents hinders the preventions and counteraction in relation to acts. For example, the DVCP Law does not explicitly call for criminal sanctions but is aimed at civil remedies (prohibition orders, fines as a public disorder, reconciliation and/or re-education). Article 134 of the Vietnam Penal Code 2015 deals with injury intentionally inflicted on or causing harm to the health of other individuals; however criminal prosecution has two conditions, i.e. the minimum degree of harm and the filing of charges required by victims and injury rate are determined by medical personnel. For example, Inter-Circular 28/2013/TTLT-BYT-BLDTBXH regulates the rate of bodily injury, illness and occupational diseases as of 27 September 2013. Therefore, an injured victim of DV prefers not to report to the police or apply to a health facility if their injury is not serious. Many provisions of the 2007 DVPC Law became obsolete and unreasonable, since other relevant laws were amended and supplemented, e.g. the Constitution (2013), the Civil Code (2015), the Vietnam Penal Code (2015), the Law on Marriage and Family (2014), etc.

- Social vices (alcoholism, drug use and gambling, adultery, etc.).

This is the most common cause because when social vices enter a family, they frequently entail marital and economic hardships; family conflicts lead to DV in turn. The most common causes of DV are alcohol (nearly 40%), family conflict (26.5%), and jealousy (9.3%)(GSO, 2010,p. 201). According to Deputy Minister MOLISA Nguyen Thi Ha, there are 222,852 drug users registered as of 2017 in the country (Nguyen, T.H., 2018). A related alarming problem in the country is that the use of synthetic drugs, containing methamphetamine among young drug addicts is increasing. Methamphetamine users suffer from hallucinations, which results in violent behavior in relation to family members or other people around them.

- Level of education.

Obviously, most women who experienced DV have a low level of education. 31.2% of 530 interviewed individuals did not attend school. 36.9% of 1,111 interviewees have primary education, and 33.9% of 1,725 interviewees completed secondary education (Table 2). Female workers have a lower chance of getting a well-paid job and thus cannot carry out themselves. Hence, Vietnamese women are more disadvantaged in economic equality due to differences in income levels between men and women. This also pertains to older-age groups of the population.

Consequences of DV

First, DV is known to induce enormous economic losses, including various expenditures on measures against DV consequences. Sylvia Walby distinguished the following three major types of costs: (1) services, including the cost of Criminal Justice System, Health Care, Social Services, Housing, Civil Legal, which are largely funded by the government; (2) economic output losses, sustained by employers and employees; (3) human and emotional costs, born by the individual victim (Walby, 2004). In Vietnam, it is estimated that the annual expenditures related to DV is 1.78% of GDP (UNWV, 2012, p.4).

Secondly, DV often causes victims serious consequences. Physical and psychological effects on women, who experienced physical or sexual violence committed by a close partner, can last for a certain period of time or for a lifetime, reducing their input in the community. Table 4 presents these rates based on the responses of interviewed women.

	No violence N=3012.(%)	Physical or sex. ViolenceN=1548. (%)	Ever-partnered womenN= 4560. (%)
Health status			
Weak and very weak	9.2	14.9	11.2
Problem with movement	6.4	8.7	7.2
Problem with live activity	6.6	10.7	8.0
Severe pain or discomfort	14.5	22.4	17.2
Problems with memory and concentration of nerve	4.5	7.4	5.5
Neurological (mental) fatigue during the last 4 weeks measured in SRQ 20*			
0 – 5	76.7	61.0	71.3
6 – 10	17.9	25.3	20.4
11 – 15	4.5	10.9	6.7
16 - 20	1.0	2.8	1.6
Thoughts about suicide and attempted suicide			
Ever thought of ending the life	9.5	29.0	16.2
Ever attempted suicide	0.62	2.7	1.3
* SRQ 20 is a set of 20 questions in a self-reported questionnaire that make up a WHO screening tools for emotion distress, more point indicating more probability for depression			

Source: (GSO, 2010, p. 205)

Table 4. *The proportion of answers reflecting the general, physical, and mental health among women who experienced physical and sexual violence caused by their husbands*

GOVERNMENT POLICY TO PREVENT DOMESTIC VIOLENCE

As it was highlighted in the previous chapters, victims of DV are predominantly women. Since the late 1950s, Vietnam has paid much attention to the protection of women's rights and affirmed their role in social life. The 1959 Constitution of the Democratic Republic of Vietnam emphasizes that "Women in the Democratic Republic of Vietnam enjoy equal rights with men in all spheres of political, economic, cultural, social, and domestic life" (Article 24). This statement was employed in The Constitution of the Socialist Republic of Vietnam 2013, confirming the fact that the state, society, and family are to ensure conditions for the comprehensive development of women and promotion of their role in society; gender-based discrimination was strictly prohibited (Article 26).

Currently, the following main laws regarding the regulation of state policies on the protection of women's rights remain in effect:

- The Civil Code (Law №. 91/2015/QH13) confirms that all civil rights are recognized, respected, protected, and guaranteed under the Constitution and law (Article 39).
- The Vietnam Penal Code (Law №.100/2015/QH13) deals with injury intentionally inflicted on or causing harm to the health of other individuals (Article 134).
- Law on Domestic Violence Prevention and Control, 2007 (Law №. 02/2007/QH12). This law regulates the prevention and control of DV, protecting and assisting the victims of DV; the responsibilities of individuals, families, organizations, institutions in DV prevention and control as well as deals with the breach of the Law (Article 1).
- Law on Marriage and Family (2014) № 52/2014/QH1319. The Law determines that husband and wife are equal, exercising equal rights and obligations in all family affairs and in the performance of citizens' rights and obligations presented in the Constitution, this law, and relevant laws (Article 1).
- The revised Law on Gender Equality 2006 (№ 73/2006/QH11) contains detailed provisions on gender equality, prevention of discrimination against women, as well as equal rights and responsibilities of sons and daughters. This law provides for gender equality, based on the following six principles: men and women are equal in all aspects of social and family life; men and women are not discriminated in terms of gender; the application of measures to promote gender equality is not considered as gender-based discrimination; policies on motherhood are not considered as gender-based discrimination; gender equality issues are ensured to be integrated in the process of law; exercising gender equality is the duty of agencies, organizations, families, and individuals (Article 6).

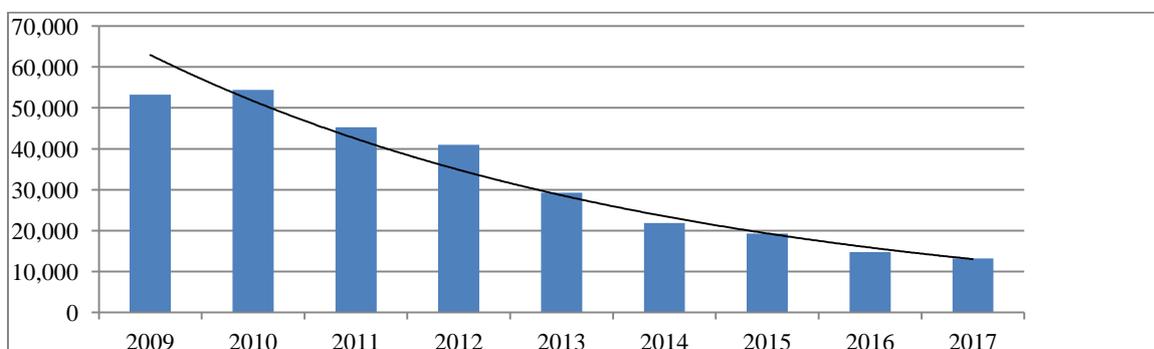
- The National Population and Reproductive Health Strategy for the period of 2011 – 2020 was approved by Decision №: 2013/QĐ-TTg on November 14, 2011. The main objectives of the Strategy are to reduce level of SRB below 113 by 2015, below 115 by 2020 and 105 - 106 by 2025.

- The Vietnam Family development Strategy through 2020, with a vision toward 2030, approved by Decision №. 629/QĐ-TTg on May 29, 2012. According to the Strategy, by 2015 and 2020, respectively, 90% and at least 95% of households will have been informed on and conformed to policies and laws on marriage and family, gender equality, DV prevention and control as well as prevention of social vices from penetrating families; respectively, 90-95% of young people will be provided with the basic knowledge about family along with DV prevention and control prior to getting married; the number of households involved in DV will annually reduce by 10-15% on average; the number of households with members involved in social vices will annually reduce by 10-15% on average.

- The National Plan of Action on Domestic Violence Prevention and Control up to 2020, approved by the Decision №. 215/QĐ-TTg on February 6, 2014. The objectives of the Plan are to coordinate actions of government agencies and social organizations; to boost the quality and effectiveness of DV prevention and control activities; to generate fundamental changes in DV prevention and control work; to protect and support victims of DV; and to gradually minimize DV incidents nationwide as well as to provides the legal documents aimed at the effective execution of DV prevention and control activities in Vietnam.

The Project on Behavior Change Education on Family Building and Domestic Violence Prevention and Control up to 2020, approved by Decision №. 2170/QĐ-TTg on November 11, 2013. The objectives are to provide knowledge and skills to build a prosperous, progressive, and happy family and thus to prevent DV for 80% (by 2015) and 95% (by 2020) of total number of the learners, teachers, and administrators of educational facilities; to include Behavior Change Education in training programs.

As a result of community efforts and the impact of state policy, DV is decreasing in Vietnam.



Source: MoCST (2019, p.14)

Figure 3: *The number of DV cases in 2009-2017*

Legal advice plays an important role in relieving inhibition and improving psychology in abused people. According to the Ministry of Justice report, from 2008 to 2017, the Legal Aid Centers assisted 1,099,270 people, of which 508,443 were women (46.25%) (MoCST, 2019, p. 4). A Reliable Address model and a “Shelter” model organized by the Women's Union with nearly 30,000 addresses nationwide act as essential social and economic institutes designated to protect women from violence, to disseminate knowledge and professional life skills, as well as let them know their basic rights (Nguyen, T. C., 2018).

RESULTS AND CONCLUSION

Thus, the prevention of DV in Vietnam attracts attention from the society. Apparently, there has been improvement in social awareness. The emergency hotlines of the National Domestic Violence Prevention Program (1-800-799-SAFE (7233) or TTY 1-800-787-3224) (CFCD, 2014) and shelter models in many provinces and cities for abused women have also been established (UNWV, 2012, p.17). Statistics show that DV in Vietnam is under control and tends to decrease.

	2012	2013	2014	2015	2016	2017	2018*
Domestic violence type							
Psychological	14.700	10.761	8.272	6.755	5.568	5.171	2.796
Physical	19.844	14.498	10.980	10.046	7.256	6.509	3.804
Sexual	1.349	723	454	906	473	433	362
Economical	4.642	3.334	2.101	1.696	1.474	1.084	965
Perpetrators of DV							
Male	33.162	24.468	18.776	16.258	12.731	11.336	6410
Female	5.132	3.894	2.844	2.572	1.446	1.410	1.196
Victim by sex							
Male	5.438	4.746	3.251	2.660	1.924	1.938	1.268
Female	31.482	23.579	17.964	15.677	11.600	10.370	6.553
By age							
Under 16 years old	3.575	2.741	2.242	1.628	1.009	748	704
Women age of 16-59	31.454	21.591	16.978	15.233	11.434	10.351	6.251
60+	2.602	2.646	1.504	1.446	1.030	615	776

Source: (MoCST, 2019, p.70).

Table 5. DV cases by type, sex and age reported in the period 2012-2018; *data for the 1-st half of 2018

The data presented in Table 5 cannot be sufficiently accurate for two reasons: (a) victims try to hide violence occurred in their family; and (b) there are province and city authorities who do not follow the regulations of statistics report on DV, assuming that the local image and reputation of their localities may be lost by public indignation and critique.

Studying the issues of DV in Vietnam in comparison with similar problems in the world, we found that the situation of DV in Vietnam is still a serious problem, causing concern for the community. The percentage of women exposed to DV (35%) is rather high in Vietnam, which is lower than in Southeast Asia (37.7%) and higher than in the western Pacific (24.6%) and high income countries (23.2%).

Presuming that addressing DV must be based on the consideration of direct or indirect causes of this phenomenon, the following measures were distinguished and suggested as being of high impact and value:

- Organization of community- and nation-level seminars and talks on the main causes of domestic violence, awareness-raising campaigns, the concept of gender equality rights and the basic contents of the DVPC 2007, Law on Gender Equality 2006 and Law on Marriage and Family 2014, using public and local mass media. This measure may prove to be effective not only in Vietnam but also in other countries.
- Introduction of comprehensive age-appropriate sexuality education and programs aimed to raise the awareness of parents and children of elderly parents, development of healthy masculinities.
- Funding of educational programs and professional training courses aimed at social workers with regard to their professional activity that involves individuals of all ages and genders. Social workers should be trained properly to be able to educate and facilitate girls, women, and elderly people, paying attention to the special needs and potential of these groups of the population.
- Mobilization of all people, especially men and authorities at all levels, representatives of the Trade Union and Women's Union of all levels to participate in anti-gender-based violence campaigns.
- Enhancement of the role women at all levels to ensure the prevention and control of domestic violence along with the promotion of the Reliable Address model and a "Shelter" model organized by the Vietnam Women's Union.
- Since there is a relationship between gender inequality and poverty, and poverty as well as the low level of education are viewed as the primary causes of gender-based violence, improvement of the people's living standard and the level of education should become the key social policy of the state.
- Further implementation of the National Target Program for Sustainable Poverty Reduction in 2016 – 2020 and accomplishment of the main program targets: to reduce the rate of poor households nationwide to approximately 1-1.5% per year (particularly, to reduce the rate of poor districts and communes to approximately 4% per year and that of poor households in ethnic minority areas to approximately 3-4% per year.

- Ensuring equal access to education, especially with regard to ethnic minority people, children of poor families, girls and the disadvantaged; achievement of gender equality in general education and tertiary education; development of education in ethnic minority, deep-lying and remote areas; implementation free tuition, school fee reduction or exemption, scholarship and other types of financial aid for poor students and ethnic minority students.

- Integration of solutions to poverty issues and gender equality into other long-term national socio-economic development programs and establishment of institutes of development.

- Revision of the law on Domestic Violence Prevention and Control to (1) make clear the law's intent, which is to prevent all forms of DV with the aim of maintaining family solidarity, preventing and eliminating DV acts; (2) introduce an amendment related to measures for the prevention of violence against elderly women and men; (3) align related decrees, decisions and directives adopted after the Law on Domestic Violence Prevention and Control, harmonizing punitive measures to be in conformity with the Gender Equality Law, the Law on Family, and the revised Penal Code; (4) combine the clear definitions of GBV and arrange regulations on sexual violence in line with international standards; (5) introduce programs inducing a change in psychosocial behavior of perpetrators of physical violence; (6) restrict the use of administrative (monetary) sanctions in lieu of sentencing and ensure that all monetary sanctions (as part of sentencing) directly come from the perpetrator's assets, not from the family's budget; (7) define the responsibilities of judicial agencies and public security systems of all levels to improve their efficiency.

Establishment of a database on DV and provision of quality data, which requires close coordination of government and non-governmental service providers and responsible agencies, e.g. cooperation of the healthcare sector, the sector of education, educational sector, the sector of economics and social development, courts, police, local people committees, non-governmental organizations, the Trade Union, and the Women Union of all level; full budget allocation and determination of responsibility of ministries and local authorities; specification of the types of data, reporting forms, and time of report.

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REFERENCES

- Adrienne, E.A, Cris. M.S., Deborah, B.M. and Greeson, R. (2008), "Development of the scale of economic abuse", *Violence Against Women*, Vol. 14, No. 5, pp. 563–588, doi:10.1177/1077801208315529.
- Baden, S. and Milward, K. (1998), *Gender Inequality and Poverty: Trends, Linkage, Analysis and Policy Implication (Part 1)*. SIDA, Stockholm. Sweden, 1998.

- Blackden, C.M. and Bhanu, C. (1999), "Gender, growth, and poverty reduction. Special Program of Assistance for Africa, 1998 Status Report on Poverty in Sub-Saharan Africa", World Bank Technical Paper, No. 428, 138 p.
- CFCD [Center for Gender Studies, Family and Community Development] (2014), "Hotline contact list", available at: <http://gfdc.org.vn/danh-sach-so-lien-he-duong-day-nong> (accessed 12 November 2018).
- Chau, H. "80% of annual divorce cases are caused by domestic violence", available at: <http://cand.com.vn/doi-song/80-so-vu-ly-hon-hang-nam-co-nguyen-nhan-tu-bao-luc-gia-dinh-443350/> (accessed 12 November 2018).
- Truong, D.X. (2013), "Understanding domestic violence against women in Hanoi", *Journal of Sociology*, No. 3 (123).
- Thanh V.D. (2018), "Situation of crime of child sexual abuse in our country today - Causes and some preventive measures", *People's Police Journal*, Vol. 32, available at: <http://csnd.vn/Home/Nghien-cuu-Trao-doi/3376/Tinh-hinh-toi-pham-xam-hai-tinh-duc-tre-em-o-nuoc-ta-hien-nay-Nguyen-nhan-va-mot-so-bien-phap-phong-ngua> (accessed 20 November 2018).
- Wen, F. (1974), "Doctrine of Confucius and Mencius - The shackle that keeps women in bondage", *Peking Review*, No. 10, March 1974, pp. 16-18, available at: <http://www.massline.org/PekingReview/PR1974/PR1974-10c.htm> (accessed 20 November 2018).
- GSO [General Statistics Office] (2010), "Appendix II b of The National Study on DV against Women in Viet Nam 2010", available at: <https://www.gso.gov.vn/default.aspx?tabid=418&ItemID=10692> (accessed 20 November 2018).
- GSO Vietnam (2017), "Statistical Yearbook of Vietnam 2017", Statistics Publishing House, Hanoi, 2018, 998 p.
- ILO [International Labor Organization] (2008), Law No. 02/2007/QH12 on Domestic Violence Prevention and Control, available at: http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---ilo_aids/documents/legaldocument/wcms_177877.pdf (accessed 05 December 2018).
- Jennifer, J.K, Bhushan, R.A. (2011), "Gender-based violence in Viet Nam: Strengthening the response by measuring and acting on the social determinants of health", WHO, available at: http://www.who.int/sdhconference/resources/draft_background_paper4c_viet_nam.pdf (accessed 05 December 2018).
- Millar J. (1989), "Gender and poverty", *Journal of Social Policy*, No. 18 (03), pp. 363 – 381, doi: 10.1017 / S004727940001761X.
- MoCST [Ministry of Culture, Sports and Tourism] (2019), "Report on the 10 Years of Implementation of the Law on Domestic Violence Prevention and Control", Hanoi.
- MoCST&UNICEF (2008), "Results of Nation-Wide Survey on the Family in Vietnam 2006", Hanoi.
- MOLISA (2016), "Protecting children from being abused on the network environment", available at: <http://www.molisa.gov.vn/en/Pages/Detail-news.aspx?IDNews=2357> (accessed 05 December 2018).
- MOLISA (2018), "The conference to review the work in 2017 and the mission directions in 2018", available at: <http://www.molisa.gov.vn/vi/Pages/chitiettin.aspx?IDNews=27541> (accessed 05 December 2018).
- NCADV [National Coalition against Domestic Violence] (2015), "Domestic Violence National Statistics", available at: https://www.speakcdn.com/assets/2497/domestic_violence.pdf (accessed 05 December 2018).
- Nguyen, Th. C. (2018), "The role of Vietnam Women Union in implementation of The Law on DV protection and control – Current Situation and Experience of VWN, Policy Recommendations", in *Proceedings of the Scientific Conference on the 10 years of the implementation of the Law on Domestic Violence Prevention and Control*, Hanoi, 2018, pp. 140-149.
- Nguyen, Th.H. (2018), "The best way to support drug addicts", available at: <http://www.molisa.gov.vn/vi/Pages/chitiettin.aspx?IDNews=27717> (accessed 05 December 2018).
- Nguyen, T. L. (2018), "Child sexual abuse - situation and solutions", *The Court*, available at: <https://tapchitoaan.vn/bai-viet/phap-luat/xam-hai-tinh-duc-tre-em-thuc-trang-va-giai-phap> (accessed 25 December 2018).
- PRC [Pew Research Center] (2012), "The Global Religious Landscape. A Report on the Size and Distribution of the World's Major Religious Groups as of 2010", *Forum on Religion & Public Life*, USA, available at: http://www.observatorioreligion.es/upload/78/52/The_Global_Religious_Landscape_A_Report_on_the_Size_and_Distribution_of_the_World_s_Major_Religious_Groups_as_of_2010.pdf (accessed 25 December 2018).
- Stöckl, H., et al (2013), "Global prevalence of intimate partner homicide: A systematic review", *Lancet*, Vol. 382, No. 9895, pp. 859–865.
- Tsavoussis, A., Stanislaw, P., Stawicki, A., Stoicea, N., and Thomas, J.P. (2014), "Child-witnessed domestic violence and its adverse effects on brain development: A call for societal self-examination and awareness", *Frontiers in Public Health*, doi: 10.3389/fpubh.2014.00178.
- Tran, B.N, Barysheva, G.A., Kuznetsova, L. and Dinh, A.H. (2018), "Gender imbalance in Vietnam: Problems and solutions", *Future Academy*, Vol. 38, pp. 294-304, doi: <http://dx.doi.org/10.15405/epsbs.2018.04.31>.

- Tran, Bich Ngoc, Dinh, Thi Vinh Quy and Dinh, Thi Phuong Anh (2019), "Child sexual abuse in Vietnam: The issue and efforts to end it, *Fundamental Aspects of Psychological Health*, Vol. 1, pp. 120-126.
- UN [United Nations] (1993), "Declaration on the Elimination of Violence against Women", available at: <http://www.un.org/documents/ga/res/48/a48r104.htm> (accessed 25 December 2018).
- UNWV [UN Women Vietnam] (2012), "Estimating the Cost of Domestic Violence against Women in Vietnam", available at: <http://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2013/2/costing-study-vietnam%20pdf.pdf?la=en&vs=1456> (accessed 25 December 2018).
- UNICEF (2007), "Viet Nam Multiple Indicator Cluster Survey from 2006", available at: <http://mics.unicef.org/files?job=W1siZiIsIjIwMTUvMDEvMjcvMTIvMzAvMDEvNTgvTUIlDU19ib29rbGV0X2luX0VuZy5wZGYiXV0&sha=5862fa82ba6dedba> (accessed 25 December 2018).
- Walby, S. (2004), "The cost of domestic violence. Women & equality unit", available at: http://www.devon.gov.uk/cost_of_dv_report_sept04.pdf (accessed 25 December 2018).
- WHO [World Health Organization] (2013), "Global and Regional Estimates of Violence against Women: Prevalence and Health Effects of Intimate Partner Violence and Non-partner Sexual Violence", available at: http://apps.who.int/iris/bitstream/handle/10665/85239/9789241564625_eng.pdf?sequence=1 (accessed 25 December 2018).

ACTIVE LEARNING IN ACCOUNTING EDUCATION: A POSSIBLE CONNECTION USING TEACHING PERSPECTIVE INVENTORY?

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ABSTRACT

In last years, each teacher must rethink his role, questioning the world with which he prepares his teaching and relates to the classroom with the students. From the formation of the syllabus to the exchange of opinions with colleagues, many operations become strategic in order to realize this new innovative way of teaching-learning.

Many aids were proposed, including the tool of the Teaching Practices Inventory, a list of good actions proposed by Wieman and Gilbert (2014) and tested with excellent results in the teachings of Science, Technology, Engineering and Mathematics (STEM).

The objective of this paper is to understand whether the Teaching Practices Inventory tool can also be used in the field of account teaching. To this end, with a narrative research methodology, the TPI will be analyzed and then linked with the peculiarities of Accounting Education.

Keywords: Active Learning, Accounting Education, Teaching Practice Inventory

1. INTRODUCTION

Moving from the Bologna Agreement (1999), a new process started with the aim to improve the effectiveness and efficiency of higher education in Europe in the context of a common European Higher Education Area. As part of this process, all third level institutions throughout the EU are being asked to write their programmes and modules in terms of learning outcomes in preparation for a change over to the student-centred European Credit Transfer System (Limerick University, 2008).

In this vision it is necessary to integrate teaching and learning: the teaching consists in encouraging the student to use learning actions that achieve the expected results. In other words, teachers need to know how students learn, to support appropriate learning activities and discourage inappropriate ones.

In this scenario, each teacher must rethink his role, questioning the world with which he prepares his teaching and relates to the classroom with the students. From the formation of the syllabus to the exchange of opinions with colleagues, many operations become strategic in order to realize this new innovative way of teaching-learning.

Many aids were proposed, including the tool of the Teaching Practices Inventory, a list of good actions proposed by Wieman and Gilbert (2014) and tested with excellent results in the teachings of Science, Technology, Engineering and Mathematics (STEM).

The objective of this paper is to understand whether the Teaching Practices Inventory tool can also be used in the field of account teaching. To this end, with a narrative research methodology, the TPI will be analyzed and then linked with the peculiarities of Accounting Education.

2. THEORETICAL BACKGROUND

It is now a common opinion and widely spread in literature that Accounting is going through a phase of suffering. Some authors (Baruch Lev and Feng Gu, 2016) have even wondered if Accounting is dead, others have pointed the need to rethink the entire university education so as to better orient it to the needs of the practice.

Other authors have studied those who will constitute the teaching class of the future: the current PhD candidates in Accounting. "Are accounting and finance academics a dying breed? Or will today's PhD students secure the next generations?" With these questions, Vivien Beattie and Sarah Jane Smith begin their book dedicated to Accounting doctorates in Great Britain. They ask whether the current PhD students will be the future generations of accounting academics, or if they are a dying breed.

In this general rethinking of the role of Accounting, someone tried to question about the new functions of Accounting Education.

In fact, Accounting education currently runs the risk of not understanding the reality of accounting practice and potentially giving up great opportunities regarding data and analytics take over, by letting other organizational functions, such as IT and marketing (Payne, 2014).

Therefore with a comeback to the origins of teaching, with a discussion about the new ways to train the teaching staff, the Education returned to the center of the scene.

According to Gragg (1940), teaching is a social art that necessarily involves relationships among people. The success of teaching depends upon a quality or attitude of mind that enables the teacher to make the relationship between teacher and student a reciprocal one. Thus neither all the teaching should be done by the teacher, nor all the learning should be done by the student.

Over the past several years, there has been a resurgence of interest in teaching not only in Accounting field and in the University context, but even in adult education and in general in the higher education.

According to Pratt, Collins and Jarvis-Selinger (2001), in adult education, this can be seen in the increased presence of papers on teaching within the proceedings of adult and higher education associations in North America, Europe and Australia. Within higher education this resurgence is

evident in the emergence of centres for faculty development and teaching at colleges and universities around the world. Once again, teaching has reclaimed a place of honor in adult and higher education.

At the same time, there is a call for teachers to be critically reflective in their practice of teaching, because professions have pushed for their members to reflect critically on the underlying assumptions and values that give direction and justification to their work. For many teachers this is not an easy task (Pratt, Collins and Jarvis-Selinger, 2001).

What does it mean to teach? What are the values underlying the teaching? How do teachers approach students? What is the impact of society on the subject taught? There is a series of questions that each teacher begins to ask himself to understand if his style of teaching is in line with the times. Teachers want to reflect on who they are and how they teach but with an implied message that that reflection should conform to some preconceived notion of a "good" teacher (Collins and Pratt, 2010).

3. LITERATURE REVIEW

Over the years, researches about Accounting Education focused on different issues concerning teaching and learning of Accounting in universities.

Works of international scholars have involved mainly the following areas (Paisey and Paisey, 2004): undergraduate and postgraduate courses, teaching programs, teaching methods, characteristics of students and teachers, student selection and subsequent employment at the end of the university course, relationships between teaching and professional issues. Therefore Accounting Education is a field of research very flourishing, and many scientific journals are born on this field (*Accounting Education, Advances in Accounting Education, Issues in Accounting Education, Journal of Accounting Education*, etc). Research topics are varied over time and over the years have also intensified periodic surveys of the literature (Rebele et al., 1991; Rebele et al., 1998; Apostolou, Watson, 2001; Watson, 2003 and 2007; Apostolou et al., 2010).

Many authors have questioned over the years on new teaching methods, proposing different reading keys. Thomson and Bebbington (2004) asked an interesting question: It does not matter what you teach?, while Boyce (2004) suggested that accounting education reform needs to go well beyond the putative reform agenda of the organised professional accounting bodies. Always Boyce, with Williams, Kelly and Yee (2001) questioned about the traditional teaching methods concluding that they lead to learning behaviours that are inconsistent with the development of generic skills (Inman et al., 1989; Gow et al., 1994). This suggests that student approaches to learning can be modified by specific learning situations and teaching strategies (Schmeck, 1983; Beattie et al., 1997). Accounting educators must focus on generating appropriate attitudes, including tolerance for uncertainty and ambiguity; willingness to deal with complexity and confusion, acceptance of conflicting information,

courage to take risks, and a fundamental desire to enhance thinking and problem-solving skills (Rubenstein, 1975; Crow, 1980). It must be recognized that the real problem for accounting education is not student attitudes and strategies per se. It is the extent to which preferences and associated strategies are challenged and modified by teaching and assessment strategies which students encounter (Boyce et al 2001).

These aspects exceed the boundaries of the accounting and match all the field of Education. In fact, nowadays we are asked more and more how to model the teaching on the new needs of students and concrete reality. Teachers are therefore doubtful and continually question themselves on their way of teaching. Paths have emerged in all areas of knowledge aimed at teaching teachers how to teach.

Several authors wrote about the new challenges of teaching, focusing on different aspects: the innovation of learning teaching methodologies by an active learning (Kuhn and Dean, 2004; Coryell, 2017), the learning skills also in relation to life and professional contexts (Le Boterf, 1994), the digital culture and the need for e-learning teaching (Ala-Mutka, 2011), the new permanent assessment, widespread and participated (Sambell, 2011; Nicol et. al, 2014).

Particular emphasis should be put on the role of Universities in the drawing of teaching and learning skills of professors, in view of the development of innovation processes of teaching (Yerevan Conference, 2015; EUA, 2015). In particular, European Union has set itself a lot of educational goals for the following years. In particular: to give incentives to institutions and teachers to commit themselves to innovate their teaching by creating learning contexts focused on the student and using digital technologies; to promote a closer link between teaching and learning and research at all levels of study; to recognize and encourage quality teaching; at the same time offer opportunities for skills improvement teaching staff; to involve students actively in the design of the courses study and quality assurance.

Many working team have produced works about the future challenges in teaching. The team Fostering Quality Teaching in Higher Education (OECD, 2012) wrote that the centrality of teaching is in the relationship between teaching and learning, therefore it is urgent to support the quality of teaching through the commitment of states and universities. High Level Group on the Modernisation of Higher Education (EU, 2013) wrote that public authorities responsible for high-level education should support universities to improve the quality of teaching and every institution should develop a strategy to improve the learning, giving the teaching the value of the research. The team Modernisation of Higher Education in Europe (by Eurydice, 2017) wrote that universities should support their teachers in increasing their teaching skills, appreciating the more worthy ones, so that all academic staff in 2020 should have received a certified pedagogical training.

The high professionalism of the teacher is a primary and indispensable factor for good learning

and effective teaching. The most prestigious universities in the world (Harvard, Berkeley, Cambridge, Oxford) have developed specific structures, generally called Teaching Learning Centers (TLCs), with the aim of developing research in the field of teaching and to raise the quality of teaching, enhancing the professional communities and increasing the teaching skills of individuals and groups.

Investment in university teacher training has long been a key strategic choice in almost all countries (Spain, France, Holland, Sweden, Finland, etc). In Sweden, Norway, the Netherlands, Great Britain, Latvia it is mandatory to have an initial IET certification (Initial Entry Training) to preserve university teaching assignments.

The training of newly hired teachers is a widespread practice (Austin et al. 2007; Gappa et al., 2007). These training programs aim to promote in the professors the skills of designing, choosing and conducting methodologies and technologies to encourage and evaluate learning, to manage partnerships with students.

In this scenario, other Authors have proposed a lot of means in order to form teachers. Huston and Weaver (2008) wrote about the Peer Coaching (reciprocal or one-way with consultation of the request, observation, debriefing and feedback), Boyer (1990) proposed the SoTL, i.e. Scholarship of Teaching and Learning, in three steps: reflection, investigation-research, sharing with the wider community. Cox (2004, 2013) launched the FLCO, i.e. Faculty Learning Communities, building a community (6-15 members) in which propose an annual, active and collaborative program focused on improving teaching and learning, with seminars and activities of reflection and research.

4. THE CONTEXT

In May 1998 the ministers in charge of higher education of France, Italy, the United Kingdom and Germany signed the so-called Sorbonne Declaration on the "harmonisation of the architecture of the European Higher Education System" at the Sorbonne University in Paris. Other European countries later subscribed to the Declaration.

The Sorbonne Declaration focused on a progressive convergence of the overall framework of degrees and cycles in an open European area for higher education; a common degree level system for undergraduates (Bachelor's degree) and graduates (Master's and doctoral degree); enhancing and facilitating student and teacher mobility (students should spend at least one semester abroad); removing obstacles for mobility and improving recognition of degrees and academic qualifications

The Dublin Descriptors are the cycle descriptors (or "level descriptors") presented in 2003 and adopted in 2005 as the Qualifications Framework of the European Higher Education Area. They offer generic statements of typical expectations of achievements and abilities associated with awards that represent the end of each of a Bologna cycle or level. The descriptors are phrased in terms of

competence levels, not learning outcomes, and they enable to distinguish in a broad and general manner between the different cycles. A level descriptor includes the following five components: knowledge and understanding; applying knowledge and understanding; making judgements; communication; lifelong learning skill.

In the context of the European Qualifications Framework, skills are described in terms of responsibility and autonomy, are related to the course of study and can be expressed with disciplinary Dublin descriptors.

From this path descends an educational program of teaching that should take into account both the *teaching objectives* and the *learning outcomes*.

The specific training objectives of a course of study indicate which educational project is intended to be proposed and serve to present the course on the outside. It is therefore necessary that they be written in a clear, concrete and timely manner, avoiding, on the one hand, exaggerated technicalities and, on the other, purely advertising formulations. The specific training objectives are a declination and clarification of the objectives of the class; in drafting it is therefore necessary to avoid the two opposite risks of a pedestrian repetition of the qualifying training objectives of the class and of a total deviation from these objectives.

According to Moon (2002), the usefulness of the formative objectives consists in providing a clear picture of the outgoing professional figure and of the training path that prepares it; indicate the progression of the route; develop collaborations with similar paths in other institutions; offer references to external stakeholders who want to know the route; constitute the starting point for the design of the individual lessons and their harmonization; to map knowledge, skills and competences to be developed in the curriculum

Learning outcomes, on the other hand, are the description of what a student should know, understand and be able to demonstrate at the end of a learning process. They are also related to the individual teaching and can be reached and are measurable (theoretical knowledge and practical-methodological skills applied)

According to Moon (2002), learning outcomes: clarify expected knowledge and skills; make students aware of what is expected of them; offer information that meets students' expectations; specify the relationship between the expected standards of the individual teaching and the level descriptors; they are a means of indicating the link between their learning and evaluation; they represent the "showcase" information also for other teachers, students, stakeholders; they can help in measuring the teaching load; they can be benchmark parameters between similar teachings.

Since learning objectives and results represent two complementary perspectives, an integrated approach is successful and consistent with the student-centered perspective.

Consequently, both the initial general definition of teaching objectives and the learning outcomes that specify the general objective and the different levels of learning processes should be used in the construction of each syllabus.

The whole system should aim at a *constructive alignment*, i.e. a design approach that optimizes the conditions for quality of learning, by constructing a coherent teaching environment in which teaching modalities and assessment practices are aligned with the aims of teaching.

By adopting the constructivist approach, students construct meanings through relevant learning activities. If the expected learning outcomes have been clearly communicated, students are more likely to feel motivated towards the contents and activities planned by the teacher to facilitate their learning.

The teacher prepares a learning environment that supports the appropriate learning activities to achieve the intended learning outcomes. The key point is that the components of the teaching system – in particular the teaching methods and the evaluation tests – are aligned with the learning activities presupposed by the expected results (Biggs & Tang, 2007; Zaggia, 2008).

Thus we enter the world of active learning, a new way of conceiving the world with which a student must stay in the classroom.

Analysis of the literature suggests that students must do more than just listen: they must read, write, discuss, or be engaged in solving problems. Most important, to be actively involved, students must engage in higher-order thinking tasks such as analysis, synthesis, and evaluation (Bonwell, & Eison, 1991).

Active learning increases conceptual and problem-solving test scores in physics (Hake, 1998). Small group learning produced higher achievement test scores, positive attitudes, higher levels of persistence in STEM courses (Springer et al. 1999). The data suggest that STEM instructors may begin to question the continued use of traditional lecturing in everyday practice, especially in light of recent work indicating that active learning confers benefits for STEM students from disadvantaged backgrounds and for female students in male-dominated fields (Freeman, et al., 2014).

Generally the lecture begins with general principles and eventually goes into detail with its applications. Instead, if the instruction begins with observations, book reviews, literature studies, site visits (on site instruction), case studies, etc., solving of a live example, giving solutions, would be a preferable alternative in the teaching and learning process (Gayathri & Champa, 2014).

According to Eison, 2010, in interactive lectures, instructor talks with periodic pauses for structured activities; as student concentration begins to wane, a short structured in-class activity is assigned; instructor's questions require responses; students' responses to an instructor's questions are commonly made by using a clicker or some other interactive response system; student-to-student talk is encouraged; students often work with partners or in groups; student comprehension during the

lecture is assessed directly; opportunities to correct misunderstandings are periodically provided within the lecture; high rates of attendance often are reported.

The teacher's effort to adapt to this new way of learning must be considerable, because to achieve active learning, teaching must also be innovative.

In this scenario, a valid help tool for teachers can be the Teaching practices inventory.

5. THE TEACHING PRACTICES INVENTORY: AN OVERVIEW

The Teaching Practices Inventory (TPI, formerly called the "Teaching Practices Survey") was designed to characterize the teaching practices used in undergraduate science and mathematics courses. The inventory provides a detailed characterization of practices used in all aspects of a "lecture" course. Proposed by Wieman and Gilbert, TPI has been tested with several hundred faculty members at UBC and refined over a 6-year period, the last in 2018.

According to Wieman and Gilbert, an inventory can characterize the teaching practices used in science and mathematics courses. This inventory can aid instructors and departments in reflecting on their teaching. Authors show how the inventory results can be used to gauge the extent of use of research-based teaching practices, and the high degree of discrimination provided by the inventory, as well as its effectiveness in tracking the increase in the use of research-based teaching practices (Wieman and Gilbert, 2014).

To create the inventory, Wieman and Gilbert devised a list of the various types of teaching practices that are commonly mentioned in the literature. They recognize that these practices are not applicable to every course, and any particular course would likely use only a subset of these practices.

The items on the inventory are divided into eight categories:

- Course information provided (including learning goals or outcomes)
- Supporting materials provided
- In-class features and activities
- Assignments
- Feedback and testing
- Other (diagnostics, pre–post testing, new methods with measures, etc.)
- Training and guidance of TAs
- Collaboration or sharing in teaching

They use the term "inventory" in its conventional meaning of a list of all items present, in this case a list of all the teaching practices present in a course.

According to Wieman and Gilbert (2014), the inventory will be valid for use in other disciplines, at least in the engineering and social sciences. This is based on their impression that the teaching

practices used in these disciplines are rather similar to those used in math and science. It would be straightforward to check that the wording of the items would be correctly interpreted by instructors from those disciplines and that the inventory includes the teaching practices used in those disciplines (Bransford et al., 2000; Pascarella and Terenzini, 2005; Ambrose et al., 2010).

6. TPI IN ACCOUNTING EDUCATION

In this phase of the work we will try to connect the TPI to the world of Accounting Education, analyzing them point by point.

A) Course information provided to students via hard copy or course webpage

This category responds perfectly to the scheduling needs of the Accounting courses, because in the courses of this Area students must be presented in addition to the list of topics to be covered, also the list of specific competencies such as skills and expertise that students should achieve. An accounting professor must therefore ask himself, when planning his teaching, what students should be able to do. In the field of Accounting, the list of competencies that are not topic related is also important, because students must acquire critical thinking and problem solving skills. Finally we need to work on the affective goals, ie on the changing students' attitudes and beliefs, preparing on aspects such as interest, motivation, relevance, beliefs about their competencies. Ultimately, the accounting teacher must make the student understand how to master the material.

B) Supporting materials provided to students

The Accounting teacher should check all that occurred in his course. For example, the performance of homework, whose solutions must always be provided to students, is indispensable in a subject with high practical implications such as accounting. In addition to these, students worked examples and previous year's exams, as well as articles from related academic literature. For the teaching of the Accounting the material of support to the lessons should be well evaluated, for example it could be the case of lecture notes or course PowerPoint presentations, but also of animations, video clips, or simulations related to course material.

C) In-class features and activities

An Accounting course becomes successful if it is participatory, so in the baggage of a teacher's teaching practices there must be some indispensable tools, to be used during the lesson. For example, pause to ask for questions, have small group discussions or stimulate reflective activity at the end of class.

In order to involve the student it is essential to make him feel at the center of the lesson and then to understand which method is used to collect responses from all the students in real time in class.

D) Assignments

Assigning homework can be a good practice to allow the Accounting course to be more participatory.

Homework can be managed in different ways. For example, they may or may not contribute to the course grade, or they can lead to the drafting of a paper or project, or they can still be done individually or in groups. Considering the peculiarities of the accounting it would be better if the tasks were carried out with high frequency (every week) and that they are pro-authoritative to the final exam, but they do not influence the evaluation.

E) Feedback and testing; including grading policies

Getting feedback from students during the term is a good practice, better if the assessment takes place not only at the end of the course, but also halfway through the course. In this way there can be a way to correct what the students did not judge positively during the course of the work.

Another good practice in the field of the Accounting is to design the course considering a series of tests during the term that reflect course expectations.

Obviously everything that is done during the term must be considered in the final evaluation (midterm exam, homework assignments, paper or project). It could be questioned whether the evaluation should also influence the in-class activities, participation and any Lab component.

F) Other

During an Accounting course it is good to leave some opportunities for students' self-evaluation of learning, but above all new teaching methods or materials should be used to measure their impact on student learning.

G) Training and guidance of Teaching Assistants

In the lessons of Accounting the best thing would be to choose as a Teaching Assistant a professional or an accountant who knows the matter in person, and he is able to explain the practical implications. In this way, while the teacher would focus on the theoretical aspects, the assistant would go more on the practice. The exercises should be on a weekly basis and linked with the lessons.

H) Collaboration or sharing in teaching

The thing to be avoided is that in a university every teaching of Accounting is different from the others. So the different teachers should coordinate the program of the course, the contents, the methods of conducting the lessons and the exercises

Therefore it is a good practice to use or to adapt materials provided by colleague, or to use departmental course materials that all instructors of this course are expected to use. It is also recommended to discuss how to teach the course with colleagues and read the literature about teaching and learning relevant to this course in order to get and share new ideas about teaching.

7. DISCUSSION

This work wanted to make an attempt to bring the Teaching Practices Inventory tool into Accounting Education.

This tool is a way to help the teacher in the perspective of innovative teaching, which is perceived as added value by the students. To this end there must be a constructive alignment between teaching objectives and learning outcomes, and even a new active learning is necessary.

More generally it is thought that teaching should be placed at the center of the village, or at least considered as research.

Lately, in fact, the research is experienced as a social and public event, realized in a group, it is a recommended choice, it is primary and decisive for the career, it is evaluated and appreciated. In other words, research expertise is prepared and guarantees prestige to the teacher and to the university.

This hyper-valuation of research probably corresponds to a devaluation of the teaching.

In fact, teaching is a private matter carried out in one's class and in solitude by the teacher, it is an obligation, requires commitment and takes time away from research, it is evaluated but not appreciated. Ultimately, the teaching competence is given for acquired and offers the public image of the teacher and the university.

It is believed that teaching and research are essential and determining functions for the life of the academy. According to Boyer (1990), the work of the professor would be thought of as having separate, yet overlapping, functions. These are: the scholarship of discovery; the scholarship of integration; the scholarship of application; and the scholarship of teaching. Therefore, excellence exists in all aspects of academic work. Teaching and research are indispensable components of teacher's professionalism.

8. CONCLUSIONS, LIMITATIONS AND FUTURE DEVELOPMENTS

The global digital revolution has irrevocably transformed societies and industries. Even the accounting profession is predicted to experience a significant change in the future, due to technological developments. Practices will be automated and related positions will become obsolete, thus accounting graduates need to be educated for new and different tasks and positions (Al-Htaybat et al. 2018). New technologies are expected to and are already changing accounting education, the way in which teachers have to teach the Accounting. For this reason teachers are called to reflect heavily on their way of teaching and to rethink their approach with students. A good way to start again on this path to redesign their style is to analyze their teaching perspectives. From this point of view, the TPI can be a useful tool for support.

This paper was intended to be a first exploratory attempt to introduce the concept of TPI in the accounting education literature, because TPI has a useful application well beyond a simple exercise in self-examination and values clarification among adults who hold varieties of teaching responsibilities. TPI could be a powerful tool in faculty development, teaching assessment, teaching improvement and peer reviews of teaching.

This work has tried to fit into the previous literature, trying to make a step forward to the studies. Thus connecting to Veenman (1984) and Grossman (1992), the work has tried to focus on the training of newly recruited teachers, who thanks to the TPI can verify their own knowledge.

Following the call of Hubbal et al. (2005) and Collins and Pratt (2011), the work has included the TPI in a new field of teaching, that of accounting. In particular, this work has been inserted in the field of Accounting Education, proposing a tool capable of increasing the quality of teaching and making the Accounting teacher an innovator, following what was proposed by Watty (2005) and Watty et. al. (2016).

Finally, we think that by using TPI Accounting Education could: a) draw a new direction for his future (Burnett, 2013); b) bring together the interest of the entire teaching faculty around a topic of training (Fogarty et. al., 2016); c) find a new tool able to focus the teacher on the needs of the world of work (Jackling and Delange, 2009).

The limitation of this work are mainly related to the methodology: the case could not be generalized. In order to remove this limitation, the future developments could affect the generalization of results to other fields, presenting some new experiences on the use of TPI.

REFERENCES

- Ala-Mutka, K. (2011). Mapping Digital Competence: Towards a Conceptual Understanding, Publications Office of the European Union, Luxembourg.
- Al-Htaybat K., von Alberti-Alhtaybat L., Alhatabat Z. (2018), Educating digital natives for the future: accounting educators' evaluation of the accounting curriculum, *Accounting Education*, 27,4, 333-357.
- Ambrose S, Bridges M, Di Pietro M, Lovett M, Norman M (2010), *How Learning Works: Seven Research-Based Principles for Smart Teaching*, San Francisco, CA: Wiley.
- Apostolou B.A., Hassell J.M., Rebele J.E., Watson S.F. (2010), Accounting education literature review (2006-2009), in *Journal of Accounting Education*, Vol. 28, n. 3-4, p. 145-197.
- Apostolou B.A., Watson S.F., Hassell J.M., Webber S.A. (2001), Accounting education literature review (1997-1999), in *Journal of Accounting Education*, Vol. 19, n. 1, p. 1-61.
- Austin, A.E., Sorcinelli, M.D., McDaniels, M. (2007), Understanding new faculty: Background, aspirations, challenges, and growth, in R. Perry & J. Smart (eds.), *The scholarship of teaching and learning in higher education: An evidence - based perspective* (pp. 39-89), Springer, Dordrecht.
- Beattie, V., Collins, B. and McInnes, B. (1997), Deep and surface learning: a simple or simplistic dichotomy?, *Accounting Education: an international journal* 6, 1, 1-12.
- Biggs J., Tang C (2007), *Teaching for Quality Learning at University*, Buckingham: Open University Press/McGraw Hill.

- Biggs, J. B. & Collis, K. F. (1982), *Evaluating the Quality of Learning: The SOLO Taxonomy, Structure of the Observed Learning Outcome*. London: Academic Press.
- Bologna Follow-Up Group (2005) *Framework for Qualifications of the European Higher Education Area*. Copenhagen, p. 9.
- Bonwell, C. & Eison, J. (1991). *Active Learning: Creating Excitement in the Classroom*, ERIC Clearinghouse on Higher Education, Washington, D.C.
- Boyce G. (2004), *Critical accounting education: teaching and learning outside the circle*, *Critical Perspectives on Accounting*, 15, 565-586.
- Boyce G., Williams S., Kelly A., and Yee H. (2001), *Fostering deep and elaborative learning and generic (soft) skill development: the strategic use of case studies in accounting education*, *Accounting Education*, 10, 1, 37-60.
- Boyer E. (1990), *Scholarship Reconsidered: Priorities of the Professoriate*, Princeton University Press, Princeton Pike, Lawrenceville.
- Boyer E.L. (1990), *Scholarship Reconsidered Priorities of the Professoriate*, The Carnegie Foundation for the Advancement of Teaching, New York.
- Bransford J, Brown A, Cocking R, Donovan SM, Pellegrino J (2000), *How People Learn: Brain, Mind, Experience, and School*, expanded ed., Washington, DC: National Academies Press.
- Burnett, S. (2003), *The future of accounting education: A regional perspective*, *Journal of Education for Business*, 78, 129-134.
- Chan, C. H. (1994), *Operationalization and prediction of conceptions of teaching in adult education*, Unpublished dissertation, the University of British Columbia, Vancouver.
- Clandinin, D. J. (2013), *Engaging in narrative inquiry*, Routledge, London.
- Clarke A., Jarvis-Selinger S. (2005), *What the teaching perspectives of cooperating teachers tell us about their advisory practices*, *Teaching and Teacher Education*, 21, 65-78.
- Collins J, Pratt D.D. (2011), *The Teaching Perspectives Inventory at 10 Years and 100,000 Respondents: Reliability and Validity of a Teacher Self-Report Inventory*, *Adult Education, Quarterly*, November, 1-18.
- Coryell J. (2017), *Learning to teach: Adult learning theory and methodologies for creating effective learning environments and promoting students' active learning*, in E. Felisatti, A. Serbati (2017), *Preparare alla professionalità docente e innovare la didattica universitaria*, F. Angeli, Milan.
- Cox M.D. (2004), *Introduction to faculty learning communities*, *New Directions for Teaching and Learning*, 97, 5-23.
- Cox, M. D. (2013), *The impact of communities of practice in support of early-career academics*, *International Journal for Academic Development*, 18, 1, 18-30.
- Crow, M.L. (1980), *Teaching as an interactive process*, in K.E. Eble (ed.) *Improving Teaching Styles*, 1, pp. 41-55, Jossey-Bass, San Francisco.
- Eison J. (2010), *Using Active Learning Instructional Strategies to Create Excitement and Enhance Learning*, working paper, Department of Adult, Career & Higher Education, University of South Florida.
- EU (2015), *Report to the European Commission on improving the quality of teaching and learning in Europe's higher education institutions*, High Level Group on the Modernisation of Higher Education, European Union, Brussels.
- EUA (2015), *European University Association Annual Report*, Brussels, available on www.eua.eu.
- Eurydice (2017), *Recommended Annual Instruction Time in Full-time Compulsory Education in Europe*, Education, Audiovisual and Culture Executive Agency, Publications Office of the European Union, Luxembourg.
- Feiman-Nemser, S. (1990), *Teacher preparation: structural and conceptual*, in Houston, W. (Ed.), *Handbook of research in teacher education* (pp. 212-233), Macmillan and the Association of Teacher Educators, New York.
- Fogarty, T., Zimmerman, A., Richardson, V. (2016), *What do we mean by accounting program quality? A decomposition of accounting faculty opinions*, *Journal of Accounting Education*, 36, 16-42.
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). *Active learning increases student performance in science, engineering, and mathematics*. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415.
- Gappa, J. M., Austin, A. E., Trice, A. G. (2007), *Rethinking faculty work: Higher education's strategic imperative*, Jossey-Bass, San Francisco.
- Gayathri V., Champa H.S. (2014), *Experiences in Architecture Education Learning and Teaching Methodologies*, *Civil Engineering and Architecture Vol. 2(8)*, pp. 281-283.
- Gow, L., Kember, D. and Cooper, B. (1994), *The teaching context and approaches to study of accountancy students*, *Issues in Accounting Education*, 9, 1, 118-30.
- Gragg (1940), *Teachers also must learn*, in L. B. Barnes, C. R. Christensen and A. J. Hansen, (eds) (1994), *Teaching and the Case Method*, third edition, pp. 15-22, Harvard Business School Press, Boston.

- Grossman, P. (1990), *The making of a teacher: Teacher knowledge and teacher education*, Teacher College Press, New York
- Hake R.R. (1998), Interactive-engagement versus traditional methods: A six-thousand-student survey of mechanics test data for introductory physics courses, *American Journal of Physics* 66, 64.
- Hubball, H., Collins, J., Pratt, D. (2005), Enhancing Reflective Teaching Practices: Implications for Faculty Development Programs, *Canadian Journal of Higher Education*, 35, 3, 57-81.
- Huston T., Weaver C. (2008), Peer Coaching: Professional Development for Experienced Faculty, *Innovative Higher Education*, v. 33 n. 1 pp. 5-20.
- Inman, B.C., Wenzler, A. and Wickert, P.D. (1989), Square pegs in round holes: are accounting students well-suited to today's accounting profession?, *Issues in Accounting Education* 4, 1, 29-47.
- Jackling, B., & De Lange, P. (2009), Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence, *Accounting Education*, 18, 4/5, 369-385.
- Kuhn, D., Dean, D. (2004), A bridge between cognitive psychology and educational practice, *Theory into Practice*, 43, 4, 268-273
- Le Boterf G. (1994), *De la competence: essay sur un attracteur étrange*, Les Edition d'Organization, Paris.
- Lev B, Gu Feng (2016), *The End of Accounting and the Path Forward for Investors and Managers*, Wiley, New York.
- Massey D.D., (2001) Personal journeys: Teaching teachers to teach literacy, *Literacy Research and Instruction*, 41, 2, 103-125.
- Moon J. (2002), *The module and programme development handbook*, Kogan Page.
- Nicol D, Thomson A, Breslin C. (2014), Rethinking feedback practices in higher education: a peer review perspective, *Assessment & Evaluation in Higher Education*, Volume 39, Issue 1, 102-122.
- OECD (2012), *Fostering Quality Teaching in Higher Education: Policies and Practices*, An IMHE Guide for Higher Education Institutions, Institutional Management in Higher Education of Organisation for Economic Co-operation and Development, Brussels.
- Paisey C., Paisey N.J (2004), An analysis of accounting education research in *Accounting Education: an international journal 1992-2001*, in *Accounting Education*, Vol. 13, n. 1, p. 69-99.
- Pascarella E, Terenzini P (2005). *How College Affects Students: A Third Decade of Research*, San Francisco, CA: Jossey-Bass.
- Payne, R. (2014). Discussion of digitisation, big data and the transformation of accounting information' by Alnoor Bhimani and Leslie Willcocks (2014), *Accounting and Business Research*, 44, 4, 491-495.
- Pratt D.D, Collins J.B, Jarvis-Selinger S. (2001), Development and Use of the Teaching Perspectives Inventory (TPI), in the proceedings of Annual meeting of the American Educational Research Association (AERA), Seattle, April.
- Pratt D.D. (1998), *Five Perspectives on Teaching Adults and Higher Education*, Krieger, Malabar, Florida.
- Pratt D.D., Collins J.B. (2000), The teaching perspectives inventory, in T.J. Sork, V.L. Chapmani & R. St. Clair (eds), *Proceedings of the 41st Adult Education Research Conference* (pp. 346-350), University of British Columbia, Vancouver.
- Prentice-Hall.Schmeck, R.R. (1983), Learning styles of college students, *Individual Differences in Cognition*, 1, 233-279.
- Rebele J.E., Apostolou B.A., Buckless F.A., Hassell J.M., Paquette L.R., Stout D.E. (1998), Accounting education literature review (1991-1997), part I: Curriculum and instructional approaches, in *Journal of Accounting Education*, Vol. 16, n. 1, p. 1-52.
- Rebele J.E., Stout D.E., Hassell J.M. (1991), A review of empirical research in accounting education: 1985-1991, in *Journal of Accounting Education*, Vol. 9, n. 2, p. 167-231.
- Rubenstein, M.F. (1975), *Tools for Thinking and Problem Solving*, Englewood Cliffs, New Jersey.
- Sambell K. (2011), *Rethinking feedback in higher education: an assessment for learning Perspective*, ESCalate HEA Subject Centre for Education, Bristol.
- Springer L., Stanne M.E., Donovan S.S. (1999), Effects of Small-Group Learning on Undergraduates in Science, Mathematics, Engineering, and Technology: A Meta-Analysis, *Review of Educational Research*, Vol. 69, No. 1 (Spring, 1999), pp. 21-51.
- Stofflett, R., Stoddart, T. (1994), The ability to understand and use conceptual change pedagogy as a function of prior content learning experience, *Journal of Research in Science Teaching*, 3, 1, 31-51.
- Stride A., Fitzgerald H.F., Allison W. (2017), A narrative approach: The possibilities for sport management, *Sport Management Review* 20, 33-42.
- Thomson I., Bebbington J. (2004), It doesn't matter what you teach?, *Critical Perspectives on Accounting*, 15, 609-628.

- University of Limerick (2008), *Writing Learning Outcomes. A guide for academics*, Ollscoil Luimnigh, Limerick.
- Veenman, S. (1984), *Perceived problems of beginning teachers*, *Review of Educational Research*, 54, 2, 143-178.
- Watson S.F., Apostolou B.A., Hassell J.M., Webber S.A. (2003), *Accounting education literature review (2000–2002)*, in *Journal of Accounting Education*, Vol. 21, n. 4, p. 267-325.
- Watson S.F., Apostolou B.A., Hassell J.M., Webber S.A. (2007), *Accounting education literature review (2003–2005)*, in *Journal of Accounting Education*, Vol. 25, n. 1-2, p. 1-58.
- Watty, K. (2005), *Quality in accounting education: What say the academics?*, *Quality Assurance in Education*, 13, 2, 120-131.
- Watty, K., McKay, J., Ngo, L. (2016), *Innovators or inhibitors? Accounting faculty resistance to new educational technologies in higher education*, *Journal of Accounting Education*, 36, 1–15.
- Wieman C., Gilbert S., *The Teaching Practices Inventory: A New Tool for Characterizing College and University Teaching in Mathematics and Science*, *CBE-Life Sciences Education*, Vol. 13, 552-569, Fall 2014.
- Yerevan Conference (2015), *Yerevan Communiqué*, Ehea Ministerial Conference, Yerevan, available on www.ehea.info.
- Zaggia C. (2008), *L'Università delle Competenze. Progettazione e valutazione dei corsi di laurea nel processo di Bologna*, Franco Angeli, Milano.

TEACHING PERSPECTIVES INVENTORY IN THE ACCOUNTING FIELD: A FIRST EXPLORATORY ATTEMPT

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ABSTRACT

The works by Pratt and Collins developed a contemporary and easily self-administered teachers evaluation instrument called the Teaching Perspectives Inventory (TPI), a tool broad applicability to a range of education contexts.

The TPI differentiates between five perspectives on teaching: Transmission, Developmental, Apprenticeship, Nurturing, and Social Reform. Each perspective incorporates fundamental beliefs about teaching and learning, instructional intentions within teaching contexts, and concrete actions. The development and use of the TPI has undergone rigorous testing with a wide range of practitioners, educators, and student teachers.

The aim of this work is to insert the TPI in the Accounting Education, trying to understand if the perspectives are applicable to the accounting discipline.

After the highlight of the TPI framework, the paper uses a narrative inquiry research method in order to introduce the TPI in the Accounting field.

Keywords: Teaching Perspective Inventory, Accounting Education, Teaching, Learning, Narrative Inquiry

1. INTRODUCTION

It is now a common opinion and widely spread in literature that Accounting is going through a phase of suffering. Some authors (Baruch Lev and Feng Gu, 2016) have even wondered if Accounting is dead, others have pointed the need to rethink the entire university education so as to better orient it to the needs of the practice.

Other authors have studied those who will constitute the teaching class of the future: the current PhD candidates in Accounting. "Are accounting and finance academics a dying breed? Or will today's PhD students secure the next generations?" With these questions, Vivien Beattie and Sarah Jane Smith begin their book dedicated to Accounting doctorates in Great Britain. They ask whether the current PhD students will be the future generations of accounting academics, or if they are a dying breed.

In this general rethinking of the role of Accounting, someone tried to question about the new functions of Accounting Education.

In fact, Accounting education currently runs the risk of not understanding the reality of accounting practice and potentially giving up great opportunities regarding data and analytics take over, by letting other organizational functions, such as IT and marketing (Payne, 2014).

Therefore with a comeback to the origins of teaching, with a discussion about the new ways to train the teaching staff, the Education returned to the center of the scene.

According to Gragg (1940), teaching is a social art that necessarily involves relationships among people. The success of teaching depends upon a quality or attitude of mind that enables the teacher to make the relationship between teacher and student a reciprocal one. Thus neither all the teaching should be done by the teacher, nor all the learning should be done by the student.

Over the past several years, there has been a resurgence of interest in teaching not only in Accounting field and in the University context, but even in adult education and in general in the higher education.

According to Pratt, Collins and Jarvis-Selinger (2001), in adult education, this can be seen in the increased presence of papers on teaching within the proceedings of adult and higher education associations in North America, Europe and Australia. Within higher education this resurgence is evident in the emergence of centres for faculty development and teaching at colleges and universities around the world. Once again, teaching has reclaimed a place of honor in adult and higher education.

At the same time, there is a call for teachers to be critically reflective in their practice of teaching, because professions have pushed for their members to reflect critically on the underlying assumptions and values that give direction and justification to their work. For many teachers this is not an easy task (Pratt, Collins and Jarvis-Selinger, 2001).

What does it mean to teach? What are the values underlying the teaching? How do teachers approach students? What is the impact of society on the subject taught? There is a series of questions that each teacher begins to ask himself to understand if his style of teaching is in line with the times. Teachers want to reflect on who they are and how they teach but with an implied message that that reflection should conform to some preconceived notion of a “good” teacher (Collins and Pratt, 2010).

In this vein, based on a constructivist view of knowledge and learning, the works by Pratt and Collins (1992) and by Pratt (1998) developed a contemporary and easily self-administered teachers evaluation instrument called the Teaching Perspectives Inventory (TPI), a tool broad applicability to a range of education contexts.

The TPI differentiates between five perspectives on teaching: Transmission, Developmental, Apprenticeship, Nurturing, and Social Reform. Each perspective incorporates fundamental beliefs about teaching and learning, instructional intentions within teaching contexts, and concrete actions.

The development and use of the TPI has undergone rigorous testing with a wide range of practitioners, educators, and student teachers.

The aim of this work is to insert the TPI in the field of Accounting Education, trying to understand if the perspectives are applicable to the accounting discipline or if they have to be specially adapted to the peculiarities of Accounting.

After the highlight of the TPI framework, the paper uses a narrative inquiry research method in order to bring the TPI in the Accounting field. This work is in fact a first attempt to place the TPI in the Accounting Education sector, so it is intended to be an exploratory paper, which critically analyzes the case.

In fact, the TPI analysis is the first step towards a teaching training path that allows the teacher to grow, so that he is able to analyze his experience and reflect for design and improve teaching; to acquire awareness of the centrality of the student; to act for an open and inclusive university, to collaborate with peers and build a teaching community.

In other words, TPI is only the beginning of a new paradigm in which teachers can improve their own ability to teach with suitable teaching methodologies and the use of e-learning, but they can also use effective teaching communication, to evaluate appropriately the learning of the students and identify professional development strategies and continuing education.

The originality of this paper lies in the first attempt to talk about the teaching perspectives in the field of Accounting Education. The goal is to concentrate the efforts to set up the teaching of Accounting on the conceptions of teachers, who very often fail to follow the innovations of teaching, as they do not first make a careful analysis of their teaching profile, reflecting beliefs, intentions and actions. Therefore, the TPI can be the starting point to train teachers and allow them to develop a new didactic interaction with the classroom.

2. THEORETICAL BACKGROUND AND METHODOLOGY OF RESEARCH

The topic of this paper is Accounting Education, because the aim is to reconsider about the ways in which Accounting is taught and learned in the Universities.

In order to reach this goal the methodology of this study is a conceptual development based on a narrative research that derives from an autobiographical experience about the use of TPI.

When the author became researcher, his University proposed him a teaching training program based, in the preliminary part, on the analysis of teaching perspectives. Based upon that experience, this research started with an analysis of previous literature in Accounting Field. With a bit of surprise, no previous works about TPI were found in Accounting Journals, so it emerged a lack in the literature that could be remedied with this first exploratory paper.

To link the TPI with the Accounting and to express the opinion about the perspectives proposed by Pratt, Collins and Jarvis-Selinger, this paper follows the narrative approach, drawing a story about the experience of the author with TPI.

For this reason, the conceptual framework of the paper is the narrative inquiry.

According to Stride et al. 2017, there is much debate about what narrative inquiry is. Clandinin (2013) describes it as an overarching term that encompasses the activities involved in generating, analyzing and re-presenting stories of life experiences. Narrative inquiry then can be considered as a methodology that includes the collection of data, analysis and dissemination. Connelly and Clandinin (2006) distinguish four types of narrative inquiry: 'living', 'telling', 'retelling' and 'reliving'. In relation to living and telling, researchers ask people to share their experiences of life using a range of methods including ethnography, autoethnography, interviews, journals, diaries, memoirs, photographs, artefacts, blogs and field notes.

Connelly and Clandinin (2006) believe narrative inquiry consists of three commonplaces. First, the temporality of an event or person is considered in relation to the past, present and future. The event or person should not be seen in isolation but should be rather considered within a temporal boundary. In this case the stories of teaching perspectives (reflecting the beliefs, the intention and the action of Accounting teacher) might consider interactions with other teachers during and after the training program, and with the previous teaching experiences of the field with the students. For this temporal dimension, the story becomes layered in a way that moves beyond merely description to become more exploratory.

The second commonplace is sociability and is related to personal and social conditions. Personal conditions include the feelings, hopes, desires and reactions of the individual. In this case, how did the teacher approach the training program and how did he change his mentality during the training? Obviously, social conditions refer to the context the individual occupies such as the environment they are situated within and other people contributing to the structuring of that setting. For teachers this might include understanding their role, the extent to which they had contact with the students, and the nature of this contact.

The third commonplace is place and relates to where the event occurs. That is, the physical boundaries of place, which may change in relation to the temporal account. In this case, place may be the classroom where the training course takes place, the classroom where the teacher gives lessons and his studio where he plans the methods for carrying out the lessons.

These three common places offer checkpoints for the narrative inquirer. Connelly and Clandinin (2006) note that whilst other qualitative inquiry may address one or more of these commonplaces, a narrative inquiry is the simultaneous exploration of all three. In this way, narrative inquiry can be

considered as an overarching methodology that includes each stage of the research process (Stride et al., 2017).

In this paper we were guided by the thinking of Connelly and Clandinin (2006) particularly in relation to presenting the story. So we do not claim that our methodology is the narrative inquiry per se, but we are inspired and guided by this approach.

In other words, the paper used the three commonplaces – temporality, sociability and place – to draw the area in which is described the link between TPI approach and Accounting teaching and learning.

Using a qualitative research, the work started with a critical literature review in order to reply some questions like: Who is writing about the subject? What standards do they establish? What are the most compelling arguments they make?

After this part, the paper continues with the story of TPI, split in two parts. The first one is about the opinion of the proponent authors about TPI, the second one refers to the original story of this paper, about how to link TPI and Accounting field.

The core of the work is the part about the Discussion, in which the story becomes a tool in order to rethink the ways of Accounting teaching and learning.

3. LITERATURE REVIEW

Over the years, researches about Accounting Education focused on different issues concerning teaching and learning of Accounting in universities.

Works of international scholars have involved mainly the following areas (Paisey and Paisey, 2004): undergraduate and postgraduate courses, teaching programs, teaching methods, characteristics of students and teachers, student selection and subsequent employment at the end of the university course, relationships between teaching and professional issues. Therefore Accounting Education is a field of research very flourishing, and many scientific journals are born on this field (*Accounting Education, Advances in Accounting Education, Issues in Accounting Education, Journal of Accounting Education*, etc). Research topics are varied over time and over the years have also intensified periodic surveys of the literature (Rebele et al., 1991; Rebele et al., 1998; Apostolou, Watson, 2001; Watson, 2003 and 2007; Apostolou et al., 2010).

Many authors have questioned over the years on new teaching methods, proposing different reading keys. Thomson and Bebbington (2004) asked an interesting question: It does not matter what you teach?, while Boyce (2004) suggested that accounting education reform needs to go well beyond the putative reform agenda of the organised professional accounting bodies. Always Boyce, with Williams, Kelly and Yee (2001) questioned about the traditional teaching methods concluding that

they lead to learning behaviours that are inconsistent with the development of generic skills (Inman et al., 1989; Gow et al., 1994). This suggests that student approaches to learning can be modified by specific learning situations and teaching strategies (Schmeck, 1983; Beattie et al., 1997). Accounting educators must focus on generating appropriate attitudes, including tolerance for uncertainty and ambiguity; willingness to deal with complexity and confusion, acceptance of conflicting information, courage to take risks, and a fundamental desire to enhance thinking and problem-solving skills (Rubenstein, 1975; Crow, 1980). It must be recognized that the real problem for accounting education is not student attitudes and strategies per se. It is the extent to which preferences and associated strategies are challenged and modified by teaching and assessment strategies which students encounter (Boyce et al 2001).

These aspects exceed the boundaries of the accounting and match all the field of Education. In fact, nowadays we are asked more and more how to model the teaching on the new needs of students and concrete reality. Teachers are therefore doubtful and continually question themselves on their way of teaching. Paths have emerged in all areas of knowledge aimed at teaching teachers how to teach.

Several authors wrote about the new challenges of teaching, focusing on different aspects: the innovation of learning teaching methodologies by an active learning (Kuhn and Dean, 2004; Coryell, 2017), the learning skills also in relation to life and professional contexts (Le Boterf, 1994), the digital culture and the need for e-learning teaching (Ala-Mutka, 2011), the new permanent assessment, widespread and participated (Sambell, 2011; Nicol et. al, 2014).

Particular emphasis should be put on the role of Universities in the drawing of teaching and learning skills of professors, in view of the development of innovation processes of teaching (Yerevan Conference, 2015; EUA, 2015). In particular, European Union has set itself a lot of educational goals for the following years. In particular: to give incentives to institutions and teachers to commit themselves to innovate their teaching by creating learning contexts focused on the student and using digital technologies; to promote a closer link between teaching and learning and research at all levels of study; to recognize and encourage quality teaching; at the same time offer opportunities for skills improvement teaching staff; to involve students actively in the design of the courses study and quality assurance.

Many working team have produced works about the future challenges in teaching. The team Fostering Quality Teaching in Higher Education (OECD, 2012) wrote that the centrality of teaching is in the relationship between teaching and learning, therefore it is urgent to support the quality of teaching through the commitment of states and universities. High Level Group on the Modernisation of Higher Education (EU, 2013) wrote that public authorities responsible for high-level education should support universities to improve the quality of teaching and every institution should develop a

strategy to improve the learning, giving the teaching the value of the research. The team Modernisation of Higher Education in Europe (by Eurydice, 2017) wrote that universities should support their teachers in increasing their teaching skills, appreciating the more worthy ones, so that all academic staff in 2020 should have received a certified pedagogical training.

The high professionalism of the teacher is a primary and indispensable factor for good learning and effective teaching. The most prestigious universities in the world (Harvard, Berkeley, Cambridge, Oxford) have developed specific structures, generally called Teaching Learning Centers (TLCs), with the aim of developing research in the field of teaching and to raise the quality of teaching, enhancing the professional communities and increasing the teaching skills of individuals and groups.

Investment in university teacher training has long been a key strategic choice in almost all countries (Spain, France, Holland, Sweden, Finland, etc). In Sweden, Norway, the Netherlands, Great Britain, Latvia it is mandatory to have an initial IET certification (Initial Entry Training) to preserve university teaching assignments.

The training of newly hired teachers is a widespread practice (Austin et al. 2007; Gappa et al., 2007). These training programs aim to promote in the professors the skills of designing, choosing and conducting methodologies and technologies to encourage and evaluate learning, to manage partnerships with students.

In this scenario, other Authors have proposed a lot of means in order to form teachers. Huston and Weaver (2008) wrote about the Peer Coaching (reciprocal or one-way with consultation of the request, observation, debriefing and feedback), Boyer (1990) proposed the SoTL, i.e. Scholarship of Teaching and Learning, in three steps: reflection, investigation-research, sharing with the wider community. Cox (2004, 2013) launched the FLCO, i.e. Faculty Learning Communities, building a community (6-15 members) in which propose an annual, active and collaborative program focused on improving teaching and learning, with seminars and activities of reflection and research.

All these training paths require a preliminary phase, during which the teacher must reflect on his starting state of the art, before proceeding with the training. It is at this stage that the Teaching Perspectives Inventory (TPI) takes shape.

Teaching perspectives are important in any exploration of pedagogical practices that cooperating teachers employ in their interactions with student teachers (Clarke and Jarvis-Selinger, 2005). Therefore many researchers have attempted to conceptually define and empirically document perspectives on teaching (Chan, 1994; Feiman-Nemser, 1990; Stofflett and Stoddart, 1994). Their efforts have resulted in considerable agreement between and among the various attributes. But the most consistent model about the perspectives is TPI by Pratt, Collins and Jarvis-Selinger.

4. THE TEACHING PERSPECTIVES INVENTORY

People unfamiliar with the concept of “perspectives” sometimes confuse them with “teaching styles” or even “teaching methods”, but perspectives are more fundamental and penetrating. According to the TPI by Pratt, Collins and Jarvis-Selinger, the perspectives are five: Transmission, Developmental, Apprenticeship, Nurturing, and Social Reform. They describe them as follows.

A) Transmission

Effective teaching requires a substantial commitment to the content or subject matter. Good teachers have mastery of the subject matter or content. It is a teacher’s primary responsibility to represent the content accurately and efficiently for learners. It is the learner’s responsibility to learn that content in its authorized or legitimate forms. Good teachers take learners systematically through sets of tasks that lead to content mastery. Such teachers provide clear objectives, adjust the pace of lecturing, make efficient use of class time, clarify misunderstandings, answer questions, provide timely feedback, correct errors, provide reviews, summarize what has been presented, direct students to appropriate resources, set high standards for achievement and develop objective means of assessing learning. Good teachers are enthusiastic about their content and convey that enthusiasm to their students, and for many learners, they are memorable presenters of their content (Pratt et al., 2001).

B) Apprenticeship

Effective teaching is a process of enculturating students into a set of social norms and ways of working. Good teachers are highly skilled at what they teach. Whether in classrooms or at work sites, they are recognized for their expertise. Teachers must reveal the inner workings of skilled performance and must now translate it into accessible language and an ordered set of tasks. Learning tasks usually proceed from simple to complex, allowing for different points of observation and entry depending upon the learner’s capability. Good teachers know what their learners can do on their own and what they can do with guidance and direction; namely, engaging learners’ within their ‘zone of development’. As learners mature and become more competent, the teacher’s role changes, and over time, teachers offer less direction and give more responsibility as they progress from dependent learners to independent workers (Pratt et. al, 2001).

C) Developmental

Effective teaching must be planned and conducted “from the learner’s point of view”. Good teachers must understand how their learners think and reason about the content. The primary goal is to help learners develop increasingly complex and sophisticated cognitive structures for comprehending the content. The key to changing those structures lies in a combination of two skills: (a) effective questioning that challenges learners to move from relatively simple to more complex forms of thinking, and (b) ‘bridging knowledge’ which provides examples that are meaningful to the

learner. Questions, problems, cases, and examples form the bridges that teachers use to guide learners from simpler ways of thinking and reasoning to new, more complex and sophisticated forms of reasoning and problem solving. Good teachers work hard to adapt their knowledge to each learner's level of understanding and ways of thinking (Pratt et al., 2001).

D) Nurturing

Effective teaching assumes that long-term, hard, persistent effort to achieve outcomes from the heart, as well as the head. People are motivated and productive learners when they are working on issues or problems without fear of failure. Learners are nurtured by knowing that (a) they can succeed at learning if they give it a good try; (b) their achievement is a product of their own effort and ability, rather than the benevolence of a teacher; and (c) their efforts to learn will be supported by their teacher and their peers. The more pressure to achieve and the more difficult the material, the more important it is the need for support in learning. Good teachers promote a climate of caring and trust, helping people set challenging but achievable goals, and providing encouragement and support, along with clear expectations and reasonable goals for all learners. They do not sacrifice self-efficacy or self-esteem for achievement. Therefore, the assessment of learning considers individual growth or progress as well as absolute achievement (Pratt et al., 2001).

E) Social Reform

Effective teaching seeks to change society in substantive ways. From this point of view, the object of teaching is the collective rather than the individual. Good teachers awaken students to the values and ideologies that are embedded in texts and common practices within their discipline. Good teachers challenge the status quo and encourage students to consider how learners are positioned and constructed in particular discourses and practices.

To do so, common practices are analyzed and deconstructed for the ways in which they reproduce and maintain conditions deemed unacceptable. Class discussion is focused less on how knowledge has been created, and more by whom and for what purposes. Texts are interrogated for what is said and what is not said; what is included and what is excluded; who is represented and who is omitted from the dominant discourses within a field of study or practice. Students are encouraged to take a critical stance to give them power to take social action in order to improve their own lives; critical deconstruction, though central to this view, is not an end in itself (Pratt et al., 2001).

The TPI consists of 45 items clustered into three groups of 15 items each (15 beliefs, 15 intentions and 15 actions). For each of the five perspectives, 3 of its 15 items describe instructors' beliefs about learning, teaching and knowledge; 3 their intentions; and 3 their educational actions. The items relevant to the actions and the intentions of the instructors are rated along a five-point scale ranging from 'Never' to 'Always'. Items relevant to beliefs are rated on a 5-point Likert scale ranging from

'Strongly disagree' to 'Strongly agree' (Pratt, Collins, and Selinger 2001). The score for each teaching perspective is calculated as the sum of values across beliefs, intentions and actions that correspond to that perspective. Therefore perspective scores could vary from a minimum 9 to a maximum of 45 (Collins and Pratt 2000).

According to the proponent authors, the Teaching Perspectives Inventory gives direction to the process of critical reflection by providing a baseline of information as well as articulating teachers' own beliefs about learning, knowledge, and the social role of "teacher." TPI provides a means of tracking and looking more deeply at the underlying values and assumptions that constitute teachers perspectives on teaching. The TPI also provides a well-articulated basis from which to justify and defend approaches to teaching when under review or evaluation.

Pratt et al. (2001) have demonstrated that often one or two perspectives are usually more dominant for individual teachers across a range of pedagogical contexts and, as such, the TPI provides insight into the ways in which the teachers view knowledge and the sense they make of the relation between the knower and the known.

5. THE TPI IN THE ACCOUNTING EDUCATION

5.1 A new way of thinking

The TPI can be used in aiding self-reflection, developing statements of teaching philosophy, engendering conversations about teaching, and recognizing legitimate variations on excellence in teaching. In particular, according to proponent authors, TPI could be used in order to a) anticipate an evaluation of own teaching skills and style; b) observe and evaluate other teachers' performance; c) examine personal beliefs and values about teaching; d) assist reflective practitioners about what to reflect upon; e) affirm that there is more than one right way to be a good teacher.

The general model also provides a means by which adult educators can articulate their approach to reflect meaningfully on their teaching and its possible improvement, try to reply at questions like: What do I really believe about teaching? What am I actually trying to accomplish with my learners? What do I usually do in the classroom?

Following this approach, the paper tries to insert now the TPI in the field of Accounting, detecting how the five perspectives are in line with the Accounting sector. To this end, the story about the TPI experience of the author is presented. In particular, during his training programs, the author was called to rethink the own teaching style, reflecting about beliefs, intentions and actions alongside the five perspectives.

5.2. The story about the Perspectives

A)Transmission

Mastering the topics is fundamental in accounting, as they are subject to changes over time due to regulatory innovations. If accounting standards change, the teaching of financial statement must also be revised, as Accounting is not a repeat that is unchanged over time, but needs to be continually reviewed and updated.

Consequently, the presentation to students of a precise, accurate and updated content puts teachers in the condition of new stimuli in learning and study.

Obviously it is not enough to tell the students the accounting principles, or the laws that govern the preparation of the financial statements. The exemplifications, the concrete cases of application of abstract laws are fundamental. In this way the students guide in the discussion of the topics, following an approach that moves from the general to the particular.

To translate this aspect into practice, the ideal thing would be to dedicate half of the lesson's duration to the concrete reality. At the same time it means encouraging students to study the principles of application of accounting standards or the preparation of financial statements. It is obvious that the textbook is not sufficient, indeed many times it represents the original didactic support for the study of the subject. It is essential to provide a supporting bibliography, made of primary sources (law and accounting standards, corporate documents) and secondary sources (articles and books).

Today, with the help of technology, accounting became a question of knowledge, so the accounting records must be understood in the essence and not technically repeated.

Summing up, the good presenter of Accounting thoroughly studies the discipline, immediately grasps the news and innovations to students with a practical style.

B) Apprenticeship

Teaching the Accounting, the teacher must train students so that they are able to understand the world when they will enter the workplace. Therefore the experience on pitch accumulated by the teacher is fundamental. The teacher cannot teach Accounting if he has never entered in the firm, if he does not know the industry and daily operations of a company.

Teacher must always keep the rudder pointing at the concrete reality, so that students can be directly introduced in the firm's environment. Teachers must then leave space for students' creativity, even in a seemingly repetitive subject such as Accounting. If in the first lessons it is right that the teacher is speaking almost exclusively, then students should also have a say and express their opinion, as well as try to complete the concepts introduced by the teacher.

The teacher who stimulates the apprenticeship is the one who pushes the students to confront reality, to get their hands dirty and to learn by doing.

C) Developmental

Accounting should be taught to make students understand it, not to testify that the teacher is good. So it is useless to find the most attractive way to present the slides, if their content is incomprehensible to the students, or to try to present a rich and varied program, then it is difficult to manage the natural learning of the students. The Teacher needs to put himself in the shoes of the students, understand how they reason and how they store the concepts, so as to propose the contents in a way that they are easily assimilated and applicable.

The teacher must strive to make students grow from a personal and professional point of view. Critical questions must be asked in order to question them on the usefulness of an evaluation criterion, on the meaning of a drafting principle or on why some accounting items go into the Income Statement and others in the Balance Sheet.

The study of Accounting must contribute to the resolution of concrete problems, therefore students must be able to understand the accounting problem and identify the best solution to solve it. In this way the teaching of Accounting is functional to the cognitive development of the student.

The teacher's effort must be to calibrate his own knowledge on the basis of the student's, so as to be able to work on the same level, and to support the development of the critical discernment capacity of the students.

From the developmental point of view, the good teacher stimulates students' minds, opening new horizons for them, so that, moving from the current accounting problems, they are able to foresee the future and to think increasingly convincing answers for their resolution.

d) Nurturing

Stimulating intelligence and expanding students' minds is not enough. The accounting teachings need to go straight to the hearts of the learners, feed them as daily food.

The rules of double entry must be assimilated like bread and water, so as to become nutritious for the future professional career.

However this nurture must be won by the student and not simply granted by the teacher. The student must understand that the assimilation of the content takes time and dedication, but eventually it will lead to at least three rewards: the short term is the passing of the Accounting exam, the medium term is the achievement of the degree that of long term is the fruitful inclusion in the working context.

The results to be obtained in order to pass the exam must be clear, just as the necessary preparation to obtain the sufficiency in the test must be clear. Teachers do not need to build the exam with impossible questions or complicated exercises: a scale of values must be built within the student's reach, which should be stimulated in the ascent step by step.

In the case of a written exam, the spaces for the answers to the theoretical questions must be clarified so as to prevent the student from ranting. In the practical part, the exercise must be unambiguously developable.

The good nutritionist is someone who stimulates the student to learn the accounting contents, to make them their own, to apply them according to their own style, but by inserting themselves in the right path of good practices.

e) Social Reform

Today's student must be able to change the society of tomorrow. This is why the ingredients of the Accounting course must be compatible with those of the other courses, so as to compose the winning recipe to allow the student to establish himself at work.

The Accounting teacher must strive to clarify the value aspect of the discipline, the guiding principles of the law, the values underlying the set of accounting rules.

The student must be able to become not only the user or the preparer of the annual accounts, but also the one who establishes the underlying framework.

To this end, in the lessons it is necessary to dwell on the aims, on why some accounting settings are followed, on what lies behind the accounting laws.

Teachers must not limit themselves to the mainstream, but also present the lines of thought and the prospects that are today a minority, but in the future, perhaps will be dominant. The student must have the clear picture in order to understand what are the basic values underlying the Accounting.

The social reformer is the one who looks beyond today, instilling in students the reactionary force, the desire to change, the desire to react to the status quo and to innovate it by following their values.

5.3. The story about the Areas

In each perspective three areas of reflection must be discussed: the first is linked to beliefs, the second to intentions and the third to actions.

A) Beliefs

The Accounting teacher must put himself in the perspective of strongly believing in his role as an educator of pupils who will go to work as employees or freelancers and who will have to concretely apply the contents given in the lessons.

Believing in his own role means becoming passionate about the story, getting into the details of what is being explained, proposing concrete examples. In other words, to mature the belief that his own role is functional to the students learning.

B) Intentions

Between believing and acting there is what a teacher really thinks of doing. When the teacher is in the classroom, he finds himself having to manage the contingency or the emergency, just as sometimes

getting caught up in enthusiasm or enthusiasm does not go as planned. Instead, it is important to always strive towards the goal, strive to achieve it and then analyze what has not been done about what he wanted to do.

C) Actions

Each Accounting teacher has his own style, his way of presenting the topics, his ability to approach the classroom and interact with the students. The teaching of the Accounting requires a style very marked on the examples and on the numbers, little mnemonic and more applicative. It is therefore necessary to concretize his own ideals during teaching in front of the students and the contents must be given to them.

6. DISCUSSION

After the presentation of the story about the experience with the TPI in the Accounting teacher training program, in this paragraph there will be an attempt to link TPI and Accounting field.

A good teaching of Accounting must move from the identification of learning objectives. In fact, the teacher must place the student in the center of attention.

The setting of good learning objectives can allow the teacher to dominate some strategic levers. First of all, knowing how to identify and reflect on the aims of his own teaching to define appropriate learning outcomes. Secondly to acquire awareness of the centrality of learning, of the needs of students and how to adapt accordingly educational planning. Finally to know how to improve own ability to conduct the frontal lesson and experiment with new teaching methods student centered (e.g. problem based learning, group work, self-directed learning, case studies, discussions, etc.) to be applied in the own didactic and professional action.

On one side, accounting teachers should be able to analyze and use an effective teaching communication using conscious verbal and non-verbal models and mediators (slides, videos, images, ...) functional with respect to the achievement of the expected learning objectives. On the other side Accounting teachers should be able to reflect on their own teaching experience and to compare oneself with others in a collaborative dimension by building a teaching community where they can share values, objectives, experiences and practices.

In other words, teachers have to choose and experiment a set of appropriate approaches and methodologies of teaching and learning in order to reach the expected results and to promote learning through ongoing assessment and feedback by students.

If the student is in the middle, the teacher has to outline, in a precise and timely manner, the skills that the student must be able to reach during the course of Accounting.

What should a student acquire during an Accounting course? First of all specific skills related to the subjects of study: to know the accounting principles, the rules for the functioning of the double entry, the evaluation criteria of the balance sheet items, the correct book-keeping of the accounting entries.

Then a strong problem solving ability, since the resolution of everyday problems is the most important skill of an accountant. To do this, students need to open their mind and develop a strong talent for reasoning. This is linked to a strong critical thought, an acute spirit of observation and discernment, capable of making people think before deciding and investigating the facts in depth.

Since accounting is a practical discipline, the analytical skills of mathematical and logical calculation cannot be neglected. However, since the business reality is also made up of processes and not just numbers, the Accounting student must also become a decision maker, able to evaluate himself and the choices made at work.

To do all these things, the Accounting teacher must be motivated and encouraged on the teaching side. Therefore a system of career progression and promotion based exclusively on research results can lead to a reduction in the role of teaching. It would be better if, in addition to the number of books or articles published in international high-level journals, the satisfaction level of the students could also be included in the parameters to promote or not a teacher along the academic hierarchy.

Accounting Teaching is a "journey" (Massey, 2002) in which students and teachers have to walk arm in arm, both in the perspective of growing and being useful to each other. The Student has to be an active partner, asking questions, searching for solutions in a perspective process oriented.

The Teacher has to design paths of teaching and learning by enhancing the research activity. He should achieve general skills so as to be able to teach using a repertoire of techniques and teaching methodologies; to identify, process and use resources for teaching and learning; to stimulate learning and verify them with a fair and impartial mode; to monitor the effectiveness of teaching for achievement of the expected results; to coordinate his educational activities with those of colleagues; to supervise students' theses, reports and projects; to support students through actions of orientation, tutoring and coaching.

On this journey the Accounting teacher has to coordinate the set of activities of teaching at various levels of education superior, through collegiate work, in partnership with students by interpreting procedures and regulations. He has to manage the analysis of training needs in collaboration with the firms; he has to assume leadership functions and styles of communication to coordinate commissions and working groups; he has to promote innovation at the system level services supporting the quality of the teaching and training; finally, he has to connect teaching and research activities with administrative and governance ones.

It is possible to affirm that in this scenario, the survey of perspectives becomes an internal analysis tool, which in the field of accounting can allow the teacher to reformulate himself.

In the first perspective (Transmission), Accounting teacher present the contents more appropriately, with passion, outlining clear objectives, adapting the pace of the lesson and providing support to students for the clarification of doubts.

In the second perspective (Apprenticeship), Accounting teacher accompanies the students towards increasingly complex tasks, with a strong leadership role at the beginning and progressively less and less present, for the development of autonomy in the students.

In the third perspective (Developmental), Accounting teacher stimulates the students with problems, cases, examples, to solve even new situations in which they are actively called to intervene, creating connections between knowledge.

In the fourth perspective (Nurturing), Accounting teacher creates a climate of care and has confidence in the ability of the students (with attention to the process as well as to the product), supporting them to reach challenging but reachable objectives.

In the last perspective (Social Reform), the teacher promotes a critical analysis on situations and on possible interventions of students to improve their lives and society.

To conclude, the TPI could serve to promote a personal reflection of the Accounting teacher on their perspectives and their balance, or on any differences, identifying possible internal inconsistencies (between beliefs, intentions and actions) and external among the perspectives.

7. CONCLUSIONS, LIMITATIONS AND FUTURE DEVELOPMENTS

The global digital revolution has irrevocably transformed societies and industries. Even the accounting profession is predicted to experience a significant change in the future, due to technological developments. Practices will be automated and related positions will become obsolete, thus accounting graduates need to be educated for new and different tasks and positions (Al-Htaybat et al. 2018). New technologies are expected to and are already changing accounting education, the way in which teachers have to teach the Accounting. For this reason teachers are called to reflect heavily on their way of teaching and to rethink their approach with students. A good way to start again on this path to redesign their style is to analyze their teaching perspectives. From this point of view, the TPI can be a useful tool for support. The five perspectives – Transmission, Apprenticeship, Developmental, Nurturing and Social Reform – make up with the Accounting world and therefore can be brought in this sector.

This paper was intended to be a first exploratory attempt to introduce the concept of TPI in the accounting education literature, because TPI has a useful application well beyond a simple exercise in

self-examination and values clarification among adults who hold varieties of teaching responsibilities. TPI could be a powerful tool in faculty development, teaching assessment, teaching improvement and peer reviews of teaching.

This work has tried to fit into the previous literature, trying to make a step forward to the studies. Thus connecting to Veenman (1984) and Grossman (1992), the work has tried to focus, through the story of a life experience, on the training of newly recruited teachers, who thanks to the TPI can verify their own knowledge.

Following the call of Hubbal et al. (2005) and Collins and Pratt (2011), the work the work has included the TPI in a new field of teaching, that of accounting. In particular, this work has been inserted in the field of Accounting Education, proposing a tool capable of increasing the quality of teaching and making the Accounting teacher an innovator, following what was proposed by Watty (2005) and Watty et. al. (2016).

Finally, we think that by using TPI Accounting Education could: a) draw a new direction for his future (Burnett, 2013); b) bring together the interest of the entire teaching faculty around a topic of training (Fogarty et. al., 2016); c) find a new tool able to focus the teacher on the needs of the world of work (Jackling and Delange, 2009).

The limitation of this work are mainly related to the methodology: as being linked to an experience of the author, the case could not be generalized. In order to remove this limitation, the future developments could affect the generalization of results to other fields, presenting some new experiences on the use of TPI.

REFERENCES

- Ala-Mutka, K. (2011). Mapping Digital Competence: Towards a Conceptual Understanding, Publications Office of the European Union, Luxembourg.
- Al-Htaybat K., von Alberti-Alhtaybat L., Alhatabat Z. (2018), Educating digital natives for the future: accounting educators' evaluation of the accounting curriculum, *Accounting Education*, 27,4, 333-357.
- Apostolou B.A., Watson S.F., Hassell J.M., Webber S.A. (2001), Accounting education literature review (1997–1999), in *Journal of Accounting Education*, Vol. 19, n. 1, p. 1-61.
- Apostolou B.A., Hassell J.M., Rebele J.E., Watson S.F. (2010), Accounting education literature review (2006-2009), in *Journal of Accounting Education*, Vol. 28, n. 3-4, p. 145-197.
- Austin, A.E., Sorcinelli, M.D., McDaniels, M. (2007), Understanding new faculty: Background, aspirations, challenges, and growth, in R. Perry & J. Smart (eds.), *The scholarship of teaching and learning in higher education: An evidence - based perspective* (pp. 39-89), Springer, Dordrecht.
- Beattie, V., Collins, B. and McInnes, B. (1997), Deep and surface learning: a simple or simplistic dichotomy?, *Accounting Education: an international journal* 6, 1, 1-12.
- Boyce G. (2004), Critical accounting education: teaching and learning outside the circle, *Critical Perspectives on Accounting*, 15, 565-586.
- Boyce G., Williams S., Kelly A., and Yee H. (2001), Fostering deep and elaborative learning and generic (soft) skill development: the strategic use of case studies in accounting education, *Accounting Education*, 10, 1, 37-60.
- Boyer E.L. (1990), *Scholarship Reconsidered Priorities of the Professoriate*, The Carnegie Foundation for the Advancement of Teaching, New York.

- Burnett, S. (2003), The future of accounting education: A regional perspective, *Journal of Education for Business*, 78, 129-134.
- Chan, C. H. (1994), Operationalization and prediction of conceptions of teaching in adult education, Unpublished dissertation, the University of British Columbia, Vancouver.
- Clandinin, D. J. (2013), *Engaging in narrative inquiry*, Routledge, London.
- Clarke A., Jarvis-Selinger S. (2005), What the teaching perspectives of cooperating teachers tell us about their advisory practices, *Teaching and Teacher Education*, 21, 65-78.
- Collins J, Pratt D.D. (2011), The Teaching Perspectives Inventory at 10 Years and 100,000 Respondents: Reliability and Validity of a Teacher Self-Report Inventory, *Adult Education, Quarterly*, November, 1-18.
- Connelly, F. M., Clandinin, D. J. (2006), Narrative inquiry, in J. L. Green, G. Camilli, P. B. Elmore (Eds.), *Handbook of complimentary methods in education research* (pp. 477-487), Lawrence Erlbaum Associates, Inc. Publishers, Mahwah, New Jersey.
- Coryell J. (2017), Learning to teach: Adult learning theory and methodologies for creating effective learning environments and promoting students' active learning, in E. Felisatti, A. Serbati (2017), *Preparare alla professionalità docente e innovare la didattica universitaria*, F. Angeli, Milan.
- Cox M.D. (2004), Introduction to faculty learning communities, *New Directions for Teaching and Learning*, 97, 5-23.
- Cox, M. D. (2013), The impact of communities of practice in support of early-career academics, *International Journal for Academic Development*, 18, 1, 18-30.
- Crow, M.L. (1980), Teaching as an interactive process, in K.E. Eble (ed.) *Improving Teaching Styles*, 1, pp. 41-55, Jossey-Bass, San Francisco.
- EUA (2015), *European University Association Annual Report*, Brussels, available on www.eua.eu.
- EU (2015), Report to the European Commission on improving the quality of teaching and learning in Europe's higher education institutions, High Level Group on the Modernisation of Higher Education, European Union, Brussels.
- Eurydice (2017), *Recommended Annual Instruction Time in Full-time Compulsory Education in Europe*, Education, Audiovisual and Culture Executive Agency, Publications Office of the European Union, Luxembourg.
- Feiman-Nemser, S. (1990), Teacher preparation: structural and conceptual, in Houston, W. (Ed.), *Handbook of research in teacher education* (pp. 212-233), Macmillan and the Association of Teacher Educators, New York.
- Fogarty, T., Zimmerman, A., Richardson, V. (2016), What do we mean by accounting program quality? A decomposition of accounting faculty opinions, *Journal of Accounting Education*, 36, 16-42.
- Gappa, J. M., Austin, A. E., Trice, A. G. (2007), *Rethinking faculty work: Higher education's strategic imperative*, Jossey-Bass, San Francisco.
- Gow, L., Kember, D. and Cooper, B. (1994), The teaching context and approaches to study of accountancy students, *Issues in Accounting Education*, 9, 1, 118-30.
- Gragg (1940), Teachers also must learn, in L. B. Barnes, C. R. Christensen and A. J. Hansen, (eds) (1994), *Teaching and the Case Method*, third edition, pp. 15-22, Harvard Business School Press, Boston.
- Grossman, P. (1990), *The making of a teacher: Teacher knowledge and teacher education*, Teacher College Press, New York
- Hubball, H., Collins, J., Pratt, D. (2005), Enhancing Reflective Teaching Practices: Implications for Faculty Development Programs, *Canadian Journal of Higher Education*, 35, 3, 57-81.
- Huston T., Weaver C. (2008), Peer Coaching: Professional Development for Experienced Faculty, *Innovative Higher Education*, v. 33 n. 1 pp. 5-20.
- Jackling, B., & De Lange, P. (2009), Do accounting graduates' skills meet the expectations of employers? A matter of convergence or divergence, *Accounting Education*, 18, 4/5, 369-385.
- Kuhn, D., Dean, D. (2004), A bridge between cognitive psychology and educational practice, *Theory into Practice*, 43, 4, 268-273
- Inman, B.C., Wenzler, A. and Wickert, P.D. (1989), Square pegs in round holes: are accounting students well-suited to today's accounting profession?, *Issues in Accounting Education* 4, 1, 29-47.
- Le Boterf G. (1994), *De la compétence: essai sur un attracteur étrange*, Les Edition d'Organization, Paris.
- Lev B, Gu Feng (2016), *The End of Accounting and the Path Forward for Investors and Managers*, Wiley, New York.
- Massey D.D., (2001) Personal journeys: Teaching teachers to teach literacy, *Literacy Research and Instruction*, 41, 2, 103-125.
- Nicol D, Thomson A, Breslin C. (2014), Rethinking feedback practices in higher education: a peer review perspective, *Assessment & Evaluation in Higher Education*, Volume 39, Issue 1, 102-122.

- OECD (2012), *Fostering Quality Teaching in Higher Education: Policies and Practices, An IMHE Guide for Higher Education Institutions, Institutional Management in Higher Education of Organisation for Economic Co-operation and Development*, Brussels.
- Payne, R. (2014). Discussion of digitisation, big data and the transformation of accounting information' by Alnoor Bhimani and Leslie Willcocks (2014), *Accounting and Business Research*, 44, 4, 491-495.
- Paisey C., Paisey N.J (2004), An analysis of accounting education research in *Accounting Education: an international journal 1992-2001*, in *Accounting Education*, Vol. 13, n. 1, p. 69-99.
- Pratt D.D, Collins J.B, Jarvis-Selinger S. (2001), Development and Use of the Teaching Perspectives Inventory (TPI), in the proceedings of Annual meeting of the American Educational Research Association (AERA), Seattle, April.
- Pratt D.D., Collins J.B. (2000), The teaching perspectives inventory, in T.J. Sork, V.L Chapmani & R. St. Clair (eds), *Proceedings of the 41st Adult Education Research Conference* (pp. 346-350), University of British Columbia, Vancouver.
- Pratt D.D. (1998), *Five Perspectives on Teaching Adults and Higher Education*, Krieger, Malabar, Florida.
- Rebele J.E., Stout D.E., Hassell J.M. (1991), A review of empirical research in accounting education: 1985–1991, in *Journal of Accounting Education*, Vol. 9, n. 2, p. 167-231.
- Rebele J.E., Apostolou B.A., Buckless F.A., Hassell J.M., Paquette L.R., Stout D.E. (1998), Accounting education literature review (1991–1997), part I: Curriculum and instructional approaches, in *Journal of Accounting Education*, Vol. 16, n. 1, p. 1-52.
- Rubenstein, M.F. (1975), *Tools for Thinking and Problem Solving*, Englewood Cliffs, New Jersey.
- Prentice-Hall.Schmeck, R.R. (1983), Learning styles of college students, *Individual Differences in Cognition*, 1, 233-279.
- Sambell K. (2011), *Rethinking feedback in higher education: an assessment for learning Perspective*, ESCalate HEA Subject Centre for Education, Bristol.
- Stofflett, R., Stoddart, T. (1994), The ability to understand and use conceptual change pedagogy as a function of prior content learning experience, *Journal of Research in Science Teaching*, 3, 1, 31-51.
- Stride A., Fitzgerald H.F., Allison W. (2017), A narrative approach: The possibilities for sport management, *Sport Management Review* 20, 33-42.
- Thomson I., Bebbington J. (2004), It doesn't matter what you teach?, *Critical Perspectives on Accounting*, 15, 609-628.
- Veenman, S. (1984), Perceived problems of beginning teachers, *Review of Educational Research*, 54, 2, 143-178.
- Watson S.F., Apostolou B.A., Hassell J.M., Webber S.A. (2003), Accounting education literature review (2000–2002), in *Journal of Accounting Education*, Vol. 21, n. 4, p. 267-325.
- Watson S.F., Apostolou B.A., Hassell J.M., Webber S.A. (2007), Accounting education literature review (2003–2005), in *Journal of Accounting Education*, Vol. 25, n. 1-2, p. 1-58.
- Watty, K. (2005), Quality in accounting education: What say the academics?, *Quality Assurance in Education*, 13, 2, 120-131.
- Watty, K., McKay, J., Ngo, L. (2016), Innovators or inhibitors? Accounting faculty resistance to new educational technologies in higher education, *Journal of Accounting Education*, 36, 1–15.
- Yerevan Conference (2015), *Yerevan Communiqué*, Ehea Ministerial Conference, Yerevan, available on www.ehea.info.

INTERNATIONAL NEGOTIATIONS PROTOTYPES: THE IMPACT OF CULTURE

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ABSTRACT

We find three negotiation prototypes in a sample of 2099 observations of negotiation strategies in 60 countries, using latent class analysis to uncover the structure of the data. One prototype is oriented to personal relationships, informal negotiation procedures, the expression of affection and a flexible agenda for a polychronic procedure. A second prototype is formal, facts-focused, monochronic and risk averse, adhering to a business rationality of maximizing economic value but disregarding personal relationships. The third prototype emerging from the data is in between the other two and is characterized by a large proportion of inconclusive values. Culture is a predictor of negotiation prototypes. A negotiator from the overlapping clusters of dignity cultures (Anglo areas and Protestant Europe) is highly likely to practice formal negotiation. The face (Confucian Asia) cultural cluster is more evenly divided between the formal negotiator prototype and the other two. A negotiator from the honor (Latin America and the Middle East) cultural cluster is more likely to practice personal negotiation. About half of negotiators from the Latin Europe (mostly honor) cluster fall into the intermediate prototype, with the remainder equally divided between the formal and personal prototypes. Future research on the effectiveness of each prototype is needed.

Purpose: This paper aims to better explore the relationship between culture and negotiation, identifying clusters of negotiation strategies and assessing whether the negotiator's culture has a significant impact in determining the probability of adopting one strategy over the others.

Methodology: Taking a grounded theory approach, we implement latent class analysis on a sample of 2099 observations of negotiation strategies in 60 countries, to identify cluster behavior in the presence of manifest, categorical variables. We extend the standard LCA model to include culture as a covariate.

Findings: We identify three negotiation prototypes. One prototype is oriented to personal relationships, informal negotiation procedures, the expression of emotions and a flexible agenda for a polychronic procedure. A second prototype is formal, facts-focused,

monochronic and risk averse, adhering to a business rationality of maximizing economic value but disregarding personal relationships. The third prototype emerging from the data is in between the other two and is characterized by a large proportion of inconclusive values. Culture, defined both on geographic grouping and on the dignity/face/honor framework, is a significant predictor of negotiation prototypes.

Originality and value: The paper presents an untraditional, analytical approach based on data clustering on a large and truly multi-country sample. This “from-data-to-theory” procedure allows to highlight the significant role of culture in determining negotiation strategies.

Practical implications: The paper draws attention to the importance for international managers of handling positive emotions, establishing long-term relationships, and dealing with trade-offs during negotiations. Negotiators from different cultures can learn from one another, maximizing the opportunities to take advantage of a “culturally synergetic” approach.

Keywords: Negotiation culture, country culture, honor culture, integrative negotiations, distributive negotiations, negotiation strategies, negotiation clusters, latent class analysis.

“This is indeed a mystery,” I [Watson] remarked. “What do you imagine that it means?”

[Sherlock Holmes:] “I have no data yet. It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”

– Sir Arthur Conan Doyle²²

INTRODUCTION

Do people negotiate differently based on their cultural background? The value of negotiation strategies across cultures has been a focus of research for decades, in the attempt to understand whether culture affects and can help to predict negotiating behavior. Negotiation prototype theories have been dominated by the distributive/integrative framework developed in the US (Fisher and Ury, 1981; Walton and McKersie, 1965), but its theoretical and practical validity in international contexts is still a pending issue.

The literature on culture is rich and multidisciplinary, and different frameworks are proposed (e.g., House et al, 2004; Inglehart et al., 2014; Leung and Cohen, 2011; Ronen and Shenkar, 1985; Schwartz,

²² Citation from: “The Adventures of Sherlock Holmes” by Sir Arthur Conan Doyle (Wordsworth Editions Limited, Ware, UK, 1992, p. 119).

1999), even if they overlap to some extent in their cultural clustering of countries. The relationship between country culture and negotiation strategy has been studied for a while. Even if it is rather accepted that the cultural background of the negotiators has an effect on their interests, priorities and strategies during the negotiation process (e.g. Brett, 2017), this literature still lacks congruence and a solid, homogeneous and holistic framework (Adler and Aycan, 2018; Brett and Thompson, 2016).

We aim to contribute to this stream of research through an empirical analysis based on grounded theory (Glaser and Strauss, 1967, *Chapter VIII: Theoretical Elaboration of Quantitative Data*). We take an inductive approach (“from data to theory”) with the objective of identifying clusters of negotiation strategies and assessing whether culture has a significant effect in determining which negotiation procedure is more likely to be adopted by a certain negotiator. To do so, we implement a latent class analysis (Collins and Lanza, 2010), which is a statistical model to identify cluster behavior using categorical variables.

We use a dataset of 2099 observations of negotiation behaviors and practices in 60 countries, which allows us to identify the variables most relevant to discriminating among negotiation clusters (Fop, Smart and Murphy, 2017) and to describe the typical behavior of each cluster. Moreover, by including culture as a covariate in the model, we can assess its impact on the likelihood of membership in each negotiation cluster.

We find three negotiation prototypes: two poles differentiated by their employment of formal or personalized actions, and an intermediate, transitional cluster between the two. Culture is a statistically significant predictor of membership in these clusters, with Anglo-Germanic-Nordic individuals (from dignity cultures) showing a predominantly formal negotiation style; Latin American and Middle Eastern negotiators (from honor cultures) displaying a stronger orientation towards relationship building and handling of emotions; and individuals from Confucian (face) and Latin European (mostly honor) cultures being distributed more evenly across the negotiation clusters.

The paper is organized as follows: in the second section we review some relevant literature about negotiation prototypes, cultural clusters and cross-cultural negotiation; in the third section we describe our database, formulate the research hypotheses and present the main features of the statistical model we implement for the analysis; in the fourth section we show our results; and in the final section we elaborate the concluding remarks, discuss implications and propose some future research opportunities based on our findings.

LITERATURE REVIEW

“Culture” is a complex concept widely employed in a variety of research fields (Triandis, 1994) and can be defined in several ways according to the discipline in which it is mentioned and the peculiar

perspective that is adopted (Kroeber and Kluckhohn, 1952). Hofstede (1980, p. 21) defines culture as “the collective programming of the mind which distinguishes the members of one human group from another”, and which therefore affects how people behave, communicate and interpret reality according to well-defined mental schemes and social systems (Lytle et al., 1995). Hence, culture “is the unique constellation of dimensions characteristic of a group and revealed by particular manifestations that define the social identity of its members” (Lytle et al., 1995, p. 174). Culture affects the way people find a solution to problems of social interaction, which include negotiation; as a consequence, different cultural backgrounds can provide different tools and strategies for dealing with such situations (Brett, 2017).

There is an extensive literature on cultural characterization and classification. Among the schemes most often employed are the five dimensions proposed by Hofstede (1980, 1991) — power distance, uncertainty avoidance, individualism/collectivism, masculinity/femininity and long/short term orientations; Hall’s high/low context communication and monochronicity/polychronicity (1976); and the characterizations proposed in the GLOBE study (House et al., 2004). A more recent stream of research proposes a distinction among dignity, honor and face cultures (Aslani et al., 2016; Leung and Cohen, 2011), based on self-worth theory (Ayers, 1984). According to this framework, individuals derive social value from intrinsic self-assessment in dignity cultures, from social context and social position in face cultures and from reputation in honor cultures (Yao et al., 2017). Cultural dimensions have been extensively used as variables in research on cross-cultural negotiations, in attempts to answer the main question of whether culture has a considerable impact on negotiation strategies and outcome (e.g., Adler and Graham, 1989; Brett, 2007; Graham, 1985).

Negotiation is “the deliberate interaction of two or more complex social units which are attempting to define or redefine the terms of their interdependence” (Walton and McKersie, 1965, p. 3), and parties negotiate whenever they have conflicting interests and they prefer to search for a solution by recognizing a zone of mutual agreement (Walton and McKersie, 1965; Zartman, 1977). Scholars have proposed two predominant negotiation prototypes (Fisher and Ury, 1981; Lewicki and Litterer, 1985; Lewicki et al., 1992; Neale and Bazerman, 1991; Pruitt, 1981; Ury, Brett and Goldberg, 1988; Walton and McKersie, 1965). The distributive (or positional) negotiation strategy is based on bargaining, and negotiation is perceived as a zero-sum process in which there are a loser and a winner. In contrast, the integrative (or principled) negotiation strategy focuses on exploring opportunities to increase joint gains and create mutual value for the parties, before deciding on how to distribute the increased value according to objective criteria. Some characteristics and actions contribute to the likelihood of embracing an integrative approach to negotiation, such as willingness to propose alternatives, management of complex trade-offs and manifold issues, the propensity to understand and shape the

perceptions of other parties, and thinking out-of-the-box (e.g., Bangert and Pirzada, 1992; Barry and Friedman, 1998; Bartos, 1995; Kersten, 2001; Pruitt and Lewis, 1975; Sebenius, 1992).

These negotiation prototypes were initially developed and examined in the context of North American agreements and mediations, a limitation that generated some criticism (e.g., Adler, 1983) and, as a consequence, stimulated a broad research effort to increase understanding of the negotiation process and its outcomes in cross-cultural circumstances (Adler and Graham, 1989; Brett, 2007; Graham, 1985). Even though most studies seem to ratify the general validity of the prototypes across cultures (Graham et al., 1994), numerous scholars pinpoint relevant differentiations in negotiation styles and strategies among cultural groups (e.g., Graham et al., 1994; Hofstede et al., 2012; Metcalf et al., 2006). For instance, a negotiator from an individualistic culture is expected to focus more on personal gains (e.g. Brett et al., 1998; Graham et al., 1994), while a negotiator from a collectivist culture should concentrate more on the relationship and the discrimination between in-group and out-group partners (e.g. Brett, 2000; Hofstede et al., 2012).

This distinctness implies an increased complexity for multicultural negotiations but can also become an opportunity to take advantage of cultural divergencies, enhancing the chances of reaching a mutually beneficial agreement with higher joint gains (Adair et al., 2004; Adler, 1980; Adler and Aycan, 2018; Brett, 2000; Gunia et al., 2016; Salacuse, 1999; Sebenius, 2002).

Our research project fits into this research stream focused on the relationship between culture and negotiation prototypes, as we aim to contribute to a deeper understanding of which elements of the negotiation process significantly differentiate among negotiation strategies and how particular cultural features affect the negotiation process and outcomes.

RESEARCH

We are applying a grounded theory approach on quantitative data (Glaser & Strauss, 1967, pp. 185-220). We are performing a statistical analysis on a dataset of 2099 questionnaires about international negotiation behaviors. We agree with Ebner and Parlamis (2017) that in the negotiation field it is necessary to combine research, practice, theories and teaching. Indeed, we gathered the data for nine years (2010-2018), teaching a negotiation course in MBA programs. Each student had to deliver a term paper about negotiation behavior in his/her country of origin, based on a semi-structured interview with a foreigner to that country. The interview was about the foreigner's negotiation episodes there and the specific behaviors he/she had experienced from negotiation counterparts (the questionnaire is available upon request).

Four graduate students coded the qualitative information into 52 categorical variables that describe the behavior of counterparts in cross-cultural negotiations (the codebook is available upon request).

The Kappa inter-reliability coefficient was $K=0.65$, meaning that there was substantial agreement in the classification and conversion of the qualitative information into quantitative data.

The database covers 60 countries, which were classified into cultural clusters taking into consideration the GLOBE study (Gupta et al., 2002; House et al., 2004), the Inglehart–Welzel cultural maps based on the World Values Survey (Beugelsdijk and Welzel, 2018; Inglehart et al., 2014) and other relevant classifications in the literature (Mensah and Chen, 2012; Ronen and Shenkar, 1985; Schwartz, 1994, 1999). The cultural clusters overlap with the dignity/honor/face cultures framework (Leung and Cohen, 2011), and we combined Anglo, Germanic and Nordic Europe into a single cluster corresponding to the dignity group (Yao et al., 2017).

We applied a latent class analysis (Collins and Lanza, 2010) to identify negotiation prototypes from the data and to ascertain the impact of culture on these negotiation clusters.

This paper has three main research objectives. First, we aim to establish the existence of well-defined clusters of negotiators and describe their characteristics. We then compare and contrast the clusters identified through the statistical analysis with those suggested by the literature on negotiation. Finally, we assess whether culture affects the likelihood of belonging to the identified clusters.

Given that we are adopting an inductive research approach, we formulate our initial hypotheses in very general terms, based on strongly agreed facts in the literature, such as that there are different negotiation strategies and that culture plays a relevant role in determining which of these strategies is more likely to be implemented based on the origin of the negotiator. The aim of the analysis, beyond finding further support for these quite established hypotheses, is to “let the data speak for itself” (Benzécri, 1973), evaluating which particular patterns emerge from the data, which specific elements result important to differentiate among the various negotiation approaches, and how culture affects the probability of belonging to a certain negotiation cluster rather than the others.

Hypothesis 1: There is more than one negotiation prototype, and these negotiation prototypes display distinctive patterns related to the negotiation strategy and process.

Hypothesis 2: Culture affects negotiation behavior and significantly predicts membership in negotiation clusters.

Model

The standard model used to identify cluster behavior in the presence of manifest, categorical variables is latent class analysis (McCutcheon, 1987). We are interested in an extension of LCA — “LCA with covariates” or “concomitant-variable LCA” (Dayton and Macready, 1988, 2002; Collins and Lanza, 2010, chapter 6 and references therein) — that allows modeling the probabilities of belonging to the different clusters as a function of other covariates, e.g., culture.

We assume there exists a latent, non-observable categorical variable that can take on $c = 1, \dots, C$ possible values, denoting the class or cluster to which each observation belongs. Identifying and characterizing the behavior of these clusters is the main objective of LCA.

Conditionally on class membership, the observed or manifest variables (responses to the 52 categorical questions of our questionnaire) $j = 1, \dots, J$ are distributed according to a multinomial distribution. Each question j has $r_j = 1, \dots, R_j$ possible answers (for most questions in our survey $r_j = 3 = \{\text{Yes, No, Do not know/not sure}\}$). The standard assumption of conditional local independence of the manifest variables allows writing the joint group density as the product of the densities of each variable (Collins and Lanza, 2010). The probability of observing a particular pattern of response to our questionnaire $\mathbf{Y} = y$ in the classical version of LCA is given by

$$P(\mathbf{Y} = y) = \sum_{c=1}^C \gamma_c \prod_{j=1}^J \prod_{r_j=1}^{R_j} \rho_{j,r_j|c}^{I(y_j=r_j)}.$$

The $\rho_{j,r_j|c}$ values represent a vector of probabilities that measures the probability of a particular pattern of answers to the different questions offered by the members of a group (*item-response probabilities*). $I(y_j = r_j)$ is an indicator function that is equal to 1 when the response to variable j is r_j and is equal to 0 in all other cases. The γ_c values represent the probabilities of membership in the different classes (*latent class prevalences*). The gammas satisfy the following condition:

$$\sum_{c=1}^C \gamma_c = 1.$$

The new version of LCA we use in this paper makes the gammas—the probabilities of assigning an observation to one of the latent classes (also known as prevalences)—a function of X , a set of covariates.

$$P(\mathbf{Y} = y | X = x) = \sum_{c=1}^C \gamma_c(x) \prod_{j=1}^J \prod_{r_j=1}^{R_j} \rho_{j,r_j|c}^{I(y_j=r_j)}$$

In our case, the covariate is a set of dummy variables identifying the culture where the negotiation took place. This is the *only* channel through which the covariate affects the estimation of the model; the item-response probabilities (the rhos in the above equation) do not depend on the covariate. As a matter of fact, we can think of LCA with covariates as a two-step algorithm: in the first step, the clusters are identified without using information about the reported culture, while in the second step, membership in the different clusters is predicted with the variable culture, using a multinomial logit model. Testing for the statistical importance of culture is equivalent to a joint hypothesis about the significance of the coefficients of the culture dummy variables in this second step.

Variable selection

The questionnaire consists of 52 categorical variables, and we have 2099 observations. It is worth performing a variable selection, since only a handful of variables are likely to contain useful, non-redundant information about the cluster structure present in the data. Following Fop, Smart and Murphy (2017), we call this group of variables the set of *relevant variables*. The other variables in the dataset are referred as the *redundant variables*, since they contain information about cluster structure that has already been accounted for by the relevant variables. Dropping the redundant ones results in obvious benefits according to Fop and colleagues (2017): it reduces unnecessary model complexity, avoids potential problems of identifiability and limits poor classification performance. We can add that reducing the number of variables also economizes on degrees of freedom and simplifies the interpretation of the clusters.

Fop, Smart and Murphy (2017) extend Dean and Raftery's stepwise method (2010) by adding a *backward search* algorithm, which starts with all variables available to the researcher and discards the variables that are deemed redundant given the presence of other variables, until convergence is achieved. The algorithm also includes a *swap* step that permits reconsidering variables that have been dropped from the set of relevant variables, increasing the robustness of the variable selection process. In our case this procedure reduces the number of variables used to identify the clusters from 52 to 19 (a 62% reduction).

The variables that appear in the final set of *relevant variables* are reported in the results section in Table 3, along with the negotiator clusters. The relevant variables represent a diverse set of characteristics and behaviors that can be summarized under several aspects of negotiation: formality (1, 5, 6, 7, 18), commitment (2, 8), uncertainty avoidance (3, 4, 17), negotiation process (9,10, 15, 16), negotiation tactics (11, 13, 14) and emotion handling (12, 19).

RESULTS

With the reduced set of variables, we can proceed to identify the latent class structure. Table 1 reports the Bayesian Information Criterion (BIC) statistic for different combinations of number of clusters and presence or absence of the "culture" variable as a predictor of class membership. The BIC is generally smaller for the models with culture as covariate. The largest reductions in the BIC statistics are observed when we move from 1 cluster to 2 and 3 clusters. After that, the BIC seems to level off.

	Without Covariate Culture	With Covariate Culture
1-Cluster	78981	
2-Clusters	75834	75456
3-Clusters	73248	72789
4-Clusters	72880	72351
5-Clusters	72811	72136
6-Clusters	72822	72133

Table 1. *Bayesian Information Criterion (BIC)*

We report the existence of three clearly distinct groups of observations and determine how culture alters the probability of membership in them. There are two poles or extremes of behavior and an intermediate cluster, which is more difficult to characterize. Results for the analysis with 4 and 5 clusters are available upon request, but the main lessons from this paper are preserved (the intermediate cluster splits up and the poles become “purer”, but the main message of the analysis remains unchanged).

We find support for Hypothesis 1. In line with previous works (e.g. Ogliastri and Quintanilla, 2016), the clusters that emerge from the data and the negotiation elements that prove to be relevant for differentiation are related to handling of emotions, formality in negotiations, and management of trade-offs.

We label these three clusters as personal/emotional (Cluster 1), intermediate (Cluster 2) and formal/objective (Cluster 3). We agree with Usunier (2019) that the opposite of emotional is not “rational”; these are simply two different rationalities. About half of the sample (52.73%) belongs to the personal/emotional cluster, 19.93% to the intermediate and 27.34% to the formal/objective cluster (see Table 2).

	Cluster 1	Cluster 2	Cluster 3
	Personal/Emotional	Intermediate	Formal/Objective
Prevalences	0.5273	0.1993	0.2734

Table 2. *Latent Class Prevalences*

The intermediate cluster appears as a *transitional* cluster, in the sense that its members are caught between the two poles.

Table 3 reports how individuals in the three clusters are likely to respond to each of the 19 selected questions. For each section of the table, the columns add up to 1. Conditional probabilities greater than 0.5 are highlighted to facilitate interpretation.

Variable	Possible answers	Cluster 1 Personal, emotional	Cluster 2 Intermediate	Cluster 3 Formal, objective
1 During the negotiation, do they separate business and social activities?	Yes (they separate business/pleasure)	0.1240	0.1334	0.6323
	No (they mix business and pleasure)	0.7851	0.4616	0.2718
	Do not know/Not sure	0.0908	0.4050	0.0959
2 What is the time perspective during the negotiation?	Short term (one deal only)	0.6940	0.2697	0.3034
	Long term (they mention future deals)	0.2118	0.3283	0.5789
	Do not know/Not sure	0.0942	0.4020	0.1177
3 Is this a trusting culture? Do they normally trust other people?	Yes (trustful)	0.2684	0.2607	0.3971
	No (they expect the worst from others)	0.6927	0.4580	0.5536
	Do not know/Not sure	0.0389	0.2814	0.0492
4 Do they take nonperformance risks in negotiations?	Yes (they are risky negotiators)	0.5676	0.3559	0.2370
	No (uncertainty avoidance)	0.3828	0.3424	0.7268
	Do not know/Not sure	0.0497	0.3018	0.0363
5 Who is the main negotiator?	The boss	0.6519	0.4568	0.2743
	The group (is influential)	0.1936	0.1588	0.4867
	Other	0.1175	0.1520	0.2079
	Do not know/Not sure	0.0370	0.2325	0.0310
6 Is formality normal/usual?	Yes (rules, dress, treatment, agenda)	0.2541	0.3270	0.7665
	No (informality is the norm)	0.7167	0.4206	0.2281
	Do not know/Not sure	0.0292	0.2524	0.0054
7 Do they usually do out-of-the-office negotiations?	Yes (bars, restaurants, outings)	0.8205	0.5920	0.5964
	No (not usual)	0.1671	0.1562	0.3966
	Do not know/Not sure	0.0124	0.2518	0.0069
8 Do they come prepared to the negotiation table?	Yes (present details, data, figures)	0.2779	0.3738	0.8572
	No (they improvise)	0.5757	0.1388	0.0590
	Do not know/Not sure	0.1464	0.4874	0.0838
9 Why do they do prenegotiations?	Information exchange	0.4076	0.1730	0.3529
	Interests exploration	0.1531	0.1543	0.2283
	Both	0.2055	0.1137	0.2719
	Do not know/Not sure	0.2339	0.5591	0.1469
10 Do they make a proposal after information exchange?	Yes (explore mutual interests first)	0.4634	0.3104	0.7148
	No (immediate proposal)	0.2683	0.0994	0.1002
	Do not know/Not sure	0.2683	0.5902	0.1850
11 Do they try to be persuasive?	Yes (idea selling, rhetoric)	0.9193	0.5815	0.7062
	No	0.0274	0.0864	0.2343
	Do not know/Not sure	0.0533	0.3321	0.0595
12 Do they express affection during negotiations?	Yes (normal, acceptable, kindness)	0.6841	0.2342	0.3379
	No (neutral, cool, detached)	0.1254	0.0688	0.5460
	Do not know/Not sure	0.1905	0.6970	0.1161
13 Do they fake lack of interest during negotiations?	Yes (they hide real interests)	0.6071	0.1713	0.3004
	No (they explore mutual interests)	0.2059	0.1856	0.5584
	Do not know/Not sure	0.1870	0.6431	0.1412
14 Do they use negotiation power tactics?	Yes (they normally use threats, pragmatic)	0.4716	0.2225	0.2858
	No (they avoid confrontation, no threats)	0.3853	0.1457	0.4750
	Do not know/Not sure	0.1431	0.6318	0.2392
15 Do they discuss details and concrete facts?	Yes	0.2220	0.3702	0.8284
	No	0.6907	0.3165	0.1311
	Do not know/Not sure	0.0874	0.3133	0.0405
16 How do they handle the agenda during the	Monochronic (one single issue at a time)	0.1979	0.1725	0.5660
	Polychronic (they trade off concessions)	0.7374	0.3566	0.3394

	negotiation?	Do not know/Not sure	0.0648	0.4709	0.0947
17	Is the agenda defined before the negotiation or at the beginning?	Yes (they are agenda focused, time limits)	0.1083	0.1198	0.6881
		No (the agenda is flexible)	0.7944	0.3196	0.1920
		Do not know/Not sure	0.0973	0.5606	0.1199
18	Are lawyers, a notary and legal documents important?	Yes (indispensable)	0.5923	0.3789	0.7823
		Not really (a formality)	0.3220	0.1246	0.1490
		Do not know/Not sure	0.0857	0.4966	0.0686
19	How is conflict perceived in this culture?	Positive (constructive opportunity, direct)	0.1499	0.1826	0.3027
		Negative (dangerous, they try to avoid it)	0.7029	0.3031	0.5146
		Do not know/Not sure	0.1472	0.5143	0.1828

Table 3. *Clusters of negotiators*

Members of Cluster 1, labeled personal/emotional, are characterized as relationship oriented and informal in the way they conduct negotiations. These negotiators are reported to be generally informal during the negotiations (71.67%), not separate the personal sphere from business activities (78.51%) and have a “one deal”, short-term perspective on negotiations (69.4%). Most of them do not come fully prepared to the negotiation table (57.57%) and are not prone to use agendas for setting subjects and time limits (79.44%). The discussion switches back and forth from one issue to another (73.74% polychronic), facilitating trade-off of negotiation positions and interests. The boss rather than the group is the main negotiator (65.19%), and power tactics are used directly and openly (47.16%). A major defining characteristic of this cluster is the expression of emotions and feelings, something acceptable and part of being authentic and reliable, and affection is typically expressed during the negotiation process (68.41). Conflict is interpreted negatively and is to be avoided by subtle language rather than direct confrontation (70.29%).

Cluster 3 negotiators, labeled formal/objective, show a very different understanding of the negotiation process and implement contrasting negotiation strategies. Most negotiators of this prototype behave formally during negotiation (76.65%) and are accustomed to separate social and business activities (63.23%). Their temporal perspective is long term (57.89%). They come fully prepared to the negotiation table (85.72%) and focus on concrete facts during the negotiation (82.84%). They define a clear agenda (68.81%) and prefer to make agreements point by point (56.6% monochronic) instead of trading off issues. Members of the group have substantial influence during the negotiation process (48.67%). Individuals in this cluster prefer to keep feelings out of the process of negotiation (54.6%). They are more likely to perceive conflict as positive way to solve problems (30.27% of individuals, compared to 14.99% for Cluster 1) and less likely to use power tactics, such as feigning lack of interest and open threats.

Cluster 2, labeled intermediate, is caught between the other two. Observations in this cluster were very difficult to classify, and respondents very frequently chose “Do not know or not sure” (on average, this option is selected 44% of the time, compared to 10% and 8% for clusters 1 and 3, respectively).

Does culture have any impact on cluster membership? We claim that it does, and LCA with covariates allows us to test this hypothesis directly. The covariates in this case are a set of dummy variables for the 6 different cultures to which the participants belong (Table 4).

Cultural Cluster	Countries
1 Anglo-Germanic-Nordic (DIGNITY)	Australia, Canada, United States, United Kingdom, South Africa, Germany, Netherlands, Switzerland, Denmark, Sweden, Finland
2 Confucian (FACE)	China, South Korea, Taiwan, Japan, Singapore
3 Latin American (HONOR)	Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Dominican Republic, Uruguay, Venezuela
4 Latin Europe (HONOR?)	Italy, Spain, France, Belgium, Portugal, Greece, Israel
5 Middle East (HONOR)	Saudi Arabia, United Arab Emirates, Kuwait, Lebanon, Iran, Egypt, Pakistan, Morocco, Turkey
6 Others	India, Philippines, Malaysia, Latvia, Russia, Ukraine, Albania, Bulgaria, Guam

Table 4. *Cultural clusters*

Table 5 reports the probabilities of belonging to the three identified clusters conditional on cultural clusters. The rows in this table add up to 1.

Cultural Cluster	n	Cluster 1 Personal, emotional	Cluster 2 Intermediate	Cluster 3 Formal, objective
Anglo-Germanic-Nordic (DIGNITY)	177	0.0050	0.0616	0.9334
Confucian (FACE)	68	0.2247	0.2769	0.4983
Latin American (HONOR)	1491	0.6386	0.1775	0.1840
Latin Europe (HONOR)	240	0.2701	0.4857	0.2442
Middle East (HONOR)	60	0.7058	0.0204	0.2738
Others	63	0.4984	0.0975	0.4041

Table 5. *How does culture affect cluster membership? $P(\text{Cluster} = c | \text{Culture} = x)$ – Geographical characterization*

We can test formally whether *culture* is a statistically significant determinant of cluster membership. The test is a likelihood ratio test (*LR*) that compares the likelihood of the estimated model with and without the covariate. The null hypothesis associated with this test is “culture does not matter to cluster membership”. The null is rejected easily, with $LR=242.12$ and the corresponding p-value $\square 0.01$, supporting Hypothesis 2.

Negotiators from the Anglo-German-Nordic (dignity) culture are concentrated in Cluster 3, the formal/objective one (93.29% of them belong to this cluster). For the Confucian culture, the formal/objective cluster is also dominant but less so, as only about half of its members (49.83%) belong to this cluster.

The Middle East and Latin America (both honor cultures) show very similar characteristics, with the dominant cluster being the personal/emotional one (70% and 63%, respectively). However, for Middle

Easterners, the probability of belonging to the intermediate cluster is almost null, while 17% of Latin American negotiators are classified as Cluster 2.

Latin Europe is distributed more evenly across the three clusters, with most negotiators in the intermediate cluster (48.57%), even though there is substantial presence in the other two, clearly defined clusters (27.01% in the personal/emotional one and 24.42% in the formal/objective one). Latin Europe appears as an intermediate negotiation cluster between the Anglo-German-Nordic culture on the one hand, and the Latin American and Middle Eastern cultures on the other (Fosse, Ogliastri and Rendon, 2017).

We obtain comparable results when using the dignity/face/honor framework as cultural clusters (Table 6), which confirms the correspondence between cultural characterizations generally accepted in the literature (e.g. House et al., 2004; Inglehart et al., 2014; Schwartz, 1999) and the recent cultural framework based on self-worth theory (Leung and Cohen, 2011; Yao et al., 2017).

Cultural Cluster	n	Cluster 1 Personal, emotional	Cluster 2 Intermediate	Cluster 3 Formal, objective
Dignity	209	0.0470	0.0674	0.8856
Face	119	0.3768	0.1964	0.4268
Honor	1771	0.5820	0.2209	0.1970

Table 6. *How does culture affect cluster membership? $P(\text{Cluster} = c | \text{Culture} = x)$ – Dignity/Face/Honor framework*

CONCLUSIONS

Our hypotheses are supported by the data, as we can identify three clusters or negotiation prototypes, and culture significantly determines the likelihood of membership in them.

A theoretical implication is that the dominant distributive/integrative prototypes of negotiators in the literature (Fisher and Ury, 1981; Walton and McKersie, 1965) do not fully include all the significant dimensions of negotiation behavior, such as the use of emotions and trading of issues (polychronicity). The integrated clusters we found help add new dimensions to the distributive/integrative framework; however, more research is needed to advance the understanding of negotiation strategies, outcomes and effectiveness. One possibility for further investigation in this sense is to compare, for each negotiation cluster, the probability distribution of the answers to variables in the dataset more directly linked with the integrative/distributive framework (e.g. Ogliastri and Quintanilla, 2012), i.e. examine our current results with those obtained from a deductive approach (“from theory to data”).

Besides the use of objective criteria and facts, a key trend in the practice of negotiations is the effective understanding and use of emotions (Fischer and Shapiro, 2005; Fischer, Ury and Patton, 1991). In the negotiation literature, emotions are often considered part of persuasion, on the borderline between

manipulation and distributive approaches (Yao et al., 2017). However, this topic is gathering more attention (e.g., Gelfand and Brett, 2004; Ogliastrri and Quintanilla, 2016; Posthuma, 2012; Schlegel et al., 2018): research highlights the increased value placed on subjectivity and its impact on negotiations (Sharma et al., 2013). As Fischer and Ury (1981) pointed out, a good negotiation is also measured by the establishment of a lasting relationship among the parties. Investigation on this line has been growing, but the relative benefit of dealing with emotions during negotiation is still unclear, and there are some contradictory results in the literature. For instance, Yao and colleagues (2017) include the use of emotions as a trait of distributive negotiation strategy, while other scholars report that, even though “in earlier writing, emotions were viewed largely as factors that impede performance, preventing successful coordination from occurring [...] more recently we have learned that emotions can both help and hinder progress” (Olekalns and Druckman, 2014, p. 456). Positive emotions are recognized as a means to “promote integration and innovative solutions to problems” (Carnevale and Isen, 1986, p. 3) and “foster problem solving, creative exploration of ideas, and empathy” (Shapiro, 2002, p. 70). These diverse results may relate to the fact that, since the manifestation, interpretation and acceptance of emotions are socially determined, the effects of expressive emotionality vary across cultures (Druckman and Olekalns, 2008; Olekalns and Druckman, 2014). Therefore, a paradigm of effective negotiations has to differentiate between the two sides of emotions. This is clearly related to values; a relational perspective on negotiations is as valid as a calculative one (Usunier, 2019). People-oriented cultures, such as the Latin American and Latin European ones, may more easily produce advances regarding this issue (Fosse et al., 2017). Negotiators from Latin American and especially Latin Europe seems to be quite difficult to define precisely and are less studied in the negotiation literature; more research focused on these two groups could contribute to a better understanding of their negotiation traits.

Our results further suggest that the prototype that deals with and expresses emotions during the negotiation process is also the one that handles several issues at the same time and manages trade-offs (polychronic), while formal negotiators seem to be more monochronic, even though in this case the results are more evenly distributed among the options. Trading concessions to create mutual value is probably a technique easily learned by negotiators from different cultures, and it has been a key message of updated negotiation workshops for several decades. Our interpretation is that this approach is now quite common in international negotiations, and a multitasking orientation is becoming more evident in negotiators from Anglo/German/Nordic cultures (e.g., Brett et al., 1998), indicating that, once learned, this trade-off strategy may seem useful even to negotiators who come from monochronic cultures.

These findings reinforce the opportunities represented by the “culturally synergetic” approach proposed by Adler (1980). Negotiators from different cultures can not only take advantage of their differences to increase mutual value and come up with more beneficial agreements, but also learn from each other during the negotiation process, leading to behavioral and cultural adaptations (Nadler et al., 2003; Olekalns and Smith, 2018; Thompson and DeHarpport, 1994). On one hand, Latin negotiators should incorporate the use of concrete facts and objective criteria instead of purely emotional reasons for the distribution of value; they should also learn how to be competitive enough to supersede the relational side of the process in the second stage of an integrative negotiation process (Ogliastri, 2010, 2011). On the other hand, Anglo-Germanic-Nordic (dignity) negotiators should understand how to multitask rather than deal with a single issue at a time and how to handle emotions in a positive way. In sum, the effective negotiator in a global environment is the one that is open to learn about the counterpart’s interests and priorities (Brett, 2017) and is able to adapt his/her strategy accordingly to maximize joint benefits.

Our results certainly leave room for more in-depth analysis, in particular with respect to northern/southern differences and complementarities (Van de Vliert and Conway, 2018), regional variations (e.g. Petruzzellis, Craig and Palumbo, 2017), as well as to the impact of socio-economic factors on negotiation strategies. In particular, our study examines the impact of culture defined according to both geographic elements and the dignity/face/honor framework. A pending question is whether these characterizations are together useful to explain the probability of membership to the different clusters of negotiation and whether the socio-economic level of the origin country of the negotiator has an additional, relevant impact.

From an international managerial perspective, the implications of our results confirm the relative universality of the four principles of Fisher and Ury (1981): separate people from the problem, focus on interests (not positions), invent options for mutual gain and insist on objective criteria. Our study also suggest that, for teaching purposes, these negotiation prescriptions should be enlarged to include the following two principles: first, make a personal connection to the other party, develop a positive relationship and solve the emotional issues first (Diamond, 2010); second, employ investigative negotiations (Malhotra and Bazerman, 2007), do not make decisions on single issues before knowing the relative importance of each issue for both parties and look for trade-offs to increase mutual value.

REFERENCES

- Adair, W., Brett, J., Lempereur, A., Okumura, T., Shikhirev, P., Tinsley, C. and Lytle, A. (2004), “Culture and negotiation strategy”, *Negotiation Journal*, Vol. 20 No. 1, pp. 87-111.
- Adler, N. J. (1980), “Cultural synergy: The management of cross-cultural organizations”. In W. Burke & L. Goodstein (Eds.), *Trends and issues in OD: current theory and practice*, University Associates, San Diego, pp. 163-184.

- Adler, N.J. (1983), "Cross-cultural management research: the ostrich and the trend", *Academy of Management Review*, Vol. 8 No. 2, pp. 226-32.
- Adler, N.J. and Aycan, Z. (2018), "Cross-cultural interaction: what we know and what we need to know", *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 5, pp. 307-33.
- Adler, N.J. and Graham, J.L. (1989), "Cross-cultural interaction: the international comparison fallacy?" *Journal of International Business Studies*, Vol. 20 No. 3, pp. 515-37.
- Aslani, S., Ramirez-Marin, J., Brett, J., Yao, J., Semnani-Azad, Z., Zhang, Z.X., ... and Adair, W. (2016), "Dignity, face, and honor cultures: a study of negotiation strategy and outcomes in three cultures", *Journal of Organizational Behavior*, Vol. 37 No. 8, pp. 1178-1201.
- Ayers, E.L. (1984), *Vengeance and Justice: Crime and Punishment in the 19th Century American South*, Oxford University Press, New York, NY.
- Bangert, D.C. and Pizada, K. (1992), "Culture and negotiation", *The International Executive*, Vol. 34 No. 1, pp. 43-64.
- Barry, B. and Friedman R.A. (1998), "Bargainer characteristics in distributive and integrative negotiation", *Journal of Personality and Social Psychology*, Vol. 74 No. 2, pp. 345-59.
- Bartos, O.J. (1995), "Modeling distributive and integrative negotiations", *The ANNALS of the American Academy of Political and Social Science*, Vol. 542 No. 1, pp. 48-60.
- Benzécri J. P. (1973), *L'analyse des données. Tome II: L'analyse des correspondances*. Dunod, Paris.
- Beugelsdijk, S. and Welzel, C. (2018), "Dimensions and dynamics of national culture: synthesizing Hofstede with Inglehart", *Journal of Cross-Cultural Psychology*, Vol. 9 No. 10, pp. 1469-1505.
- Brett, J.M. (2000), "Culture and negotiation", *International Journal of Psychology*, Vol. 35 No. 2, pp. 97-104.
- Brett, J.M. (2007), *Negotiating Globally: How to Negotiate Deals, Resolve Disputes, and Make Decisions across Cultural Boundaries*, Jossey-Bass, San Francisco, CA.
- Brett, J.M. (2017). "Culture and negotiation strategy", *Journal of Business & Industrial Marketing*, Vol. 32 No. 4, pp. 587-590.
- Brett, J.M., Adair, W., Lempereur, A., Okumura, T., Shikhirev, P., Tinsey, C. and Lytle, A. (1998), "Culture and joint gains in negotiation", *Negotiation Journal*, Vol. 14, No. 1, pp. 61-86.
- Brett, J.M. and Thompson, L. (2016), "Negotiation", *Organizational Behavior and Human Decision Processes*, Vol. 136, pp. 68-79.
- Carnevale, P.J. and Isen, A.M. (1986), "The influence of positive affect and visual access on the discovery of integrative solutions in bilateral negotiation", *Organizational Behavior and Human Decision Processes*, Vol. 37 No. 1, pp. 1-13.
- Collins, L.M. and Lanza, S.T. (2010), *Latent Class and Latent Transition Analysis with Applications in Social, Behavioral, and Health Sciences*, John Wiley & Sons, Hoboken, NJ.
- Dayton, C.M. and Macready, G.B. (1988), "Concomitant-variable latent-class models", *Journal of the American Statistical Association*, Vol. 83 No. 401, pp. 173-78.
- Dayton, C.M. and Macready, G.B. (2002), "Use of categorical and continuous covariates in latent class analysis", in McCutcheon, A.L. and Hagenaars, J.A. (Eds.), *Applied Latent Class Analysis*, Cambridge University Press, Cambridge, pp. 213-33.
- Dean, N. and Raftery, A.E. (2010), "Latent class analysis variable selection", *Annals of the Institute of Statistical Mathematics*, Vol. 62 No. 1, pp. 11-35.
- Diamond, S. (2010), *Getting More: How to Achieve Your Goal in the Real World*, Crown Publishing Group, New York, NY.
- Druckman, D. and Olekalns, M. (2008), "Emotions in negotiation", *Group Decision and Negotiation*, Vol. 17 No. 1, pp. 1-11.
- Ebner, N. and Parlamis, J. (2017), "Weaving together theory, research, practice, and teaching: a four-dimensional approach to negotiation and conflict management work", *Negotiation and Conflict Management Research*, Vol. 10 No. 4, pp. 245-51.
- Fisher, R. and Shapiro, D. (2005), *Beyond Reason: Using Emotions as You Negotiate*, Penguin, New York, NY.
- Fisher, R., and Ury, W. (1981), *Getting to YES. How to Negotiate without Giving In*, Penguin, New York, NY.
- Fisher, R., Ury, W. and Patton (1991), *Getting to YES. How to Negotiate without Giving In*, Penguin, New York, NY.
- Fop, M., Smart, K.M. and Murphy, T.B. (2017), "Variable selection for latent class analysis with application to low back pain diagnosis", *The Annals of Applied Statistics*, Vol. 11 No. 4, pp. 2080-2110.
- Fosse, S.M., Ogliastrì, E. and Rendon, M.I. (2017). "When dignity and honor cultures negotiate: Finding common ground". *Negotiation and Conflict Management Research*, 10(4), 265-285.

- Gelfand, M.J. and Brett, J.M. (2004), *The Handbook of Negotiation and Culture*, Stanford University Press, Palo Alto, CA.
- Glaser, B.G. and Strauss, A.L. (1967). *The discovery of grounded theory: strategies for qualitative research*. Aldine, Chicago, IL.
- Graham, J.L. (1985), "Cross-cultural marketing negotiations: a laboratory experiment", *Marketing Science*, Vol. 4 No. 2, pp. 130-46.
- Graham, J.L., Mintu, A.T. and Rodgers, W. (1994), "Explorations of negotiation behaviors in ten foreign cultures using a model developed in the United States", *Management Science*, Vol. 40 No. 1, pp. 72-95.
- Gunia, B.C., Brett, J.M. and Gelfand, M.J. (2016), "The science of culture and negotiation", *Current Opinion in Psychology*, Vol. 8, pp. 78-83.
- Gupta, V., Hanges, P.J. and Dorfman, P. (2002), "Cultural clusters: methodology and findings", *Journal of World Business*, Vol. 37 No. 1, pp. 11-15.
- Hall, E.T. (1976), *Beyond Culture*, Anchor Press, Garden City, NY.
- Hofstede, G. (1980), *Culture's Consequences. International Differences in Work-related Values*, Sage Publications, London.
- Hofstede, G. (1991), *Cultures and Organizations: Software of the Mind*, McGraw-Hill, New York, NY.
- Hofstede, G.J., Jonker, C.M. and Verwaart, T. (2012), "Cultural differentiation of negotiating agents", *Group Decision and Negotiation*, Vol. 21 No. 1, pp. 79-98.
- House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W. and Gupta, V. (Eds.) (2004), *Culture, Leadership, and Organizations: The GLOBE Study of 62 Societies*, Sage Publications, Thousand Oaks, CA.
- Inglehart, R., Haerpfher, C., Moreno A., Welzel, C., Kizilova, K., et al. (Eds.) (2014), *World Values Survey: Round Six, Country-Pooled Datafile Version*:
<http://www.worldvaluessurvey.org/WVSDocumentationWV6.jsp>.
- Kersten, G.E. (2001), "Modeling distributive and integrative negotiations. Review and revised characteristics", *Group Decision and Negotiation*, Vol. 10, pp. 493-514.
- Kroeber, A.L. and Kluckhohn, C. (1952), "Culture: a critical review of concepts and definitions", *Papers. Peabody Museum of Archaeology & Ethnology, Harvard University*, Vol. 47 No. 1, viii, 223.
- Leung, A.K.Y. and Cohen, D. (2011), "Within-and between-culture variation: individual differences and the cultural logics of honor, face, and dignity cultures", *Journal of Personality and Social Psychology*, Vol. 100 No. 3, pp. 507-26.
- Lewicki, R.J. and Litterer, J. (1985), *Negotiation*, Irwin, Burr Ridge, IL.
- Lewicki, R.J., Weiss, S.E. and Lewin, D. (1992), "Models of conflict, negotiation and third party intervention: a review and synthesis", *Journal of Organizational Behavior*, Vol. 13 No. 3, pp. 209-52.
- Lytle, A., Brett, J.M., Barsness, Z.L., Tinsley, C.H. and Janssens, M. (1995), "A paradigm for confirmatory cross-cultural research in organizational behavior", in Cummings, L.L. and Staw, B.M. (Eds.), *Research in Organizational Behavior*, Vol. 17, JAI, Greenwich, CT, pp. 167-214.
- Malhotra, D. and Bazerman, M.H. (2007), "Investigative negotiation", *Harvard Business Review*, Vol. 85 No. 9, pp. 72-77.
- McCutcheon, A.L. (1987), *Latent Class Analysis*, Sage Publications, Newbury Park, CA.
- Mensah, Y. and Chen, H.Y. (2012), *Global Clustering of Countries by Culture: An Extension of the GLOBE Study*. Available online at: <http://ssrn.com/abstract=2189904>.
- Metcalf, L.E., Bird, A., Shankarmahesh, M., Aycan, Z., Larimo, J. and Valdelamar, D.D. (2006), "Cultural tendencies in negotiation: a comparison of Finland, India, Mexico, Turkey, and the United States", *Journal of World Business*, Vol. 41 No. 4, pp. 382-94.
- Nadler, J., Thompson, L. and Boven, L.V. (2003), "Learning negotiation skills: four models of knowledge creation and transfer", *Management Science*, Vol. 49 No. 4, pp. 529-40.
- Neale, M. and Bazerman, M. (1991), *Cognition and Rationality in Negotiations*, Free Press, New York, NY.
- Ogliastri, E. (2010), "Improvisieren und Gefühle zeigen", *Harvard Business Manager* (<http://www.harvardbusinessmanager.de/heft/d-68654845.html>).
- Ogliastri, E. (2011). "Negotiations between Germany and Latin America: A cross cultural qualitative study", in Vrontis, C., Weber, C., Kaufman, H., Tarba, S. and Tsoukatos, E. (Eds), *Business Research Challenges in a Turbulent Era*, EuroMed Press, Elounda (Greece), pp. 1353-1364.
- Ogliastri, E. and Quintanilla, C. (2012). "Integrative and distributive negotiators in Latin America. Latent class analysis of Costa Rican data". *Cladea International Congress Proceedings*.
- Ogliastri, E. and Quintanilla, C. (2016), "Building cross-cultural negotiation prototypes in Latin American contexts from foreign executives' perceptions", *Journal of Business Research*, Vol. 69 No. 2, pp. 452-58.

- Olekalns, M. and Druckman, D. (2014), "With feeling: how emotions shape negotiation", *Negotiation Journal*, Vol. 30 No. 4, pp. 455-78.
- Olekalns, M. and Smith, P.L. (2018), "A satisfied mind: motivational orientation, feedback and the subjective value of negotiation outcomes", *Group Decision and Negotiation*, Vol. 27 No. 2, pp. 179-96.
- Petruzzellis, L., Craig, C.S. and Palumbo, A. (2017). "The MED scale: Regional variations in values and beliefs, evidence from Italy", *EuroMed Journal of Business*, Vol. 12 No. 1, pp. 20-35.
- Posthuma, R.A. (2012), "Conflict management and emotions", *International Journal of Conflict Management*, Vol. 23 No.1, pp. 4-5.
- Pruitt, D.G. (1981), *Negotiation Behavior*, Academic Press, New York, NY.
- Pruitt, D.G. and Lewis, S.A. (1975), "Development of integrative solutions in bilateral negotiation", *Journal of Personality and Social Psychology*, Vol. 31 No. 4, pp. 621-33.
- Ronen, S. and Shenkar, O. (1985), "Clustering countries on attitudinal dimensions: a review and synthesis", *Academy of Management Review*, Vol. 10 No. 3, pp. 435-54.
- Salacuse, J.W. (1999), "Intercultural negotiation in international business", *Group Decision and Negotiation*, Vol. 8 No. 3, pp. 217-36.
- Schlegel, K., Mehu, M., van Peer, J.M. and Scherer, K.R. (2018), "Sense and sensibility: the role of cognitive and emotional intelligence in negotiation", *Journal of Research in Personality*, Vol. 74, pp. 6-15.
- Schwartz, S.H. (1994), "Are there universal aspects in the structure and contents of human values?" *Journal of Social Issues*, Vol. 50 No. 4, pp. 19-45.
- Schwartz, S.H. (1999), "A theory of cultural values and some implications for work", *Applied Psychology*, Vol. 48 No. 1, pp. 23-47.
- Sebenius, J.K. (1992), "Negotiation analysis: a characterization and review", *Management Science*, Vol. 38 No. 1, pp. 18-38.
- Sebenius, J.K. (2002), "Caveats for cross-border negotiators", *Negotiation Journal*, Vol. 18 No. 2, pp. 121-33.
- Shapiro, D.L. (2002), "Negotiating emotions", *Conflict Resolution Quarterly*, Vol. 20 No. 1, pp. 67-82.
- Sharma, S., Bottom, W.P. and Elfenbein, H.A. (2013), "On the role of personality, cognitive ability, and emotional intelligence in predicting negotiation outcomes: A meta-analysis", *Organizational Psychology Review*, Vol. 3 No. 4, pp. 293-336.
- Thompson, L. and DeHarpport, T. (1994), "Social judgment, feedback, and interpersonal learning in negotiation", *Organizational Behavior and Human Decision Processes*, Vol. 58 No. 3, pp. 327-45.
- Triandis, H.C. (1994), *Culture and Social Behavior*, McGraw-Hill, New York, NY.
- Ury, W., Brett, J. and Goldberg, S.B. (1988), *Getting Disputes Resolved: Designing Systems to Cut the Costs of Conflict*, Jossey-Bass, San Francisco, CA.
- Usunier, J.C. (2019), *Intercultural Business Negotiations. Deal-making or Relationship Building?* Routledge, New York, NY.
- Van de Vliert, E., and Conway, L.G. III (2018), "Northerners and southerners differ in conflict culture", *Negotiation and Conflict Management Research*. Available online at: <http://doi.org/10.1111/ncmr.12138>.
- Walton, R. and McKersie, R. (1965), *A Behavioral Theory of Labor Negotiations*, McGraw-Hill, New York, NY.
- Yao, J., Ramirez-Marin, J., Brett, J., Aslani, S. and Semnani-Azad, Z. (2017), "A measurement model for dignity, face, and honor cultural norms", *Management and Organization Review*, Vol. 13 No. 4, pp. 713-38.
- Zartman, I.W. (1977), "Negotiation as a joint decision-making process", *The Journal of Conflict Resolution*, Vol. 21 No. 4, pp. 619-38.

A STUDY OF EXOGENOUS GAP CRITICAL FOR CLUSTER DYNAMICS AND INTERACTION WITH GLOBAL MARKETS

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ABSTRACT

*This study aims to answer the following question: What platform does cluster organisation create to enable its internationalisation process in order for its partner's organisations to effectively manage the challenges brought about by the cataclysmic changes in business logic in the age of globalisation and digitalisation? **Theoretical lens** draws on combination of the experiential learning-commitment interplay, which is the driving mechanism of Uppsala's internationalisation process model with a similar experiential learning-commitment mechanism focusing on business network relationships. **Data collection** through in-depth interviews with Process Manager – R&D, Cluster Market Manager, Communication and Information, Cluster coordinator took place in the Swedish cluster **Future Position X (FPX) - a leading cluster organisation in Europe within geographical information. Findings show that** FPX was building international links with similar clusters in the Nordic, Baltic, and European countries. FPX later learned that for it to be in forefront of innovation, it needs to mix its own core competences with very complementing technology areas of the biggest hotspots in the world in Geo Spatial technologies. **Conclusion remarks and implications:** A sustainable internationalisation platform created by cluster is of utmost importance these days because digitalisation is fundamentally disrupting traditional industries, labour markets and the global economy, and transforming various facets of exchange. To companies, this means opportunities for new or changed business models, spanning from marketing and sales channels to logistics. **Originality:** This study contributes to the literature examining location can help firms to increase their competitiveness and thus supporting them in getting access to global value chains and new markets, by focusing solely on exogenous activities which serve to improve cooperation with global markets, that are critical to cluster dynamics.*

Keywords: Cluster's internationalisation, Internationalisation process, formal and informal networks, Future Position X (FPX), Digitalisation, Small and Medium-sized Enterprises

INTRODUCTION

In today's networked world (LeMahieu et al., 2017), turbulence, unpredictable uncertainty, and ambiguity are more the norm than the exception. So, a pertinent form of strategising is called for, one

that differs from strategic approaches developed for less turbulent and more stable contexts, where organisations of various forms are less tightly connected to each other than is the case today (Awa et al, 2011). This study explores and explains a form of strategising that is fit for purpose in such conditions.

The basic premise of this study is that the fundamental mechanisms used to explain the internationalisation process of firms, cluster organisations, educational institutions and other types of organisations are at parity or equivalent. Hence, we consider theories and models used to explain internationalisation process of for profit and non-for-profit organisations to be at *pari passu* or on equal footing. While extant literature focuses on the concept of internationalisation of clusters from the perspective of the tasks they perform, and their links with international partners (Xu and McNaughton, 2006; Prashantham, 2008; Pla-Barber and Puig, 2009; Carneiro Zen *et al.* 2011; and Richardson *et al.* 2012; Carneiro Zen et al., 2016; and Ślepko, 2012), this study illuminates how a cluster's internationalisation platform is used as a catalyst to leverage its entire innovation system to an international level. Thus, integrating the cluster with global innovation networks and international matchmaking and capitalization so as to get more links to investment capital for the companies in its platform. This will invariably increase the international links for startup companies and the regional innovation system.

The gap in literature is attributed to the fact that the impact of clusters on the internationalisation of cluster firms (Caputo *et al.* 2016) and the degree to which cluster activities improve collaboration and interaction between Firm-to-Firm, Firm-to-Research, Firm-to-Education, Firm-to-Capital and Firm-to-Policy, has received tremendous coverage in extant literature (Sölvell, 2009; Lindqvist et al 2013; Xu and McNaughton, 2006; Prashantham, 2008; Pla-Barber and Puig, 2009; Carneiro Zen et al. 2011; Richardson et al. 2013; Lamotte, 2014; Jankowska and Główska, 2016; Valdaliso et al , 2016). In other words, previous studies have mostly addressed internal gaps hindering effective mobility and collaboration inside clusters, to the detriment of external gaps vis-à-vis collaboration and interaction with global markets. This perspective has gained prominence because digitalisation combined with globalisation enables internationalisation by firms and clusters on a global scale (Caputo *et al.*, 2016). To Swedish firms, this means opportunities for sales to customers worldwide. Conversely, to foreign companies this facilitates sales in Sweden. Both international and domestic competition toughens, as Sweden becomes part of a global market.

The following research question is used to guide the exploratory nature of this study:

RQ: What platform does cluster organisation create to enable its internationalisation process in order for its partner's organisations (SMEs) to effectively manage the challenges brought about by the cataclysmic changes in business logic in the age of globalisation and digitalisation?

This study aims to shed light on exogenous gaps that are critical to cluster dynamics (Morgulis-Yakushev and Sölvell, 2017). Thus responding to recent calls (Jankowska and Główska, 2016; Valdaliso, Elo and Franco, 2016) for more research on gaps that are alien to the cluster, consisting of cross-cluster gap barring collaboration and interaction with firms in other clusters, and, most especially, the global market gap barring collaboration and interaction with global markets.

THEORETICAL LENS

Extant literature makes distinction between formal and informal networks (Forsgren, 2002, Hill, McGowan & Drummond, 1999). Forsgren (2002) described the formal network as a business network comprising a number of actors, linked with one another through different kinds of relationships. Johanson and Vahlne (2009) believed that also the current market is a network where actors are linked with one another, and in which a company must be active in order to establish itself on a new market. Furthermore, becoming established in a relevant network might result in an increase in knowledge, opportunities, and trust, resulting in an increased profit in the companies. Hill et al (1999) defined informal networks as social networks, incorporating relationships and alliances with people in society, outside the work place. Informal networks can furthermore create opportunities to develop SMEs, and might be viewed as an invisible asset. It is thus of great importance to be part of a large network, since that creates more opportunities as compared to small networks (Granovetter, 1973). Adrichivili, Cardozo, and Ray (2003) argued that informal networks might yield advantages for the company when identifying new markets.

Research concerning the significance of networks in connection with companies' internationalisation is abundant, though with divergent conclusions. Coviello and Munro (1997), Zain and Ng (2006), and Ojala (2009) argued that more research on the subject is required. Furthermore, formal as well as informal networks are of importance to the internationalisation process of organisations. Ojala (2008), Eberhard and Craig (2013), and Jeong (2016) claim that more research nonetheless is required in order to establish in what manner these network forms affect the internationalisation. Zhou, Wei-ping, and Xueming (2007) called for research around the linkage between the two network forms. In addition, there is a gap in the literature in terms of research on whether formal and informal networks unite during internationalisation.

Although understanding innovation in the context of the current changing industrial landscape in the age of digitalization has become cumbersome, and necessitates serious challenges to traditional internationalisation models (Luostarinen, 1994; Cavusgil, 1980; Bilkey and Tesar, 1977; Leonidou and Katsikeas, 1996; Johanson and Vahlne, 1977, 1990, 2003) our theoretical lens draws on Uppsala internationalization model (Johanson and Wiedersheim-Paul, 1975). The central tenets of the model

are how organizations learn and how their learning affects their investment behavior (Forsgren, 2002). Another important aspect of the Uppsala model is that it describes the internationalization of a firm as a gradual process. However, it is pertinent to mention that the number of people with extensive experience of international trade has also grown, meaning that firms can easily hire the competence they require rather than creating it themselves (Hollensen, 2007; Hill, 2003; Wild et al., 2007). Osarenkhoe (2009) propounded that “in an evolving international economy dominated by growing global integration, emerging fragmentation of traditional markets into global niches, and the birth of new competitive spaces thanks to technological developments, the steps and modes of foreign markets entry could experience significant deviations compared to the internationalization patterns of firms characterized by a series of incremental decisions, experiential learning and risk aversion, as envisaged in the traditional sequential models” (p. 287)

Internationalisation of firms has attracted great attention over the past decades (e.g. Johanson and Vahlne, 1977, 1990, 1992, 2003, 2009; Johanson and Mattsson, 1988; Dunning, 2000; Sun, 2009). However, this is not the case with small and medium-sized enterprises (SMEs). Hammond and Groose (2003) stress that international business activities should be seen as a continued development of firms’ competitive capabilities, which in turn enable them to compete successfully against rivals from and within different countries. As a growing number of SMEs have started operating on an international level (Coviello and McAuley, 1999; Chetty and Campbell-Hunt, 2003; Arte and Barron, 2016), it is important to understand how SMEs handle this challenge with their limited resources. Hence, Ngoma, Abaho, Nangoli and Kusemererwa (2017) investigated entrepreneurial orientation (innovativeness, proactiveness and risk taking) as a predictor of internationalisation of small- and medium-sized enterprises (SMEs), and established a significant relationship between the dimensions of entrepreneurial orientation and internationalisation of small- and medium-sized enterprises.

Both economic research and current business policy debate stress innovation as a key requirement to economic growth. Innovation is described today as an interactive process that rarely occurs within the confines of a single company or organisation (Inauen et al., 2012; Windrum et al., 2016; Sergeev, 2017; Bolaji Ilori et al, 2017). Rather, innovation is often a result of combining the resources of a multitude of actors in new constellations, where the goal is to generate value for everyone involved. Against this backdrop, digitalisation is fundamentally disrupting traditional industries, labour markets and the global economy (Koren, 2008). We are experiencing a digital revolution that transforms the world as we know it (Plesner and Raviola, 2016; Pinho and Pinheiro, 2015; Preston and Rogers, 2012; Quinn, Dibb, Simkin, Canhoto and Analogbei, 2016). Traditional business models and value chains are challenged as digitally performed activities allows for increased availability, shorter lead times, faster time-to-market and lower transaction costs. This translates into

opportunities for lower overall costs, allowing smaller companies to compete with well-established companies and brands (Holmlund, Strandvik and Lähteenmäki, 2017). Simultaneously, customer expectations mount with increased transparency, and competition increases across sectors.

As mentioned above, networks can be divided into formal and informal networks, and Jeong (2016) maintains that earlier research agree in terms of how the two forms may be defined. Formal relationships are described as company activities between actors within a network, while informal relationships can be defined as personal relationships (Ojala, 2008). Zhou, Wei-ping, and Xueming (2007) moreover argued that actors' informal networks generate extended knowledge about foreign market opportunities, counseling, and experience-based learning along with trust and loyalty. By being active in formal networks, companies are able to utilize each other's resources and competences with the purpose of performing tasks. Companies may however act on their own initiative, which results in increased costs and higher risks for the companies. Informal as well as formal networks both proffer various advantages (Fernhaber & Li, 2013).

METHODOLOGY

This study aims to shed light on exogenous gaps that are critical to cluster dynamics. Consequently, we describe the platform created by cluster organisation to enable its internationalisation process in order for its partner's internationalisation to effectively manage the challenges brought about by the cataclysmic changes in business logic in the age of globalisation and digitalisation. Data collection took place in **Future Position X (FPX). FPX initiates and supports research and innovation projects as well as helps companies and organisations to reach new markets.** Primary and secondary data sources were used in this study. Secondary data entailed a review of various evaluation reports. Primary data were collected through in-depth interviews with Process Manager - R&D, Cluster Market Manager, Communication and Information, Cluster coordinator, outward internationalized firms and inward internationalised firms at **Future Position X.**

A roundtable talk that took place in conjunction with the visit of international expert evaluators, sent by Vinnova (Sweden's Innovation Agency), to evaluate the first three years of FPX's Geo Life Region. A co-author of this paper was among senior researchers in Sweden invited to represent research and academic institutions with focus on the competitive edge of research and knowledge development – strategy and results". The other co-author was invited to participate in workshops with FPX and SMEs to discuss internationalisation. In other words, invited researchers represented the collaboration and interaction between Cluster-to-Research and Cluster-to-Education.

After the conclusion of the roundtable meeting with external evaluators of FPX, another roundtable talks with process leader of cluster initiatives, regional and local networks was conducted.

The duration was two hours during two separate occasions. Answers our questions facilitated an understanding of how cluster's formal and informal networks amalgamate during establishment on an international market. In other words, to shed light on exogenous gaps that are critical to cluster dynamics (Morgulis-Yakushev and Sölvell, 2017).

Transcripts were created from the tape recorders from various interview sessions. Questions were asked in an interactive group setting where participants were free to talk with other group members. The discussion was loosely structured, and free flow of viewpoints was encouraged on the main theme for discussion, which were solely based on the research questions. Having key themes and sub-questions in advance lies in giving the moderator or researcher a sense of order from which to draw questions from unplanned encounters (David and Sutton, 2004).

Data analysis

Data collected was analysed in three steps: data reduction, data display, and conclusion drawing (Miles and Huberman, 1994). Data reduction entails selecting and excluding/filtering data in order to focus, discard and organize the data in such a way that conclusions can be drawn and verified (ibid.). As for the tape- and video-recorded interviews, this analysis process began while transcribing the interviews. The aim of data display is to organize the data into a compressed assembly of information to elucidate appropriate conclusions and action. Accordingly, main themes, in our case the focus, objectives, activities and organisation of the clusters and networks, were extracted so as to provide succinct insight on the salient features of the cluster initiatives, regional and local networks in the region studied. Conclusion drawing and verification focuses on reflecting and understanding the data chosen for display. Although the process began at the initial stage, this step became more dominant during the later stages of the research. Despite the fact that the three steps are viewed as separate processes of analysis, it is important to note that the processes were going on simultaneously in this study.

PRESENTATION AND DISCUSSION OF FINDINGS

The prevailing reason for FPX to consider an international scope was to keep its lead in technological development, identify upcoming market needs, properly reacting to transformation processes and to strengthen its own position on markets worldwide. From the beginning, FPX was building the international links with similar clusters in the same technology area in Nordic, Baltic and European countries. Nevertheless, later learned that for FPX to be in forefront of innovation, it needs to mix its own core competences with very different technology areas. FPX built relationships with a number of the biggest hotspots in the world in Geo Spatial technologies. Thereafter, it started to build new relationships with complementing knowledge and hot spot centers, like the mobile and new

media industry in Malmö, the digital media and gaming industry in China, the health industry in Beijing and Australia, the sports industry in Åre and Barcelona and Melbourne. This is enabling FPX to work with cross cluster international innovation and importantly supports the strategy of 'innovation within the gaps'.

Findings show that FPX has, since 2005 had an internationalization strategy and since 2012 a 'Born Global' vision for the spin-off companies coming out of its innovation system. FPX has a focus on the largest economy in the world, the Chinese market - a market with great potential and with a high psychic distance. Thus, FPX internationalisation strategy is in sharp contrast to the core assumption of Uppsala model (Johanson and Wiedersheim-Paul, 1975) that an entity starts its foreign operations in countries with low psychic distance. In other words, organisations favour countries that share similar environment with their home country. FPX has encouraged Gävle city to set up sister city relations with Zhuhai City in south China – the region in the world with the highest growth rate and that is also known as the factory floor of the world, Guang-dong.

FPX's "global mindset, which is in line with entrepreneurial orientation (innovativeness, proactiveness and risk taking), is epitomised in the study by Ngoma, Abaho, Nangoli and Kusemererwa (2017), resulted in several new agreements with partners to ensure that they have the resources and expertise available for their activities and channels to investment capital and platforms for companies' international expansion. The prevailing reason for FPX to consider an international scope was to keep its lead in technological development, identify upcoming market needs, properly reacting to transformation processes and to strengthen its own position on markets worldwide. Fernhaber and Li (2013), who suggested that by being active in formal networks, companies are able to utilize each other's resources and competences with the purpose of performing tasks, support this strategic decision by FPX.

Our findings show that in the beginning, FPX had an internationalisation strategy which concurs with Johanson and Vahlne (1977 & 1990), who studied the internationalisation behavior of Swedish firms and found that they follow a sequential process. FPX was building the international links with similar clusters in the same technology area in Nordic, Baltic and European countries. Hence, it first entered country markets with low psychic distance. Combined with the experiential learning-commitment interplay as the driving mechanism from their previous internationalisation process with a similar experiential learning-commitment mechanism focusing on business network relationships (Johanson and Vahlne, 2003), FPX entered markets with high psychic distance.

Having learned that to be in forefront of innovation, FPX decided on mixing its own core competences with very different technology areas. Furthermore, its realisation that being active in networks will facilitate identification of opportunities that further govern its choice of entry modes

and entry nodes (Albaum and Duerr, 2008; Koren, 2008; Sandberg et al., 2015; Galkina and Chetty, 2015; Jeong, 2016) when undergoing internationalisation. In compliance with Zhou, Wei-ping and Xueming (2007) who argued that actors' informal networks generate extended knowledge about foreign market opportunities, counseling, and experience-based learning along with trust and loyalty, FPX built relationships with a number of the biggest hotspots in the world in Geo Spatial technologies. Thereafter, it started to build new relationships with complementing knowledge and hot spot centers, like the mobile and new media industry in Malmö, the digital media and gaming industry in China, the health industry in Beijing and Australia, the sports industry in Åre and Barcelona and Melbourne. This is enabling FPX to work with cross cluster international innovation and importantly supports the strategy of innovation within the gaps.

CONCLUDING REMARKS AND IMPLICATIONS

This study aims to facilitate understanding of how cluster's formal and informal networks amalgamate during its international establishment. It is recognised in this study that clusters act as real "springboards" for firms, especially small and medium enterprises (SMEs) to help them in increasing their competitiveness and thus supporting them in getting access to global value chains and new markets (Meier and Zombori, 2011). Cluster participants can benefit from specialised business support services of cluster organisations stimulating and organising these actions. In particular, if firms have to increasingly integrate their activities into global value chains in order to become and remain competitive, being part of a cluster is supportive (Pavelkova, *et al.*, 2015). Clusters in the emerging industries face the needs for internationalisation. Consequently, transformation processes within value chains, brought about by digitalization, urge clusters to think global and internationalise accordingly.

Clusters' internationalisation is essential to their activity or even their very existence. The level of those activities then has a decisive influence on the competitiveness of clusters' firms, and it is a showcase of cluster organisation managers' ability to coordinate and administer those activities. The journey from initial idea to market-ready product or commercialisation of innovation, which is key to entrepreneurial success, is uneven, indirect and has many twists and turns. The path is plagued with many obstacles and possible entry and exit points. The participants in clusters are mainly SMEs, and they are often devoid of time, resources, knowledge, and international market experience and networks required to singlehandedly embark on the journey to go international. This is the rationale why cluster organisations can provide customised supporting measures and tools to the cluster participants on their paths towards internationalisation, as they usually have more resources at their disposal and are more experienced in internationalisation matters. A common understanding within

clusters (e.g. FPX), a sophisticated internationalisation strategy and a consequent implementation of related actions are the prevailing key success factors for internationalisation of clusters. This requires specific cluster manager internationalisation skills for building long-term transnational and cross-sectoral cluster partnerships.

A sustainable internationalisation platform created by cluster is of utmost importance these days because digitalisation is fundamentally disrupting traditional industries, labour markets and the global economy (Einsiedler, 2013; Lee & Kao, 2014), and transforming various facets of exchange (Hagberg *et al* 2016). To companies, this means opportunities for new or changed business models, spanning from marketing and sales channels to logistics (Ivang *et al*, 2009). Traditional business models and value chains are challenged as digitally performed activities allows for increased availability, shorter lead times, faster time-to-market and lower transaction costs (Holmlund *et al*. 2017). This translates into opportunities for lower overall costs, allowing smaller companies to compete with well-established companies and brands. Against this background, collaborative development environments (Mendikoa *et al.*, 2008; Lin *et al.*, 2012), such as FPX internationalisation platform, gain importance especially for small and medium enterprises (SME) with limited resources. This reinforces a need for clusters and firms to develop their management of interactive innovation processes.

Implications of this study are that internationalisation of clusters gains a new dimension and quality, if the future transnational collaboration and interaction is driven by a deep understanding of ongoing transformation processes in respective value chains – a process which is a sequel to digitalisation and globalization (Hagberg *et al*. 2016). It is obvious that such transformation processes or digitalisation process may have different dynamics in different regions (Holmlund *et al*. 2017). Therefore, clusters should focus their international and global partnerships on those regions with the highest dynamic. This is one important pre-condition to successfully conquer related markets or initiate cooperation with sustainable impacts. Furthermore, this study demonstrates that cluster companies can leverage on internationalisation operations performed by cluster organisations.

FPX global network serves to help the small and medium sized companies reach new markets and commence international business. FPX also inspire international companies to establish themselves in Gävle and further strengthen the GIS-environment in the region. The prominent ends attained by FPX internationalisation include increased access to knowledge, market, and key infrastructure. Internationalisation also helps FPX to get access to new business partnerships and collaborative research. In addition, internationalisation enlarges its knowledge base by sourcing knowledge, technology and skills from other locations than their traditional environment.

Transformation processes within value chains urge clusters to think global and internationalise accordingly.

This study offers insight into internationalisation of cluster in a Sweden context. It bridges the approaches to firm internationalisation with the theory of clusters. This is the first study to incorporate discussions on digitalisation in cluster internationalisation. This is particularly important because to succeed in the global marketplace, SMEs must put digitalisation in the center of their international strategy. Furthermore, by focusing solely on exogenous activities which serve to improve cooperation with global markets, that are critical to cluster dynamics, this study contributes to the literature examining location can help firms to increasing their competitiveness and thus supporting them in getting access to global value chains and new markets.

REFERENCES

- Albaum, G. & Duerr, E. 2008, *International Marketing And Export Management*, n.p.: Harlow: Financial Times Prentice Hall, 2008
- Ardichvili, A., Cardozo, R., & Ray, S. (2003), 'A theory of entrepreneurial opportunity identification and development', *Journal of Business Venturing*, 18, pp. 105-123
- Arte, and Barron, A. (2016), *Early Internationalisation of New and Small Indian Firms: An Exploratory Study*, in Rob Van Tulder, Alain Verbeke, Jorge Carneiro, Maria Alejandra Gonzalez-Perez (ed.) *The Challenge of Bric Multinationals (Progress in International Business Research, Volume 11)* Emerald Group Publishing Limited, pp.525 – 558
- Awa, H.O., Eze, S.C., Urieto, J.E., Inyang, B.J. (2011) "Upper echelon theory (UET): A major determinant of information technology (IT) adoption by SMEs in Nigeria", *Journal of Systems and Information Technology*, Vol. 13 Issue: 2, pp.144-162
- Bilkey, W. & Tesar, G. (1977). *The Export Behavior of Smaller-Size Wisconsin Manufacturing Firms*, *Journal of International Business Studies*, 8 (1), pp. 93-98.
- Bolaji Ilori, Lawal, and Simeon-Oke, (2017) "Innovations and innovation capability in palm kernel processing industry in southwestern Nigeria", *International Journal of Innovation Science*, Vol. 9 Issue: 1, pp.102-114
- Carneiro Zen, A., Fensterseifer, J.E. and Prevost, F. (2011), "Internationalisation of clustered companies and the influence of resources: a case study on wine clusters in Brazil and France", *Latin American Business Review*, 12(2), pp. 123-141.
- Caputo, A., Pellegrini, M.M., Dabic, M. and Dana, L.P. (2016) "Internationalisation of firms from Central and Eastern Europe: A systematic literature review", *European Business Review*, 28(6), pp.630 – 651.
- Cavusgil, S.T. (1980). *On the Internationalisation Process of Firms*, *European Research*, (November), p. 273-281.
- Cavusgil, S. T. 1994, 'Born Globals: A Quiet Revolution Among Australian Exporters', *Journal of International Marketing*, vol. 2, no. 3, p. 4.
- Chetty, S, Ojala, A, & Leppäaho, T 2015, 'Effectuation and foreign market entry of entrepreneurial firms', *European Journal Of Marketing*, 49, 9, pp. 1436-1459
- Chetty, S. and Campbell-Hunt, C. (2003), *Paths to internationalization among small- to medium-sized firms*, *European Journal of Marketing*, Vol. 37 Nos. 5/6, pp. 796-820.
- Colovic, A. and Lamotte, O. (2014)," The role of formal industry clusters in the internationalisation of new ventures ", *European Business Review*, 26(5), pp. 449 – 470.
- Coviello, E, N, & Munro, J., H. (1995). *Growing the entrepreneurial firm: networking for international market development*. *European Journal of Marketing*, Vol. 29 Iss: 7, pp. 49 – 61
- Coviello, N. and McAuley, A. (1999), *Internationalization and the smaller firm: a review of contemporary empirical research*, *Management International Review*, Vol. 39, pp. 223-256.
- Dunning, J.H. (2000), *The eclectic paradigm as an envelop of economic and business theories of MNE activity*, *International Business Review*, Vol. 9 Iss. 2, pp. 163-190.
- Einsiedler, I. (2013) "Embedded Systeme für Industrie 4.0," *Product Management*, vol. 18, pp. 26–28.

- Fernhaber, S, & Li, D 2013, 'International exposure through network relationships: Implications for new venture internationalization', *Journal Of Business Venturing*, 28, 2, pp. 316-334
- Forsgren, M. (2002). "The Concept of Learning in the Uppsala Internationalisation Process Model: A Critical Review", *International Business Review*, 11 (2), pp. 257-277.
- Francioni, B 2014, 'International market selection, mode decisions and psychic distance for SMEs', *International Journal Of Strategic Change Management*, 5, 2, pp. 93-106
- Gankema, H.G., Snuif, H.R. and Zwart, P.S. (2000), "The internationalization process of small and medium-sized enterprises: an evaluation of stage theory", *Journal of Small Business Management*, Vol. 38 No. 4, pp. 15-27.
- Galkina, T, & Chetty, S 2015, 'Effectuation and Networking of Internationalizing SMEs', *Management International Review (MIR)*, 55, 5, pp. 647-676
- Granovetter, MS 1973, 'The Strength of Weak Ties', *American Journal of Sociology*, 6, p. 1360
- Hagberg, J., Sundstrom, M. and Egels-Zandén, N. (2016) "The digitalisation of retailing: an exploratory framework", *International Journal of Retail & Distribution Management*, 44(7), pp.694 – 712.
- Hammond, C., and Groose, R. (2003), Rich man, poor man: Resources on Globalization, *Reference Service Review*, Vol. 31 No. 3, pp. 285-295.
- Hill, J, McGowan, P, & Drummond, P 1999, 'The development and application of a qualitative approach to researching the marketing networks of small firm entrepreneurs', *Qualitative Market Research: An International Journal*, 2, 2, p. 71
- Hill, C.W.L. (2003). "International Business: Competing in the Global Marketplace", Boston, MA: McGraw-Hill.
- Hilmersson, M & Jansson, H, (2012), 'International Network Extension Processes to Institutionally Different Markets: Entry Nodes and Processes of Exporting SMEs', *International Business Review*, p. 682
- Holmlund, M., Strandvik, T. and Lähteenmäki, I. (2017) "Digitalisation challenging institutional logics: Top executive sensemaking of service business change", *Journal of Service Theory and Practice*, 27(1), pp.219 - 236
- Håkansson, H, & Ford, D 2002, 'How should companies interact in business networks?', *Journal Of Business Research*, 55, Marketing Theory in the Next Millennium, pp. 133-139
- Inauen, M. and Schenker-Wicki, A. (2012) "Fostering radical innovations with open innovation", *European Journal of Innovation Management*, Vol. 15 Issue: 2, pp.212-231
- Ivang, R., Rask, M. and Hinson, R. (2009) "B2b inter-organisational digitalisation strategies: Towards an interaction-based approach", *Direct Marketing: An International Journal*, 3(4), pp.244 - 261
- Jankowska, B. and Główska, C. (2016), "Clusters on the road to internationalisation – evidence from a CEE economy", *Competitiveness Review*, 26 (4), pp. 395 – 414.
- Jeong, SW 2016, 'Types of foreign networks and internationalization performance of Korean SMEs', *Multinational Business Review (Emerald Group Publishing Limited)*, 24, 1, pp. 47-61
- Johanson, J. & J-E. Vahlne (1977). "The Internationalisation Process of the Firm - A Model of Knowledge Development and Increasing Foreign Market Commitments", *Journal of International Business Studies*, (8), pp. 23-32.
- Johanson, J., and Vahlne, J-E. (1990). The mechanism of internationalisation, *International Business Review*, 7(4), pp.11-24.
- Johanson, J., & Vahlne, E. J. (1992). Management of Foreign Market Entry. *Scandinavian International Business Review*, Vol. 1 No. 3 pp. 9-27
- Johanson, J., & Vahlne, E. J. (2009). The Uppsala internationalization process model revisited: From liability of foreignness to liability of outsidership. *Journal of international business studies*, 40.9 (2009): 1411-1431.
- Johanson, J., & Wiedersheim-Paul, F. (1975). The Internationalization of the Firm: Four Swedish Cases. *Journal of Management Studies*, 12(3), 305-322.
- Johanson, J. and Mattsson, L.-G. (1988), Internationalization in industrial systems: a network Approach, in Hood, N. and Vahlne, J.-E. (Eds), *Strategies in Global Competition*, Croom Helm, London (pp. 287-314).
- Johanson, J. & J-E. Vahlne (2003). Business Relationships, Learning and Commitment in Internationalisation Process, *Journal of Entrepreneurship*, 1 (2), pp. 83-101.
- Johanson, J. and Wiedersheim-Paul, F. (1975), The internationalisation of the firm – Four Swedish cases, *Journal of Management Studies*, 3 (October), pp. 305-322.
- Koren, M. (2008) "Challenges for science and society in the digital age: 2nd IFLA Presidential Meeting in Berlin", *New Library World*, Vol. 109 Issue: 7/8, pp.393-395
- Köcker, M. and Müller, Z. (2011), *European Clusters go International*. Berlin: Institute for Innovation and Technology, 2011.

- LeMahieu, P.G., Grunow, A., Baker, L., Nordstrum, L.E. & Gomez, L.M. (2017) "Networked improvement communities: The discipline of improvement science meets the power of networks", *Quality Assurance in Education*, Vol. 25 Issue: 1, pp.5-25
- Lee, J., Kao, H. A., & Yang, S. (2014). Service innovation and smart analytics for industry 4.0 and big data environment. *Procedia CIRP*, 16, pp. 3-8.
- Leonidou, S.C. & Katsikeas, C.S. (1996). The Export Development Process – An integrative review of empirical models, *Journal of International Business Studies*, 27(3), pp. 517-551.
- Lin, H., S. Nagalingam, S., Kuik, S and Murata,T.(2012). "Design of a Global Decision Support System for a manufacturing SME: Towards participating in Collaborative Manufacturing," *International Journal of Production Economics*, 136(1), pp. 1–12.
- Lindqvist, G., Ketels, C. and Sölvell, Ö. (2013), *The Cluster Initiative Greenbook 2.0*, Stockholm: Ivory Tower Publishers.
- Madsen, T, & Servais, P 1997, 'The Internationalization of Born Globals: an Evolutionary Process?', *International Business Review*, 6, 6, p. 561
- Mendikoa, I., Sorli, M., Barbero, J., Carrillo, A. and Gorostiza, A. (2008). "Collaborative product design and manufacturing with inventive approaches", *International Journal Production Research*, 46(9), pp. 2333–2344.
- Miles, M.B. and Huberman, A.M. (1994), *Qualitatively Data Analysis* (2nd ed.). Thousand Oaks, CA: Sage.
- Morgulis-Yakushev, S. and Sölvell, Ö. (2017) "Enhancing Dynamism in Clusters: A Model for Evaluating Cluster Organisations' Bridge-Building Activities Across Cluster Gaps", *Competitiveness Review: An International Business Journal*, 27(2), pp. -
- Musso, F, & Francioni, B 2012, 'How Do Smaller Firms Select Foreign Markets?', *International Journal Of Marketing Studies*, 6, pp. 44-53
- Ngoma, M. Abaho, E., Sudi Nangoli, S. & Kusemererwa, C. (2017) "Internationalisation of SMEs: does entrepreneurial orientation matter?", *World Journal of Entrepreneurship, Management and Sustainable Development*, Vol. 13 Issue: 2, pp.96-11
- Ojala, A. (2008). Entry in a psychically distant market: Finnish small and medium-sized software firms in Japan. *European Management Journal*, 26(2), 135- 144
- Osarenkhoe, A. (2009), "An Integrated Framework for Understanding the Driving Forces behind Non-sequential Process of Internationalisation among Firms", *Business Process Management Journal*, 15(2), pp. 286-316.
- Pavelkova, D., Pavel, B., Bialic-Davendra, M. and Knapkova, A. (2015), *Internationalisation Activities of the Cluster Internationalisation: Factors which influence them*, *Transformation in Business & Economics*, 14(3C), pp 316-332.
- Pinho, J.C. and Pinheiro, M.L. (2015) "Social network analysis and the internationalisation of SMEs: Towards a different methodological approach", *European Business Review*, Vol. 27 Issue: 6, pp.554-572
- Pla-Barber, J. and Puig, F. (2009), "Is the influence of the industrial district on international activities being eroded by globalisation? Evidence from a traditional manufacturing industry", *International Business Review*, 18(5), pp. 435-445.
- Plesner, U. and Raviola, E. (2016) "Digital technologies and a changing profession: New management devices, practices and power relations in news work", *Journal of Organisational Change Management*, Vol. 29 Issue: 7, pp.1044-1065
- Preston, P. and Rogers, J. (2012) "Crisis, digitalisation and the future of the Internet", *info*, Vol. 14 Issue: 6, pp.73-83
- Prashantham, S. (2008), "Local networks and internationalisation", in Prashantham, S. (Ed.), *The Internationalisation of Small Firms: A Strategic Entrepreneurship Perspective*, New York, NY: Routledge, pp. 63-78.
- Quinn, L., Dibb, S., Simkin, L., Canhoto, A. & Analogbei, M. (2016) "Troubled waters: the transformation of marketing in a digital world", *European Journal of Marketing*, Vol. 50 Issue: 12, pp.2103-2133.
- Richardson, C., Yamin, M. and Sinkovics, R.R. (2012), "Policy-driven clusters, interfirm interactions and firm internationalisation: some insights from Malaysia's multimedia super corridor", *International Business Review*, 21(5), pp. 794-805.
- Rodriguez, J 2007, 'The Internationalisation of the Small and Medium-sized Firm', *Prometheus*, 25, 3, pp. 305-317, Academic
- Sandberg, J., Holmström, J., Napier, N., & Levén, P. (2015). Balancing diversity in innovation networks: Trading zones in university-industry R&D collaboration. *European Journal of Innovation Management*, 18(1), 44-69.
- Sergeev, N. (2017) "High-priority directions of modernization of university education in innovational society", *International Journal of Educational Management*, Vol. 31 Issue: 1, pp.56-61

- Ślepko, 2012 (Replace with: Jesús M. Valdaliso Aitziber Elola Susana Franco , (2016)," Do clusters follow the industry life cycle? Diversity of cluster evolution in old industrial regions ", *Competitiveness Review*, Vol. 26 Iss 1 pp. 66 -86
- Sun, S.-L. (2009), *Internationalization strategy of MNEs from emerging economies: the case of Huawei*, *Multinational business review*, special issue on "Multinational & Emerging Markets".
- Sölvell, Ö. (2009), *Clusters – Balancing Evolutionary and Constructive Forces*, Stockholm, Sweden: Ivory Tower Publishers.
- Valdaliso, J.M., Elola, A. Franco, S.(2016), "Do clusters follow the industry life cycle?: Diversity of cluster evolution in old industrial regions", *Competitiveness Review*, 26(1), pp.66 – 86.
- Williamson, O. (1979), "Transaction cost economics: the governance of contractual relations", *Journal of Law & Economics*, Vol. 22, pp. 233-62.
- Windrum, P., Schartinger, D., Rubalcaba, L., Gallouj, F., Toivonen, M. (2016) "The co-creation of multi-agent social innovations: A bridge between service and social innovation research", *European Journal of Innovation Management*, Vol. 19 Issue: 2, pp.150-166
- Xu, S. and McNaughton, R.B. (2006), "High technology cluster evolution – a network analysis of Canada's technology triangle", *International Journal of Entrepreneurship and Innovation Management*, 6 (6), pp. 591-608.
- Zain, M. and Ng, S.I. (2006), "The impact of network relationships on SME internationalization process", *Thunderbird International Business Review*, Vol. 48 No. 2, pp. 183-205.
- Zhou, Wei-ping, and Xueming (2007), *Internationalization and the performance of born-global SMEs: the mediating role of social networks*, *Journal of International Business Studies* (2007) 38, 673–690

UNIVERSITY-INDUSTRY INTERACTION: EVOLUTION, NECESSITY, BARRIERS AND PROSPECTS

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ABSTRACT

The main goal of the presented research paper is to find solutions to existing problems in the field of interaction between the university and the industrial sector. This goal is achieved by solving the following tasks:

- 1) analyze of the evolution of university-industry interaction;
- 2) analyze of the situation in the field of university and business / industry interaction;
- 3) focusing on the need for universities - industry cooperation and identifying key barriers in their interaction;
- 4) consideration of formats for university and business / industry interaction.

The objectives of this article are achieved through a review of the existing literature, a synthesis of the necessary knowledge about the interaction of the university and the industrial sector, the analysis of the need for interaction, key barriers, and interaction formats to formulate proposals that improve cooperation and identify the most effective ways of partnership. This analysis covers the following documents: information and analytical sources, research projects of predecessors, data from international research organizations, and historical documents.

Keywords: university-industry integration, the triple helix, higher education, regional development.

INTRODUCTION

The economy of the Russian Federation continues to be in a crisis and its formation as an independent unit directly depends on the development of the research and technological components, especially in the conditions of a knowledge-based economy. The leading supplier of innovative products is universities. Universities need to respond in a timely manner to external challenges and to point out to advance not only at the regional level, but also to go beyond it. However, as soon as the university starts to work in this direction, higher educational institutions encounter significant obstacles in the way of establishing partnership with innovative enterprises, as well as they face problems in the development of innovation activities within the university and beyond.

The key issues which universities facing can be identified by the following points:

- the majority of research conducted at the university level does not meet the requirements of industry and the real sector;
- the majority of R&D is developed in the framework of grants that are not aimed at further commercializing or introducing them into production;
- researchers are not interested in developing working innovations (which will be applicable and commercialized);
- entrepreneurial spirit in universities is not stimulated in the field of research and innovation.

As for the gap in the representation of innovations by industry and universities, they are faced with a fundamental misunderstanding on both sides, which significantly reduces the interest of actors to each other and inhibits the development of scientific and technological progress. In the Address of the President of the Russian Federation to the Federal Assembly of March 1, 2018, special attention was paid to the development of technologies, knowledge and competencies. Crucial role in this process plays a university, ranging from career-oriented work and ending with fundamental applied research and development. Russian President Vladimir Putin noted that technological development should be lean on a strong base of fundamental science, as well as the need to enter a fundamentally new level in the research infrastructure. It was noted the need to create powerful scientific and educational centers that would integrate the capabilities of universities, academic institutions, and high-tech companies. That is why this research is significant and relevant for the modern stage of economic development.

EVOLUTION OF UNIVERSITY-INDUSTRY INTERACTION IN RUSSIA

The time line of interaction between university and industry in Russia presented on the Figure 1. It shows how university-interaction model has been changing through years. Summarizing description of different time periods, we can mention that three main types on the evolution: Soviet Union, Post-Soviet Union and Russian Federation. Back in 1987, before the collapse of the USSR, all scientific organizations were transferred to self-sufficiency, which significantly changed their model of interaction with industry and others actors. Along with the growing need to conclude contracts with industry for scientific research, the material and technical base wasn't updated, which was reflected both in the lack of enterprises interest to invest financial resources and in the capacity of institutions to fulfill the orders of industry. In 1993, the Constitution of the Russian Federation was adopted, after which significant changes became evident not only in the education system, but also in the country as a whole. A drastic change in the ideology of education has led to the need for retraining of humanities teachers and to give less attention to the development of partnerships with industry. Industry at the time was also in a crisis and funding for research and development couldn't be included in its

expenditure items. After 2000, a new reform of education was adopted and it didn't have the expected effect. Up to 2011 there was a delay in technological modernization of science and insufficient funding of research developments.

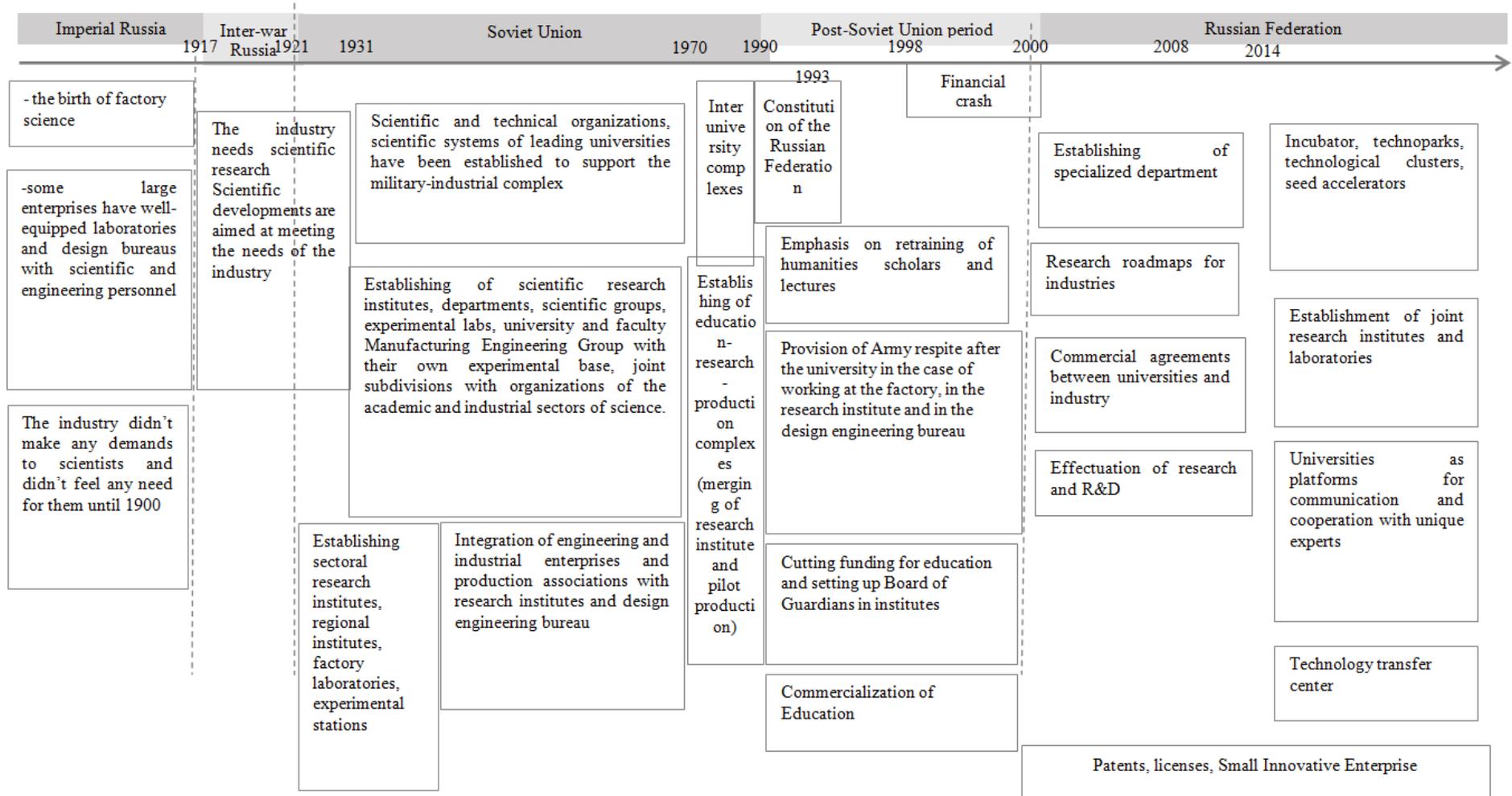


Figure 1. Evolution of university-industry interaction in Russia

The report "Monitoring of the economic situation in Russia", which was published on January 2018, says that more people with higher education are leaving Russia nowadays and this has a crucial influence on technological progress. According to the data presented in the report "Qualified migration in Russia: the balance of losses and acquisitions", the total number of educated Russian emigrants is about 800 thousand people and this number is growing each year. According to the Federal State Statistics Service, the number of high-performance jobs is reduced annually by 900,000 units and simultaneously, there are lots of head hunters trying to find the right person for their job position. Such imbalance on the labor market leads to the serious problems in economics and technological development.

The share of domestic expenditure on research and development in GRP is reduced by 0.04% annually. The domestic expenditure on research and development fluctuate within 1% of the gross domestic product in the whole of the Russian Federation. The share of organizations that carried out technological innovations in the reporting year in the total number of organizations surveyed as a whole for the Russian Federation is reduced by approximately 0.7% annually from 8.3%. During the period from 1990 to 2011, the number of researchers fell by about 2.6 times, which negatively affected the country's research potential. A serious impetus in the development of relations between universities and industry was the period of the sanctions regime in 2014, which allowed cooperation and interaction of universities and industry to enter a new stage in order to obtain new performance results and modernize existing processes.

CURRENT SITUATION IN R&D IN RUSSIA

The number of active patents fell by 9,496 units in 2016. According to BCG, the deficit of qualified personnel in Russia will be 10 million people until 2025. According to the Federal State Statistics Service in 2016, the number of graduates of bachelors, specialists, masters is 972 400 people. From the data listed above, we see the gap between reproduction of professionals the needs of the market, taking into consideration the fact that some of the highly professionals are leaving abroad. This situation is also because the level of education in universities that lags behind the demands of the market and advanced research trends. Table 1 shows the number of organizations engaged in research and development and, unfortunately, their number isn't sufficient to fully reproduce new knowledge and train professional staff.

Type of organization	Change in the number during the 10 years (units)
R&D organizations	-376
Design organizations	-178
Research project organizations	-32
Pilot plants	+13
Higher education institutes	+562
Industries, having scientific research, design and engineering divisions	+108
Others	+313

Table 1. The number of organizations performing research and development

Universities and industry interaction are based on the fundamental factor that can be named “university research and development involvement”, which will be useful and important for industry. The financing of science from the federal budget for the last year decreased by 36,670.5 million rubles. Expenses for civilian science from the federal budget as of 2017 amount to 402,722.3 million rubles to the expenditures of the federal budget for the last year decreased by 0.36% and amounted to 2.45%, and to the gross domestic product for the last year decreased by 0.06% and amounted to 0.47%. These figures demonstrate the need for a reorientation of the university research base on alternative sources of financing, especially to increase the importance of cooperation with industry and business sectors. Despite the fact that the intensity of research activities remains low, the increase of domestic expenditure on research and development in higher education has almost doubled (Figure 2).

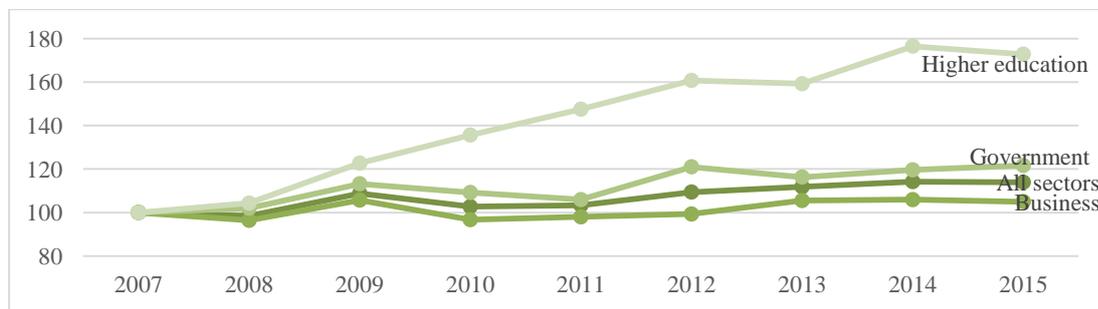


Figure 2. Addition of gross domestic expenditures on R&D (by performing sector) against 2007 (Index 2007=100 constant USD PPPs)

From the information above we can see the importance of developing university-industry interaction in Russian Federation. The data above shows the importance of new technologies and knowledge exchange between the higher education instituters and industry. Without them it will lead to the lowest level of graduates and technologies in business.

IMPORTANCE OF UNIVERSITY-INDUSTRY INTERACTION DEVELOPMENT

From year to year governments around the world tried to support an innovation efficiency and enhance wealth creation with the help of university-industry interaction. (Barnes, Pashby & Gibbons,

2002). In 2001 the group of scientists (Hall, Link and Scott in 2001) mentioned that a misunderstanding between universities and industry leads to research that do not use in the real life and to industries that have no innovation in their processes. It is necessary to pay attention to government and institutional strategic policies if we want to solve the problem in university-business interaction. The relevancy of university – industry interaction for universities and industry presented in Table 2.

Universities	Industry
Acts according to innovation development government policy	Develop the company according to innovation development government policy
Have an opportunity to use modern equipment and prepare students to real work places	Have an opportunity to hire the best students and faculty members
Reduction of youth unemployment	Reduction of youth unemployment
Receiving additional funding (other than the state and sharing the costs of research activities)	Accelerate the process of innovation
Availability of feedback from the industry and mentoring by industry and business	Prevention of additional infrastructure costs and hiring of specially trained personnel, or retraining "on-site"
Availability of researchers working in enterprises and receiving newest information about the leading trends and market demands	Problems arising in companies solve by combining intellectual resources between industry and university (competencies and skills); the industry receives the best staff (talented graduates) on the basis of cooperation and knowledge of the university students' contingent
Elimination of risk and uncertainty due to inconsistency of inquiries of the university industry	Creating new opportunities and competitive advantages in connection with access to new research and start-up ideas
Availability of access to practical knowledge from the industry and research base development basis of the gained knowledge	Availability of access to the network of teachers, leading scientists and specialists; new opportunities in cooperation with other companies interested in the same university-based research and cost sharing
Gain new knowledge about curricula development	Evening-out financial losses (according to the IUCRC program, every dollar invested in the partnership is used 40 times)
New practical-based research leads to increase of publishing papers	Availability of access to the latest research and development conducted by the scientific community
Growth of entrepreneurship among students and faculty staff	Concentration of necessary competencies within the existing team of specialists, supplemented by university staff
Promote innovation (through technology exchange)	Elimination of difficulties in accessing external sources of research funding, which significantly reduces their cost
Act according to regional and national economy needs	New opportunities for technological development in conditions of sanctions

Table 2. The relevancy of university-industry interaction

In Table 2 we analyzed that both universities and industry have its own pluses of this integration. But it also important to understand the outcomes of this interaction. First things first, economic results are pivotal for university-industry interaction and its influence on regional development. Universities broaden their horizons and begin to be entrepreneurial and earn money. Furthermore, practical based

research help universities to have different patents and licensing income. Universities became a part of regional economic development and a point of growth. For industry it gives an opportunity to create or improved new products or processes. It is also good point about patents, prototypes, etc. It is much cheaper for industry to conduct research with the help of university than in-house. In the world of competitiveness, it will be better to cooperate with universities because it will give an opportunity to get ahead of other companies. It is also promoting economic growth. Simultaneously, university-industry interaction helps to enhance reputation for both of them and service to the community.

We can not argue that this type of cooperation has great influence on institutions as itself. If we are talking about universities, they have an opportunity: to have a joint publication; to have a base of practical problems that can be solved by students and faculty members; to provide a “test bed” for feedback on research ideas and results; to have an access to up-to-date equipment; students can have practical experience while they are studying; to build credibility and trust for the academic researcher among practitioners. As for industry, there are more advantages of cooperation with universities such as keep up-to-date with technological progress; accelerates commercialization of technologies and increases speed of innovation to market; provide much needed legitimacy for industry products (e.g. software); access to new knowledge and leading edge technologies; access to specialized consultancy; professional development; opportunity to access a wider international network of expertise; act as a catalyst that leads to other collaborative ventures; hiring of talent graduates. (Ankrah, Samuel & Al-Tabbaa, Omar, 2016)

The need for cooperation between universities and industry is growing every day, which is confirmed by all the facts above.

BARRIERS ON THE WAY OF UNIVERSITY-INDUSTRY INTERACTION

However, despite the need to develop partnerships between these areas, there are barriers that are getting in the way of effective interaction (Table 3).

University	Industry
Negotiations on intellectual rights and other contract conductions are difficult to complete with a result that suits both sides. The process isn't transparent and takes a lot of time.	
Lack of funding	
Business and university work in different time contexts.	
Lack of trust or understanding	
Low overall level of business investment in research and development, including lack of absorbcency	
University indicators, including citations, determine the priority of producing high-quality	Business focuses on short-term rather than long-term R&D

publications	
Other pressure on grad days (teaching and research) limits resources for cooperation.	Business finds a difficult to define academic partners or academic ability.
Cooperation experience isn't assessed as a part of progress in academic career.	Lack of alignment of objectives: tensions between business and university needs / objectives.
Lack of time / resources for establishing cooperative networks or project development	Lack of understanding by business of the potential benefits of working with universities
The tension between the academic desire to publish research results and business problems regarding competition	Other problems with financing (for example, compliance with the requirements of small and medium-sized businesses)

Table 3. Barriers in the university-industry interaction

These barriers are key barriers to the formation of a successful university-business partnership. Despite the many difficulties that exist in the modern world, the formats of university-business interaction have evolved and are currently being formed into five formats of possible partnerships.

UNIVERSITIES-INDUSTRY INTERACTION FORMATS IN RUSSIA

If we consider the evolutionary line of interaction formats between the university and industry, then one of the first classifications is presented by Santoro, M. and Chakrabarti A. and includes four types of interaction (Santoro and Chakrabarti, 2001):

- 1) supporting of research through the allocation of financial resources, the use of equipment, the creation of charity trust funds for the renovation of university laboratories and the provision of scholarships for the implementation of new promising projects;
- 2) conducting joint research on a contract basis with the participation of researchers or staff engaged in consulting services, as well as the establishment of research groups specifically designed to solve business problems;
- 3) knowledge transfer through formal and informal interaction, cooperation in the field of education, curriculum development and staff exchange;
- 4) technology transfer is focused on solving a specific business problem when the university is engaged in research and development, being an expert, evaluating and promoting the technologies necessary for the market (patents, licenses).

Later, Davey, T., Baaken, T., Galan Muros, V. and Meerman, A. (Davey *et al* , 2011), presented an expanded list of interaction formats, which comprised the following items: joint scientific research; commercialization of R&D results; mobility of students and employees - the dissemination of knowledge and technology through the exchange of students and teaching staff between universities

and enterprises; development of joint training programs, including courses, special guest lectures and seminars; life-long learning and development of competences and skills, including extended education, training and mentoring; entrepreneurship - active involvement of universities in the creation of new enterprises and development of entrepreneurial thinking among students and scientists as a result of interaction with business structures; management - scientists from universities participating in companies' decision-making and from the side of management positions; on the other hand, business representatives participate in the management of university departments, and so on.

In 2017, this list was optimized and clustered by Paola Rücker Schaeffer, Andréia Cristina Dullius, Rodrigo Maldonado Rodrigues, Paulo Antonio Zawislak (Schaeffer *et al*, 2017) and represents five key clusters through which mutually beneficial cooperation takes place. These formats of cooperation applicable to Russian system with some additions mentioned in Table 4.

	Definition
Education-oriented	provision of educational services on a short-term or long-term basis. This form of interaction doesn't imply long-term cooperation and can be in the form of short-term training both from the university and from the industry.
Intellectual property oriented	this type is granting of universities an object of intellectual property for use and receiving certain benefits for it. An example of such interaction is access to academic documents or the acquisition of patents. Patents may be included in this classification provided that the industry or the customer of the patent hasn't participated in its development
Service-oriented	the provision of services and / or equipment for use on terms of partnerships. Examples of such interactions include services such as technical advice and the use of funds provided by the partner, including laboratories and test materials.
Development-oriented	those are interactions aimed at joint technological development. The university unites with industry/business to solve any technological problem important for both sides. In this type of interaction, participants are active, even when the results are used only in the short term.
Research-oriented	this type of interaction is the most difficult. All participants must be active in R&D process. As a rule, it is based on long-term cooperation, which includes the creation of a research base, the formation of new knowledge and the implementation of joint projects. This format of interaction implies bi-directional flows of knowledge and information between universities and industries, as well as collective responsibility for the result.

Table 4. Different formats of university-industry interaction

The presented clusters of interaction formats are relevant for the majority of Russian universities, however, only a small amount is used in practice by them.

DISCUSSION

Nowadays, the world is at the point of bifurcation, which determines the choice of development vectors, changes and opportunities for both universities and the industrial sector.

Partnership in the modern world is characterized by the following features:

- Cooperation is carried out between "non-obvious partners".
- There are often dozens, even hundreds, of collaborating partners.
- Collaboration is often provided by digital and other rapidly evolving technologies, such as cloud computing in biotechnology. Digital technology can also allow "convergence" in different industries to create truly new solutions.
- There are many levels and ways of cooperation, ranging from strategic alliances and joint ventures to "intra-entrepreneurship."
- Players and relationships are developing quickly.
- There is availability of open source data and a culture of information sharing.

In the world of such partnership rules we mention that universities need to develop formats of university-industry integration to the current challenges. Simultaneously, universities are a very unchangeable organizational structure and novelty is always danger for it. This situation pushes universities to think about their future without additional government funding and the existence in the world of competitiveness.

This research shows the historical material about university-industry interaction which demonstrates some periods when cooperation decay and the next period needs to start over. However, it leads to a great gap in university-industry partnership in Russian from the other world. The material above demonstrates that the nature of partnership is changing and universities can't live in the same conditions for a long time. With the help of cooperation formats, we can suggest different models of cooperation for various of universities types.

As for business sphere, the need of cooperation is growing but the ability to invest in R&D research is decreasing. In Russia corporations have their own laboratories and corporate universities and they have no need to cooperate with universities. Small and mid-size business stay in another position when they have no much money for R&D and they try to do as much as they can without cooperation with universities. In these conditions it's very hard for universities to choose the right way in partnership and become more attractive for business and industry.

Both – universities and industry -have their own interest in cooperation and barriers, but what they need to do is to achieve their main goal - to overcome all hedges and find the most convenient way of integration.

IMPLICATIONS FOR THEORY, PRACTICE AND FUTURE RESEARCH

This article can serve as an analytical material for university management and researchers who want to develop their relations with the industrial sector in accordance with the needs of the regions, as well as understand the situation in this area and create favorable conditions for the development of partnerships (for example, the entrepreneurial sphere). The key limitation of this study is the impossibility of providing the testing results of the screw model relative to the universities in Russia due to the insufficient refinement of the model. This research should be continued as part of the finalization of the screw model and its formation and development in the field of interaction between universities and industry. The results of the research presented in this article can serve as an aid to the industrial sector development in regions through building the interaction "university-industry", considering possible barriers and priority areas of development.

Particular value this article demonstrates for universities that have the necessary resources (material, intellectual, technical) and their main goal is to establish the university as a driver for the development of the territory on which they are located. The originality of this article is a detailed analysis of the interaction of universities and industry, identifying the need for this partnership, considering the key barriers and ways of possible cooperation. The presented topic has not been studied in detail so far, which confirms the relevance of this research.

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REFERENCES

- Ankrah, Samuel & Al-Tabbaa, Omar. (2016). Universities—industry collaboration: A systematic review. *Scandinavian Journal of Management*. 31. 10.1016/j.scaman.2015.02.003.
- Barnes, T., Pashby, I., & Gibbons, A. (2002). Effective university—industry interaction: A multi-case evaluation of collaborative R&D projects. *European Management Journal*, 20, 272—285.
- "Business-university research collaboration: dowing review – final report" (2018), available at: <http://www.gov.uk/government/publications/business-university-research-collaborations-dowing-review-final-report> (accessed 26 April 2018)
- "Industry - University Cooperative Research Program" (2018), available at: <http://iucrc.org/> (accessed 23 April 2018)

- “Kvalificirovannaya migraciya v Rossii: balans poter' i priobretenij” (2018), available at: https://www.ranepa.ru/images/docs/monitoring/2018_1-62_January.pdf (accessed 25 April 2018)
- “Monitoring ehkonomicheskoy situacii v Rossii” (2018), available at: <https://www.ranepa.ru/images/docs/monitoring/2-63-rus-2018.pdf> (accessed 24 April 2018)
- “Rossiya 2025: ot kadrov k talantam” (2017), available at: http://d-russia.ru/wp-content/uploads/2017/11/Skills_Outline_web_tcm26-175469.pdf (accessed 25 April 2018)
- “Summary report of the 2015 UIS Innovation Data Collection” (2017), UNESCO institute for statistics, Information paper, No 37, March.
- Carayannis, E. and Grigoroudis, E. (2016), Quadruple Innovation Helix and Smart Specialization: Knowledge Production and National Competitiveness. *Foresight and STI Governance*, Vol. 10, No 1, pp. 31–42, available at: <https://www.hse.ru/data/2016/04/14/1129617631/3-Carayannis-31-42.pdf> (accessed 27 February 2018).
- Davey, T., Baaken, T., Galan Muros, V. and Meerman, A. (2011), The State of European University-Business Cooperation. Part of the DG Education and Culture Study on the Cooperation between Higher Education Institutions and Public and Private Organisations in Europe.
- Federal'naya sluzhba gosudarstvennoj statistiki (2018), available at: <http://www.gks.ru> (accessed 18 April 2018)
- Frolund L., Murray, F., and Riedel M. (2018), Developing Successful Strategic Partnerships With Universities, available at: <https://sloanreview.mit.edu/article/developing-successful-strategic-partnerships-with-universities/> (accessed 23 April 2018)
- Hall, B., Link, A., & Scott, J. (2001). Barriers inhibiting industry from partnering with universities: Evidence from the advanced technology program. *Journal of Technology Transfer*, 26, 87–98.
- Itskovits, G. (2010), Troinaya spiral. *Universitety-predpriyatiya-gosudarstvo. Innovatsii v deistvii*, Tomsk, 238 p.
- Kolk, M., Eagar, R., Boulton, C. and Mira, C. (2018), How hyper-collaboration accelerates ecosystem innovation, *Strategy & Leadership*, Vol. 46, Issue 1, pp. 23-29.
- Obschie podkhody k formirovaniyu tsifrovogo prostranstva Evraziiskogo ekonomicheskogo soyuza v perspektive do 2030 goda (2018), available at: <http://www.eurasiancommission.org/ru/act/dmi/workgroup/materials/Documents/%D0%9E%D0%B1%D1%89%D0%B8%D0%B5%20%D0%BF%D0%BE%D0%B4%D1%85%D0%BE%D0%B4%D1%8B%20%D0%BA%20%D1%84%D0%BE%D1%80%D0%BC%D0%B8%D1%80%D0%BE%D0%B2%D0%B0%D0%BD%D0%B8%D1%8E%20%D0%A6%D0%9F%20.pdf> (accessed 12 March 2018).
- OECD (2018), available at: <http://www.oecd.org/sti/msti.htm> (accessed 22 April 2018)
- Santoro, M. and Chakrabarti, A. (2001), Firm Size and Technology Centrality in Industry-University Interactions, MIT IPC Working Paper IPC-01-001.
- Saprykin, D. L. (2013), “Zolotoi vek” otechestvennoi nauki i tekhniki i «klassicheskaya» kontseptsiya inzhenerenogo obrazovaniya, *Voprosy istorii estestvoznaniya i tekhniki*, No. 1, pp. 28-66.
- Schaeffer, P., Dullius, A., Rodrigues, R. and Zawislak, P. (2017), Searching to bridge the gaps: a new typology of university-industry interaction, *Academia Revista Latinoamericana de Administración*, Vol. 30 Issue 4, pp. 459-473.
- Sheregi, F.E. and Strikhanov M.N. (2006), “Nauka v Rossii: sotsiologicheskii analiz”, available at: http://www.sheregi.ru/files/Strihanov_001_456.pdf (accessed 13 February 2018)
- Sukhinov, A. and Ugnich, E. (2017), Malye innovatsionnye predpriyatiya pri universitetakh, *Universitetskoe upravlenie: praktika i analiz*, Vol. 21, No 4, pp. 98-106.
- World Bank (2014), available at: <http://data.worldbank.org/indicator/GB.XPD.RSDV.GD.ZS?end=2014&locations=CN&start=2008> (accessed 19 April 2018)

EXPERIENTIAL MARKETING EFFECTS ON CONSUMER BEHAVIOUR: A MULTIDIMENSIONAL RESEARCH

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ABSTRACT

This research investigates the multidimensional concept of Experiential Marketing and its effects on consumer behaviour. To measure these effects, the authors used both secondary and primary data to investigate the emotions, perceived value, purchase intention, customer loyalty and the intention to recommend (WOM). The research was conducted in Limassol, Cyprus with Cypriot consumers that participated in an experiential marketing event. By testing five hypotheses, findings reveal that consumers have a positive attitude toward events of experiential marketing with the customer loyalty and perceived value being not as significant as the rest of tested variables. On a future study, researchers can investigate these effects on different cultures to find multicultural differences.

Keywords: consumer behaviour, emotions, experiential marketing, perceived value, purchase intent, loyalty, WOM.

1 INTRODUCTION

The field of Experiential Marketing has evolved over a period of time. The first who talked about marketing experiences were Holbrook and Hirschman (1982) according to which during the process of consumption the individual has an experience - a subconscious process that affects his behaviour. Schmitt in 2010, introduces the term Marketing Experience in the business and academic sphere, and adopts it as the new fascinating concept of marketing. On a later research, it was found that consumers are more satisfied from experiential purchases rather than material purchases (Gilovich et al. 2015). Experiential consumption affects a store's authenticity with the variables of perceived value and behavioural intention to play a significant role (Fu et al. 2018). Brands that engage a multisensory approach in their strategies are advantageous (Moreira et al. 2017).

Using sensory strategies in buying processes, drives on positive emotions towards a brand (Jamaluddin et al. 2013) and at the same they are positive for the brands' positioning consumers' minds (Foster and McLelland, 2015). "Human senses affect customer awareness and experiences in buying processes (Moreira et al. 2017). Purchase intentions is a variable tested by different studies. They can be "attitudes, evaluations and perceptions of brands" (Moreira et al. 2017, pp. 73).

To continue with, perceived value is a factor that plays an important role to decision making (Fu et al. 2018), as they can strongly influence it (Paraskevas and Andriotis, 2015). Perceived value can also be an essential variable on creating purchase intentions within a store (Jani and Han, 2014). The WOM tends to be a vital factor that influences consumer behaviour. Precisely, “WOM about a brand is of great importance” (Hatzithomas et al. 2018, pp. 478), whilst at the same time is the most unexplored in different studies (Heung and Gu, 2012).

2 LITERATURE REVIEW

2.1. *Experiential Marketing*

According to Berry et al. (2002), the customer experience is a result of joined elements that fit in the category of emotions. Such emotions engage smell, sight, taste, touch and sound in a particular environment. In a further analysis, these emotions are divided into three categories; functional, mechanics and humanics, where feelings are made up of things and humans respectively. The functional clues are referred to the technical quality of the good or service, the mechanic refer to the physical representation of the service environment and humanic from the behavior and appearance of the employees (Berry and Carbone 2007). Sensory marketing is under the umbrella of experiential marketing, and is as defined different strategies that involve consumers’ senses in a buying decision (Krishna, 2012). The aim of sensory marketing is to create experiences that stay in consumers’ minds, thus create a positive connection with the brand (Foster and McLelland, 2015). Some features of sensory marketing, are the use of colours, slogans and store’s design (Brakus et al., 2009).

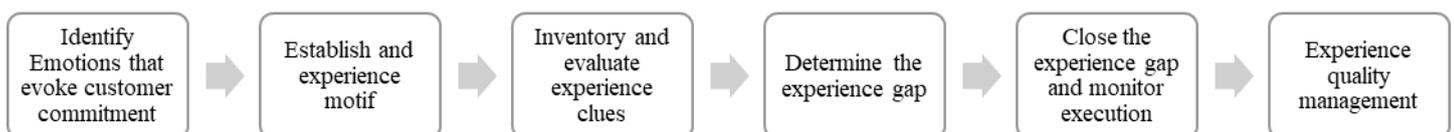


Figure 1. *Experience Auditing Steps (Berry and CarbONE, 2007)*

2.2 *Perceived Value*

Perceived value refers to humans’ perceptions regarding products, services or brands (Mathwick et al., 2001). According to the same research, perceived value is based mostly on the products’ uses and benefits rather than the market price. Consumers rely on their needs’ satisfaction where perceived value deals with the human’s perceptions of a product (Verhoef et al., 2009). On a recent study by Hatzithomas et al. (2018), it was found that WOM has a significant role on the consumers’ perceived value.

2.3 Word of Mouth

The field of Word of Mouth (WOM) has seen a big attention over the years. According to He et al. (2008), WOM can be defined as the experiences by others which strongly influence the decision making of consumers. Either their recommendations are negative or positive, they both affect to the consumers' purchase intention (Hoye and Lievens, 2009). Friends and family are social groups with the greatest influence. Additionally, WOM also increases the revenues of a company, as consumers find it trustworthy and proceed to purchases (Brown et al., 2007).

2.4 Purchase Intentions

Purchase Intentions is a result of different elements in the decision making, that drives towards or away from buying a product (Zhao et al. 2008). As Grewal et al. (1998) discussed, purchase intention can be defined as the probabilities a customer has to purchase a product. WOM and perceived value, are marked as important variables that influence purchase intentions (Schiffman and Kanuk, 2009). Purchase intentions is the final stage of the decision-making process, which most of the companies are trying to influence (Hoy and Milne, 2010).

2.5 Customer Loyalty

Researches have highlighted the importance of customer loyalty, over the importance of customer satisfaction. Customer Loyalty can be defined as a repeat purchase towards a brand or product because of a loyal customer (Zeithaml et al.1988). WOM which was discussed before, is closely related with customer loyalty because it is stated as a strong marketing tool (Brown et al., 2007). Organizations often measure their success by investigating the customer loyalty (Dick and Basu, 1994). Thus, researches use marketing strategies to enhance customer loyalty. At this point it must be mentioned that a hypothesis on WOM and Customer Loyalty is tested.

2.7 Research hypotheses

Depending on the Chapter 2 of Literature Review, all the variables discussed are tested by using hypotheses on the researchers results. The aim of the hypotheses is to accept or reject previous findings.

2.7.1 Hypothesis 1: The emotions caused by the actions of Experiential Marketing have a significant positive relationship and influence in Experiential Marketing

The first hypothesis is based on Experiential Marketing's emotional experiences (feel) (Schmitt, 1999). Generally, sensory experiences can positively affect the brand experiences Streicher and Estes, 2016). Experiential Marketing actions are "empirically tested and confirmed as having a positive impact" (Wu et al. 2018, pp. 58).

2.7.2 Hypothesis 2: There is an important correlation between Experiential Marketing and perceived value

Schmitt (1999b) identifies the positive perceived value of Experiential Marketing as well as positive customer satisfaction. In the present survey we will check the accuracy of the above proposals in the Experiential Marketing events. Hypothesis two was based on the conceptual model of Addis and Holbrook (2001), which refers to perceived value in the form of credibility, ROI, entertainment, and will lead us to determine the degree of impact of Experiential Marketing on the perceived value.

2.7.3 Hypothesis 3: There is a positive correlation between perceived value and purchase intent

The third hypothesis was based on the conceptual model of Dodds et al. (1991), concerning the intention to purchase. According to the model of Dodds et al. (1991), based on the research by Szybillo and Jacoby (1974), found the strong correlation between perceived value and market intent. Rational and affective components are assumed to positively influence the perceived value of a brand (Prebensen and Xie, 2017).

2.7.4 Hypothesis 4: There is a positive correlation between the experiences the consumer derives through Experiential Marketing and WOM

The mouth-to-mouth interpersonal communication, Word of Mouth, has been studied in various fields, such as tourism (Gopalan and Narayan, 2010; Cetin and Dincer, 2013). The conceptual framework for this research has been adapted to the model of Ferguson et al. (2009), according to which the overall positive experience that a client derives from a service has a positive effect on a positive WOM. Additionally, "WOM has been confirmed to have an impact to a variety of decision-making stages" (Hatzithomas et al. 2018, pp. 478).

2.7.5 Hypothesis 5: There is a positive correlation between positive WOM and Customer Loyalty

Final, hypothesis 5 is based on the conceptual model of Zeithaml et al. (2009, pp.550), in which the positive WOM positively affects consumer loyalty.

3 METHODOLOGY

3.1 Instrument design and measures

For the collection of primary data, we have chosen to conduct a descriptive research with a research body on the questionnaire, as this method of data collection is faster and leads to more objective answers (Milne, 1999). The Likert scale of 5 points was extensively used. As far as the questionnaire is concerned, there is an initial filtering question that ensures that the participants in the survey have taken part in events or promotional actions in the form of Experiential Marketing.

The purpose of the questions was to measure the perception of the consumers about the 5 factors of Experiential Marketing. It is based on Schmitt's experiential marketing scale (1999), which refers to the experiential features: sense, feel, think, act, relate. We use five-level, balanced, single and forced Likert

scales, with extreme values that express absolute disagreement and absolute agreement. Data collection is followed by the analysis using the Statistical Package for Social Sciences (SPSS) analysis tool.

3.2 Sampling

To measure the effects of experiential marketing to consumers, the sampling unit consisted of Cypriot consumers who took part in an Experiential Marketing event, distributed in the area of Limassol, Cyprus during the period 26/11/2017 -22/12/2017. The sampling selected was non-probability, conventional (sample of convenience) due to the high accessibility. The sample size is 302.

4 RESULTS

To start with the demographic findings of this paper, 43% of the participants were university graduates and 20% high school graduates, while in employment 60% of the sample are workers and 12.5% are unemployed.

The first hypothesis of the research model concerns the positive feelings that are caused by the actions of Experiential Marketing. According to the results, the consumers who participate in and take part in such events, their feelings on the product are positively influenced. The correlation result is $r = .560$, $p < 0.01$, which means that the correlation is strong and statistically significant. Thus, hypothesis one is accepted.

Figure 2. *Experiential Marketing actions and feelings*

	Pearson Correlation	Sig. (2-tailed)
Experiential Marketing Actions Feelings	.560	$p < 0.01$

According to the second hypothesis, there is an important correlation between Experiential Marketing and perceived value. Observing the below table, we see that the perceived value of the consumer influences consumers' positive view, while $r = .220$, $p < 0.05$. The correlation is weak, but it is statistically significant, which means that hypothesis two is rejected.

Figure 3. *Perceived Value and Positive View*

	Pearson Correlation	Sig. (2-tailed)
Perceived Value Positive View	.220	$p < 0.05$

Continuing with the third hypothesis and as shown in the table below, there is a positive correlation between perceived value and purchase intentions, with $r = .400$, $p < 0.01$. Thus, hypothesis three is accepted.

Figure 4. *Purchase Intention and Perceived Value*

	Pearson Correlation	Sig. (2-tailed)
Perceived Value Positive View	.400	$p < 0.01$

It turned out that the fourth hypothesis is being accepted as the consumer taking part in experiential marketing actions has a positive word of mouth for a product. The correlation is strong and statistically significant, with the results being $r = .420$, $p < 0.05$.

Figure 5. *Perceived Value and Positive View*

	Pearson Correlation	Sig. (2-tailed)
Experiential Actions Positive WOM	.420	$p < 0.05$

To continue with and as can be seen from the last table, it appears that $r = .870$, $p < 0.01$, meaning that a positive Word of Mouth has also a positive influence on loyalty to this product with a very strong correlation.

Figure 6. *Word of Mouth and Loyalty*

	Pearson Correlation	Sig. (2-tailed)
Word of Mouth Loyalty	.870	$p < 0.01$

5 CONCLUSIONS

The analysis of our results has shown that consumers participating in an experiential marketing event have positive feelings, namely positive mood and pleasure from the activity. Nevertheless, we notice that the sense of joy and the surprise of participating in the experiential marketing activity are indifferent to consumers. In this case, we verify Schmitt's theory (1999a) according to which any of the five dimensions of the experience chosen by an advertising / trading company as the main component of a campaign will have a positive effect and impact on the consumer.

Perceived value and faithfulness are rather uninterested (but not negative) for consumers taking part in such events. Observing this neutral attitude of respondents, we find that it is opposite with both Schmitt's theory (1999b) and Addis and Holbrook (2001) research, according to which Experiential

Marketing has a high positive impact on the perceived value that consumer has for a product. From the results of the study it is clear that experiential marketing is particularly useful for increasing the customer's purchasing intention. So, we conclude that there is a positive correlation between perceived value and purchase intentions.

Last but not least, respondents have a positive experience of participating in experiential marketing actions, and our findings confirm the theory of Ferguson et al. (2009), and Gopalan, and Narayan (2010), according to which a positive experience leads to a positive Word of Mouth, which then drives to a loyal behaviour towards a brand.

6 PRACTICAL IMPLICATIONS

Bearing in mind the results from Chapter 4, it can be seen from Table 1 the significance of Experiential Marketing in creating positive feelings. According to Wu et al. (2018), sensory strategies in places influence in a positive way consumers' feeling. Thus, as feelings include a variable most of the companies want to control, is suggested to engage sensory strategies in their plan.

Perceived value is assumed by Schmitt (1999b) and Addis and Holbrook (2001) to be a factor affected by experiential marketing actions and therefore influencing the decision making. However, the correlation shown in Table 2, is opposite to the theory. Companies are encouraged not to use such events with the aim of influencing perceived value. According to (Verhoef et al., 2009), perceived value deals with the human's perceptions of a product, as a result, it is better to use strategies influencing the WOM, a variable directly linked with perceived value. Bearing in mind Table 3 that examines perceived value with purchase intention and their positive correlation, it is shown once again the importance of perceived value and its proper management.

As per the WOM and its strong influence, nowadays most of the companies are engaging actions to enhance the positive wording for their products or services. It is worth mentioning Brown et al. (2007) discussed, people are finding trustworthy. Table 4 shows the significant and positive correlation between experiential marketing and WOM, with the result that companies are strongly proposed to use such sensory strategies. WOM can also increase a company's revenues, therefore a good management with an emphasis on humans' senses is encouraged.

7 LIMITATIONS AND FUTURE RESEARCH

7.1 Limitations

7.1.1 Sampling errors

As mentioned above, the survey was conducted from 26/11/2017 - 22/12/2017, in the major shopping center of Limassol (My Mall Limassol). Probably there are sampling errors originating from the short research period and the sample chosen, which does not allow us to calculate the statistical error. Moreover, the sample is small (302) and focuses mainly on the visitors of the one major shopping center in Athens Limassol, thus we are unable to generalize the results of the survey to the entire population of the country.

7.1.2 Non-response errors

There was a greater response from young people and from students who had completed a postgraduate program for the following reasons:

- a) graduate students and graduates were familiar with their research, process and importance, either because they had previously carried out some research or will in the future.
- b) there were difficulties on approaching people aged 55-64 and 65+, as they were not patient and did not understand the importance of the process for accurate and true completion of the questionnaire.

7.1.3 Errors when collecting data

Some respondents were not able to give complete answers to the questions when completing the questionnaire either because they did not understand the seriousness and importance of the questionnaire or were under time pressure.

In addition, the questionnaire design was done by selecting a closed question type, in order to facilitate the completion and analysis of the results. The result was the standardization of responses and the exclusion of different answers that some respondents might have wanted to give.

7.2 Future Research

The design of the questionnaire was done by selecting a closed type of questions, for the purpose of completing and analysing the results. The result was the standardization of responses and the exclusion of different answers that some respondents might have wanted to give. On a future research, it would be interesting to investigate this topic with in-depth interviews in order to research the insights of the above experiences.

Additionally, it would be interesting to study the future intentions of the participants, which will vary according to the sample and places that will be investigated. The next attractive field of research is to explore the above hypotheses in different countries where they have different cultures and habits. We

would suggest that a random sample (probability sample) could be explored at a wider geographic region.

REFERENCES

- Addis, M., and Holbrook, M.B. (2001). "On the conceptual link between mass customisation and experiential consumption: An explosion of subjectivity", *Journal of Consumer Behaviour*, Vol. 1 No.1, pp.50–66.
- Berry, J., Poortings, Y. H., Segall, M. H. and Dasen, P. (2002). *Cross-Cultural Psychology: Research and Applications*, Second Edition, Cambridge.
- Berry, L. L. and Carbone, L. P. (2007). "Build Loyalty Through Experience Management", *Quality Progress*, Vol. 40 No. 9, pp. 26-32.
- Brakus J. J., Schmitt B. H. and Zantonello L. (2009). "Brand experience: what is it? How is it measured? Does it affect loyalty?", *Journal of Marketing*, Vol. 73 No.3, pp.52-68.
- Brown, J., Broderick, A. J. and Lee, N. (2007). "Word of mouth communication within online communities: Conceptualizing the online social network", *Journal of Interactive Marketing*, Vol. 21 No. 3, pp. 2–20.
- Cetin, G., and Dincer, F. I. (2013). "Influence of customer experience on loyalty and word-of-mouth in hospitality operations", *Journal of Tourism and Hospitality Research*, Vol. 25 No. 2, pp. 181-194
- Dick, K. and Basu, K. (1994). "Consumer loyalty: towards an integrated conceptual approach", *Journal of the Academy of Marketing Science*, Vol. 22 No. 2, pp. 99-113
- Dodds, W.B., Monroe, K.B. and Grewal, D. (1991). "Effects of price, brand and store information on buyers' product evaluations", *Journal of Marketing Research*, Vol. 28, pp. 307–319.
- Ferguson, R. J. and Michele, P. (2009). "Customer Sociability dan The Total Service Experience Antecedents of Positive Word-of-Mouth intentions", *Journal of Service Management*, Vol. 21 No. 1, pp. 25-44.
- Foster, J., and McLelland, M. (2015). "Retail atmospherics: the impact of a brand dictated theme", *Journal of Retailing and Consumer Services*, Vol. 22, pp. 195-205.
- Fu, W.W. (2009). "Screen survival of movies at competitive theaters: vertical and horizontal integration in a spatially differentiated market", *Journal of Media Economics*, Vol. 22 No. 2, pp. 59-80.
- Gilovich, T., Kumar, A. and Jampol, L. (2015). "A wonderful life: Experiential consumption and the pursuit of happiness", *Journal of Consumer Psychology*, Vol. 25 No. 1, pp. 138 –151.
- Gopalan, R. and Narayan, B. (2010). "Improving customer experience in tourism: A framework for stakeholder collaboration", *Journal of Socio-Economic Planning Sciences*, Vol. 44 No. 2, pp. 100-112.
- Grewal, D., Monroe, K. B. and Krishnan, R. (1998). "The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value, and behavioural intentions", *Journal of Marketing*, Vol. 62, pp. 46–59.
- He, W., Qiao, Q., and Wei, K. K. (2009). "Social relationship and its role in knowledge management systems usage", *Journal of Information and Management*, Vol. 46 No. 3, pp. 175–180.
- Heung, V. C. and Gu, T. (2012). "Influence of restaurant atmospherics on patron satisfaction and behavioral intentions", *International Journal of Hospitality Management*, Vol. 31 No. 4, pp. 1167-1177.
- Holbrook, M. B., and Hirschman, E. C. (1982). "The experiential aspects of consumption: Consumer fantasies, feelings, and fun", *Journal of Consumer Research*, Vol. 9, pp. 132–140.
- Hoy, M. G. and Milne, G. (2010). "Gender differences in privacy-related measures for young adult Facebook users", *Journal of Interactive Advertising*, Vol. 10 No. 2, 28–45
- Hoye V., and Lievens, F. (2009). "Networking as a job search behavior: social network perspective", *Journal of Occupational & Organizational Psychology*, Vol. 82 No. 3, pp. 661-682.
- Jamaluddin, M., Hanafiah, M. and Zulkifly, M. (2013). "Customer-based psychology branding", *Procedia – Social and Behavioral Sciences*, Vol. 105, pp. 772-780.
- Jani, D. and Han, H. (2014). "Personality, satisfaction, image, ambience and loyalty: testing their relationships in the hotel industry", *International Journal of Hospitality Management*, Vol. 37, pp. 11-20.
- Krishna, A. (2012). "An integrative review of sensory marketing: engaging senses to affect perception, judgment and behavior", *Journal of Consumer Psychology*, Vol. 22 No. 3, pp. 332-351.
- Hatzithomas, L., Gkorezis P., Zotou A. Y. and Tsourvakas G. (2018). "The impact of atmospherics on WOM about short life-cycle products: the case of motion pictures", *Journal of Product & Brand Management*, Vol. 27 No. 5, pp. 471-483
- Milne, G. and Boza, M. E. (1999). "Trust and concern in consumers' perceptions of marketing information management practices", *Journal of Interactive Marketing*, Vol. 13 No. 1, pp. 5-24.

- Moreira, A., Fortes, N. and Santiago, R. (2017). "Influence of sensory stimuli on brand experience, brand equity and purchase intention", *Journal of Business Economics and Management*, Vol. 18 No. 1, pp. 68-83.
- Paraskevaidis, P. and Andriotis, K. (2015). "Values of souvenirs on commodities", *Tourism Management*, Vol. 48, pp. 1-10.
- Prebenser, N. K. and Xie, J. (2017). "Efficacy of co-creation and mastering on perceived value and satisfaction in tourists' consumption", *Tourism Management*, Vol. 60, pp. 166-176.
- Schiffman, L. and Kanuk, L. (2009). "Consumer behaviour", 10th ed. Prentice Hall.
- Schmitt, B. (2010). "Experience Marketing: Concepts, Frameworks and Consumer Insights", *Foundations and Trends in Marketing*, Vol. 5 No. 2, pp. 55-112.
- Schmitt, B. (1999a). "Experiential Marketing: A new Framework for Design and Communications", *Design Management Journal*, Vol. 10, No. 2, pp. 10-16.
- Schmitt, B. (1999b). "Experiential marketing: How to get customers to sense, feel, think, act and relate to your company and brands". The Free Press, New York, USA.
- Streicher, M. and Estes, Z. (2016). "Multisensory interaction in product choice: grasping a product affects choice of other seen products", *Journal of Consumer Psychology*, Vol. 26 No. 4, pp. 558 - 565.
- Szybillo, G. and Jacoby, J. (1974). "Intrinsic versus extrinsic cues as determinants of perceived product quality", *Journal of Applied Psychology*, Vol. 59 No. 1, pp. 74-78.
- Verhoef, P.C., Lemon, K. N. and Parasuraman, A. (2009), "Customer experience creation: Determinants dynamics and management strategies", *Journal of Retailing*, Vol. 85 No. 1, pp. 31-41.
- Wu, H., Li, M. and Li, T. (2018), "A study of experiential quality, experiential value, experiential satisfaction, theme park image, and revisit intention", *Journal of Hospitality and Tourism Research*, Vol. 72 No. 1, pp. 26-73.
- Zeithaml, V. (1988), "Consumer perceptions of price, quality, and value: A meansend model", *Journal of Marketing*, Vol. 52, pp. 2-22.
- Zhao, S., Grasmuck, S. and Martin, J. (2008). "Identity construction on Facebook: Digital empowerment in anchored relationships", *Computer in Human Behavior*, Vol. 22, pp. 1816-1836.

PERCENTILE CITATION-BASED METHOD FOR SCREENING THE MOST HIGHLY CITED PAPERS IN LONGITUDINAL BIBLIOMETRIC STUDIES AND SYSTEMATIC LITERATURE REVIEWS

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ABSTRACT

We studied the problem of how to identify the most impactful papers of a scientific field, for longitudinal bibliometric analyses or systematic literature reviews' purposes. We show that using raw citation counts, the most popular approach, it is not suitable to compare papers from different periods. Other approaches, such as the use of normalized citations by the paper's exposure time, or by the annual average citations of the area, although improving the selection quality, do not lead to sufficiently homogeneous results in terms of citation counts and number of papers published per year. As an alternative, we propose a percentile citation-based method and compare it to the commonly used approaches, for the Top100, and the Top500 in a sample of 25144 papers. This sample was collected from the Scopus database, by selecting the top 10% sources titles in the period 1987-2015 in the Archaeology field. Our results show that the choice of the right normalization metric to be used in the ranking of the impact of the papers is crucial, since it may privilege certain periods, while neglecting others. Based on our results, we argue that this does not happen with our approach, the percentile method.

Keywords: Citation analysis, Percentile method, Most highly cited paper, Longitudinal bibliometric study, Systematic literature review, Citation impact.

INTRODUCTION

In the 21st century, the evolution of the facilities to access citation information in databases, such as Scopus, Web of Science (WoS), and Google Scholar (GS), and the development of bibliometric tools for the systematic analysis of literature, such as VOSviewer, CitNetExplorer (Van Eck and Waltman, 2010, 2017) and CiteSpace (Chen, 2004) led to an abrupt increase in the quantity and richness of the literature review articles (Tomaszewski, 2018). Many of these papers seek to map the evolution of a specific science field, or the progress of a country in a particular research subject, over a long period (sometimes more than 40 years). In these studies, citation analysis plays a key role, because while the number of

publications represents quantitative aspects of a research item (e.g., a country, a journal, a department, an author, etc.), the number of citations provides an indication of quality (Reingewertz and Lutmar, 2018). For instance, citation analysis of the classical or top-cited articles of a scientific field can significantly contribute to this field in terms of exhibiting up-to-date academic information, progress, and tendencies (Dokur and Uysal, 2018). In order for its application produce reliable results, the use of citation counts for comparison of units in research (e.g., researchers, research groups, institutions, or countries) publishing in different disciplines and time periods is only possible with normalized citation scores (Haunschild and Bornmann, 2016).

Indeed, in the past few years a lively debate has taken place about bibliometric indicators, like citation normalization, which focuses on their statistical properties (Moed, 2016). However, despite the wide effort of these researches, it can be verified in the literature that, in many recent papers of systematic literature reviews (Lu and Liu, 2014; Alajmi and Alhaji, 2018, among others), the use of citation counting is performed through non-normalized metrics and, therefore, not efficient in the time comparison. In addition, also in the case where the citation indicators are normalized through specific metrics (e.g., Ahmi et al., 2018; Zamore et al., 2018), it is difficult to ensure that the formula used is not neglecting articles with relevant impact potential.

The selection of papers through the number of absolute (non-standardized) citations is not sufficient to take into account for more recent papers that already show great impact. Selecting papers through a TopN set (often, with $N = 100$) does not balance the impact of published articles in different periods. Different ways of dealing with citations lead to different rankings, and according to the criteria established by these methods one may be privileging older papers in some cases, or more recent ones in others, making the analysis incomplete.

In this paper, we investigate two questions. Firstly, which are the main citation metrics that are able to select articles in a weighted way for the systematic literature reviews, and how do they compare with the percentile-based approach? Secondly, what are the consequences of using percentile rank (with the year of publication as a tie-breaking rule) to select highly cited papers to be used in literature reviews? For the first purpose, we investigated how citation metrics used recently in longitudinal literature reviews are calculated, and the divergences that arise when the papers of a specific research field are ranked according to each of the criteria established by these metrics. For the second purpose, we analyzed the main characteristics of the annual number of articles belonging to the Top100 and Top500 of each metric rank. We use the Top100 because it is used by several longitudinal studies (e.g., Dokur and Uysal, 2018, Yeung, Heinrich and Atanasov, 2018), and the Top500 for comparison purposes, and to understand what happens when the selection list is expanded. The main particularities of the behavior of the rank metrics when we switch from Top100 to Top500, practically, remain unchanged.

To understand the differences among the ranks over the years we have also calculated the annual averages obtained by each metric. The relationship between the temporal evolution of the total number of papers and the corresponding number of papers obtained by the Top100 and Top500 of each metric served to clarify important issues of our second purpose. In this way, we can have a clear view of which periods are privileged when using one metric or another, and which periods are neglected.

In this study we used Scopus database from Archaeology field, 25.144 papers, that was built with the top 10% sources titles for the period 1987-2015. Our findings, although the research is exploratory and limited to the analyzed database, show that the percentile-based approach should be preferred for calculating normalized citation impact values, because it takes into account, in a balanced way, the various temporal periods that are usually investigated in longitudinal studies.

BACKGROUND

In order to develop this background, we perform a search using the terms: "citation analysis" OR "citation count" AND "database" OR "Scopus" OR "Web of science" OR "WoS" OR "Google Scholar" OR "GS". The survey was conducted on Scopus and WoS databases on TITLE-ABS-KEY with a limit of years 2017 and 2018. Several abstracts of articles that involve longitudinal reviews over a period larger than 15 years were analyzed to understand if one of the key points of the study is related to the citation counts. After that, all papers whose abstracts were aligned with this criterion were studied in order to capture which citation-based indicators were used to compare and prioritize articles, authors, countries, departments, institutes, research groups, etc.

The following list describes the citation-based indicators (C_x) founded in this study. Although field- and time-normalization of metrics is currently a standard procedure among bibliometricians (Leydesdorff, Wouters and Bornmann, 2016), most of the citation indicators are still based on simple non-normalized averages (e.g., C1, C2 and C3).

(a) Normalized citation impact value (C1):

$$C1 = \frac{\langle Ci \rangle_{Country}}{\langle Ci \rangle_{All}} \quad (1)$$

where, $\langle Ci \rangle_{Country}$ is the mean citation rate to a country's set of publications, and $\langle Ci \rangle_{all}$ is the mean of citation of all publications in that subject area. $C1 = 1$, for a specific country in a specific subject area indicates that the citation impact of papers published by scientists in this country is no more and no less than the average impact of papers in this subject area (Bornmann and Leydesdorff, 2013). Note that the idea applied for this country mean citation is the same as used in SNIP – source normalized impact

per paper indicator (Moed, 2016). However, in the case of SNIP, the indicator is relative to a journal performance over all other journals in the field.

(b) Average number of citations (C2):

$$C2 = \frac{\sum_{i=1}^N C_i}{N} \quad (2)$$

where, C_i is the citation count of a paper i and N is the sample quantity. The average number of citations (C2) is also called mean citation per paper or citations per publication. The sample can be the papers of a country, an author, an institution or another item over valuation. In fact, C2 represents nothing more than the arithmetic mean of citations.

(c) Citation rate per year (C3):

$$C3 = \frac{12 C_i}{M} \quad (3)$$

where, M is the number of months since de initial publication up to the month of extraction. The citation rate per year (C3) is also called citation count per year since publication, or adjusted citation index. This citation rate per year can be viewed as the average number of citations that paper has received each year since it was published (Wilcox et al., 2013). Thus, this metric has the advantage to adjust citations for the "exposure time" of articles published.

(d) Scaled citation count (C4):

$$C4 = \frac{C_i}{\langle C_i \rangle_{year}} \quad (4)$$

where $\langle C_i \rangle_{year}$ is the average citation count in the same year as the publication of paper i . Thus, C4 is a normalized indicator that shows the discrepancy between C_i and the mean citations of other papers that were published in the same year of paper i . As in the case of C1 (Eq. 1), a value of 1 for a specific paper indicates that the citation impact of this paper is no more and no less than the average impact of papers, in this scientific field, published in the same year.

(e) Citation density (C5):

$$C5 = \frac{\langle C_i \rangle_{year}}{Y} \quad (5)$$

where, Y is the number of years since de initial publication up to the year of extraction. For example, if a study was done in 2015, and we found 25 papers with total citation count equal to 1500 ($\sum C_i = 1500$) published in the year 2000, the citation density (C5), i.e. the citations per paper per citation year is $(1500/25/16) = 3.75$. So, C5 combines C2 with C3 to provide a normalized citation-based indicator witch

measures citation impact in terms of both: (i) citations per paper, and (ii) citations per citation year (Ahmed et al., 2017).

Reference	Databases	Period	Δt	Fields or source	Countries	Cx,n
Ahmi et al. (2018)	GScholar	2000 – 2018	19	Supply Chain Management	All countries	C3
Alajmi and Alhaji (2018)	Scopus	2002 – 2016	15	Knowledge Management	All countries	C0
Dokur and Uysal (2018)	PubMed and WoS	1975 – 2017	43	Traumatology	All countries	C0, 100
Muniz et al. (2018)	Scopus	2000 – 2015	16	Dentistry	Oceania, BRICS, USA/Canada, UK, etc.	C2
Ram (2018)	Scopus	1968 – 2017	50	Leishmaniasis	The focus is India, but they compare India with US, Brazil, UK, France, Spain, Germany, Iran, Italy, Switzerland and Canada)	C2
Reingewertz and Lutmar (2018)	WoS and GScholar	2000 – 2015	16	International Organizations	All countries	C4
Tomaszewski (2018)	WoS	2000 – 2015	16	Chemistry	All countries.	C0
Wang and Tang (2018)	WoS	1970 – 2016	47	Environmental Economics	All countries. USA, UK, China, Australia, and France are the most productive in this field.	C2
Yeung, Heinrich and Atanasov (2018)	Scopus	Last 50 years	50	Ethnopharmacology	All countries. There is no distinction. USA, India, China. UK, Brazil and Germany are the countries with more papers in this research.	C3, 100
Zamore et al. (2018)	WoS	1960-2016	57	Risk measurement	72 countries	C3
Adam, et al. (2017)	WoS, MEDLINE, SciELO	1966 – 2012	49	Prostate cancer	All countries, but USA, Canada, France, UK, Netherlands, Italy and Sweden being most productive in this field.	C3, 100
Ahmed et al. (2017)	Scopus	2000 – 2014	15	Clinical pharmacology	India. The leading international collaborative countries were USA, Germany, U.K., Japan, Russia, Belgium and Canada.	C5,76
Basu, Mallik and Mandal (2017)	WoS	1984 – 2013	30	Medicinal plants and cancers	All countries. USA, China, Japan, India, South Korea, Germany, Italy, Taiwan, France etc are the best	C2
Brüggmann et al. (2017)	WoS	1900 – 2012	113	Ectopic pregnancy	All countries. USA, UK, Germany, France, Israel, Canada, Australia, Italy, Japan, Turkey, China, Sweden, the Netherlands, Austria and Taiwan are the best	C2
de Paulo et al. (2017)	WoS	2000 – 2014	15	Open innovation	The countries were divided into two groups (developed	C2

					countries, i.e., G7, and emerging countries, i.e. [BRICS])	
Haslam et al. (2017)	Scopus and GScholar	2001 – 2016	– 16	Psychology	Australia	C2

Table 1. *Reviews using citation analysis*

Table 1 introduces a sample of 16 scientific articles that were analysed, in terms of the citations screening method used. Because of the space limitation, we only show the articles from the last 2 years (2017 and 2018). For each article we showed the database used in the search; the first and last year used in the review study; the interval of years of the longitudinal analysis corresponding to the study (Δt); the scientific field of the investigation or the journals in which the research was carried out; if a set of specific countries was used or if there was no such limitation; and finally, what was the metric used in the citation analysis. C0 corresponds to the situation that only the raw citation data were used, and the value of n means that extraction was based on the n more cited articles (top n cited).

As can be seen from Table 1, only one of the review articles uses a normalized metric C4. It is the article by Reingewertz and Lutmar (2018) that explore the possibility of bias in publication processes. They used citation counts as a proxy measure for article quality. For them, the assumption that citations reflect quality is crucial. To control for variation across time, the citation counts are divided by the average citation count in the same year (Reingewertz and Lutmar, 2018). C2 was used in 7 articles and is the most common. However, this metric, like C0, does not represent normalization. It's just an average of some documents. Normalization by C3 is used in 4 investigations (Table 1). This metric is easy to use and takes into account, in a simple way, the number of years of exposure of a paper. It was used in the work of Ahmi et al. (2018) to draw the trends of the e-SCM using bibliometric analysis and in the study of Zamore et al. (2018) to provide a comprehensive review of scholarly research on credit risk measurement. In others 2 work this metric was used for the top 100 papers of the field: First, Yeung, Heinrich and Atanasov (2018) calculated C3 for the 100 most cited paper in Ethnopharmacology and showed that citation counts of the articles have no significant correlation with the number of years since publication; second, to perform a comparative bibliometric analysis of the Top 100 most cited articles in the field of PCa, Adam et al. (2017) recalculated the citations using C3 and showed that this resulted in a drastic change of the overall ranking, with, for example, the previously seventh ranked most cited paper, ranking highest.

DATA

In order to provide some numerical examples, we collected the data from Scopus from the subject area: Archaeology in Arts and Humanities (25144 papers in the Scopus database). The database was built

with the top 10% sources titles, in terms of citations, from 1987 to 2015. Data were obtained from the file CiteScore_Metrics_2011-2017 downloaded on Scopus.com on May 25, 2018, using the following 2 filters: in the column Scopus Sub-Subject Area we selected Archaeology, and in the column Top 10% (CiteScore Percentile) we selected Top 10%. The search of the articles and their corresponding citation numbers was conducted between August and September 2018 on Scopus site. For this, we used the Print-ISSN and e-ISSN codes of each journal, instead of the title name, to avoid collection errors. We collected the results for the period 1987-2015. On the Scopus website, we used the link View Citation Overview. The citation overview is available as a comma separated file (.csv) with the first 20,000 documents included, that we downloaded separately for each year of the interval.

METHOD

With the annual list of citation data for each article we calculate the metrics C_3 and C_4 which are the normalization metrics that can be associated with individual articles. Note that these metrics are directly related to the list of publications for each year. The metrics C_1 , C_2 , and C_5 are calculated parameters for certain sets of papers (e.g., countries, universities, authors, etc) and, therefore, they were not used to provide results for this study. In addition to C_3 and C_4 , we also calculated the percentile associated with each paper within its year of publication. The percentile rank approach has the advantage that, intrinsically, implies the normalization of citation counting data (Brito and Rodríguez-Navarro, 2018). We defined C_6 as the percentile metric. In the percentile formula applied in this study, we used the value equal to 0 for papers that have no citation counts. In fact, by assigning the zero classification to articles with zero citations, one can guarantee that the absence of impact of these works is reflected in the same way in all the sets of papers studied (Bornmann, Leydesdorff and Wang, 2013). An analogous concept can be applied to the paper with the highest number of citations in each year. Therefore, for these papers we used $C_6 = 1$. In the percentile formula used in this study, if a paper has $C_6 = x$, it means that there are $x\%$ of papers with fewer citations than this paper. This means that in a sample of 3000 papers, if 60 papers did not obtain citations, papers that have 1 citation ($C_0 = 1$) will have $C_6 = 0.02$.

After setting the C_3 , C_4 , C_6 values and, also with C_0 , we constructed the list with 25144 papers published in the period 1987-2015. Thus, they were placed in descending order 4 times, and we build the C_0 , C_3 , C_4 and C_6 ranks. The tiebreakers were resolved using the publication year, with the most recent paper being ranked first.

RESULTS AND DISCUSSIONS

Table 2 reveals what happens when we use a list of the first 20 papers of each of the four ranks studied. The first column presents the Top20 of all sample articles when the ranking is performed by C0 values. The other numbers between "semicolon" are the classifications of each of these articles in the other three ranks. Thus, the article with the highest number of citations ($C_0 = 1$) is in 4th order in C3 rank and 2nd in C4 rank, but in C6 its placement is well below. This is due to the way in which each metric calculates its values and, also, by the tiebreak rule used. From this table it is possible to verify the divergence between the metrics that usually have been used to select the works of greater impact in several research fields.

[C0]; C3; C4; C6 rank	C0; [C3]; C4; C6 rank	C0; C3; [C4]; C6 rank	C0; C3; C4; [C6] rank
1;4;2;23	2;1;1;3	2;1;1;3	808;56;45;1
2;1;1;3	4;2;3;7	1;4;2;23	51;9;10;2
3;6;5;18	5;3;4;35	4;2;3;7	2;1;1;3
4;2;3;7	1;4;2;23	5;3;4;35	119;26;30;4
5;3;4;35	6;5;6;12	3;6;5;18	82;21;33;5
6;5;6;12	3;6;5;18	6;5;6;12	88;36;44;6
7;10;7;25	16;7;8;32	7;10;7;25	4;2;3;7
8;14;11;15	28;8;12;42	16;7;8;32	13;11;13;8
9;13;16;14	51;9;10;2	10;41;9;29	33;20;26;9
10;41;9;29	7;10;7;25	51;9;10;2	23;19;24;10
11;27;18;79	13;11;13;8	8;14;11;15	31;33;37;11
12;15;17;71	17;12;15;36	28;8;12;42	6;5;6;12
13;11;13;8	9;13;16;14	13;11;13;8	22;32;32;13
14;25;22;74	8;14;11;15	19;62;14;26	9;13;16;14
15;43;28;142	12;15;17;71	17;12;15;36	8;14;11;15
16;7;8;32	84;16;19;43	9;13;16;14	25;51;27;16
17;12;15;36	18;17;20;111	12;15;17;71	20;42;21;17
18;17;20;111	35;18;29;49	11;27;18;79	3;6;5;18
19;62;14;26	23;19;24;10	84;16;19;43	32;86;25;19
20;42;21;17	33;20;26;9	18;17;20;111	24;79;23;20

Table 2. List of the first 20 articles of the Cx rank and their orders in the other rankings. [Cx] defines the ranking performed. The first column reproduces the classification obtained by C0 rank (larger and in bold), and the other numbers between "semicolon" the position from the same article in the other rankings. On the second column, the same but with C3 (larger and in bold), and so on.

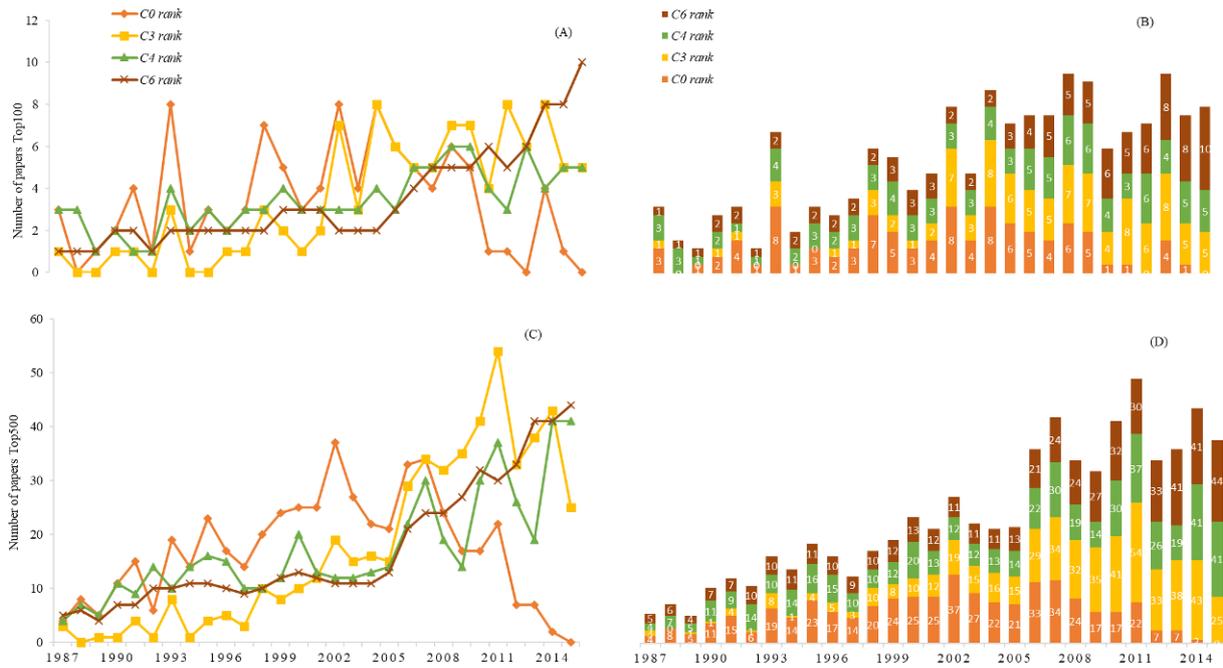


Figure 1. Annual distribution of Top100 and Top500 papers. The evolution of the number of papers across the period 1987-2015 for C0, C3, C4 and C6 ranks for papers belonging to Top100 (A and B); and to Top500 (C and D). The number inside the bar express the number of papers belonging to Top100 (B) and to Top500 (D) of each metric rank.

Figure 1 shows the annual distribution of the number of papers in the sample when using each of the four citations metrics. (A) and (B) represent the distribution for Top100 articles, and (C) and (D) the Top500. The Top100 distribution behavior resembles Top500. In both, C0 decreases over time, as newer papers have not yet been able to have their impact in terms of citations, and thus take a lot of disadvantage when using this metric. It is important to note that this is already observed as of 2007 for the Top 500. On the other hand, the use of C3 disadvantages of older papers. In fact, when dividing the number of citations by the exposure years, the older articles get C3 values relatively low. This is aggravated in case of a broad longitudinal analysis in which the authors are studying about 50 research years, or more. C4 is the most oscillating, alternating high and low values, year by year, which is not compatible with a parameter that seeks to match a normalized expected value. Of all the metrics studied, the C6 is the one that generates the smoother annual distribution, that is, without the oscillations of the other normalization criteria presented. Also, even with the latest articles being benefited because of the tiebreaker rule used, older papers take part proportionately well of the annual distribution when C6 is used.

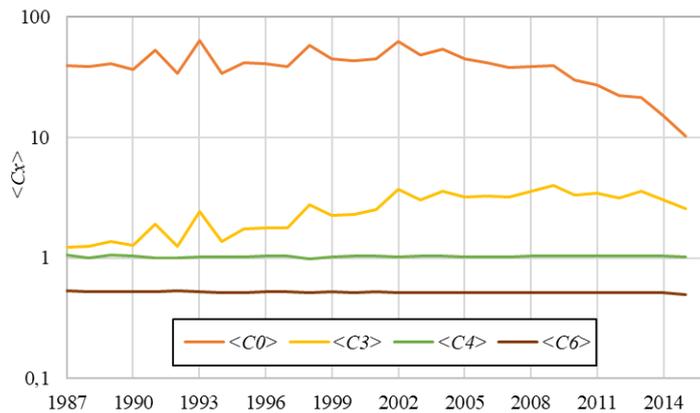


Figure 2. Annual averages for different citation metrics. The logarithmic scale on the y-axis facilitates the visualization of the 4 curves together

Figure 2 shows the average of C_x per year ($\langle C_x \rangle$). As can be seen from this figure, both the percentile approach and $\langle C_4 \rangle$ present annual invariant values. This aspect, expected in view of its formulas, corresponds to giving equal weights to each of the years for the number of articles that will be selected by a specific method (for example, Top100). On the other hand, $\langle C_3 \rangle$ and $\langle C_0 \rangle$ oscillate over time. The case of $\langle C_3 \rangle$ is interesting and its aspects should be taken into account when this metric will be used to evaluate the impact of papers. Its value increases during the 90's, but then the curve gets smoother to start a drop in the last two years of our analysis. Indeed, for this metric the exposure time participates in the result of the average through two factors: in the denominator, that, year by year increases the average; and in the numerator itself that, year by year decreases the average, because of the lower citation counts. $\langle C_0 \rangle$ vary around, approximately, 45 up to the year 2002 and, thereafter declines since more recent articles have lower citation counts than the older ones.

Figure 3 compares the behavior over the years of the total number of papers published with the number of papers selected by the Top100 (A, C, E and G), and Top 500 (B, D, F and H) for each of the 4 metrics studied in this article. It can be noticed that the selection of papers by the C_6 follows the behavior of the curve of the total number of papers. This aspect shows that if this metric is used, we will be considering that the participation of one paper in the ranking is strongly correlated by the total number of papers. This shows that the percentile method positively correlates the likelihood of an article being ranked with the total number of articles that year. This behavior is in part followed by some aspects of the C_3 curve, although this curve neglects older works and fluctuates a lot, year after year. For years prior to 2007/2008, the C_4 curve also produces this weighting, but after that period, it describes oscillatory aspects that are far from the expected one. C_0 , which is the metric without normalization, is the one that less corresponds to this balance.

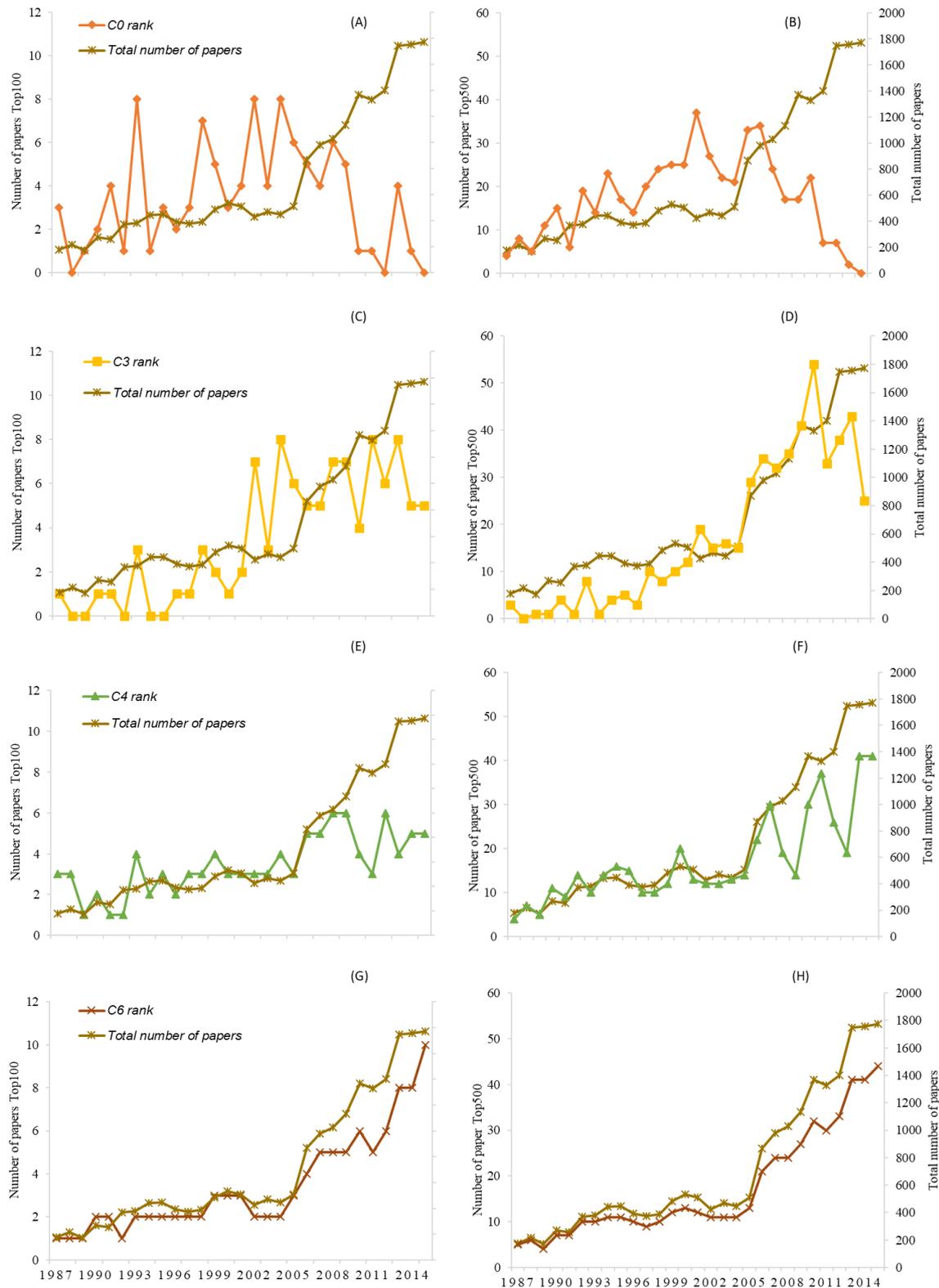


Figure 3. Comparison between the distribution of papers belonging to the rankings of each metric with the total distribution of papers. (A) Top100 C0 rank; (B) Top500 C0 rank; (C) Top100 C3 rank; (D) Top500 C3 rank; (E) Top100 C4 rank; (F) Top500 C4 rank; (G) Top100 C6 rank; (H) Top500 C6 rank. All graphics include the period 1987-2015. The right axis represents the total annual distribution of articles published.

CONCLUSIONS

In this work we analyzed the effectiveness of the most common used citation metrics in longitudinal bibliometric studies, in terms of their ability to select, in a balanced way, highly impact articles from different time periods. One of the metrics used is the number of citations without any normalization, while the other three metrics are obtained through normalizations – one by the annual mean of citations, another by the number of years of exposure, and the other by the percentiles. Our results show that, of all the metrics presented, the percentile approach is best suited to provide appropriate weights for the citations either of the oldest or the most recent articles. This work is an exploratory and preliminary study based on the analysis of a 25000 sample of papers of a specific scientific area. For more conclusive studies the analysis suggested in this paper needs to be applied to other areas of research. Our percentile-rank approach may improve the work of researchers who develop structured literature reviews and longitudinal scientometric studies, since they may more effectively select the most important papers in the research field to be studied.

REFERENCES

- Adam, A., Ras, R., Bhattu, A. S., Raman, A. and Perera, M. (2017). "Researching the Research" in Prostate Cancer: A Comparative Bibliometric Analysis of the Top 100 Cited Articles in the Field of Prostate Cancer." *Curr. Urol.*, Vol. 1, No. 1, pp. 26–35. DOI: 10.1159/000447191.
- Ahmed, K. K. M., Dhawan, S. M., Gupta, B. M. and Bansal, M. (2017). "Highly cited publications output by India in clinical pharmacology during 2000-14: A scientometric assessment." *J. Young Pharm.*, Vol. 9, No. 2, pp. 145–157. DOI: 10.5530/jyp.2017.9.30.
- Ahmi, A., Rahim, S. A. and Elbardan, H. (2018). "A global trend of the electronic supply chain management (e-SCM) research: A bibliometric analysis." *Int. J. Supply Chain Manag.*, Vol. 7, No. 5, pp. 535–542.
- Alajmi, B. and Alhaji, T. (2018). "Mapping the field of knowledge management: Bibliometric and content analysis of journal of information and knowledge management for the period from 2002-2016." *J. Inf. Knowl. Manage.*, Vol. 17, No. 3. DOI: 10.1142/S0219649218500272.
- Basu, T., Mallik, A. and Mandal, N. (2017). "Evolving importance of anticancer research using herbal medicine: a scientometric analysis." *Scientometrics*, Vol. 110, No. 3, pp. 1375–1396. DOI: 10.1007/s11192-016-2223-8.
- Bornmann, L. and Leydesdorff, L. (2013). "Macro-Indicators of Citation Impacts of Six Prolific Countries: InCites Data and the Statistical Significance of Trends." *PLoS ONE*, Vol. 8, No. 2. e56768. <https://doi.org/10.1371/journal.pone.0056768>
- Bornmann, L., Leydesdorff, L. and Wang, J. (2013). "Which percentile-based approach should be preferred for calculating normalized citation impact values? An empirical comparison of five approaches including a newly developed citation-rank approach (P100)." *Journal of Informetrics*, Vol. 7, pp. 933–944.
- Brito, R. and Rodríguez-Navarro, A. (2018). "Research assessment by percentile-based double rank analysis." *Journal of Informetrics*, Vol. 12, No. 1, pp. 315–329.
- Brüggmann, D., Kollascheck, J., Quarcoo, D., Bendels, M. H., Klingelhöfer, D., Louwen, F. et al. (2017). "Ectopic pregnancy: Exploration of its global research architecture using density-equalising mapping and socioeconomic benchmarks." *BMJ Open*, Vol. 7, No. 10. DOI: 10.1136/bmjopen-2017-018394.
- Chen, C. (2004). "Searching for intellectual turning points: Progressive knowledge domain visualization." *Proc Natl Acad Sci USA*, Vol. 101(Suppl.), pp. 5303–5310. DOI: 10.1073/pnas.0307513100
- de Paulo, A. F., Carvalho, L. C., Costa, Mtgv, Lopes, J. E. F. and Galina, S. V. R. (2017). "Mapping Open Innovation: A Bibliometric Review to Compare Developed and Emerging Countries." *Global Bus. Rev.*, Vol. 18, No. 2, pp. 291–307. DOI: 10.1177/0972150916668600.
- Dokur, M. and Uysal, E. (2018). "Top 100 cited articles in traumatology: A bibliometric analysis." *Ulusal Travma Acil Cerrahi Derg.* Vol. 24, No. 4, 294–302. DOI: 10.5505/tjtes.2017.74857.

- Haslam, N., Stratemeyer, M., Vargas-Sáenz, A., Calver, M. C., Goldman, B., Hutchings, P. A. and Kingsford, R. T. (2017). "Scholarly productivity and citation impact of academic psychologists in Group of Eight universities. Why discrepancies in searching the conservation biology literature matter." *Aust. J. Psychol.*, Vol. 213, No. 3, pp. 19–26. DOI: 10.1016/j.biocon.2017.06.028.
- Haunschild, R. and Bornmann, L. (2016). "Normalization of Mendeley reader counts for impact assessment." *Journal of Informetrics*, Vol. 10, No. 1, pp. 62–73. <https://doi.org/10.1016/j.joi.2015.11.003>.
- InCites™ Thomson Reuters (2011) Report created: 02.2012. Data Processed Dec 31, 2010 Data Source: Web of Science. This data is reproduced under a license from Thomson Reuters.
- Leydesdorff, L., Wouters, P. and Bornmann, L. (2016). "Professional and citizen bibliometrics: complementarities and ambivalences in the development and use of indicators—a state-of-the-art report." *Scientometrics*, Vol. 109, pp. 2129–2150. DOI 10.1007/s11192-016-2150-8.
- Lu, L.Y.Y. and Liu, J. S. (2014). "The Knowledge Diffusion Paths of Corporate Social Responsibility – From 1970 to 2011". *Corporate Social Responsibility and Environmental Management*, Vol. 21, pp. 113–128.
- Moed, H. F. (2016). "Comprehensive indicator comparisons intelligible to non-experts: the case of two SNIP versions". *Scientometrics*, Vol. 106, No. 1, pp. 51–65. DOI: 10.1007/s11192-015-1781-5.
- Muniz, F.W.M.G., Celeste, R. K., Oballe, H.J.R. and Rösing, C. K. (2018). "Citation Analysis and Trends in review articles in dentistry." *J. Evid.-Based Dent. Pract.*, Vol. 18, No. 2, pp. 110–118. DOI: 10.1016/j.jebdp.2017.08.003.
- Ram, S. (2018). "India's Contribution and Research Impact in Leishmaniasis Research: A Bibliometric Analysis." *Journal of Scientometric Research*, Vol. 7, No. 1, pp. 38–44. DOI: 10.5530/jscires.7.1.5.
- Reingewertz, Y. and Lutmar, C. (2018). "Academic in-group bias: An empirical examination of the link between author and journal affiliation." *J. Inf.*, Vol. 12, No. 1, pp. 74–86. DOI: 10.1016/j.joi.2017.11.006.
- Tomaszewski, R. (2018). "A comparative study of citations to chemical encyclopedias in scholarly articles: Kirk-Othmer Encyclopedia of Chemical Technology and Ullmann's Encyclopedia of Industrial Chemistry." *Scientometrics*, Vol. 117, No. 1, pp. 175–189. DOI: 10.1007/s11192-018-2844-1.
- Van Eck, N. J. and Waltman, L. (2010). "Software survey: VOSviewer, a computer program for bibliometric mapping." *Scientometrics*, Vol. 84, No. 2, pp. 523–538. <https://doi.org/10.1007/s11192-009-0146-3>.
- Van Eck, N.J., Waltman, L. (2017). "Citation-based clustering of publications using CitNetExplorer and VOSviewer." *Scientometrics*, Vol. 111, No. 2, pp. 1053–70.
- Wang, X.-Y. and Tang, B.-J. (2018). "Review of comparative studies on market mechanisms for carbon emission reduction: a bibliometric analysis." *Nat. Hazards*, 94(3), 1141–1162. DOI: 10.1007/s11069-018-3445-2.
- Wilcox, M.A., Khan, N.R., McAbee, J.H., Boop, F.A. and Klimo, P. Jr. (2013). "Highly cited publications in pediatric neurosurgery." *Childs Nerv Syst*, 29, 2201–2213.
- Yeung, A.W.K., Heinrich, M. and Atanasov, A. G. (2018). "Ethnopharmacology-A bibliometric analysis of a field of research meandering between medicine and food science?", *Front. Pharmacol.*, Vol. 9(MAR). DOI: 10.3389/fphar.2018.00215.
- Zamore, S., Ohene Djan, K., Alon, I. and Hobdari, B. (2018). "Credit Risk Research: Review and Agenda." *Emerg. Mark. Financ., Trade*, Vol. 54, No. 4, pp. 811–835. DOI: 10.1080/1540496X.2018.1433658.

SMART SUSTAINABLE CITY AND URBAN KNOWLEDGE-BASED ECONOMY: EVIDENCES FROM ITALY

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ABSTRACT

The present paper aims to answer the following research questions: i) is the smart and sustainable city environment a stimulus for the urban knowledge-based economy? ii) which profiles of smart and sustainable city are more conducive to stimulate the urban knowledge-based economy? In order to answer to the aforementioned research questions, this study develops a framework and multidimensional indexes to better explain the different dimensions of a 'smart sustainable city' and their impact on the knowledge-based economy. The analysis was performed on a sample of 116 Italian cities. Italy is an interesting context, while large cities (that present hard and soft infrastructures) and smaller cities (in which the quality of life tend to be higher) coexist. Our study makes a significant contribution to the literature because it provides a new approach to understanding the factors influencing a smart city and identifies profiles that are important in the development of the economic growth at urban-level, providing implications for academics and urban policy makers.

Keywords: smart city; sustainable city; knowledge-based economy, knowledge workers, statistical index

INTRODUCTION

The concept of smart cities has attracted significant attention within the public policies and in the academic literature focused on urban development. Nevertheless it is not possible to identify a unique and generalized definition, it is commonly recognized that the concept of smart city is referred to the creation of a network of human capital, social capital, and information and communications technologies (ICTs), supported by hard and soft infrastructures (Hollands, 2008). Recently, literature has started to considerate the concept of Smart Sustainable Cities in order to include the different aspects of sustainability in the classical "smart cities" paradigm. A Smart Sustainable City is a place where the environmental and the quality of life profiles are at the centre of the attention. So, what creates a city "smart" and "sustainable" is the attitude of policies to optimize the functionality of the city in all sectors, by protecting the environment, by stimulating economic growth in the local context,

and by improving the quality of life of people, thanks to infrastructures, processes and services helped by ICTs.

The Smart Sustainable City approach is considered suitable for representing the most important features of “quality of life” (Pinna et al., 2017) that can help to attract and retain talents and knowledge workers in urban areas to form analytical, synthetic, and symbolic knowledge based economy (Florida, 2002). Moreover, literature on SSCs regards also cases of small and medium cities, where the attention to citizens’ quality of life is increasing (Ibrahim et al., 2018).

In fact, the extant economic literature on knowledge-based economy is mainly referred to large metropolises: moreover, the main studies tend to focus on North American or emerging economy cities (Glaeser et al. 2010, 2014; Florida 2002; Florida et al. 2008), while only a few academic contributions are addressing knowledge-based economy and their development drivers in urban ecosystem different from metropolises.

In this vein, the present paper focuses on the role of urban environment in promoting knowledge-based economy following the “Smart Sustainable City” perspective.

It is commonly recognized that in knowledge economy cities are characterized by a growing proportion of knowledge workers and by the service-orientation of the economic activities (Sassen, 1994; Hendriks, 1999; Madon and Sahay 2001; Turok 2008; Glaser et al. 2010; 2014). At EU level, Lever (2002) has found a positive correlation between economic development and knowledge “attitude” in European cities. From this perspective, urban policies and governance should be oriented to nurture a strong “people climate”. Knight (1995; 2008), Perry (2008) and the Yigitcanlar (2011) have defined the concept of Knowledge Based Urban Development. The goal is to construct a knowledge city (Carrillo et al., 2014) that is a city which is focused on knowledge-based development (Carrillo et al., 2014; Penco, 2015; Edvardsson et al., 2016).

In the literature on urban development, the relationship between the paradigms characterizing the smart and sustainable city and their effects on the urban knowledge-based economy (in terms of knowledge workers and economic activities) does not explicitly emerge.

In light of these considerations, the present contribution aims to answer the following research questions: i) is the smart and sustainable city environment a stimulus for the urban knowledge-based economy? ii) which profiles of smart and sustainable city are more conducive to stimulate the urban knowledge-based economy? The research is carried out on a sample including 116 Italian cities. The presence of small and big cities is important to foster both their smart and sustainable features and different knowledge economy attitude.

The case of Italy is very interesting since their urban development is very differentiated (from big and smaller cities; from northern and southern cities). Smart Sustainable policies are also suitable for small

sized cities, where 19% of the Italian population is concentrated: in fact, smart sustainable policies are aimed at the implementation of smart transportation, the reduction of population isolation, the response to the new and growing needs of the “grey” population, the promotion of ecological environment and sustainable tourism that can differentiate small cities from the most famous cities in order to retain and attract “young” and “knowledge based” talents. In this vein, the adoption of smart and sustainable policies can help the small urban ecosystem in order to increase the range and efficiency of their services (and the consequent improvement in quality of life), but also the whole economic system can benefit from the knowledge based development of smart communities.

The paper is organized as follows. Section 2 reviews extant literature on knowledge economy and smart and sustainable cities. Section 3 explains the research design and method, describing the construction of the indicators and shows the major empirical findings. Section 4 discusses the outcomes, bringing implications for academics and practitioners, before concluding.

LITERATURE REVIEW: CITY, KNOWLEDGE-BASED ECONOMY AND SMART SUSTAINABLE CITIES

City and Knowledge-based economy

Knowledge Management studies have emphasized the city’s role in the production of knowledge. The model of the industrial city is, in fact, disappearing, because firms specifically locate operational and manufacturing activities where a comparative advantage of cost can be found; support activities, based on knowledge, are established in geographical spaces that facilitate knowledge-based production. In this vein, the process of deindustrialization is often seen as part of the inevitable shift towards a knowledge based economy and urban economies come to rely on research and development, financial services, tourism and the creative industries (Van Winden and Van den Berg 2004; 2010).

In the knowledge economy, the most successful cities operate as knowledge-hubs (Hendriks, 1999; Marmolejo, 2007; Evers et al., 2010). Studies carried out on corporate localization have recognized that knowledge-based firms - high tech companies, Knowledge Intensive Business Services (KIBS), Corporate Headquarters of multinational companies or service-based subsidiaries of large companies (eg. R&D, design, marketing, etc.) select metropolitan areas (Gabe 2011). Nascent and creative industries, such as digital media, publishing, and music companies could also be included in this category.

The appeal of large metropolitan areas for knowledge-based companies are linked to agglomeration economies. Urban agglomeration economies differ from marshallian economies in industrial districts (Beaudry and Schiffauerova, 2009). Urban agglomeration economies are “knowledge agglomerations”:

they produce synergies due to the closed transmission of knowledge between: i) knowledge-intensive firms; ii) areas such as higher education, research and development (universities); iii) complementary knowledge intensive business services; financial intermediation, national and international public institutions and telecommunication networks that are placed in large metropolitan areas. In general, the bigger the city, the better the access firms may have to a deep labour pool, a large customer base, choice of shared services and suppliers, and transportation connections (Turok 2008). Proximity facilitates face to face contact, high level communication and sharing of new ideas (Isaksen 2004; Krugman 1998).

Literature has considered that the development of a urban knowledge-based economy is based on the ability to attract new talents. Talents are represented by knowledge-workers and they form the "creative class" (Florida 2002). The creative class – for example engineers, scientists, architects, and artists – generates the ideas and knowledge that are the driving force in both advanced manufacturing and knowledge-intensive service economies (Castells, 1996). Florida (2002) has argued that the development of a region or of a city is driven by the location choices of the creative class; the creative class prefers "different places, tolerant and open to new ideas," according to the model of the three Ts (Technology-Talents- Tolerance). The geography of the creative class is indeed influenced not only by hard economic factors (e.g. wages, taxes, living costs), but also by lifestyle and environmental contexts; knowledge workers, that are generally employed (or self-employed) in knowledge-based businesses, live where they can find a highly regarded quality of life. International studies, carried out on location choices of high-tech companies that employ knowledge workers (Malecky and Bradbury 1992), showed that the presence of amenities and quality of life are a very critical factor. The amenities activate a virtuous circle, as "talent attracts talents, shaping a density of clusters" (Edvinsson 2006). Studies have elaborated the question of attracting and retaining knowledge and creative workers in the knowledge economy by addressing the needs and desires of knowledge workers in the contemporary urban context (Yigitcanlar et al. 2007). The creative class expresses a specific demand for the city.

Contributions on the creative class in the USA and Europe by Florida have found that the social environments is important for the creative economy and there is an association between the size of a creative class and the size of the knowledge economy (Florida, 2002; 2008). Larger cities have a great advantage: the knowledge and creative workers are attracted by a context that stimulates creativity and inventiveness, with high quality of life due to the advanced services and amenities located in the metropolitan area. In contrast to Marshallian economies in industrial districts, urban agglomeration economies are "knowledge agglomerations" (Penco, 2015). Cities provide amenities and infrastructures that are attractive to its high human capital residents (Florida, 2002; 2008). Physical

conditions and amenities increase social life and a perceived improvement in quality of life (Glaeser and Gottlieb, 2006; Warnaby and Davies 1997; McKee and McKee 2004; Benninson et al. 2007; Turok 2008).

Nelson (2005) and Ström, P., & Nelson, R. (2010), challenging the creative class thesis, has found that many smaller urban centres in North America and in Sweden have experienced sustained growth in their creative labour force over the past 20–30 years; in particular, college towns and (post-industrial) small town that prioritize quality of life. Piccaluga and Lazzeroni (2015) and Adendorff and Donaldson (2012) have focused their studies on medium-sized university cities, in which the presence of one or more universities represents an important asset for urban development, contributing to the identity of knowledge cities. Waitt and Gibson (2009), using empirical materials from a case study of one Australian city—Wollongong, in New South Wale, have argued that the regeneration of economy towards knowledge based and creative factors is possible also in smaller cities where the citizen's quality of life tend to be higher.

Smart sustainable cities: can they attract knowledge workers and stimulate knowledge-based economy?

After the introduction of the “smart city” concept in 1994, the number of academic contributions regarding this topic has significantly increased (Jucevicius, Patašienė, & Patašius, 2014; Cocchia, 2014). Considering the interdisciplinary of this concept, many definitions of smart cities has been raised. From the technological perspective, a smart city is a city with a great presence of ICT applied to critical infrastructure components and services (Washburn et al., 2010). Nam and Pardo (2011) have tried to enlarge the scope of the concept of smart cities, defining a wider range of core factors, such as technology, people (creativity, diversity, and education) and institutions (governance and policy). Several recent definitions have a secondary focus: the concept of smart city tend to be connected to the definition of ICT in promoting sustainability, economic development, and the citizen's quality of life (Giffinger et al., 2007). Many researchers have argued that quality of life may not represent a separate dimension of a smart city, since all the policies should have the objective of raising the quality of life (Shapiro, 2006).

With a specific focus on the knowledge-based economy, Thite (2011) has studied smart city experiments around the world that are aimed at nurturing a creative economy through investment in quality of life which in turn attracts knowledge workers to live and work in smart cities.

In order to explicitly enlarge the scope of smart city towards the sustainable urban environment, scholars have started to consider the term “Smart Sustainable Cities”, focusing on the different aspects of sustainability in the classical “smart cities” paradigm (Höjer and Wangel, 2015): sustainable city is a place that have a strong environmental focus with a balance within the city between infrastructures, ICT, smart technologies, and urban metabolism, e.g. sewage, water, energy, waste management

(Marans and Stimson, 2011). A Smart Sustainable City is a city “that meets the needs of its present inhabitants, without compromising the ability for other people or future generations to meet their needs, and thus, does not exceed local or planetary environmental limitations, and where this is supported by ICT” (Höjer and Wangel, 2015). A smart sustainable city is oriented to enhance the quality of life to its citizens, improving efficiency of services and sustainable urban development. Contributions in the smart sustainable city domain have tried to evaluate citizens’ urban life quality by interpreting interactions between urban and environmental systems, and between critical resources and their influences on the environment (Garau, and Pavan, 2018). It is very interesting that the concept of smart sustainable city is effectively applicable also to smaller city (Garau and Pavan, 2018) in order to create a more attractive environment for their citizens.

Therefore, it could be hypothesised that a more attractive urban environment help to retain and attract knowledge workers and to stimulate knowledge-based activities that are a driver of economic development; nevertheless, within the literature on paradigms of the smart sustainable city the impacts on the creation of knowledge-based economy at the urban level doesn’t explicitly emerge.

On the basis of the aforementioned premises and literature gap in this relationship, our work follows the Smart Sustainable City approach and the knowledge economy with a particular focus on the capacity of a Smart Sustainable City to attract and nurture knowledge people and knowledge based economy; in particular, our work tries to understand if and how a smart and sustainable urban environment aimed at increasing the citizens’ quality of life is able to retain and nurture knowledge workers and economy, according to Thite (2011). Moreover, we analyse also the role of the urban size. In order to meet the goals of the paper, firstly we create 4 domains of Smart Sustainable City “quality of life oriented”.

Secondly, we identify another index for measuring the knowledge based economic activity at city level (focused mainly on the role of knowledge worker and innovation). Thirdly, we explain the relationship among each dimension of Smart Sustainable City and knowledge based economic activity, trying to identify any bottlenecks and policy implications.

METHODOLOGY

The sample includes 116 Italian Cities, the provincial capital cities and metropolitan cities of Italy in order to be able to carry out an adequately punctual and widespread analysis on the national territory. Each City has been evaluated in terms of size, following this criteria: small urban areas (from 10,000 to 50,000 inhabitants) medium-sized cities (between 50,000 and 250,000 inhabitants) large conurbations (more than 250,000 inhabitants).

We decided to create an innovative multidimensional index (SSC- Smart Sustainable City) in order to better explain the different dimensions of “Smart Sustainable City” following a consolidated methodology (Nardo et al. 2005; Ivaldi et al. 2016a; Ivaldi et al. 2016b), which defines different stages in order to develop a composite indicator.

The selected dimensions (that are converted in sub-indexes) really cover the multidimensional nature of “smart sustainable city” and they present a focus on the citizens’ quality of life that can help to retain and attract knowledge workers: Sustainable Urban Environment (SUE); Sustainable Social Services (SSS); Sustainable Local Transport (SLE); Sustainable Safe Environment (SSE).

They are sufficiently different, fully describing the multidimensionality of these features and thus the risk of self-correlation is avoided.

The index Knowledge Economy Innovation KEI has been developed in order to explain better the Knowledge-based attitude of each city.

We have considered appropriate to construct an index and sub indexes based on currently available data, which does not require ad hoc surveys, with the double benefit of avoiding additional costs and also being able to easily and regularly update it (Ivaldi et al. 2018). The analysis of the literature offers several ways to derive *a priori* which should be the most suitable variable to insert the index, even if the choice is conditioned, of course, both by the availability of data and the purpose of the index itself (Ivaldi et al. 2017; Landi et al. 2017). The indexes are based on currently available data, coming directly from the Italian Institution for Statistics - ISTAT and referring to the last year of Census 2011 (unless otherwise indicated).

The variables containing excess values, i.e. the values located well outside the limit of the box plot, have been treated so that the largest / smallest value was transformed to have the maximum value equal to the maximum tolerable value, i.e. the largest even to the sum of the third quartile and the product between the double of the constant and the difference between the third and first quartile (and similarly the smallest). By excess value we mean in fact those values of x for which one of the following conditions occurs:

$$x < Q3 + 2\lambda (Q1-Q3)$$

$$x < Q1 - 2\lambda (Q1-Q3)$$

Where $Q1$ represents the first quartile, $Q3$ the third quartile and λ the constant lamda.

The value of λ normally is equal to 1.5 but, to allow a greater veracity of the index, given the great variety of the values of each single variable, a weight of two has been assigned.

About 99% of the data was complete and missing data were completed by replacing the missing values with the average of the other variables present in the same area for that particular city, so that

for these cities the scores of the thematic indicators became the same that they would have had if the variables missing were completely excluded (Bannerjee et al 2016).

Data collection was carried out in 116 Italian cities, the provincial capital cities and metropolitan cities of Italy. We have created a composite indicator, grouping the 24 elementary indicators into 4 macro-areas (Table 1).

We carried out the study using The Pena Distance Index (DP2), a parametric index based on the application of the linear regression model (Pena 1977). The DP2 method is an iterative procedure that weighs partial indicators depending on their correlation with the global index. This construction solves a large number of problems, for instance, aggregating variables expressed in different units of measurement, arbitrary weights, the treatment of missing values and duplicate information; (Somarriba and Pena 2009; Montero et al. 2010). Moreover, this method is considered more robust than traditional methods such as Principal Component Analysis and Data Envelopment Analysis, as demonstrated by Somarriba and Pena (2009).

Dimensions	Variables										
Sustainable Urban Environment (SUE)	Urban green areas (2013)	Urban green availability	Urban gardens (2013)	Historic green density and urban parks (2012)	Historic urban fabric (2001)	Mutual air quality *	Mutual noise pollution * (2012)	Separate collection °	Waste sent to landfill * °	Cyclapse density	Availability of pedestrian areas
Sustainable Social Services (SSS)	Primary school and junior high school with accessible routes both internal and external ° (2013)	Number of public libraries (2012)	Children from 0 to 2 years who have used childcare services °	Life expectancy at 0 years °	Graduates ° (2017)						
Sustainable Local Transport (SLT)	Local Public Transport	Services supporting sustainable mobility and infomobility (2012)	Time dedicated to mobility *	Vehicle storage area reserved *							
Sustainable Safe Environment (SSE)	Rate of homicides reported by the police to the judicial authority * °	Rate of traffic accidents * °	Mortality rate of pedestrians *	Standardized rate of mortality for transport accidents for persons aged 15 to 34 years * °							

1. * Inverted variables

2. ° By province

Table 1 – Dimensions and variables used (Source: Our elaboration)

The basis of the synthetic indicator is a mathematical function expressed as $I = F(x_1, x_2, \dots, x_n)$, where I is the synthetic indicator and n the number of variables, x , that contribute information to our index. Starting from a matrix X of order (j, i) , where j – the rows – is the number of the areas considered in this paper and i – the columns – is the number of variables considered. Each element x_{ij} of this matrix represents the state of the variable i in area j . The DP2 indicator, providing the distance of each cities from a reference base, which corresponds to the theoretical area achieving the lowest value of the variables being studied, is defined for area j as follows:

$$DP2_j = \sum_{i=1}^n \left\{ \left(\frac{d_{ij}}{\sigma_i} \right) (1 - R_{i,i-1,i-2,\dots,1}^2) \right\},$$

where

- $i = 1, \dots, n$; (areas) and $j = 1, 2, \dots, m$ (variables);
- $d_{ij} = \left| x_{ij} - x_{ij}^* \right|$ is the difference between the value taken by the i -th variable in area j and the minimum of the variable in the least desirable theoretical scenario, namely the reference value of matrix X ;
- σ_i is the standard deviation of variable i .

Note that the quantity $\frac{d_{ij}}{\sigma_j}$ is merely a change in the origin and the scale, and one may also use zero as the reference ρ point and $[\max_i(x_{ij}) - \min_i(x_{ij})]$ (13) instead σ_j as a scaling factor without any adverse effect on the formula (Montero et al., 2010).

$R_{i,i-1,i-2,\dots,1}^2$ is the coefficient of multiple linear correlation squared in the linear regression of X_i over $X_{i-1}, X_{i-2}, \dots, X_1$, and indicates the part of the variance of X_i explained linearly by variables $X_{i-1}, X_{i-2}, \dots, X_1$. This coefficient is an abstract number and is unrelated to the measurement units of the different variables.

$(1 - R_{i,i-1,i-2,\dots,1}^2)$ is the correction factor, which shows the variance part of X_i not explained by the linear regression model. This factor ensures that the composite synthetic indicator includes only the new information from each variable, avoiding the duplication of information already contained in the preceding variables.

Therefore, $(1 - R_{j,j-1,\dots,1}^2)$ with $j > 1$ is the coefficient of multiple linear correlation squared in the linear regression of the first chosen j over the successive other indicators, included one by one. The first variable obtains an absolute weight of unity $(1 - R_1^2)$, the subsequent variable $j = 2$ obtains a weight $(1 - R_{2,1}^2)$, the third $j = 3$ $(1 - R_{3,2,1}^2)$, and in general, the j -th variable obtains a weight $(1 - R_{j,j-1,\dots,1}^2)$. The chosen j is regressed over other indicators included one by one. The resulting $R_{j,j-1,\dots,1}^2$ for any j is used a weight. In this way, the weight assigned to each indicator follow a precise rule that has the goal to reduce the duplicity of information that often affect aggregation methods (Somarriba and Peña, 2009; Montero et al., 2010; Ivaldi et al. 2018).

The first variable obtains an absolute weight of $(1 - R_1^2)$. The subsequent variable $j = 2$ obtains a weight $(1 - R_{2,1}^2)$. In general, the j -th variable obtains a weight $(1 - R_{j,j-1,\dots,1}^2)$:

1. Initialize the weight vector, $w_j = 1 \forall j = 1, 2, \dots, m$ and define $\varepsilon = 0.00001$.
2. Define $\partial_{ij} = \left(\frac{d_{ij}}{\sigma_j}\right)$, $\forall j = 1, 2, \dots, m$ and $i = 1, 2, \dots, n$.
3. Obtain $DF_i = \sum_{j=1}^m \left[\left(\frac{d_{ij}}{\sigma_j}\right) w_j\right]$; $i = 1, 2, \dots, n$.
4. Compute Pearson's coefficient of correlation $r(DF, \partial_j)$ between DF and $\partial_j \forall j = 1, 2, \dots, m$. Arrange $|r(DF, \partial_j)|$ in descending order and re-index the associated variables ∂_j accordingly.
5. Compute $Z_i = \sum_{j=1}^m \left[\left(\frac{d_{ij}}{\sigma_j}\right) w_j\right]$; $i = 1, 2, \dots, n$; $w_j = (1 - R_{j,j-1,\dots,1}^2)$ for $j = 2, 3, \dots, m$ and $w_1 = 1$.
6. If $\sum_{i=1}^n (DF_i - Z_i)^2 \geq \varepsilon$ replace DF by Z go to d), else stop.

Thus defined, the DP₂ is the sum of the distances between the values of variable i in the city j and the minimum values for the variables in all cities, weighted by the unexplained variance of X_i and the variance X_i . A greater distance from the worst theoretical condition shows a higher DP₂ value, indicating an high index value, whereas, a lower distance from the worst theoretical condition describes a scarce level of DP₂.

We used the same methodology to create the index of Knowledge Economy and Innovation (KEI), on the basis of:

- "Patents": Number of patents registered at the European Patent Office (EPO) (values per million inhabitants);
- "Production specialization": Production specialization in sectors with high technological knowledge intensity (per 100 employees of local units). Includes the high-tech manufacturing sectors
- "Income / Taxpayers Rate": the ratio between the declared income and the tax payers. Reference year 2015.

RESULTS AND DISCUSSIONS

The findings show the different ranking of the sampled Italian cities (Table Annex 1A).

Trieste, a medium-small city in the North East of Italy, is 1st Italian Smart Sustainable City, thank to a high level of Sustainable Local Transport (STL) and the creation of a Sustainable Safe Environment (SSE). In term of knowledge based economy, Trieste scores 13th; a good result for a small/medium city.

Milan (the second large Italian city after Rome) is at 10th position in the Smart Sustainable City Score (10th; SSC=6.36) and appears as the best performer in terms of Sustainable Local Transport (1st; SLT=9.20). Milan is also the leader in Knowledge Economy and Innovation (1st; KEI =10.33); in this

case, the status of large city, with public policies aimed at enhancing the level of urban smartness and sustainability in terms of quality of life, has nurtured and stimulated the knowledge-based economy, confirming academic contributions on the urban development and knowledge city (Table 2).

Very interesting is the other best performer cities in SSC that are also in the top ten of KEI. Bologna (large city) and Modena (medium sized city) are in the same Emilia Romagna Region. They are characterized both by a high score in SSC (respectively 7th and 3rd) and in KEI (respectively 2nd and 4th). Focusing on the sub-indexes, Modena is 4th in Sustainable Urban Environment (SUE) and 1st in Sustainable Social Services (SSS); Bologna is the 3rd in the Sustainable Social Services (SSS). The cases of Bologna and Modena are particularly interesting for the efforts expended in a public policies approach characterized by a high degree of interconnection and cooperation between the various actors, resources and tools in order to enhance sustainability and citizen's quality of life.

It is important to underline that Bologna hosts one of the oldest universities in the world, University of Bologna, founded in 1088, with large student body which takes part to the local social, economic and cultural life. The urban area is characterized by typical of medieval settlements layout with concentric rings areas and narrow streets that have allowed the creation of area forbidden to the traffic. The same is for Modena that is a historical city with 190,000 inhabitants and an important academic hub.

It is no coincidence that the top cities in SSC have recently implemented dictated policies, making the city governments' activities more coherent. These policies aim to enhance both the level of sustainability and the quality of life and their competitiveness in order to retain and attract new talents. In the contemporary economy, in fact, cities are in competition with each other in attracting investments, business, inhabitants and tourists and to improve citizens' satisfaction. In order to deal with this competition, cities use different tools: strategic planning, marketing strategies, city branding, etc.

In particular, having dictated policies brings the following value to cities: increased competitiveness, resulting in a positive impact on investment, jobs, inhabitants, visitors and events; higher returns on investment in real estate, infrastructure and events; coherent city development, as the physical, social, economic and cultural aspects combine to deliver the brand promise; pride in the city as the inhabitants, businesses and institutions experience a new sense of purpose and direction.

These results have found that the smart sustainable top cities are mainly located in Northern Italy (an exception is Cagliari) and are prevalently medium sized city; policies aimed at enhancing the level of quality in social and environment-sustainability have promoted the creation of more attractive environment that in specific case have helped to stimulate a knowledge based economy.

It was also chosen to compare, through the Spearman rank correlation coefficient, SSC results with KEI. Pearson's correlation is moderately good (0.567). The findings demonstrate that a high score in SSC is a moderate predictor of KEI attitude at city level, confirming that a smart sustainable environment can help the development of a knowledge base economy.

The level of smartness and the sustainability of a city is positively correlated with the following sub-indexes: Sustainable Social Services (SSS=0.729), Sustainable Urban Environment (SUE= 0.696) and Sustainable Local Transport (SLT=0.605).

In order to understand which profiles of smart sustainable city are more propulsive in order to stimulate the knowledge based economy domain, the empirical outcomes test moderate but significant correlation. The component more correlated with KEI Index is described by Sustainable Social Services (SSS) and Sustainable Local Transport (SLE) (Table 3).

Regarding the urban size (measured in term of population), while the association with SSC is very low because also smaller cities can be smarter and more sustainable than the larger one (unsurprised is the negative association between the urban safety/security and the urban size), there is a positive and significant correlation between KEI and the population of a city, confirming that a large urban environment is important in order to stimulate knowledge base economy and innovations.

Urban Environment (SUE)		Sustainable Social Services (SSS)		Sustainable Local Transport (SLT)		Sustainable Safe Environment (SSE)		Sustainable City (SSC)		Knowledge Economy and Innovation (KEI)	
Pordenone	15.57	Modena	15.31	Milan	9.20	Trieste	6.68	Trieste	12.34	Milan	10.37
Matera	13.56	Trento	12.38	Trieste	7.14	Sanluri	5.36	Trento	10.29	Bologna	8.77
Sondrio	11.85	Bologna	11.61	Cagliari	6.79	Cagliari	2.69	Pordenone	8.10	Parma	8.28
Modena	9.85	Ravenna	10.87	Trento	6.46	Treviso	2.65	Modena	7.63	Modena	7.79
Tempio Pausania	9.30	Prato	10.53	Livorno	6.32	Villacidro	1.60	Cagliari	7.33	Turin	7.58
Trento	9.26	Trieste	10.44	Olbia	6.13	Frosinone	1.20	Sondrio	6.92	Siena	7.43
Turin	8.99	Milan	9.47	Bergamo	5.97	Rieti	1.16	Bologna	6.60	Rome	7.35
Prato	8.57	Pesaro	9.22	Venice	5.96	Pordenone	0.77	Ravenna	6.40	Padova	6.87
Iglesias	8.50	Forlì	8.03	Pesaro	5.85	Mantua	0.42	Prato	6.37	Pisa	6.86
Gorizia	7.69	Novara	7.89	Reggio nell'Emilia	5.85	Gorizia	0.30	Milan	6.36	Lodi	6.52

Table 2. Table 2 – The top ten cities

	Smart Sustainable City (SSC)	Sustainable Urban Enviroment (SUE)	Sustainable Social Services (SSS)	Sustainable Local Transport (SLT)	Sustainable Safe Environment (SSE)	Knowledge Economy and Innovation (KEI)	Population (inhabitants)
Smart City (SSC)	1.000	.696(**)	.729(**)	.605(**)	.206(*)	.567(**)	.232(*)
Sustainable Urban Enviroment (SUE)	.696(**)	1.000	.472(**)	.132	.029	.372(**)	.108
Sustainable Social Services (SSS)	.729(**)	.472(**)	1.000	.430(**)	-.179	.571(**)	.446(**)
Sustainable Local Transport (SLT)	.605(**)	.132	.430(**)	1.000	-.142	.432(**)	.330(**)
Sustainable Safe Environment (SSE)	.206(*)	.029	-.179	-.142	1.000	-.118	-.481(**)
Knowledge Economy and Innovation (KEI)	.567(**)	.372(**)	.571(**)	.432(**)	-.118	1.000	.470(**)
Population (inhabitants)	.232(*)	.108	.446(**)	.330(**)	-.481(**)	.470(**)	1.000

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 3 – Correlations

CONCLUSION AND FURTHER RESEARCH

The present paper is focused on the relationship between the concept of smart sustainable city and the knowledge based economy at the city level.

We have created a new composite index called Smart Sustainable City (SSC) and we have applied this model to 116 Italian Cities, the provincial capital cities and metropolitan cities of Italy. Secondly, on the basis of a set of sub-indexes, we have studied a relationship between each profile of sustainable smart cities and Knowledge Economy and Innovation (KEI). Finally we measured the relationship between SSC and Population in terms of inhabitants, in order to understand the smart and sustainable attitude of the different sized cities.

The present paper have tried to answer two main research questions.

First of all, the empirical results have demonstrate that there is a positive association between the profiles of a smart and sustainable city environment and the existence of a urban knowledge-based economy; secondly, the profile of the smart and sustainable city that is more conducive to stimulate the urban knowledge-based economy is the level of Sustainable Social Services (SSS) that help to improve the quality of life. The correlations with the urban size have demonstrated that while the level of knowledge economy and innovativeness present a positive and significant association with the urban size, the high level of services and the quality of life is proper also of medium and small cities, especially in the Nord of Italy. This profile can help the smaller urban centres to favourite their economy, nurturing knowledge workers that are attracted by the level of quality of life.

In conclusion, challenging the theme of smart sustainable city and knowledge-based economy, our study yields several insights.

Our work tries to contribute to the debate on urban economic development in terms of smartness and sustainability in a perspective of a knowledge-based economy, providing implication for academics and urban policy makers, especially for smaller cities.

This contribution presents some inherent limitations, which might be challenged in future research. Firstly, the investigation is performed only on Italian cities; further studies are therefore required to enlarge the sample of cities, including other urban areas and to make a comparison with other relevant European Countries (e.g., Southern/northern range). In addition, the number of variables and attributes referred to each dimension might be expanded, embodying also additional perspectives, which could reasonably contribute to achieve a better understanding of the determinants affecting the smartness and the sustainability and their impact on the Knowledge based economy at urban level.

REFERENCES

- Adendorff, A., & Donaldson, R. (2012). Knowledge-based service industry in a South African university town: the case of Stellenbosch. *Development Southern Africa*, 29(3), 418-433.
- Bannerjee, S. Bone, J. and Finger, Y. (2016), *European Digital City Index – Methodology Report*. Nesta Report – ISBN Number: 978-1-84875-153-8.
- Beaudry, C. and Schiffrava, A. (2009), “Who's right, Marshall or Jacobs? The localization versus urbanization debate”, *Research policy*, Vol. 38 No 2, pp. 318-337.
- Benninson, D., Warnaby, G., & Medway D. (2007). The role of quarters in large city centres: a Mancunian case study. *International Journal of Retail and Distribution Management*, 35 (8), 626-638.
- Carrillo, J., Yigitcanlar, T., Garcia, B. & Lonnqvist, A. (2014), *Knowledge and the city: concepts, applications and trends of knowledge - based urban development*, Routledge New York, NJ.
- Castells, M. (1989). *The Informational City. Information, Technology, Economic restructuring and the Urban-Regional Process*. London: Basil Blackwell.
- Cocchia, A., 2014. Smart and Digital City A Systematic Literature Review. In: Dameri, R.P., Rosenthal-Sabroux, C., (eds), *Smart City How to Create Public and Economic Value with High Technology in Urban Space*, Springer, Cham, pp. 13-43.
- Edvardsson, I. R., Yigitcanlar, T. and Pancholi, S. (2016), “Knowledge city research and practice under the microscope: a review of empirical findings”, *Knowledge Management Research & Practice*, Vol. 14 No 4, pp. 537-564.
- Edvinsson, L. (2006). Aspects on the city as a knowledge tool. *Journal of Knowledge Management*, 10(5), 6-13.
- Evers, H.D., Gerke, S., & Menkhoff, T. (2010). Knowledge clusters and knowledge hubs. Designing epistemic landscapes for development. *Journal of Knowledge Management*, 14(5), 678-689.
- Florida, R. (2002), “The economic geography of talent”, *Annals of the Association of American geographers*, Vol. 92 No 4, pp. 743-755.
- Florida, R., Mellander, C. and Stolarick, K. (2008), “Inside the black box of regional development—human capital, the creative class and tolerance”, *Journal of economic geography*, Vol. 8 No 5, pp. 615-649.
- Gabe, T., & Abel J.R. (2011) Agglomeration of Knowledge, *Urban Studies*, 48(7), 1353-1371
- Garau, C., & Pavan, V. (2018). Evaluating urban quality: indicators and assessment tools for smart sustainable cities. *Sustainability*, 10(3), 575.
- Giffinger, R., Fertner, C., Kramar, H., Kalasek, R., Pichler-Milanovic, N., & Meijers, E. (2007). *Smart cities: ranking of European medium-sized cities*. Vienna: Vienna University of Technology. Glaeser and Gottlieb, 2006
- Glaeser, E. L., Ponzetto, G. A. and Tobio, K. (2014), “Cities, skills and regional change”, *Regional Studies*, Vol. 48 No 1, pp. 7-43.
- Glaeser, E. L., Rosenthal, S. S. and Strange, W. C. (2010), “Urban economics and entrepreneurship”, *Journal of urban economics*, Vol. 67 No 1, pp. 1-14.
- Hendriks, F. (1999), “The post-industrialising city: political perspectives and cultural biases”, *GeoJournal*, Vol. 47 No 3, pp. 425-432.
- Höjer, M., & Wangel, J. (2015). *Smart sustainable cities: definition and challenges*. In *ICT innovations for sustainability* (pp. 333-349). Springer, Cham.
- Hollands, R. G. (2008). Will the real smart city please stand up? Intelligent, progressive or entrepreneurial?. *City*, 12(3), 303-320.
- Ibrahim, M., El-Zaart, A., & Adams, C. (2018). *Smart sustainable cities roadmap: Readiness for transformation towards urban sustainability*. *Sustainable cities and society*, 37, 530-540.
- Isaksen, A. (2004). *Knowledge-based Clusters and Urban Location: The Clustering of Software Consultancy in Oslo*. *Urban Studies*, 41(7), 1157-1174.
- Ivaldi E. Bonatti G. Soliani R. (2016b), *The measurement of Well-Being in the Current Era*. Nova Publishers ISBN: 978-1-53610-005-1
- Ivaldi E., Bonatti G., Soliani R. (2016a), “The construction of a synthetic index comparing multidimensional well-being in the European Union”, *Social Indicators Research*, Vol. 125 No 2, pp 397-430.
- Ivaldi E., Bonatti G., Soliani R. (2017), “An indicator for the measurement of political participation: the case of Italy”, *Social Indicators Research*, Vol. 132 No 2, pp. 605-620
- Ivaldi E., Bonatti G., Soliani R. (2018) *Objective and Subjective health: an analysis of inequality for the European Union Social Indicator Research* 138:1279-1295
- Jucevičius, R., Patašienė, I., & Patašius, M. (2014). Digital dimension of smart city: critical analysis. *Procedia-Social and Behavioral Sciences*, 156, 146-150.
- Knight, R. (1995), “Knowledge-based development”, *Urban Studies*, Vol. 32 No 2, pp. 225-260.
- Knight, R. (2008), “Knowledge-based development”. In T. Yigitcanlar, K. Velibeyoglu, and S. Baum (Eds.), *Knowledge-based urban development*, Hersey, PA: IGI-Global, pp. 13-18).

- Krugman, P. (1998). *The Role of Geography in Development*, Paper prepared for the Annual World Bank Conference on Development Economics. Washington, D.C., April 20-21.
- Landi, S., Ivaldi, E. & Testi A. (2017), "Measuring Change Over Time in Socio-economic Deprivation and Health in an Urban Context: The Case Study of Genoa", *Social Indicators Research*, pp. 1-41. <https://doi.org/10.1007/s11205-017-1720-3>
- Lazzeroni, M., & Piccaluga, A. (2015). Beyond 'town and gown': the role of the university in small and medium-sized cities. *Industry and Higher Education*, 29(1), 11-23.
- Lever, W. F. (2002), "Correlating the knowledge-base of cities with economic growth", *Urban studies*, Vol. 39 No 5-6, pp. 859-870.
- Madon, S. and Sahay, S. (2001), "Cities in the developing world: Linking global and local networks", *Information Technology & People*, Vol. 14 No 3, pp. 273-286.
- Malecki, E. & Bradbury, S. (1992). R&D Facilities and Professional Labour: Labour Force Dynamics in High Technology. *Regional Studies: The Journal of the Regional Studies Association*, 26 (2), 123-136.
- Marans, R.W.; Stimson, R. (2011) Investigating quality of urban life: Theory, methods, and empirical research.
- Marmolejo, D.C. (2007). Transforming metropolitan Barcelona: between the postindustrial and the knowledge city, Paper Presented to w011 – Metropolitan Dynamics: Urban Change, Market and Governance, ENHR, International Conference, Rotterdam.
- McKee, D.L., & McKee, Y.A. (2004). Edge cities, urban corridors and beyond. *International Journal of Social Economics*, 31(5-6), 536 - 543.
- Montero, J. M., Chasco, C., Larraz, B. (2010), "Building an environmental quality index for a big city: a spatial interpolation approach combined with a distance indicator", *Journal of Geographical Systems*, Vol. 12, pp. 435-459.
- Nam, T., & Pardo, T. A. (2011, June). Conceptualizing smart city with dimensions of technology, people, and institutions. In *Proceedings of the 12th annual international digital government research conference: digital government innovation in challenging times* (pp. 282-291). ACM.
- Nardo, M., Saisana, M., Saltelli, A., Tarantola, S., Hoffman, A. and Giovannini, E. (2005), *Handbook on constructing composite indicators: methodology and user guide*. No. 2005/3. OECD publishing.
- Nelson, R. (2005) A cultural hinterland? Searching for the creative class in the small Canadian city, in: Garrett-Petts, W. F. (Ed.) *The Small Cities Book: On the Cultural Future of Small Cities*, pp. 85–109. Vancouver: New Stars Books.
- Pena, J (1977), *Problemas de la medición del bienestar y conceptos afines (Una aplicación al caso español)*, INE, Madrid.
- Penco, L. (2015), "The development of the successful city in the knowledge economy: toward the dual role of consumer hub and knowledge hub", *Journal of the Knowledge Economy*, Vol. 6 No 4, pp. 818-837.
- Perry, B. (2008), "Academic knowledge and urban development", T. Yigitcanlar, K. Velibeyoglu and S. Baum (Eds.), *Knowledge-based urban development*, IGI-Global, Hersey, PA, pp. 21–41.
- Pinna, F., Masala, F., & Garau, C. (2017). Urban policies and mobility trends in Italian smart cities. *Sustainability*, 9(4), 494.
- Sassen S. (1994), "The urban complex in a world economy", *International Social Science Journal*, Vol. 139, pp. 43-62.
- Shapiro, J. M. (2006). Smart cities: quality of life, productivity, and the growth effects of human capital. *The review of economics and statistics*, 88(2), 324-335.
- Somarriba, N., Pena B. (2009), "Synthetic Indicators of Quality of Life in Europe", *Social Indicators Research*, Vol. 94, pp. 115-133.
- Ström, P., & Nelson, R. (2010). Dynamic regional competitiveness in the creative economy: can peripheral communities have a place?. *The Service Industries Journal*, 30(4), 497-511.
- Thite, M. (2011). Smart cities: implications of urban planning for human resource development. *Human Resource Development International*, 14(5), 623-631.
- Turok, I. (2008), "A new policy for Britain's cities: choices, challenges, contradictions", *Local Economy*, Vol. 23 No 2, pp. 149-166.
- Van Winden, W., & Van den Berg, L. (2004). *Cities in the Knowledge Economy: New Governance Challenges*. Rotterdam: European Institute for Comparative Urban Research.
- Van Winden, W., & Van den Berg, L. (2010). *Manufacturing in the New Urban Economy*. Rotterdam: European Institute for Comparative Urban Research.
- Waite, G., & Gibson, C. (2009). Creative small cities: Rethinking the creative economy in place. *Urban studies*, 46(5-6), 1223-1246.

- Warnaby, G., & Davies, B.J. (1997). Commentary: Cities as service factory? Using the servuction system for marketing cities as shopping destinations. *International Journal of Retail & Distribution Management*, 25(6), pp. 204-210.
- Washburn, D., Sindhu, U., Balaouras, S., Dines, R. A., Hayes, N., & Nelson, L. E. (2009). Helping CIOs understand "smart city" initiatives. *Growth*, 17(2), 1-17.
- Yigitcanlar, T. (2011), "Position paper: Redefining knowledge-based urban development", *International Journal of Knowledge Based Development*, Vol. 2 No 4, pp. 340-356.
- Yigitcanlar, T., Baum, S., & Horton, S. (2007). Attracting and retaining knowledge workers in knowledge cities. *Journal of knowledge management*, 11(5), 6-17.

ANNEX

Urban Environment (SUE)		Sustainable Social Services (SSS)		Sustainable Local Transport (SLT)		Sustainable Safe Environment (SSE)		Sustainable City (SSC)		Knowledge Economy and Innovation (KEI)	
Pordenone	15.57	Modena	15.31	Milan	9.20	Trieste	6.68	Trieste	12.34	Milan	10.37
Matera	13.56	Trento	12.38	Trieste	7.14	Sanluri	5.36	Trento	10.29	Bologna	8.77
Sondrio	11.85	Bologna	11.61	Cagliari	6.79	Cagliari	2.69	Pordenone	8.10	Parma	8.28
Modena	9.85	Ravenna	10.87	Trento	6.46	Treviso	2.65	Modena	7.63	Modena	7.79
Tempio Pausania	9.30	Prato	10.53	Livorno	6.32	Villacidro	1.60	Cagliari	7.33	Turin	7.58
Trento	9.26	Trieste	10.44	Olbia	6.13	Frosinone	1.20	Sondrio	6.92	Siena	7.43
Turin	8.99	Milan	9.47	Bergamo	5.97	Rieti	1.16	Bologna	6.60	Rome	7.35
Prato	8.57	Pesaro	9.22	Venice	5.96	Pordenone	0.77	Ravenna	6.40	Padua	6.87
Iglesias	8.50	Forlì	8.03	Pesaro	5.85	Mantua	0.42	Prato	6.37	Pisa	6.86
Gorizia	7.69	Novara	7.89	Reggio nell'Emilia	5.85	Gorizia	0.30	Milan	6.36	Lodi	6.52
Pavia	7.67	Livorno	7.73	Florence	5.35	Sondrio	0.22	Gorizia	6.30	Genoa	6.38
Ravenna	7.65	Rome	7.42	Forlì	5.26	Trento	-0.01	Venice	5.62	Monza	6.33
Venice	7.25	Gorizia	6.99	Pisa	4.94	Pistoia	-0.11	Livorno	5.46	Trieste	4.95
Bologna	7.16	Asti	6.89	Sondrio	4.92	Lecco	-0.18	Pesaro	5.01	Florence	4.91
Novara	7.06	Monza	6.85	Bologna	4.89	Como	-0.20	Pisa	4.83	Reggio nell'Emilia	4.66
Verona	6.61	Florence	6.80	Brescia	4.83	Belluno	-0.34	Fermo	4.77	Trento	4.62
Fermo	6.56	Reggio nell'Emilia	6.64	Genoa	4.58	Biella	-0.37	Florence	4.74	Novara	4.57
Cremona	6.49	Parma	6.61	Tortolì	4.41	Verbania	-0.45	Forlì	4.66	Ancona	4.51
Ferrara	6.48	Genoa	6.56	Bolzano - Bozen	4.33	Pavia	-0.48	Mantua	4.65	Pordenone	4.40
Terni	6.15	Rimini	6.53	Vicenza	4.27	L'Aquila	-0.49	Reggio nell'Emilia	4.45	Pavia	4.36
Mantua	6.01	Venice	6.49	Nuoro	4.09	Lecce	-0.54	Turin	4.35	Ferrara	4.29
Potenza	5.91	Perugia	6.36	Turin	4.08	Siena	-0.58	Ancona	4.31	Bolzano - Bozen	4.10

Como	5.73	Bolzano Bozen	- 6.28	Rome	3.85	Ancona	-0.63	Treviso	4.17	Bergamo	4.00
Nuoro	5.67	Sassari	6.05	Varese	3.76	Fermo	-0.64	Matera	4.13	Verona	3.94
Asti	5.65	Ferrara	5.93	Ancona	3.72	Caserta	-0.78	Novara	3.99	Aosta	3.70
Villacidro	5.59	Terni	5.66	Sassari	3.52	Catanzaro	-0.80	Brescia	3.99	L'Aquila	3.62
Pistoia	5.33	Piacenza	5.65	Treviso	3.52	Avellino	-0.93	Perugia	3.92	Vicenza	3.61
Perugia	5.24	Verona	5.58	Perugia	3.48	Savona	-1.11	Verona	3.91	Udine	3.59
Lodi	5.17	Pordenone	5.41	Arezzo	3.46	Pescara	-1.27	Arezzo	3.84	Treviso	3.59
Reggio Calabria	di 5.04	Pistoia	5.04	Ravenna	3.43	Agrigento	-1.49	Terni	3.74	Cagliari	3.57
Monza	4.91	Pisa	4.90	Verona	3.42	Pisa	-1.55	Ferrara	3.65	Brescia	3.53
Parma	4.78	Ancona	4.89	Aosta	3.39	Potenza	-1.60	Villacidro	3.63	Lecco	3.51
Brescia	4.75	Brescia	4.60	Modena	3.38	Rimini	-1.72	Bolzano - Bozen	3.61	Brindisi	3.43
Lucca	4.73	La Spezia	4.35	Tempio Pausania	3.36	Cosenza	-1.74	Bergamo	3.51	Venice	3.31
Belluno	4.72	Arezzo	4.24	Catanzaro	3.32	Benevento	-1.74	Como	3.47	Varese	3.24
Florence	4.67	Rovigo	4.20	Padua	3.31	Campobasso	-1.83	Pavia	3.45	Cremona	3.16
Arezzo	4.64	Turin	4.12	Lecce	3.24	Prato	-1.90	Rome	3.42	Sondrio	3.03
Trieste	4.57	Lecco	4.10	Siena	3.21	Arezzo	-2.00	Siena	3.39	Piacenza	2.93
Padua	4.30	Vibo Valentia	4.06	Teramo	3.20	Trapani	-2.07	Pistoia	3.38	Belluno	2.89
Messina	4.08	Fermo	3.87	Syracuse	3.17	Varese	-2.10	Genoa	3.31	Livorno	2.72
Pisa	3.77	Padua	3.84	Oristano	3.07	Rovigo	-2.11	Tempio Pausania	3.27	Como	2.56
Rovigo	3.56	Trani	3.81	Fermo	3.06	Olbia	-2.18	Parma	3.23	Mantua	2.50
Alessandria	3.51	Pescara	3.75	Ferrara	3.03	Reggio Calabria	di -2.19	Olbia	3.22	Cuneo	2.37
Varese	3.51	Cagliari	3.57	Andria	3.00	Nuoro	-2.24	Asti	3.18	Vercelli	2.37
Forlì	3.39	Ascoli Piceno	3.56	Brindisi	2.86	Brindisi	-2.24	Nuoro	3.17	Pesaro	2.27
Aosta	3.22	Macerata	3.55	Mantua	2.82	Enna	-2.24	Sanluri	3.06	Latina	2.23
Verbania	3.00	Biella	3.52	Chieti	2.82	Piacenza	-2.27	Varese	3.03	Pescara	2.19
Reggio nell'Emilia	2.98	Catanzaro	3.43	Ascoli Piceno	2.80	Oristano	-2.32	Lecco	2.94	Ascoli Piceno	2.13
Biella	2.92	Siena	3.38	Grosseto	2.74	Livorno	-2.35	Padua	2.70	Bari	2.11
Cagliari	2.64	Lucca	3.11	Campobasso	2.69	Lanusei	-2.47	Rimini	2.64	La Spezia	2.10
Rome	2.56	Foggia	2.97	Parma	2.69	Cremona	-2.48	Vicenza	2.64	Naples	2.08
Grosseto	2.52	Bari	2.86	Vibo Valentia	2.66	Matera	-2.50	L'Aquila	2.62	Arezzo	2.04
Ancona	2.41	Verbania	2.78	Macerata	2.64	Asti	-2.50	Belluno	2.56	Rieti	2.02
Naples	2.20	Bergamo	2.65	Gorizia	2.56	Vibo Valentia	-2.56	Sassari	2.53	Perugia	2.01

Vicenza	2.19	Udine	2.60	La Spezia	2.56	Salerno	-2.58	Biella	2.53	Lucca	2.01
Rimini	2.16	Mantua	2.56	Caltanissetta	2.51	Cuneo	-2.60	Pescara	2.41	Forlì	1.92
La Spezia	2.13	Villacidro	2.54	Lanusei	2.48	Ravenna	-2.61	Monza	2.40	Ravenna	1.87
Trani	2.07	Isernia	2.52	Isernia	2.44	Isernia	-2.62	Piacenza	2.37	Rimini	1.84
Macerata	2.04	Como	2.52	Cuneo	2.41	Crotone	-2.64	Cremona	2.31	Alessandria	1.78
Brindisi	1.93	Aosta	2.51	Pordenone	2.40	Bergamo	-2.66	Reggio Calabria	di 2.19	Cosenza	1.70
L'Aquila	1.90	Olbia	2.48	L'Aquila	2.39	Vicenza	-2.66	Potenza	2.15	Catania	1.69
Udine	1.87	Latina	2.38	Terni	2.39	Terni	-2.76	Rieti	2.11	Savona	1.62
Chieti	1.85	Campobasso	2.38	Prato	2.35	Tortoli	-2.77	Catanzaro	2.08	Asti	1.57
Sanluri	1.81	Vicenza	2.32	Caserta	2.35	Iglesias	-2.77	Aosta	2.00	Gorizia	1.54
Pesaro	1.80	Varese	2.30	Udine	2.28	Tempio Pausania	-2.83	Campobasso	1.97	Salerno	1.53
Livorno	1.75	Vercelli	2.29	Bari	2.22	Bolzano - Bozen	-2.94	Verbania	1.94	Caserta	1.50
Genoa	1.74	Rieti	2.27	Savona	2.21	Ragusa	-2.95	Savona	1.83	Biella	1.48
Bergamo	1.74	Carbonia	2.17	Pescara	2.17	Carbonia	-3.05	Brindisi	1.79	Palermo	1.47
Carbonia	1.72	Iglesias	2.08	Piacenza	2.15	Caltanissetta	-3.07	Macerata	1.79	Frosinone	1.43
Siena	1.64	Andria	2.04	Catania	2.13	Monza	-3.10	Lecce	1.78	Avellino	1.42
Bolzano - Bozen	1.59	Palermo	2.03	Novara	2.05	Syracuse	-3.11	La Spezia	1.78	Lecce	1.35
Barletta	1.56	Savona	1.98	Reggio Calabria	di 2.03	Trani	-3.17	Rovigo	1.57	Macerata	1.35
Massa	1.39	Cremona	1.93	Salerno	1.92	Chieti	-3.21	Oristano	1.54	Chieti	1.24
Lecco	1.27	L'Aquila	1.92	Trapani	1.88	Vercelli	-3.23	Trani	1.44	Campobasso	1.21
Sassari	1.13	Cuneo	1.91	Cosenza	1.85	Udine	-3.26	Isernia	1.43	Prato	1.18
Campobasso	1.02	Treviso	1.88	Benevento	1.77	Macerata	-3.32	Iglesias	1.31	Rovigo	1.07
Pescara	0.95	Avellino	1.71	Vercelli	1.69	Brescia	-3.33	Udine	1.28	Fermo	1.07
Andria	0.91	Barletta	1.69	Lecco	1.68	Lodi	-3.42	Ascoli Piceno	1.26	Terni	1.04
Isernia	0.90	Lodi	1.69	Trani	1.63	Perugia	-3.45	Frosinone	1.23	Pistoia	0.96
Imperia	0.90	Grosseto	1.67	Ragusa	1.61	Viterbo	-3.49	Chieti	1.19	Verbania	0.94
Oristano	0.88	Sondrio	1.64	Matera	1.56	Teramo	-3.50	Cuneo	1.14	Potenza	0.93
Lanusei	0.65	Matera	1.49	Crotone	1.51	Messina	-3.52	Grosseto	1.09	Catanzaro	0.84
Piacenza	0.61	Brindisi	1.45	Taranto	1.45	Naples	-3.55	Vibo Valentia	1.08	Teramo	0.78
Cuneo	0.56	Massa	1.44	Cremona	1.45	Barletta	-3.55	Andria	1.05	Grosseto	0.77
Milan	0.54	Taranto	1.37	Belluno	1.44	Ascoli Piceno	-3.57	Caserta	0.77	Massa	0.75
Savona	0.50	Reggio Calabria	di 1.36	Imperia	1.42	Padua	-3.57	Tortoli	0.74	Oristano	0.71
Crotone	0.46	Oristano	1.34	Pavia	1.38	Andria	-3.58	Benevento	0.70	Viterbo	0.71
Rieti	0.39	Chieti	1.32	Como	1.36	Verona	-3.61	Avellino	0.68	Imperia	0.69

Ascoli Piceno	0.26	Frosinone	1.31	Foggia	1.35	Foggia	-3.63	Lanusei	0.63	Nuoro	0.65
Caserta	0.04	Pavia	1.23	Naples	1.28	Pesaro	-3.64	Lodi	0.56	Foggia	0.61
Avellino	0.00	Benevento	1.22	Latina	1.15	Aosta	-3.65	Lucca	0.42	Sassari	0.59
Olbia	-0.38	Potenza	1.14	Barletta	1.09	Taranto	-3.67	Alessandria	0.24	Benevento	0.51
Enna	-0.46	Teramo	1.05	Potenza	1.01	Latina	-3.68	Vercelli	0.24	Matera	0.45
Vercelli	-0.58	Alessandria	0.91	Agrigento	0.96	Florence	-3.68	Bari	0.18	Messina	0.41
Foggia	-0.69	Imperia	0.87	Alessandria	0.92	Catania	-3.70	Syracuse	0.16	Syracuse	0.14
Benevento	-0.71	Cosenza	0.78	Rimini	0.77	Bari	-3.70	Barletta	0.15	Isernia	0.07
Treviso	-0.71	Lecce	0.65	Biella	0.59	Alessandria	-3.72	Carbonia	0.12	Taranto	0.07
Ragusa	-0.93	Nuoro	0.61	Asti	0.57	Novara	-3.73	Foggia	0.03	Iglesias	-0.03
Palermo	-1.06	Belluno	0.60	Massa	0.37	Imperia	-3.74	Cosenza	-0.12	Trapani	-0.05
Lecce	-1.25	Catania	0.49	Frosinone	0.33	Lucca	-3.75	Crotone	-0.13	Agrigento	-0.19
Latina	-1.38	Syracuse	0.47	Palermo	0.33	Venice	-3.75	Teramo	-0.22	Vibo Valentia	-0.30
Taranto	-1.42	Messina	0.15	Rieti	0.29	Reggio nell'Emilia	-3.76	Imperia	-0.22	Reggio Calabria	-0.44
Bari	-1.56	Ragusa	0.13	Avellino	0.22	Massa	-3.77	Ragusa	-0.43	Ragusa	-0.46
Syracuse	-1.81	Tortoli	0.03	Carbonia	0.15	Turin	-3.77	Latina	-0.47	Enna	-0.50
Viterbo	-1.91	Viterbo	0.00	Monza	0.08	La Spezia	-3.77	Massa	-0.47	Caltanissetta	-0.58
Frosinone	-1.92	Tempio Pausania	-0.01	Verbania	-0.05	Sassari	-3.81	Naples	-0.47	Olbia	-0.70
Agrigento	-2.00	Lanusei	-0.12	Villacidro	-0.10	Forlì	-3.82	Agrigento	-0.53	Carbonia	-0.85
Tortoli	-2.23	Crotone	-0.47	Lodi	-0.11	Ferrara	-3.86	Taranto	-0.64	Crotone	-1.00
Catania	-2.58	Trapani	-0.49	Enna	-0.12	Bologna	-3.86	Trapani	-0.76	Villacidro	-1.04
Vibo Valentia	-2.71	Agrigento	-0.67	Rovigo	-0.21	Grosseto	-3.88	Catania	-0.89	Tempio Pausania	-1.07
Catanzaro	-3.03	Sanluri	-0.88	Pistoia	-0.22	Parma	-3.88	Messina	-0.95	Lanusei	-1.28
Teramo	-3.18	Naples	-1.13	Viterbo	-0.68	Milan	-3.88	Palermo	-1.04	Tortoli	-1.34
Caltanissetta	-3.31	Salerno	-1.18	Lucca	-0.68	Palermo	-3.89	Caltanissetta	-1.18	Sanluri	-1.36
Cosenza	-3.41	Caltanissetta	-1.49	Sanluri	-1.04	Rome	-3.99	Salerno	-1.32	Trani	-1.51
Trapani	-3.69	Enna	-1.66	Iglesias	-1.33	Genoa	-3.99	Enna	-1.39	Barletta	-1.84
Salerno	-4.00	Caserta	-1.78	Messina	-1.4	Modena	-4.01	Viterbo	-2.21	Andria	-2.36

Table 7. ANNEX Table 1A – Cities (Source: Our elaboration)

ADVERTISEMENT AS A MEANS OF ENVIRONMENTAL INFORMATION AMONG KINDERGARTEN STUDENTS

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ABSTRACT

Advertisements often refer to the environment with the aim to take advantage of consumers' environmental concerns to promote the advertised products. Children are considered particularly vulnerable to the barrage of messages contained in advertisements and are affected deeply by advertisements which evoke in them positive or negative feelings because children do not have the knowledge and the ability 5e way as adults do. Children aged between four to six years account for 52.4% of the television audience while consisting of the target group of most advertising spots. Advertisement has, moreover, the ability to touch upon the child's psychic aspects, reason, emotions, and behavior. The aim of the present paper is to investigate the contribution of the advertisement to the diffusion of environmental information among children in early childhood. Specifically, this study aims at building a conceptual scale to measure the contribution of advertisement to the diffusion and acquisition of environmental knowledge as well as at defining basic factorial axes which interpret the contribution of advertisement to the acquisition of knowledge and information on the environment. The study data were collected with the help of a properly designed questionnaire which was completed through personal interviews by parents who had at least one child in early childhood (nursery school students). The sample was chosen randomly and consisted of 65 parents who filled in the questionnaire. The performance of Principal Component Analysis gave four factors which account for 66.2% of the total variance. The first factor (F1) can be identified as the component of the advertisement contribution which expresses "knowledge on food and eating habits". The second factor (F2) can be identified as the component of the advertisement contribution which expresses "Fires and forest protection". The third factor (F3) refers to the contribution of advertisement to topics related to recycling and packaging materials and could be termed "Recycling and packaging materials". The fourth factor (F4) expresses the contribution component that focuses on "Endangered animals-care".

Keywords: Environmental communication, Mass Media, Principal Component Analysis, nursery school students.

1. INTRODUCTION

Environmental information

Mass media as tools of informal environmental education diffuse environmental information through news programs, environmental information programs and relevant debates on environmental topics thereby affecting the public with their power. It is possible to diffuse environmental information in appropriate ways in order to emphasize the real aspects of environmental issues and provide possible ways of resolving them (Skanavis and Sakellari, 2008).

The influence of environmental information depends on how much the public understands it, the correlation of the information with the public's daily life, the recipients' education level and their psychological predisposition of responding to the suggested ways of environmental action (Noel, 2009).

The content of environmental information ought to comply with the needs, characteristics and lifestyle of the public it addresses so that information becomes comprehensible and digestible. In other words, citizens become aware of a topic when they perceive that the topic concerns and affects them.

In addition, the media are solely engaged in diffusing environmental information but without enhancing the degree of environmental awareness but only by providing unconnected information. The media often present individual events in superficial ways without examining in depth the causes of the events or how to address them (Booth et al., 2012). Nevertheless, if the media present more often the criticality of environmental issues and point to significant ways of tackling them, then they can consist a pole for strengthening environmental awareness and providing motives for promoting environmental action.

In advertisement, the lack of information on the product creates negative feelings to the consumer, whereas positive feelings of trust in the product are evoked when the advertisement is adequate and comprehensive (Kourtis, 2008).

Environmental knowledge must lead to environmental awakening and mobilization since it many times cultivates environmental consciousness and awareness, while it contributes to the gradual shaping of an environmentally responsible citizen (Skanavis, 2004; Tsantopoulos, 2009).

The characteristics of advertisement

In our era, the advertisements of environmental organizations are increasingly appearing in the media as they consist part of programs on television, radio and the Internet. At the same time, the presentation of a product can cultivate new behavioral patterns and form new values. Television,

radio and the Internet consist the three most popular media which host advertisements (Gulas and Weinberger, 2006).

The aim of informative advertising is to provide information on the characteristics, the attributes and the use of the advertised product, while persuasive advertising seeks to persuade on the product by attracting the interest and attention of consumers. In addition to these types of advertising, reminder advertising tries to remind consumers about an old product and reinforcement advertisement tries to reinforce the popularity of the product (Preston, 2005).

The success of advertisement will depend on the percentage of product use among consumers. On the other side, consumer behavior refers to every activity relating to the purchase and use of products and services. It also involves consumers' emotional, mental and behavioral responses which have to be grasped and comprehended by the advertiser so that the purchase decision of the consumer is influenced through the advertisement (Mohan, 2008).

Beside product promotion, advertising also aims at behavior shaping, perception and value adoption so that individuals organize their thoughts and understand the world they live in (Lagouri, 2012).

The effectiveness of the "art" of persuasion lies in the clarity and comprehension of the information sent by the message transmitter. However, the success of communication is attributed to the reliability of the sender and on the nature of the message which has to be simple and digestible (Zotos, 2008).

Advertisement's influence level on the consumers' reason is dependent on their attention, perception, memory and thinking. The stronger the effect of the advertisement stimulus on human sensory organs, the higher the attention level the advertisement receives (Soldator, 2006).

Sloganned discourse, stereotyped expressions, and the so-called slogans which are characterized by originality, relevance, epigrammatic content, humor and connotation creation consist the main elements of advertisements. The interchange of monologue and dialogue or the exclusive use of each can provide the recipient with all necessary information thereby forming a lively and natural text (Greek Ministry of Education and Religious Affairs-Centre for Environmental Education, 2004). The reinforced texts are framed by music, sounds and images which transfuse their own felt characteristics.

The child and environmental information

Advertisements often refer to the environment with the aim to take advantage of consumers' environmental concerns to promote the advertised products. According to Gillian Dyer (2003), to advertise means to "draw one's attention on something", to make something known to someone and

to provide information about it. Therefore, advertising is reporting news through fame, oral discourse or publishing the virtues of a person or thing (Dikopoulou, 2011 and Katsiki, 2012).

Environmental advertisement presents the relationship between the commodity/service and the bio-physical environment while promoting an environmentally responsible lifestyle with or without emphasizing the commodity/service. Moreover, the evaluation of advertisement in the course of time indicates that in advertising the environment acquires an increasingly extensive position limiting the advertised product either in the middle or to the side of the fact. At the same time, the environment and the beauty of nature are used in commercial advertisement to evoke the emotion of the consumer so that the consumer connects the product with pleasant emotions.

Environmental advertisements make public the environmental issues with the main purposes being the promotion of friendly environmental messages, awareness raising of public opinion and the facilitation of the adoption of attitudes and behaviors which are compatible with and not harmful to the environment and encourage the individual's active participation in environmental protection and solution of environmental issues. What is more, environmental advertisement aims at information enrichment, product promotion and persuasion, while advertising statements on the environment may focus on environmentally friendly characteristics or the productive process and the method which involves environmental benefits.

As Papathanasopoulos (2004) states, in advertisement environmental statements must contain thorough information, present the product characteristics which benefit the environment, provide description or explanation of all technical terms and examine the relationship between the source of environmental improvement and the relationship of consumers with the product with the aim of reinforcing environmentally responsible behavior.

Children are considered particularly vulnerable to the barrage of messages contained in advertisements and are affected deeply by advertisements which evoke in them positive or negative feelings because children do not have the knowledge and the ability 5e way as adults do (Hetsroni, 2012). According to Comcon-Media (2007), children aged between four to six years account for 52.4% of the television audience while consisting the target group of most advertising spots. The children belonging to this age group spend on average two hours a day watching television thereby becoming unconsciously the "easy target of advertisement" (<http://www.ccmed.ru/research/57831/01/2007.htm>).

Moreover, children receive information from their external environment without being able to critically process this information. That is because during childhood the brain absorbs every information while critical analysis occurs after years (Titova 2004). It is also clear that children lack the

irritation that often results from repeated spots and instead children consist the most willing and faithful viewers of the same spots.

Advertisement has, moreover, the ability to touch upon the child's psychic aspects, reason, emotions and behavior. However, children cannot perceive the advertiser's intention to persuade them to obtain the advertised product. For this reason, advertisement with the method of psychological influence often becomes illicit persuasion, brainwashing and visual coercion (Wanke, 2009).

Additionally, being at the development stage, children confuse reality with imagination and do not know how to discern the advertisement from the content of the media. At the same time, the provided information on the product can be false since only one environmental benefit is presented thereby implying that overall the product is environmentally friendly (Sanrock, 2011). Meanwhile, an interestingly created message is easily absorbed and retained in memory for long (Telis, 2015).

The aim of the present paper is to investigate the contribution of the advertisement to the diffusion of environmental information among children in early childhood. Specifically, this study aims at building a conceptual scale to measure the contribution of advertisement to the diffusion and acquisition of environmental knowledge as well as at defining basic factorial axes which interpret the contribution of advertisement to the acquisition of knowledge and information on the environment.

2. MATERIALS AND METHODS

The study data were collected with the help of a properly designed questionnaire which was completed through personal interviews by parents who had at least one child in early childhood. The questionnaire was designed based on relevant studies which were conducted either in Greece or in other countries (Heinrichs and Kierman, 1994) and the design was adjusted to the subject of the present study. The sample was chosen randomly and consisted of 65 parents who filled in the questionnaire. The study was carried out from February to June 2019 and initially focused only on preschool students (nursery school students). It should also be noted that the kindergarten teachers of the concerned preschools participated in the study in an advisory manner. The questionnaire included two sections with 16 questions in total.

The first section involved questions gathering information about the demographic characteristics of the respondents. The registered variables involved gender, age, family status, occupational status, education level, number of children, as well as the child's gender and age. The second section consisted the main part of the questionnaire and contained thematic questions related to advertisements and their influence on the diffusion of environmental knowledge among preschool children.

Most questionnaire items were multiple choice and closed-ended questions while the surveyed parents were required to mark their answers on a five-point Likert scale. The method of descriptive statistics was used to briefly present the available data. Moreover, all statistical analyses were performed using the Statistical Package IBM SPSS ver. 20.0 with the installation of the subsystem Exact Tests.

More specifically, Principal Component Analysis (PCA), was applied to examine the structural cohesion of the questions which consisted the “variables” that composed the axes of the contribution of advertisement to the diffusion and acquisition of environmental knowledge but also to explore their importance (Hair et al., 1995, Sharma, 1996, Menexes and Aggelopoulos, 2008, Petkou, 2018).

The possible grouping of questions in components/axes aims to:

- a) highlight the relative importance of the sub-questions in each component of the advertisement contribution,
- b) highlight the relative importance of the components of advertisement contribution.

To achieve these purposes, Principal Component Analysis with Varimax rotation (using orthogonal rotation of maximum variance) was applied to the available data, while components with eigenvalues greater than or equal to 1 were considered important.

3. RESULTS

The performance of Principal Component Analysis gave four factors which account for 66.2% of the total variance (Table 1). In addition, the total reliability of the scale for contribution measurement was very satisfactory since the Cronbach’s alpha scored 0.887.

CATPCA

Dimension	Cronbach's Alpha	% of Variance
F1	0.871	42.1
F2	0.849	11.8
F3	0.731	7.5
F4	0.518	4.8
Total	0.887	66.2%

Table 1. Results of the application of Principal Component Analysis

The analysis indicated that the first factor (F₁) accounts for 42.1% of the total variance and is highly reliable since Cronbach’s alpha scored 0.871. The first factor consists mainly of the questions q5, q6 and q7 and can be identified as the contribution component that expresses “*Knowledge on food and eating habits*”.

The second factor (F₂) accounts for 11.8% of the total variance and is highly reliable with Cronbach's alpha having a value of 0.849. This factor consists of questions q8, q10 and q13 and can be identified as the contribution component that focuses on "*Fires and forest protection*".

The third factor (F₃) accounts for 7,5% of the total variance with a high reliability index (Cronbach's alpha 0.731) and consists mainly of the questions q11 and q9. Based on the conceptual content of these questions, this contribution component can be referred to as "*Recycling and packaging materials*".

The fourth factor (F₄) accounts for 4.8% of the total variance with a satisfactory reliability (Cronbach's alpha 0.518) and contains the questions q14 and q16. This factor expresses the contribution component which focuses on "*Endangered animals-care*".

Next, Table 2 presents the extracted components of advertisement's contribution to environmental information.

Components of advertisement contribution		Mean	Std. Deviation
1st component (F1): "Knowledge on food and eating habits"			
Q5	Knowledge on food chain and Mediterranean diet	3.2	1.1
Q6	Knowledge on food production	2.6	1.2
Q7	Information on food composition	3.6	1.1
		3.13	
2nd component (F2): "Fires and forest protection"			
Q8	Information about the causes of fires	3.7	0.6
Q10	Information about the forest and its usefulness	4.4	0.5
Q13	Information about forest animals	3.7	0.7
		3.93	
3rd component (F3): "Recycling and packaging materials"			
Q11	Information about ways to recycle	3.9	0.6
Q12	Information about the usefulness of recycling	3.4	0.9
Q16	Information about packaging materials	3.9	0.6
		3.73	
4th component (F4): "Endangered animals-care"			
Q14	Information about endangered animals	3.7	0.7
Q15	Information about the need for fauna protection	4.0	0.7
		3.85	

- Table 1 shows only the loadings with absolute values ≥ 0.50 . Loadings of this range and for the specific sample size are statistically important at significance level $\alpha=0.05$ and power level 0.80.

Table 2. Structural analysis of the advertisement contribution components

The same table, moreover, shows the components' constitution based on the questions that formed them and the mean rates of the given answers. As it appears in Table 2, in the first and third dimension of contribution children expressed a neutral to medium degree of agreement and acceptance of the contribution of advertisement since the mean rates of the relevant questions consisting the specific components were 3.13 and 3.73, respectively. In the second and fourth dimension, children expressed a more positive degree of agreement since the mean rates of the relevant questions that constituted these components were 3.93 and 3.85, respectively.

The first component (F_1) consists of the questions q7.1, q5.2 and q6.2 (in declining order of significance) and expresses the contribution of advertisement to eating habits (for instance Mediterranean diet, food chain, food production and composition). Hence, this component may be termed "*Knowledge on food and eating habits*".

The second component (F_2) is composed of the questions q10, q8 and q13 (in declining order of significance) and describes the contribution of advertisement to information about the causes and consequences of fires and forest protection. Hence, it could be titled "*Fires and forest protection*". Based on the overall mean rate of the relevant questions it is shown that children expressed the highest degree of response in the section that concerned the knowledge on forest and its usefulness followed by the provided information about the causes of fires and endangered animal forests.

The third component (F_3) is made up of q11, q16 and q12 (in declining order of significance) and expresses the contribution of advertisement to the notion and role of recycling. Through advertisements children acquire knowledge on packaging materials and their relationship with recycling. Therefore, it could be termed "*Recycling and packaging materials*". Moreover, in view of the overall mean rate of the relevant questions it is indicated that children expressed the highest degree of response in the section relating to information about ways to recycle and knowledge on packaging materials.

The fourth component (F_4) consists of the questions q15 and q14 (in declining order of significance) and expresses the contribution of advertisement to information about endangered animals and the necessity for their protection. It could be termed "*Endangered animals-care*". Based on the overall mean rate of the relevant questions, it is revealed that children express the most positive degree of response to the knowledge on the need for fauna protection which is provided by advertisements.

The following diagram presents the four components regarding the diffusion and acquisition of environmental knowledge.

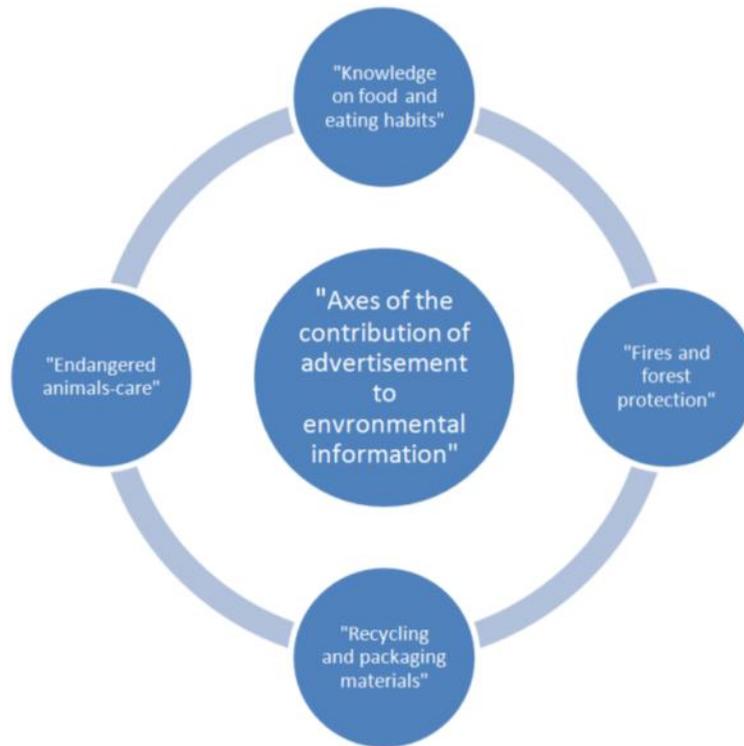


Diagram 1. Structural analysis of the advertisement contribution components

4. CONCLUSIONS

The aim of the present paper was to investigate the contribution of the advertisement to the diffusion of environmental information among preschool children. In specific, this study aimed to conceptually construct a scale to measure the contribution of advertisement to the diffusion and acquisition of environmental knowledge as well as to define the basic factorial axes which interpret the contribution of advertisement to environmental knowledge and information input.

To examine the structure of the factors associated with the degree that advertisement contributes to the diffusion and acquisition of environmental knowledge among preschool children, the non-linear categorical analysis in principal components was used. The application of this method revealed four significant components which accounted for 66.2% of the total variance:

The first factor (F_1) accounted for 42.1% of the total variance and had high reliability (Cronbach's alpha 0.871). This factor can be identified as the component of the advertisement contribution which expresses "knowledge on food and eating habits".

The second factor (F_2) accounts for 11.8% of the total variance and has also high reliability with Cronbach's alpha being 0.849. This component is an expression of the contribution of advertisement to

information about the causes and consequences of fires and forest protection. It could be titled "Fires and forest protection".

The third factor (F_3) accounts for 7.5% of the total variance and has a high reliability index with Cronbach's alpha being 0.731. This component refers to the contribution of advertisement to topics related to recycling and packaging materials and could be termed "Recycling and packaging materials".

The fourth factor (F_4) accounts for 4.8% of the total variance with satisfactory reliability as the Cronbach's alpha scored 0.518. This factor expresses the contribution component that focuses on "Endangered animals-care".

In view of the above, it is indicated that in the composition and definition of a "model" which describes the contribution of advertisement to the diffusion of environmental knowledge and information, children expressed the highest degree of response to topics related to forest and its usefulness. Moreover, children expressed positive responses to information relating to ways to recycle and packaging materials.

The knowledge about the influence of advertisement on the diffusion of knowledge and information about the environment is of particular importance since it can contribute to environmental education and raising environmental awareness among preschool children. Preschool educators should exploit this potential by including advertisement into the implemented environmental programs.

5. REFERENCES

- Booth, D., and Koberg, C., (2012). *Displaying Advertising: An hour a day*, Indianapolis, Indiana: Sybex.
- Dikopoulou, M. Zombolas, T. Mbampila, E. Chatzimichail, M. (2011) *Environmental Education for young children*. Athens: Kaleidoskopio Publications.
- Gillian, D., (2003), *Advertising as Communication*, Taylor & Francis.
- Greek Ministry of Education and Religious Affairs-Centre for Environmental Education. *Learning material for Environmental Education: Environment and Advertisement*, Thessaloniki, 2004.
- Gulas, C., Weinberger, M., (2006), *Humor in Advertising: A Comprehensive Analysis*, Publications: M.E. Sharpe.
- Hair, J., Anderson, R., Tatham, R. & Black, W. (1995). *Multivariate Data Analysis With Readings*. USA: Prentice-Hall International, Inc.
- Heinrichs A.J., and Kiernan N.(1994). Initial results of a statewide extension program in calf and heifer management in Pennsylvania. *J. Dairy Sci.* pp. 77-338.
- Hetsroni, A., (2012), *Advertising and Reality: A Global Study of Representation and Content*, Publications: C. Black
- Katsiki (2012). *The influence of advertisement on the psychology of young consumers aged 18-14*. Crete. Technological Educational Institute.
- Kourtis, Ch., (2008). *The influence of advertising spots on the consumer*, Thessaloniki. Technological Educational Institute.
- Lagouri, M. (2004). *Teaching Scenario for the study of the Environment*. Proceedings of the Hellenic Institute of Applied Pedagogy and Education (Hel. I. A. P. ED.), 6th Panhellenic Conference, 5-7 October 2012.
- Menexes, G., and Aggelopoulos, S., (2008). *Proposals for the financing and development of Greek farms based on a clustering method for categorical data*. *EuroMed Journal of Business*. Vol. 3(3) pp.263-285.
- Mohan, M., 2008. *Advertising Management Concepts and Causes* 26 ed Tata Mcc Graw Hill.
- Noel, H., (2009), *Basics Marketing 01: Consumer Behaviour*, Publications: AVA Publishing.

- Papathanasopoulos, St. (2004). Children and advertisement. Kathimerini.
- Petkou, D., (2017), Effects of the Mass Media on the attitudes and behaviors of primary education teachers on environmental matters, Ph.D. Thesis, Democritus University of Thrace.
- Preston, C (2005). Advertising to children and social responsibility. Young Consumers: Insight.
- Sanrock, J., W., (2011). Child Development: An Introduction, Chapter 10 Emotional Development, McGraw Hill Education, p. 346.
- Schiffman, L., Hansen, H., Kanuk, L., (2008), Consumer Behaviour: A European Outlook, Pearson Education Publications.
- Sharma, S. (1996). Applied Multivariate Techniques. USA: John Willey & Sons, Inc.
- Skanavis, C., Sakellari, M. (2008). Assessment of environmental intention of Journalists. "Applied Environmental Education & Communication". Vol. 6, Issues. 3-4, pp.19-33.
- Skanavis-Tsampoukou C. (2004). Environment and Society. A relationship in continuous development. Kaleidoskopio Publications: Athens.
- Skanavis-Tsampoukou C., (2004). Environment and Communication: A right to choose. Kaleidoskopio Publications: Athens.
- Soldator, E.V, J., Vnimanie Pokuparelia Reklame, Reklamista No 32, Jan. 2006.
- Telis G. J., (2015). Advertising and Sales Promotion Strategy. Reading, Massachusetts: Adison-Wesleyinc.
- Titova N.A. (2004). Detslaya reklama, P.134, Moscow, Publications: Alpha Book.
- Tsantopoulos, G. (2009). Environmental Communication as a tool of Raising Public Awareness about Environmental Protection. Introduction to Forest and Environmental Science. Topics on Forestry and Management of the Environment and Natural Resources, Volume 1, pp. 167-175.
- Wanke, M., (2009). Social Psychology of Consumer Behavior Pshycology Press.
- Zotos, T. (2008). Advertisement. Thessaloniki: Scientific books and journals publications, (<http://www.ccmcd.ru/research/57831/01/2007.htm>).

THE IMPACT OF INNOVATION ON ECONOMIC PERFORMANCE AND ON STOCK MARKET VALUATION OF 100 COMPANIES ON THE STANDARD & POORS 500 INDEX

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ABSTRACT

Purpose: The purpose of this study is to investigate the impact of innovation on economic performance and on stock market valuation of 100 companies on the Standard & Poors 500 Index for years 2017 and 2018.

Design/methodology/approach: Financial statements collected from the USA Securities and Exchange Commission's website and analyzed with SPSS statistical software. Companies separated into two categories depending on whether or not they include in their balance sheets technological actions and costs in research and development.

Findings: The impact of innovation on the economic performance of companies, confirm the disagreement between the findings of the existing studies that were observed during the bibliographic review. There is a moderate positive linear correlation between the change in costs in innovation actions and the change in sales and gross profits. This means that sales and gross profits are affected by the change in research and development costs, but not to a large extent. About the impact of innovation on stock market valuation, no linear correlation was found between the change in costs in innovation actions and the stock valuation as expressed by the P/E index. Also, investment in R & D does not affect the share price of companies or investors' decisions

Originality/value: Companies investing in R & D have, on average, higher sales growth, comparing with companies that do not invest in R & D and this is a very important element to be taken seriously into account by all companies.

Keywords: Innovation, Standard & Poors 500 Index, economic performance, stock market

1. INTRODUCTION

Innovation is increasingly an important feature in companies' efforts to gain competitive advantage. Innovation almost always starts with an idea and transforms itself into a business, adding value and commercializing it in order to generate profit.

The term innovation at a business level was first formulated by Schumpeter (1934) and according to its definition is a new combination that can take one of the following five forms: the introduction of a new product or product with qualitative improvements, the introduction of a new production method, the launching of a new market, the supply of raw materials from a new source and the establishment of a new form of organization.

The third edition of the Oslo Manual defines innovation as the integration of a new or significantly improved product or service, process, marketing technique or new organizational method into business practices, the organization's work environment or external relations (OECD and Eurostat, 2005).

The innovation of a business is often based on a concept that it exploits commercially, with the aim of generating profits and increasing its performance. As Rosli and Sidek (2013) refer, innovation is only useful when the benefits gained from it are more than the costs invested to create.

Innovation is considered to be the most important factor in the effort of companies to gain competitive advantage and to grow, but on the other hand, innovation may be considered that is not directly linked to the growth and success of companies.

This study analyzes the different dimensions in which innovation is expressed and then focuses on its technological dimension, as expressed by R & D costs for enterprises. The main purpose is to investigate the relationship of technological innovation with the economic results and stock market valuation of companies using linear regression. In section two, literature review will be presented and in the next section methodology and data will be analyzed. In section four and five, will take place a graphical presentation of empirical results and hypothesis testing. In the last section six, conclusions will be presented.

2. LITERATURE REVIEW

According to Katimertzopoulos and Vlados (2017), the invention that generates an innovative action can come from business strategy, technology or management. These three factors make up a triangle, which these researchers call Stra.Tech.Man, which is crucial for the efficiency of innovation in business. From any of the three factors, an innovative action is bound to affect the other two and ultimately a new redefinition will occur and there will be a new balance between these factors (Katimertzopoulos and Vlados, 2017).

More and more in modern times, innovation is expressed in a disruptive innovation. Disastrous innovation occurs when a new technology presents many advantages and gives consumers more convenience, so that the so-called dominant product or service has so far been abolished or obliterated (Bower and Christensen, 1995).

In this respect, the crisis at both company and economic level must be seen as something inevitable, expected and reasonable. Any crisis that comes will only be overcome if anything inefficient and productive is eradicated and replaced with something new (Vlados et al, 2018).

In an ever-changing environment, innovation is, the most important factor that can give a sustainable competitive advantage to businesses that is difficult to replicate. Indeed, due to the high competition in almost all sectors and the shorter life cycle of products, the ability to create innovation is more important than ever (Atalay et al., 2013). Innovation is likely to be influenced by the company's size, market structure, technological opportunities and the company's internal liquidity (Geroski et al., 1993).

A way to measure innovation of a company is to examine its R & D costs. Although it is an easy way to measure, as in the Oslo Manual, spending on research and technology does not include all the innovation actions a company has, since it does not include the know-how they gain from investment in new machinery and human resources (Hashi et al., 2012). Thus, in this way, the technological dimension of innovation is measured.

Other ways to measure innovation are the number of successful patents obtained each year or the innovative efficiency, i.e. the number of patents earned to the costs incurred for this purpose (Hirshleifer et al., 2012).

The effectiveness of a company according to Rosli and Sidek (2013) is the results achieved when the internal and external goals of a company are met. Efficiency is usually multidimensional and includes the growth, success and competitiveness of the company. Business results are typically measured in terms of productivity as sales per employee (SpE), in terms of growth as a percentage of sales growth or earnings growth, and often in economic terms, such as return on assets (ROA) and return on investment (Hashi et al., 2012; Bartolacci et al., 2015, Rosli and Sidek, 2013).

The valuation of a company is its true value as perceived by investors with all available news, technical analysis and published financial statements. The valuation of a company can be expressed by the change in its market value, but also by the change in the market to book value (Hirshleifer et al., 2012).

Studies have collected primary empirical data, mainly using questionnaires (Rosli and Sidek, 2013; Atalay et al., 2013; Hult et al., 2003; Gok and Peker, 2016). Other studies have collected secondary data from trusted and trusted sources such as Compustat, CRSP, Business Source Elite (EBSCO), Community Innovation Survey (CIS), NYSE and NASDAQ, or from the published financial statements of the companies (Hirshleifer et al., 2012; Rosenbusch et al., 2009; Hashi et al., 2012; Bartolacci et al., 2015).

Analyzing data and concluding into existing publications has been done in different ways. Sood and Tellis (2009) analyzed the long-term performance of companies from specific innovation events using event analysis based on the Fama and French model of three factors (Fama and French, 1993), including factor momentum of Carhart (Carhart, 1997). An original approach was by Rosenbusch et al. (2009), which collected data from 42 scientific articles with data from more than 21,000 companies worldwide, and carried out a meta-analysis of these data.

Hashi et al. (2012) analyzed the secondary data available to them using a four-stage model, while Rosli and Sidek (2013) analyzed the data collected by small and medium-sized enterprises in Malaysia using a hierarchical linear regression model. Similarly, Atalay et al. (2013) with the use of the SPSS statistical package in the data analysis received from Turkish car industry, while Bartolacci et al. (2015) applied a model based on entropy.

The impact of innovation on business efficiency does not coincide with all the researches. For example, Hirshleifer et al. (2012) found that companies that incorporate innovation efficiently have higher market valuations and higher operating returns. Also, Atalay et al. (2013) and Rosli and Sidek (2013) concluded that innovation in products and processes has a statistically significant effect on company performance. Instead, Gok and Peker (2016) found a negative relationship between innovation and economic performance, from the data of the companies they collected.

3. METHODOLOGY AND DATA

Subsequently, in our study, the companies will be divided into two groups. The first group will include those investing in innovative actions, while the second group will include those that do not have such investments at their expenses.

The data gathered for this research is secondary, as these are objective, official, reliable and comparable data for companies. The data were collected from the official published financial statements of the companies and in particular from the income statement and the balance sheet as they are posted to the Securities and Exchange Commission (www.sec.gov). This site is the official government site where all corporate announcements and changes are posted for all US companies and has a very easy to use search engine.

This source is considered to be the most valid and accurate and the information it provides is readily available. Some individual assets, such as the number of each company's stock and the stock price of the shares at the beginning and end of the financial year, were collected by Yahoo Finance (<https://finance.yahoo.com>), a website dedicated exclusively to economy and the financial markets. All data was collected manually, since there is no automatic way to recover them.

The data sample is the 100 higher capitalized companies on the Standard & Poors 500 index of the United States of America. The selection of the companies was made according to the classification by capitalization on 30th September 2018 by Sibilis Research, which can be found at the electronic link <http://sibilisresearch.com/data/market-caps-sp-100-us>. These 100 companies, which are shown in the Table 1, are from different sectors and industries of the US economy.

Table 1. 100 higher capitalized companies of Standard & Poors 500 index, end September 2018

Company name	S&P 500 Code	Industry
Apple Inc.	AAPL	Information Technology
Amazon.com Inc.	AMZN	Consumer Discretionary
Microsoft Corp.	MSFT	Information Technology
Alphabet Inc. Class A	GOOGL	Communication Services
Berkshire Hathaway Inc	BRK.B	Financials
Facebook Inc.	FB	Communication Services
JPMorgan Chase & Co.	JPM	Financials
Johnson & Johnson	JNJ	Health Care
Exxon Mobil Corp.	XOM	Energy
Visa Inc.	V	Information Technology
Bank of America Corp.	BAC	Financials
Wal-Mart Stores Inc	WMT	Consumer Staples
Pfizer Inc.	PFE	Health Care
United Health Group Inc.	UNH	Health Care
Wells Fargo	WFC	Financials
AT&T Inc.	T	Communication Services
Home Depot	HD	Consumer Discretionary
Chevron Corp.	CVX	Energy
Mastercard Inc.	MA	Information Technology
Cisco Systems	CSCO	Information Technology
Verizon Communications	VZ	Communication Services
Intel Corp.	INTC	Information Technology
Boeing Co.	BA	Industrials
Procter & Gamble	PG	Consumer Staples
Oracle Corp.	ORCL	Information Technology
The Coca Cola Co.	KO	Consumer Staples
Merck & Co.	MRK	Health Care
Citigroup Inc.	C	Financials
The Walt Disney Co.	DIS	Communication Services
Nvidia Corp.	NVDA	Information Technology
Netflix Inc.	NFLX	Communication Services
Comcast Class A Comm.	CMCSA	Communication Services
PepsiCo Inc.	PEP	Consumer Staples
DowDuPont Inc	DWDP	Materials
AbbVie Inc.	ABBV	Health Care
IBM Corp.	IBM	Information Technology

Nike Inc.	NKE	Consumer Discretionary
Amgen Inc.	AMGN	Health Care
Medtronic Inc.	MDT	Health Care
Adobe Systems Inc.	ADBE	Information Technology
McDonald's Corp.	MCD	Consumer Discretionary
Abbott Laboratories	ABT	Health Care
Philip Morris Int'l	PM	Consumer Staples
3M Company	MMM	Industrials
Honeywell Int'l Inc.	HON	Industrials
Union Pacific	UNP	Industrials
Salesforce.com	CRM	Information Technology
Eli Lilly and Co.	LLY	Health Care
Altria Group Inc.	MO	Consumer Staples
United Technologies	UTX	Industrials
Accenture plc	CAN	Information Technology
Qualcomm, Inc.	QCOM	Information Technology
Texas Instruments	TXN	Information Technology
PayPal Holdings Inc.	PYPL	Information Technology
Costco Co.	COST	Consumer Staples
Broadcom Inc	AVGO	Information Technology
Bristol-Myers Squibb	BMJ	Health Care
United Parcel Service	UPS	Industrials
Gilead Sciences	GILD	Health Care
Lockheed Martin Corp.	LMT	Industrials
Thermo Fisher Scientific	TMO	Health Care
General Electric	GE	Industrials
Booking Holdings	BKNG	Consumer Discretionary
Lowe's Cos.	LOW	Consumer Discretionary
American Express Co	AXP	Financials
Caterpillar Inc.	CAT	Industrials
ConocoPhillips	COP	Energy
U.S. Bancorp	USB	Financials
Twenty-First Century Fox	FOXA	Communication Services
Goldman Sachs Group	GS	Financials
Schlumberger Ltd.	SLB	Energy
Morgan Stanley	MS	Financials
CVS Health Corp.	CVS	Health Care
NextEra Energy	NEE	Utilities
Starbucks Corp.	SBUX	Consumer Discretionary
Danaher Corp.	DHR	Health Care
BlackRock Inc	BLK	Financials
Charter Communications	CHTR	Communication Services
EOG Resources	EOG	Energy
Walgreens Boots Alliance	WBA	Consumer Staples
Anthem Inc.	ANTM	Health Care

Biogen Idec, Inc.	BIIB	Health Care
Becton Dickinson & Co	BDX	Health Care
TJX Companies Inc.	TJX	Consumer Discretionary
Kraft Heinz Co	KHC	Consumer Staples
Stryker Corp.	SYK	Health Care
Aetna Inc.	AET	Health Care
Charles Schwab Corp.	SCHW	Financials
ADP, LLC.	ADP	Information Technology
Intuitive Surgical Inc.	ISRG	Health Care
Allergan, Plc	AGN	Health Care
American Tower Corp.	AMT	Real Estate
CSX Corp.	CSX	Industrials
FedEx Corporation	FDX	Industrials
Activision Blizzard Inc	ATVI	Communication Services
PNC Financial SVCS Group Inc	PNC	Financials
Mondelez Int'l	MDLZ	Consumer Staples
Celgene Corp.	CELG	Health Care
Occidental Petroleum	OXY	Energy
Chubb Ltd.	CB	Financials

An important element in the data collection was that while the financial statements were in all companies on an annual basis, the period to which they relate may vary from company to company. Thus, for example, a company's results may range from 1st January 2018 to 31st December 2018 and some other company for the period from 1st March 2018 to 28th February 2019. In any case, the data collection relates to the latest financial/accounting period of the companies.

Consequently, the recording of the closing price of the shares of the companies corresponds to the periods mentioned in the respective financial reports. For example, if for a company the use of 2018 was in the period 1st November 2017 to 31st October 2018, the closing price of the company's share, in order to be capitalized, concerns the share price at 31st October 2018.

In addition, in order to be able to deduct the rate of increase or decrease in sizes, it was considered appropriate to collect the same data for the previous financial year, which concerned the year 2017.

The data collected from the income statement was income, sales, gross profit, net profit and R & D expenses. Of the 99 sampled companies, only 44 spent on R & D activities, while the remaining 55 did not have such costs.

A statistical test will be made for the averages of the population of the two groups first in relation to the percentage change in sales and then in relation to the percentage change in the stock market value of the companies. Thus, the following two hypotheses will be tested:

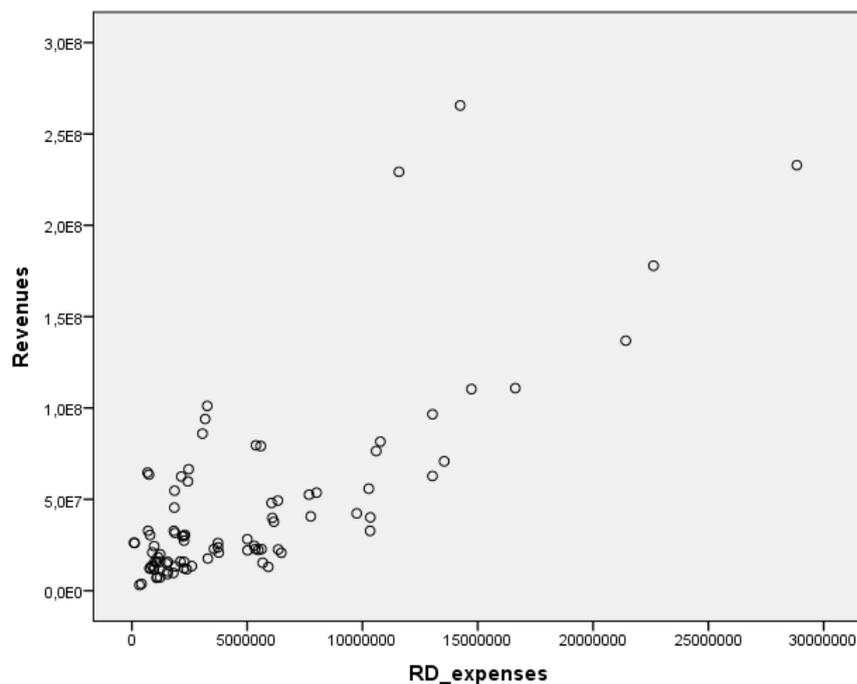
Hypothesis I: The average percentage change in sales of companies investing in innovative actions is higher than the average of companies that do not invest in innovative actions.

Hypothesis II: The average percentage change in the stock market value of companies investing in innovative actions is higher than the average of companies that do not invest in innovative actions.

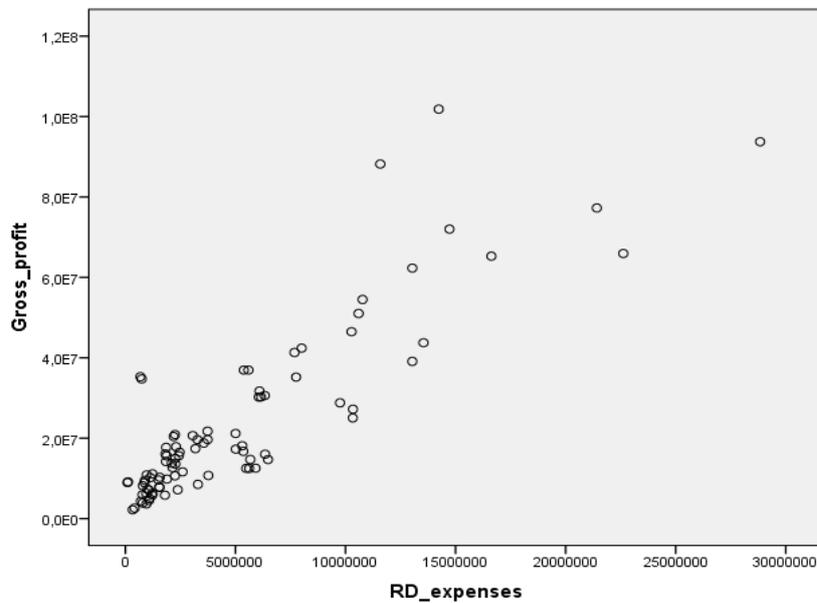
4. GRAPHICAL PRESENTATION OF EMPIRICAL RESULTS

Since the volume of data and the calculated ratios is very large, it was considered appropriate to group them into scatter-plots so that there is a full picture between the variables. For the graphs, listed below, but also for linear regression models and hypothesis tests, the SPSS statistical packet was used.

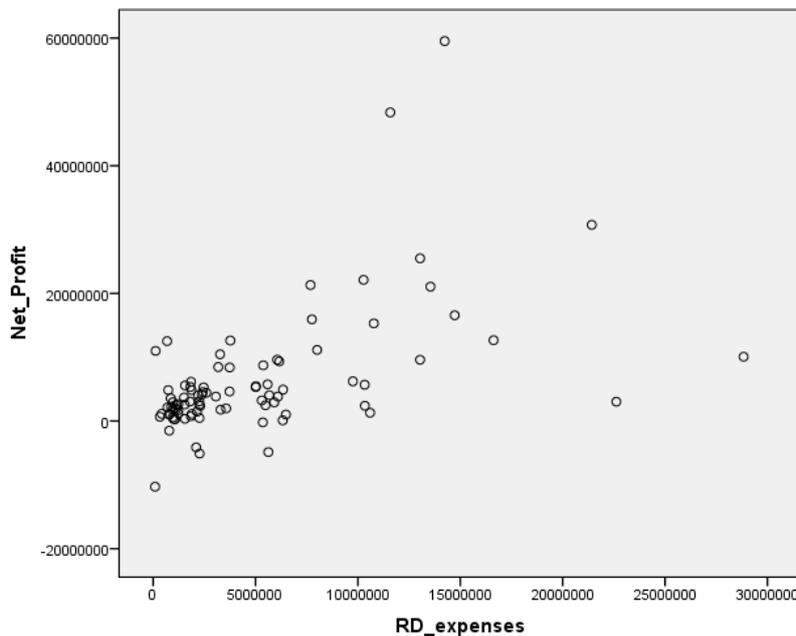
Graph 1. Sales and Expenses of Research and Development of companies for the years 2017 and 2018 (amounts in thousands \$)



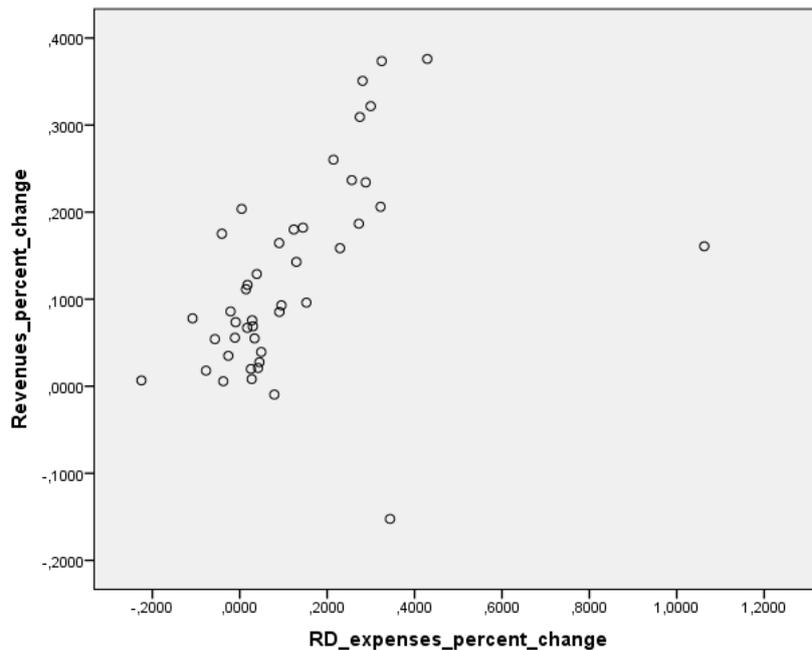
Graph 2. Gross profit and expense in research and development of the companies for the years 2017 and 2018 (amounts in thousands of \$)



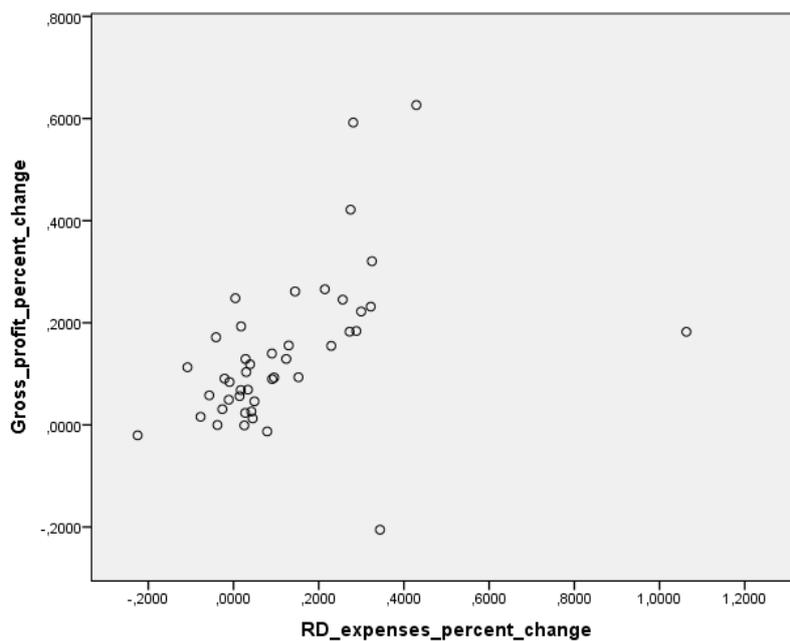
Graph 3. Net profit and loss on research and development of the companies for the years 2017 and 2018 (amounts in thousands of \$)



From the above graphs 1, 2, 3, it is clear that the correlation of R & D spending is much stronger with sales and gross profits than with net earnings. This may be because in order to generate net earnings from gross profits, several categories of expenses are deducted, such as advertising and marketing costs, sales, administration and taxation costs. Next, the graph 4 shows the percentage change in research and development costs from financial year 2017 in the year 2018 and the corresponding percentage change in sales.

Graph 4. Percentage change in sales and research and development costs of companies

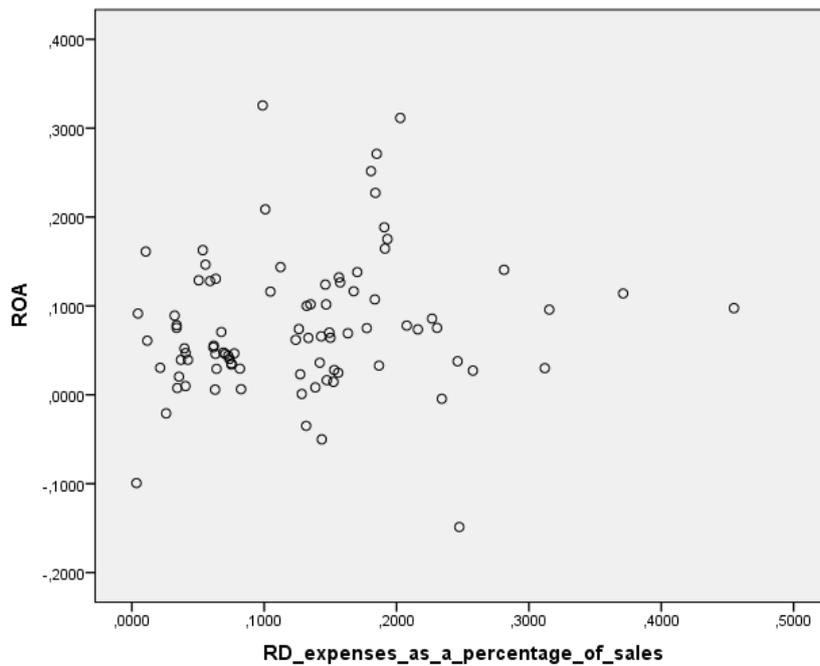
If the percentage change in gross profits is entered on the vertical axis, the following graph 5 will be presented.

Graph 5. Percentage change in gross profit and expense in research and development of companies

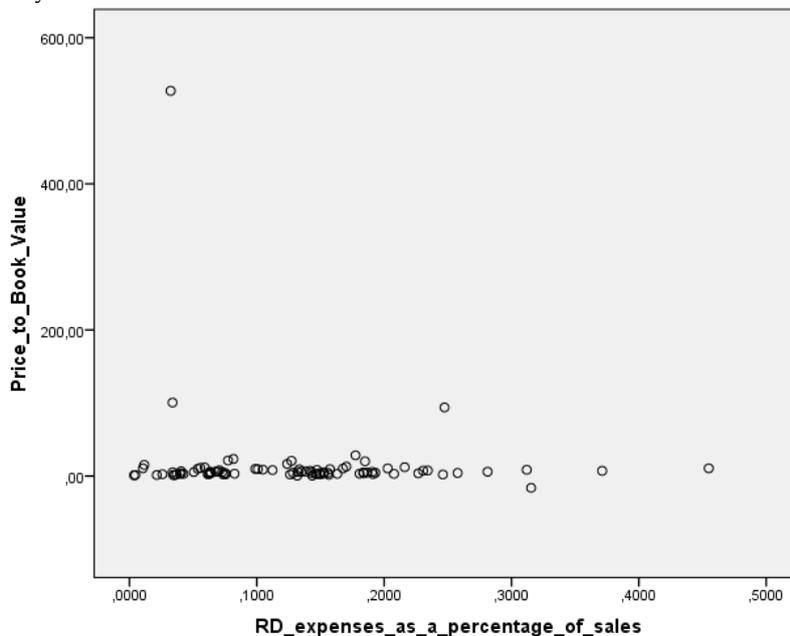
In the above two graphs 4, 5, there is a correlation between the variables and having checked and ruled out the possibility of coming from an error in the input of the data, it will be considered in the data breakdown by amount to be excluded.

In the next three graphs 6, 7, 8, the cost of research and development was selected on the horizontal axis as a percentage of sales and the vertical axis the calculated figures, i.e. ROA, P/BV and P/E.

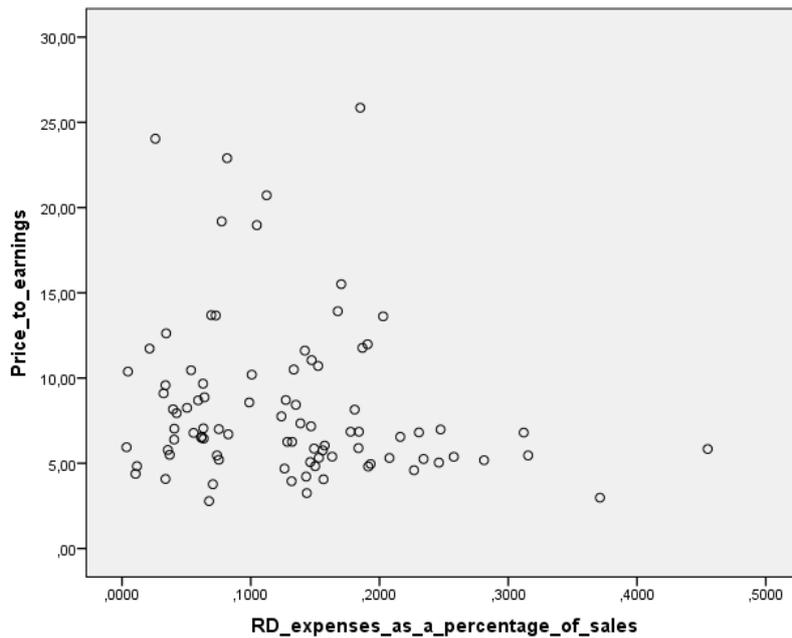
Graph 6. Expenses in R & D as a percentage of sales and ROA of the companies for the years 2017 and 2018



Graph 7. Research & Development Expenses as a percentage of sales and P/BV of the companies for the years 2017 and 2018

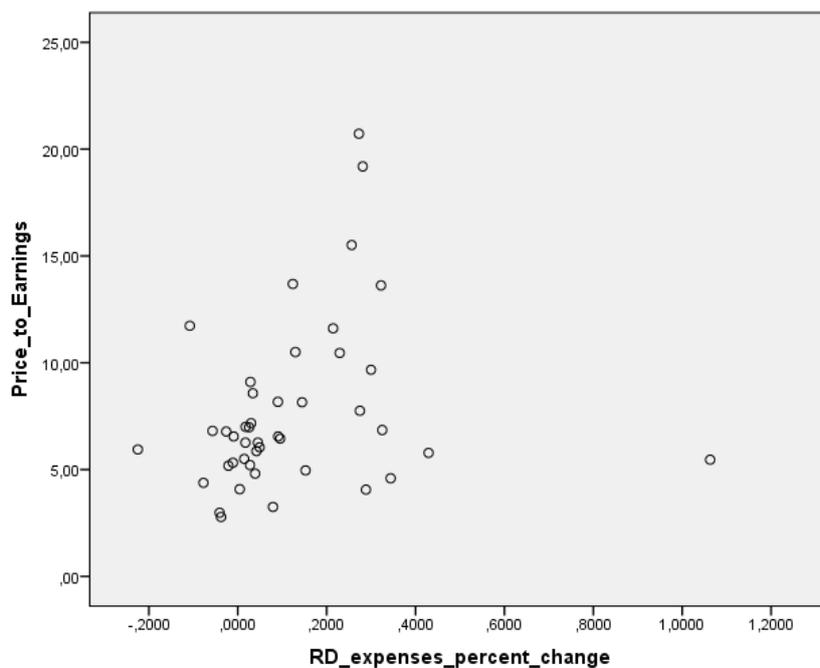


Graph 8. Research & Development Expenses as a percentage of sales and P/E of the companies for the years 2017 and 2018



By observing graphs 6, 7, 8, it seems that there is no strong linear relationship between the variables. Finally, graph 9 depicts the percentage change in R & D expenditure from 2017 to 2018 and the P/E figure.

Graph 9. Percentage change in R & D costs of sample companies and P / E ratio



5. HYPOTHESIS TESTS AND EMPIRICAL RESULTS

We will select the variables to be used for the controls of the two research questions and hypothesis tests. To control the impact of technological innovation on companies' financial results, the linear regression method will be used.

The independent variable to be used will be the percentage change in the company's innovative technology-related actions from one financial year to the next and will be measured by the costs spent on research and development, and the dependency will initially be the percentage change in sales and then the percentage change in the gross profits of the companies.

At this point, it is important to note that although graphs show that R & D expenditure has a strong correlation with both sales and gross profits, it was not chosen to use these variables but the percentage changes.

It is reasonable and likely that companies of the size of Apple or Amazon will have more sales and therefore more resources in research and development than smaller companies. It was chosen to use the percentage changes in order to have an equalization of the companies and to check whether the change in research and development costs leads at the same time to a positive or negative change in the sales and mixed profits of the companies.

In order to control the impact of technological innovation on the stock exchange valuation of companies, the percentage change in R & D spending from one financial year to the next, and as a dependent variable, the P/E ratio of the latter year. In this way, we checked whether the changes in R & D spending have a positive or negative impact on investors, namely the tendency of investors to overstate or depreciate their shares, depending on changes in technology investments.

Subsequently, companies divided into two categories depending on whether or not they include in their balance sheets technological actions and costs in research and development. With the hypothesis test method, it will be examined whether the two categories have statistically significant differences initially in the growth rate of sales and then in the change in their stock market value.

5.1 Effect of technological innovation on economic outcomes

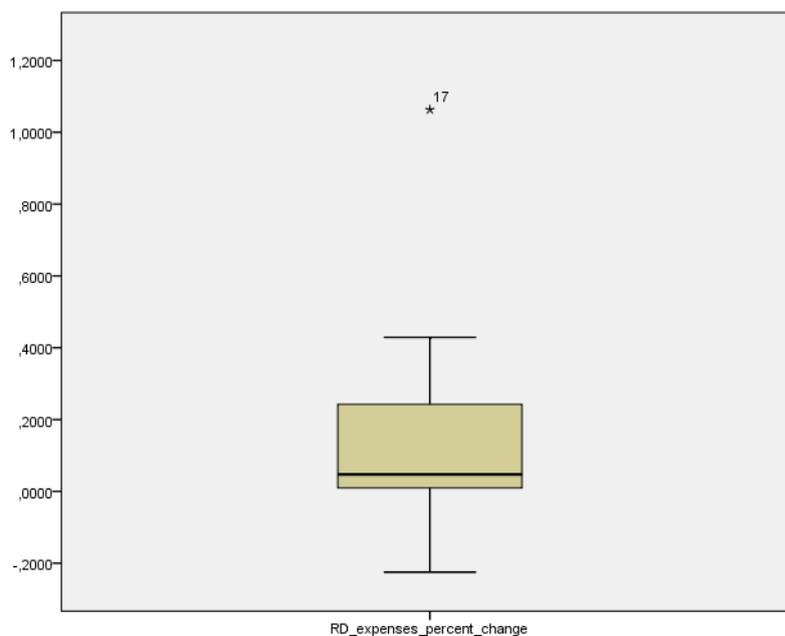
The first test of the impact of technological innovation on companies' financial results will be as previously reported, using as an independent variable the annual percentage change in R & D expenditure and as a percentage of the annual sales change. The method to be used is linear regression and SPSS will be used. Results are as shown in table 2 and graph 10.

Table 2. Descriptive statistics for companies with R & D expenditure**Explore****Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RD_expenses_percent_change	44	100,0%	0	0,0%	44	100,0%

Descriptives

		Statistic	Std. Error	
RD_expenses_percent_change	Mean	,119670	,0306222	
	95% Confidence Interval for Mean	Lower Bound	,057915	
		Upper Bound	,181426	
	5% Trimmed Mean	,102351		
	Median	,047100		
	Variance	,041		
	Std. Deviation	,2031246		
	Minimum	-,2250		
	Maximum	1,0629		
	Range	1,2879		
	Interquartile Range	,2427		
	Skewness	2,411	,357	
	Kurtosis	9,877	,702	

Graph 10. Boxplot for companies with R & D expenses percent change

The rules that follow the SPSS package to define an observation as extreme are related to the distance that this observation has from the boundaries of the rectangle box in the last boxplot. The boundaries of the box are defined by 25th percentile and 75th percentile, while the box height is designated as IQR

(Interquartile range). If an observation is more than $1.5 * IQR$ from the boundaries of the box it is described as an outlier from the statistical software and is presented with a circle in boxplot.

In addition, if an observation is more than $3 * IQR$ than the box boundary, it is marked as extreme by the statistical software and is shown as an asterisk in the boxplot. In our case, according to the boxplot, observation 17 of the data on the annual percentage change in research and development costs related to AbbVie Inc. can be considered extreme and can safely be removed, in order for the best fit of model.

From checking for extreme observations on the data of the dependent variable, i.e. data on the percentage change in annual sales of the companies, there was no other extreme observation.

The results of the linear regression model for the correlation between the annual percentage change in R & D expenditure and the annual percentage change in sales are shown in table 3 and graphs 11, 12, 13, 14.

Table 3. Correlation between the annual percentage change in R & D expenditure and the annual percentage change in sales

Regression

Descriptive Statistics

	Mean	Std. Deviation	N
Revenues_percent_change	,123870	,1142661	43
RD_expenses_percent_change	,097735	,1434101	43

Correlations

		Revenues_percent_change	RD_expenses_percent_change
Pearson Correlation	Revenues_percent_change	1,000	,633
	RD_expenses_percent_change	,633	1,000
Sig. (1-tailed)	Revenues_percent_change	.	,000
	RD_expenses_percent_change	,000	.
N	Revenues_percent_change	43	43
	RD_expenses_percent_change	43	43

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	RD_expenses_percent_change ^b		Enter

a. Dependent Variable: Revenues_percent_change

b. All requested variables entered.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,633 ^a	,401	,386	,0895396

a. Predictors: (Constant), RD_expenses_percent_change

b. Dependent Variable: Revenues_percent_change

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,220	1	,220	27,400	,000 ^b
	Residual	,329	41	,008		
	Total	,548	42			

a. Dependent Variable: Revenues_percent_change

b. Predictors: (Constant), RD_expenses_percent_change

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	,075	,017		4,497	,000	,041	,108
	RD_expenses_percent_change	,504	,096	,633	5,234	,000	,310	,699

a. Dependent Variable: Revenues_percent_change

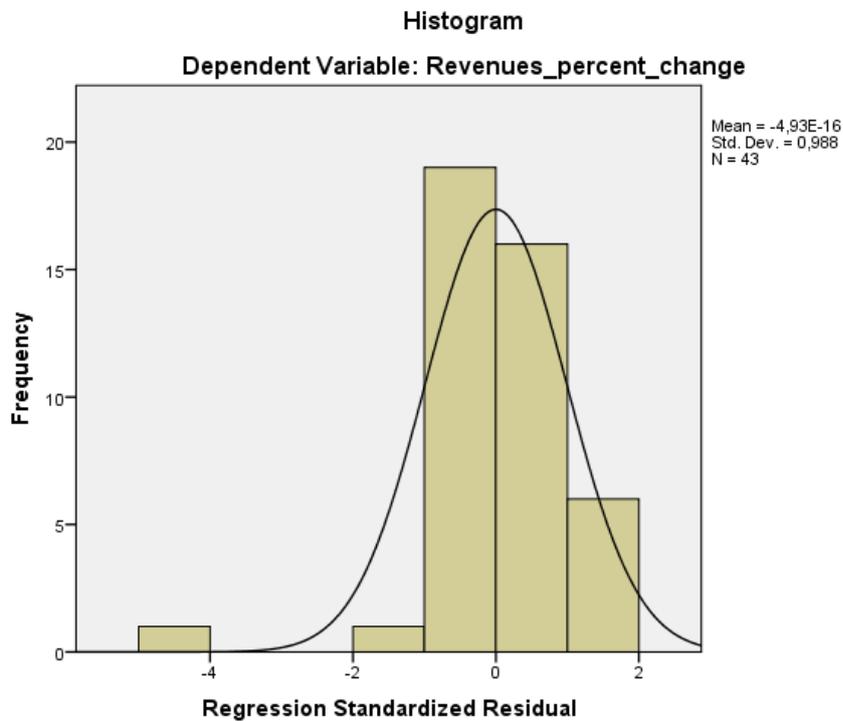
Residuals Statistics^a

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,038883	,291025	,123870	,0723208	43
Residual	-,4004092	,1350724	,0000000	,0884673	43
Std. Predicted Value	-2,250	2,311	,000	1,000	43
Std. Residual	-4,472	1,509	,000	,988	43

a. Dependent Variable: Revenues_percent_change

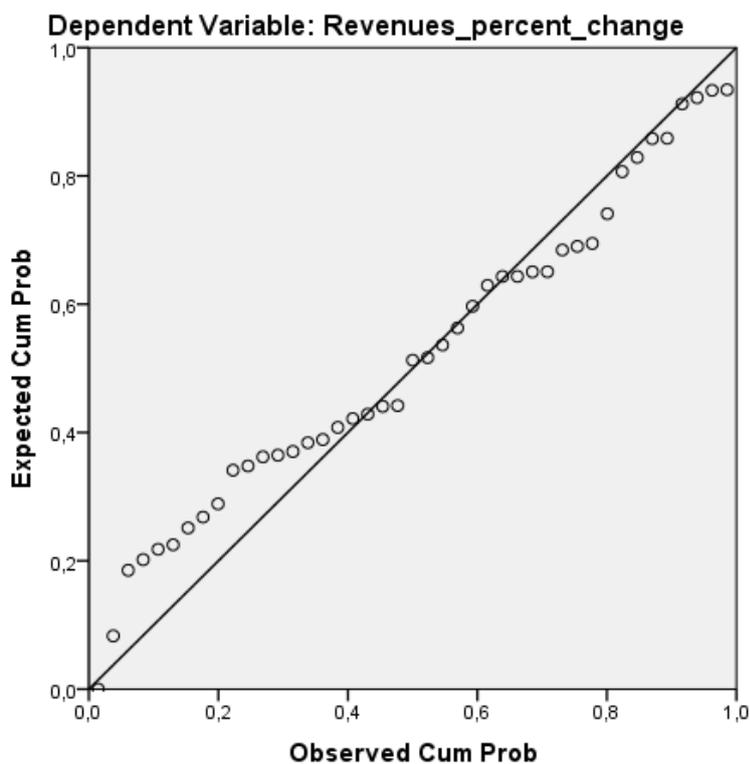
Graph 11. Dependent variable: Revenues percent change

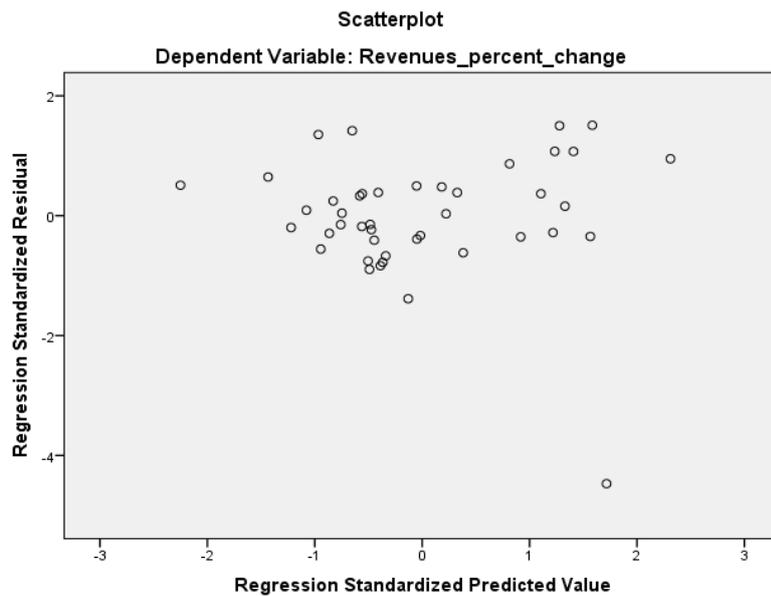
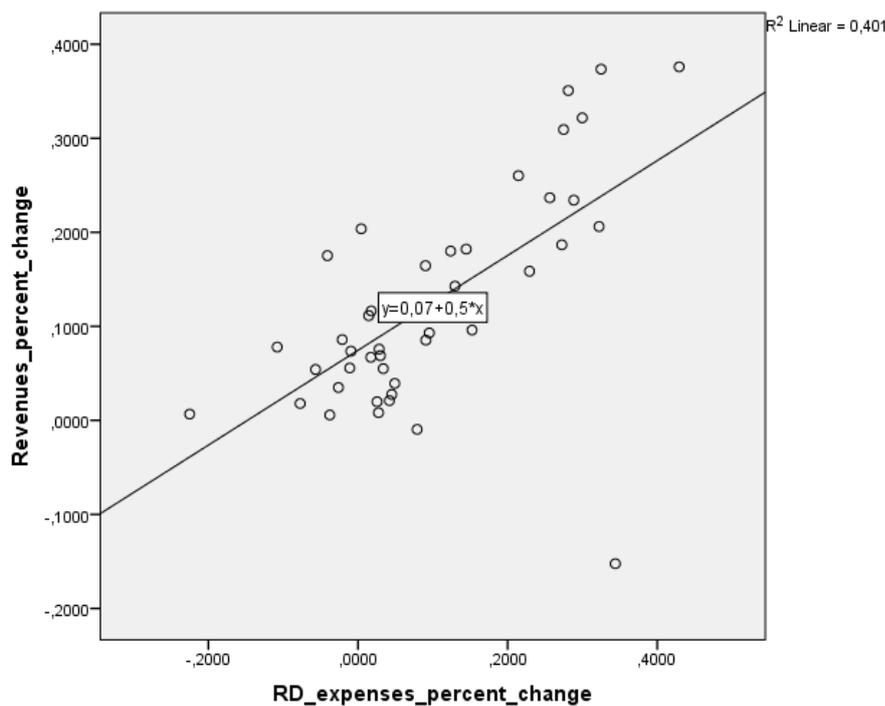
Charts



Graph 12. Normal P-P Plot of regression standardized residual for revenues percent change

Normal P-P Plot of Regression Standardized Residual



Graph 13. Scatterplot for dependent variable: Revenues percent change**Graph 14.** Linear regression for revenues percent change and R&D expenses percent change

The results initially show that the distribution of the residues in both the histogram and the Normal P-P plot follows the normal distribution and therefore simple linear regression can be applied. The percentage change in annual spending on research and development has a positive correlation with the annual percentage change in sales of companies.

As can be seen in graph 14, the estimated linear regression model is expressed by $Y = 0.07 + 0.5 X$. This means that when annual spending on research and development increases by 1%, it is expected that annual sales will increase by 0.5%. The Pearson linear correlation coefficient is 0.633 and

indicates that there is a moderate correlation of the two variables. The value of the coefficient is relatively small ($R^2 = 0.401$) and therefore the adjustment of the regression model to the sample data is not particularly good.

The second test of the impact of technological innovation on companies' financial results will again use as an independent variable the annual percentage change in R & D expenditures and as a consequence, the annual percentage change in the gross profits of the companies.

The test of the data on the percentage change in annual R & D expenditure is the same as in the previous test and according to boxplot remark 17 concerning AbbVie Inc. is considered extreme and can be safely removed in order for the model to better describe the rest of the data. Then the test for extreme observations and the data of the dependent variable, ie data on the annual percentage change of the gross profits of the companies, resulted in the following table 4 and graphs 15, 16, 17, 18.

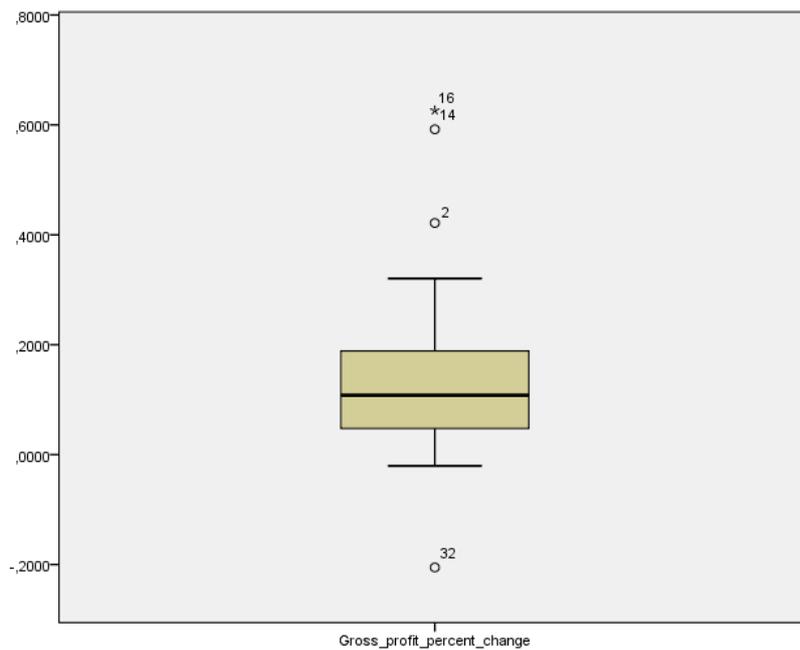
Table 4. Descriptive statistics about gross profit percent change for companies with R&D expenses

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Gross_profit_percent_change	44	100,0%	0	0,0%	44	100,0%

Descriptives

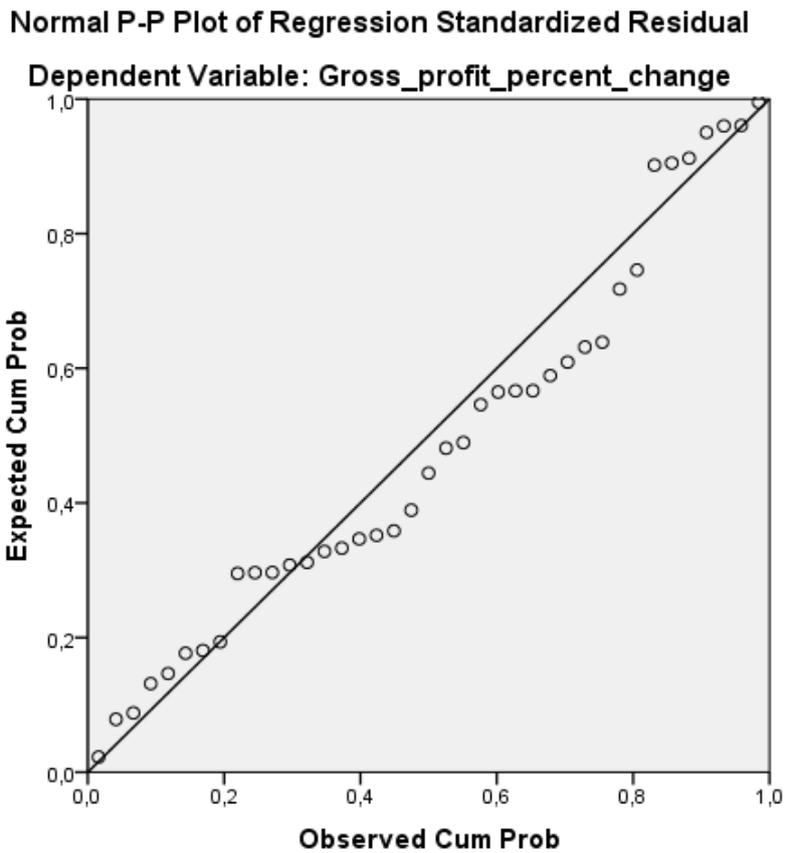
		Statistic	Std. Error	
Gross_profit_percent_change	Mean	,137689	,0225856	
	95% Confidence Interval for Mean	Lower Bound	,092140	
		Upper Bound	,183237	
	5% Trimmed Mean	,125855		
	Median	,108150		
	Variance	,022		
	Std. Deviation	,1498160		
	Minimum	-,2053		
	Maximum	,6264		
	Range	,8317		
	Interquartile Range	,1438		
	Skewness	1,329	,357	
	Kurtosis	3,422	,702	

Graph 15. Boxplot about gross profit percent change for companies with R&D expenses

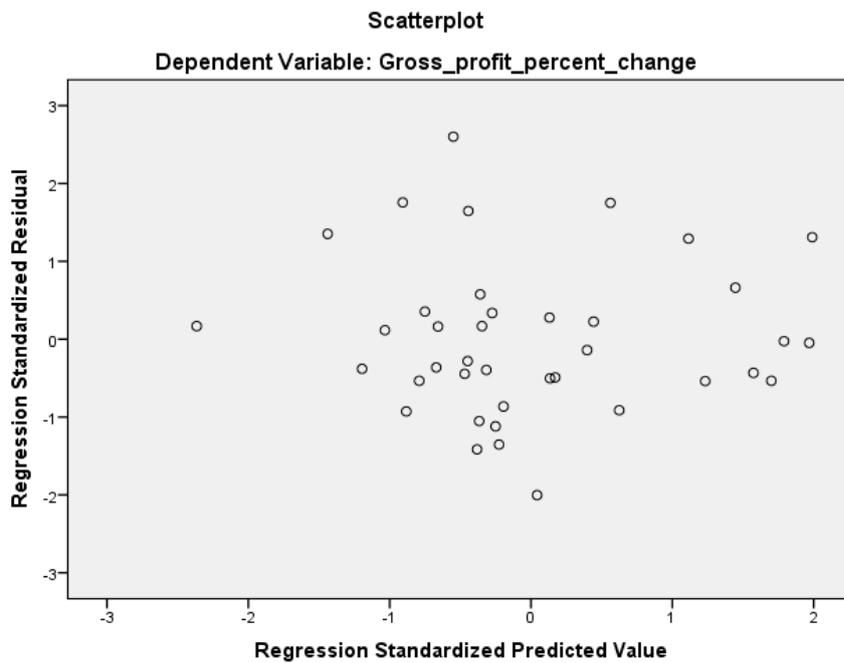
According to the boxplot (graph 15), observation 16 is based on data of the annual percentage change in the company's gross profits for DowDuPont Inc. it is extreme and can safely be removed. In addition, observations 2, 14 and 32 concerning Amazon.com Inc, Netflix Inc. are considered as outliers and Gilead Sciences respectively, and can also be removed in order for the model to better describe the rest of the data.

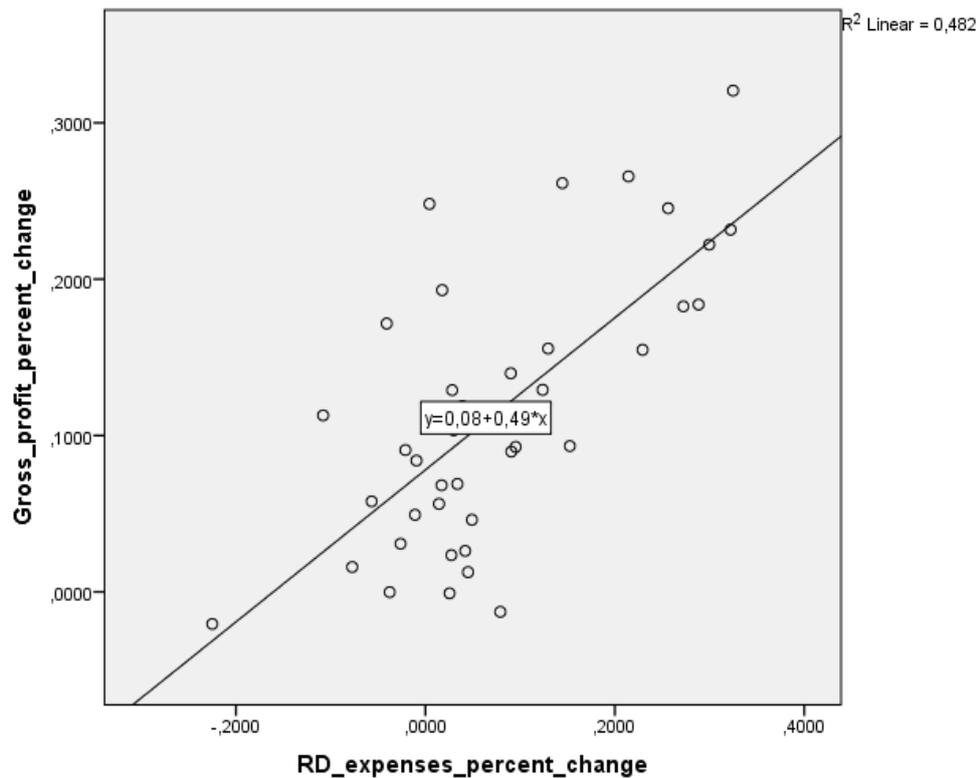
The results of the linear regression model for the correlation between the annual percentage change in R & D spending and the annual percentage change of gross profits are shown below.

Graph 16. Normal P-P Plot of regression standardized residual for gross profit percent change



Graph 17. Scatterplot for dependent variable: Gross profit percent change



Graph 18. Linear regression for gross profit percent change and R&D expenses percent change

The results show that the distribution of the residues follows the normal distribution and the dispersion pattern is randomly scattered. Therefore, there are appropriate conditions to apply linear regression. The percentage change in annual spending on research and development has a positive correlation with the annual percentage change in gross profits of companies.

As can be seen in graph 18, the estimated linear regression model is expressed by $Y = 0.08 + 0.49 X$. This means that when annual spending on research and development increases by 1%, it is expected that annual gross profits will increase by 0.49%. The Pearson linear correlation coefficient is $R = 0.694$ and indicates that there is a moderate to high correlation between the two variables. The percentage of variance of the dependent variable explained by the regression line is 0.482. The value of the coefficient is not particularly high and therefore the adjustment of the regression model to the sample data is not very good.

Table 5. Descriptive statistics for P/E index**Explore****Case Processing Summary**

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Price_to_Earnings	44	100,0%	0	0,0%	44	100,0%

Descriptives

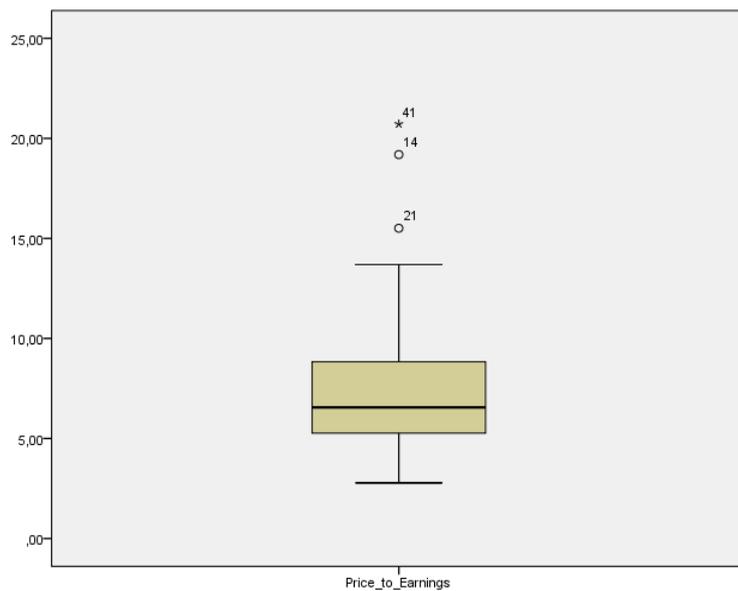
		Statistic	Std. Error	
Price_to_Earnings	Mean	7,6882	,59493	
	95% Confidence Interval for Mean	Lower Bound	6,4884	
		Upper Bound	8,8880	
	5% Trimmed Mean	7,2944		
	Median	6,5500		
	Variance	15,574		
	Std. Deviation	3,94634		
	Minimum	2,78		
	Maximum	20,72		
	Range	17,94		
	Interquartile Range	3,73		
	Skewness	1,666	,357	
	Kurtosis	2,911	,702	

5.2 Effect of technological innovation on stock valuation

The test of the impact of technological innovation on stock exchange valuation of companies will use as an independent variable the annual percentage change in R & D expenditure and as a dependent P/E ratio calculated for all companies.

The test of the data on the percentage change in annual R & D expenditure is the same as in the previous case and according to boxplot remark 17 concerning AbbVie Inc. is considered extreme and can be safely removed in order for the model to better describe the rest of the data.

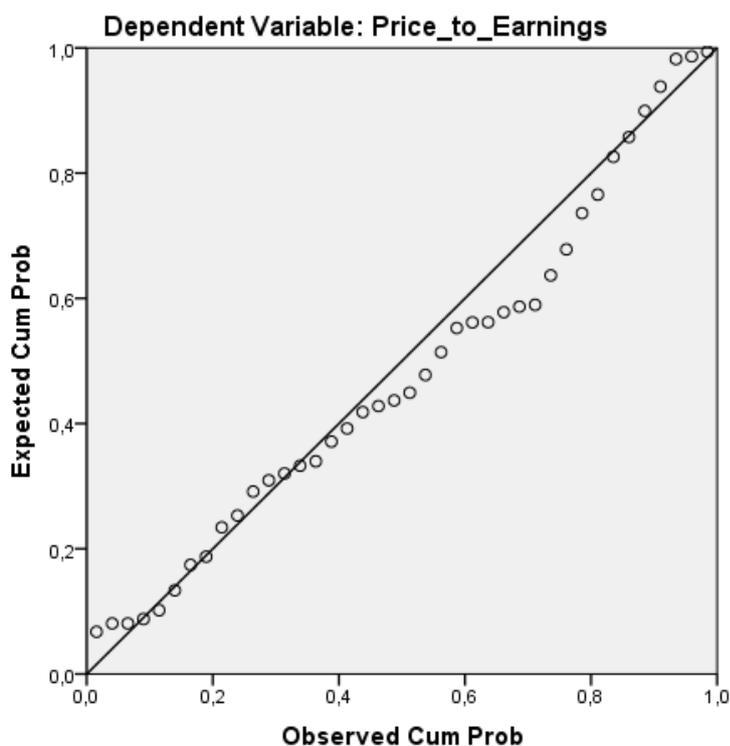
Then the test for the data of the dependent variable, i.e. the calculated values of the P/E index, performed, with the following results showed in table 5 and graphs 19, 20, 21, 22.

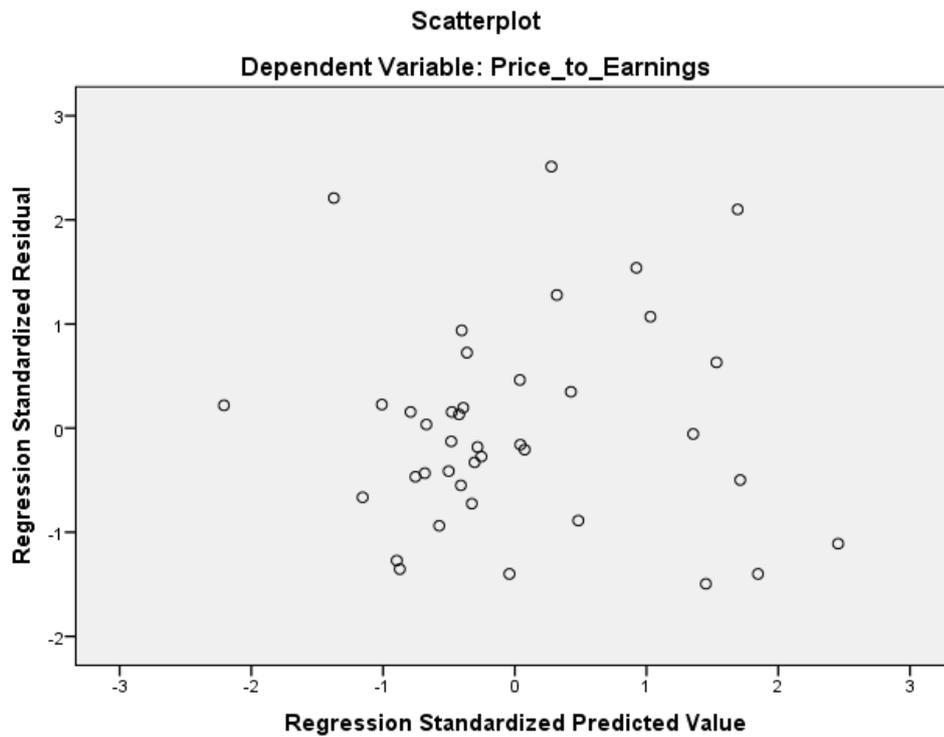
Graph 19. Boxplot about price to earning index for companies with R&D expenses

According to the boxplot (graph 19), observation 41 from the P/E data for Intuitive Surgical Inc. it is extreme and can safely be removed. In addition, observations 14 and 21 concerning Netflix Inc. are considered as outliers and Adobe Systems Inc. and can also be removed, in order for the model to better describe the rest of the data.

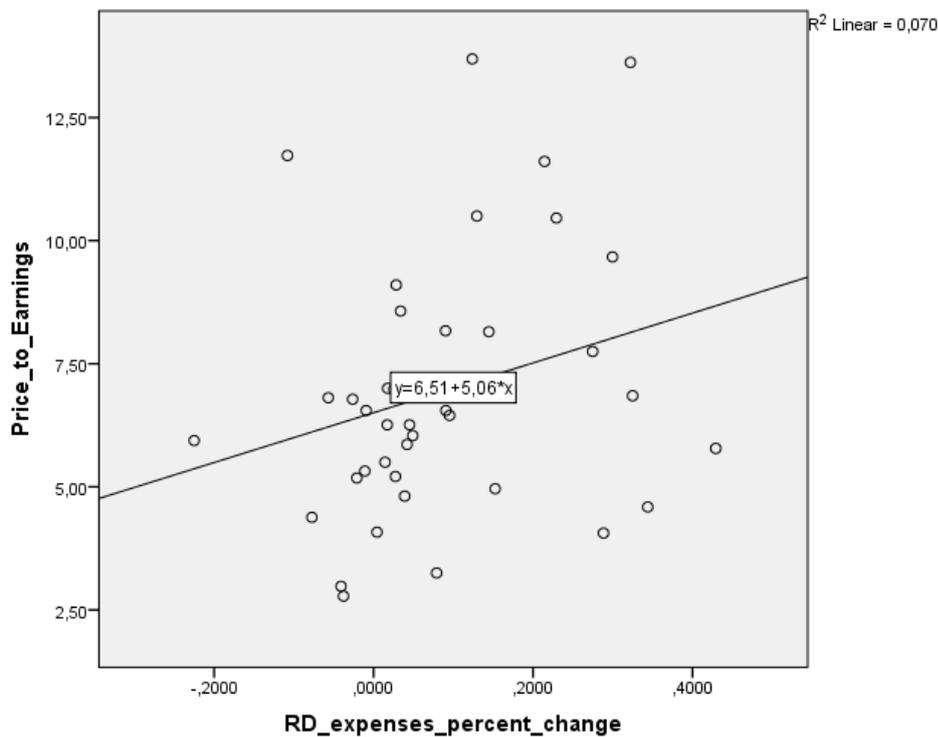
Graph 20. Normal P-P Plot of regression standardized residual for price to earnings

Normal P-P Plot of Regression Standardized Residual

**Graph 21.** Scatterplot for dependent variable: price to earnings



Graph 22. Linear regression for price to earnings and R&D expenses percent change



The results show that the distribution of the residues follows the normal distribution and the dispersion pattern is randomly scattered. Therefore, there are appropriate conditions to apply linear regression. The percentage annual change in the costs spent on research and development has a positive but very weak correlation with the value of the P/E index. As can be seen (graph 22), the estimated linear regression model is expressed by $Y = 6.51 + 5.06 X$. This means that when the annual costs spent on research and development increase by 1%, it is expected that the P/E ratio will increase

by 5.06 points. The Pearson linear correlation coefficient is $R = 0.265$ and shows that there is a low correlation of the two variables. The variance of the dependent variable explained by the regression line is 0.070. The value of the coefficient is very low and therefore the adjustment of the regression model to the sample data is not at all good.

Table 6. Statistics for the two groups of companies about percentage change in sales

```
T-TEST GROUPS=Group(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=Revenues_percent_change
  /CRITERIA=CI(.95).
```

T-Test

[DataSet0] C:\Users\Lampros\Desktop\Test1.sav

Group Statistics

	Group	N	Mean	Std. Deviation
Revenues_percent_change	Firms_with_RandD	44	,124709	,1130668
	Firms_without_RandD	55	,085095	,0993240

Group Statistics

	Group	Std. Error Mean
Revenues_percent_change	Firms_with_RandD	,0170455
	Firms_without_RandD	,0133928

5.3 Examining two hypothesis of section 3

Now, the two hypotheses mentioned in section 3 will be tested through the SPSS statistical packet. To do this, companies divided into two groups. The first group includes the 44 companies that invest in the innovative actions, while the second group includes the remaining 55 companies that do not have such investments at their expenses. Both statistical tests performed at a 95% significance level, which is generally accepted (Hanneman et al., 2013).

The first test concerns the control of the percentage change in the sales of the companies between the two groups. The zero and the alternative hypotheses can be formulated as follows:

H_0 : The average percentage change in sales of companies investing in innovative actions is equal to the average of companies that do not invest in innovative actions.

H_1 : The average percentage change in sales of companies investing in innovative actions is higher than the average of companies that do not invest in innovative actions.

Results from the test are shown in table 6.

Both groups contain a few companies, but the sample is not considered small, since it is more than 30.

Statistical test is one-sided, since the alternative case requires that the average percentage change in

sales of the companies in one group be higher than the corresponding average of the other group. In the SPSS Independent Samples Test table, and specifically in the Sig. (2-tailed) of the t-test for Equality of Means, the value of the p-value is 0.067.

However, since this value concerns bilateral control, while the purpose of this study is for one-sided control, the final value is half that. Therefore, $p\text{-value} = 0.0335$ and if it is less than the critical threshold of 0.05 valid for the 95% significance level selected, the zero hypothesis H_0 can be rejected and the alternative hypothesis H_1 can be accepted. Thus, it is concluded that, the average percentage change in sales of companies investing in innovative actions is higher than the average of companies that do not invest in innovative actions.

The second test concerns the percentage change in the stock exchange value of the companies between the two groups. The zero and the alternative hypotheses can be formulated as follows:

H_0 : The average percentage change in the stock market value of companies investing in innovative actions is equal to the average of companies that do not invest in innovative actions.

H_1 : The average percentage change in the stock market value of companies investing in innovative actions is higher than the average of companies not investing in innovative actions.

Results from the test are shown in table 7.

Table 7. Statistics for the two groups of companies about change in stock market value

```
GET
  FILE='C:\Users\Lampros\Desktop\Test3.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
T-TEST GROUPS=Group(1 2)
  /MISSING=ANALYSIS
  /VARIABLES=Capitalization_percent_change
  /CRITERIA=CI(.95).
```

T-Test

[DataSet1] C:\Users\Lampros\Desktop\Test3.sav

Group Statistics

	Group	N	Mean	Std. Deviation
Capitalization_percent_change	Firms_with_RandD	44	,023036	,2592046
	Firms_without_RandD	55	-,033138	,2392842

Group Statistics

	Group	Std. Error Mean
Capitalization_percent_change	Firms_with_RandD	,0390766
	Firms_without_RandD	,0322651

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of
		F	Sig.	t
Capitalization_percent_change	Equal variances assumed	1,415	,237	1,118
	Equal variances not assumed			1,109

Independent Samples Test

		t-test for Equality of Means		
		df	Sig. (2-tailed)	Mean Difference
Capitalization_percent_change	Equal variances assumed	97	,266	,0561745
	Equal variances not assumed	88,765	,271	,0561745

Independent Samples Test

		t-test for Equality of Means		
		Std. Error Difference	95% Confidence Interval of the Difference	
			Lower	Upper
Capitalization_percent_change	Equal variances assumed	,0502236	-,0435054	,1558545
	Equal variances not assumed	,0506756	-,0445204	,1568695

Statistical test is one-sided, as the alternative test requires that the average percentage change in the stock market value of the companies in one group be greater than the corresponding average of the other group. In the SPSS Independent Samples Test table, and specifically in the Sig. (2-tailed) of the t-test for Equality of Means, the value of the p-value is 0.266. However, since this value concerns bilateral control, while the interest of the survey is for one-sided control, the final value is half that.

Therefore, p-value = 0.133, which is greater than the critical threshold of 0.05 for the 95% significance level selected and therefore there is not enough evidence to reject the zero hypothesis H_0 . Thus, it is concluded that, the average percentage change in the stock market value of the companies investing in innovative actions is equal to the average of the companies that do not invest in innovative actions.

6. CONCLUSIONS

The purpose of this study is, with the help of the linear regression method, to investigate the impact of innovation actions on the economic results of companies and on their stock market valuation. Data gathering of the financial statements from the Securities and Exchange Commission's website (www.sec.gov) gave validity to the results, while the use of the SPSS statistical package facilitated the analysis of the data.

Concerning the impact of innovation on the economic performance of companies, results of this study confirm the disagreement between the findings of the existing studies that were observed during the bibliographic review. No very strong linear correlation was observed between the variables, nor was a very low one.

On the contrary, the data show that there is a moderate positive linear correlation between the change in costs in innovation actions and the change in sales and gross profits. This means that sales and gross profits are affected by the change in research and development costs, but not to a large extent. They seem to be influenced perhaps by the other dimensions of innovation or other parameters apart from the costs of innovation actions, but research is not the purpose of this study.

Perhaps the most important finding of this study was the hypothesis testing between the average percentage change in sales of companies investing in innovative actions and those of companies that do not invest in innovative actions. It has been shown that companies investing in R & D have, on average, higher sales growth and this is a very important element to be taken into account by all companies. This seems to be fully confirmed by the first hypothesis made after the review of the literature.

The correlation between R & D expenditure and sales and gross profits is higher and with net profits less. This observation is directly related to the effectiveness of innovation. An innovative action is considered effective when the costs spent on developing this innovative action are less than the net revenue it earns in the company.

So some companies are more effective in integrating innovation, and R & D spending is expressed with increased sales and net profits while others have increased sales but without them being expressed into an increase in net profits. As the main goal of most companies is profit, it is important that companies focus on how innovative actions can be effectively integrated.

Regarding the impact of innovation on financial valuation, no linear correlation was found between the change in costs in innovation actions and the stock valuation as expressed by the P/E index. The low factor determines that stock valuation by investors is more dependent on other factors than on the costs that companies spend on research and development. The macroeconomic

environment and the creditworthiness of companies are perhaps some of the factors that most affect the investors' sentiment in buying and selling shares in the financial markets.

Similarly from the second hypothesis test, it appears again that investment in R & D does not affect the share price of companies or investors' decisions. The average percentage change in the stock market value does not show a statistically significant difference between the two groups and as a result the second hypothesis of the present study is not confirmed.

Of course, there is always the possibility that the two variables do not have a linear correlation, but some other kind, such as a logarithmic or polynomial correlation. R & D expenditure as a percentage of sales and the P/E, appears that there is a positive correlation at the beginning but, after a critical threshold, it appears to have a negative correlation that may be approximated by a polynomial equation.

It seems that when R & D expenditure reflects a small to moderate percentage of sales, it is positively perceived by investors and the P / E index and stock valuation increases, and when this percentage grows, investors may think that the company follows risk strategy and the P/E ratio is decreasing.

In our study there are limitations. The first limitation concerned the sample size. Although the sample number was not small, it would be preferable to apply it to a larger number of companies, from different countries, with a sectoral breakdown. Another limitation was the fact that data was collected for only two years, and the collection of data over a long period would again increase the observations of the survey.

As a final conclusion, considering the dimensions of innovation mentioned in the bibliographic review by Katimertzopoulos and Vlado (2017), this paper focuses more on the impact of the technological dimension. According to the results of research questions and assumptions, the technological dimension of innovation, as expressed by R & D costs, affects to a small extent the financial results and a much smaller stock valuation of the companies.

REFERENCES

- Atalay M., Anafarta N., Sarvan F., (2013), The relationship between innovation and firm performance: An empirical evidence from Turkish automotive supplier industry, *Procedia – Social and Behavioral Sciences*, Vol.75, pp.226-235.
- Bartolacci F., Castellano N., Cerqueti R., (2015), The impact of innovation on companies' performance: an entropy-based analysis of the STAR market segment of the Italian Stock Exchange, *Technology Analysis & Strategic Management*, Vol.27, No.1, pp.102-123.
- Bower J., Christensen C., (1995), *Disruptive Technologies: Catching the wave*, Harvard Business Review, Vol.73, No.1, pp.43-53.
- Carhart M., (1997), On persistence in mutual fund performance, *The Journal of Finance*, Vol.52, No.1, pp.57-82.
- Fama E., French K., (1993), Common risk factors in the returns on stocks and Bonds, *Journal of Financial Economics*, Vol.33, Issue 1, pp.3-56.

- Geroski P., Machin S., Van Reeven J., (1993), The profitability of Innovating firms, *The RAND Journal of Economics*, Vol.24, No.2, pp.198-211.
- Gok O., Peker S., (2016), Understanding the links among innovation performance, market performance and financial performance, *Rev Manag Sci*, Vol.11, pp.605-631.
- Hashi I., Stojcic N., (2012), The impact of innovation activities on firm performance using a multi-stage model: Evidence from the Community Innovation Survey 4, *Research Policy*, Vol.42, pp.353-366.
- Hirshleifer D., Hsu P., Li D., (2012), Innovative efficiency and stock returns, *Journal of Financial Economics*, Vol.107, pp.632-654.
- Hult T., Hurley R., Knight G., (2003), Innovativeness: Its antecedents and impact on business performance, *Industrial Marketing Management*, Vol.33, pp.429-438.
- Katimertzopoulos F., Vlados C., (2017), Local support mechanisms for entrepreneurship: The approach of local development and innovation institutions, *International Journal of Business and Economic Sciences Applied Research*, Vol. 10:1.
- OECD and Eurostat (2005), *Oslo Manual: Guidelines for collecting and interpreting innovation data*, Third edition, Paris.
- Rosenbusch N., Brinckmann J., (2009), Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs, *Journal of Business Venturing*, Vol.26, pp.441-457.
- Rosli M., Sidek S., (2013), The Impact of Innovation on the Performance of Small and Medium Manufacturing Enterprises: Evidence from Malaysia, *Journal of Innovation Management in Small & Medium Enterprise*, Vol.2013, Article ID 885666.
- Schumpeter J., (1934), *The Theory of Economic Development: An Inquiry into Profits, Capital, Credits, Interest, and the Business Cycle*, Transaction Publishers, Piscataway.
- Sood A., Tellis G., (2009), Do Innovations Really Pay Off? Total Stock Market Returns to Innovation, *Marketing Science*, Vol.28, No.3, pp.442-456.
- Vlados C., Deniozos N., Chatzinikolaou D., (2018), Global crisis, innovation and change management: towards a new systemic perception of the current globalization restructuring, *International Business Research*, Vol.11, No.8, pp.9-29.

COST-STRUCTURE AND THE VOLATILITY OF CAPITALISM

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ABSTRACT

This conceptual paper explores the phenomena of changing cost-structures and the implications for the volatility of capitalism and the possibility to manage firms in such a hostile environment and proposes future research. It also provides an explanation of why the relevance of accounting is lost, the so-called "relevance lost" debate (see among others Francis & Schipper, 1999).

The changing *cost-structures* raises fundamental questions concerning the resulting *the volatility of capitalism* and *the management of firms in such an increasingly more volatile environment*. In Philipson, Johansson & Scheley (2016), we raised the question if it was possible to "...to ride the dragon." Considering the importance of these phenomena, it is astonishing that we have not found any empirical research concerning them. They rest research questions, based on the author's almost 25 years of experience, as a senior executive in Scandinavian industry.

Keywords: Cost-structure, volatility, risk

INTRODUCTION

Increased competition and, as a consequence, diminishing life cycles, have made differentiation strategies more important than economics of scale or cost leadership. "*Competition has a large effect in shortening the longevity of products on the market.*" (De Figueiredo & Kyle, 2006:258) This is reflected in the shift in focus from Porter (1980) and Porter (1996), and is underscored by (Raia, 1993, after Wagner & Busse, 2008), who have shown that 60-70% of life cycle profits result from decisions before the offering is even launched.

After WWII a typical product life cycle was 20 years. In the 1980s it has been reduced to 7-8 years and today it is typically 3-5 years, with:

- (1) individual products having life cycles of 3 - 6 months (e.g. mobile telephones).
- (2) These individual products might reside within a technology with longer life cycles (e.g. 7 - 10 years as the 4G mobile telephone systems) and the
- (3) very concept of a technology as such (the mobile phone is 66 years old now).

SHORTER PRODUCT LIFE CYCLES

The average product life cycle has been declining, ever since the capitalist system was born.

Figure 1 shows a typical product life cycle with an investment phase (the curve below the 0 cash flow line) and exploitation phase with revenues incoming (the positive cash flow curve). When the product is a technology, e.g. 4 G, individual products have their life cycles within the technology life cycle.

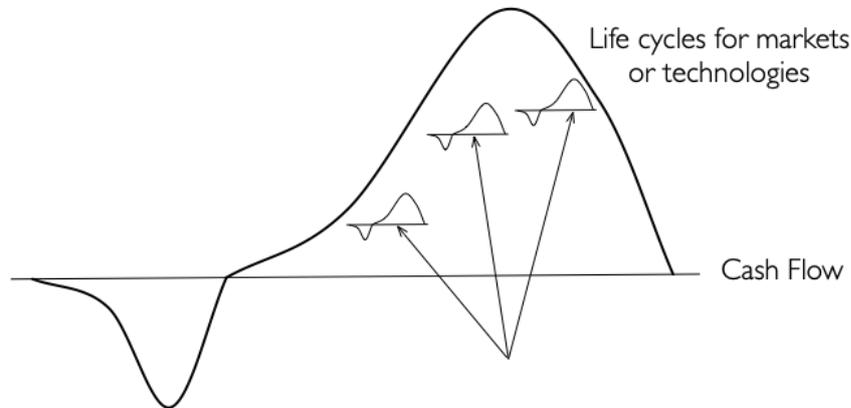


Figure 1. Life cycles within life cycles, own.

Products do not last forever; they are developed, launched onto the market, grow, and eventually decline and die as they are finally supplanted by new or substitute products. The average product life cycle has been declining, ever since the capitalist system was born.

Shorter life cycles (Rink & Swan, 1979; Young, 1964, after Qualls, Olshavsky & Michaels, 1981; Olshavsky, 1980), result from increased competition. In the 19th century it was not unusual that a product to last for a century. The common claim of shorter life cycles has seldom been *empirically* verified, and the above studies are all problematic. But Magnier, Kalaitzandonakes & Miller (2010) provide such empirical evidence for a 12-year period in the US corn hybrid industry.

"...corn hybrids with more advanced biotech features tend to have shorter product life cycles."
(Magnier et al. (2010:33).

Increased competition and, as a consequence, diminishing life cycles, have made differentiation strategies more important than economics of scale or cost leadership. "Competition has a large effect in shortening the longevity of products on the market." (De Figueiredo & Kyle, 2006:258) This is reflected in the shift in focus from Porter's 1980 book to his 1996 article, and is underscored by (Raia, 1993, after Wagner & Busse, 2008), who have shown that 60-70% of life cycle profits result from decisions before the offering is even launched.

The consequences of shortened life cycles are the increased importance of the development of new offerings and hence differentiation and the importance of intellectual property rights, as well as other strategies to increase temporal monopoly (short-term uniqueness) has increased) (von Hippel, 1988).

At the end of the 19th century the life cycles of products (services or experiences) were 50-100 years. Innovation was not a big issue. Product life cycles have become much shorter. After WWII a typical product life cycle was 20 years. In the 1980s it has been reduced to 7-8 years and today it is typically 3-

5 years, with (1) individual products having life cycles of 3 - 6 months (e.g. mobile telephones). These individual products might reside within (2) a technology with longer life cycles (e.g. 7 - 10 years as the 4G mobile telephone systems) and the very (3) concept of a technology as such (the mobile phone is 66 years old now).

The "...shortening life cycles of new products. In the computer industry during the early 1980s, for example, hard disk drives would typically ship for four to six years, after which a new and better product became available. By the late 1980s, the expected shipping life had fallen to two to three years. By the 1990s, it was just six to nine months." (Chesbrough, 2007:24).

However, in mature industries that have not yet suffered from substitution competition, the life cycles are still long.

Hundred years ago, only 1-2% of the turnover of the firm was at stake each year, while today it is one third! To replace lost business, to retain the same size of the company, the 1900 firm had to launch products that could replace 2% of its business each year. Hence, 12.5% new products had to be successfully launched each year. Today, with an average life cycle of 3 years, one third of the business is up for auction every year. With a failure rate of innovations of at least 100% (Evanschinsky, Eisend, Calantone & Jiang, 2012; Van der Panne, van Beers & Kleinknecht, 2003), and a needed 10% yearly growth, it is clear that managers of highly successful companies do not necessarily know if the firm will exist at the end of the year! Since innovation is risky, the firm might need a product development portfolio that is as large as the current turnover, or even more! (Van der Panne et al., 2003).

Table 1 shows the percentage of a firm's turnover that has to be renewed each year and the consequences in the form of the size of the product development portfolio that is needed.

	1890	1950	1980	2005
Average life cycle	50 – 100 years	20 years	7 years	3 – 5 years
% of turnover at stake	1 – 2%	5 %	15 %	30 %
Necessary Innovation portfolio	2 – 4%	10 %	30 %	60 %
Portfolio with growth	2 – 4%	11 %	33 %	66 %

Table 1. The volatility of capitalism, Philipson et al. (2016).

These shortening life cycles have consequences for *the cost structure* of products and hence for how firms make business.

COST STRUCTURE

The cost structure of a typical company in 1900 could look as is shown in Figure 1.

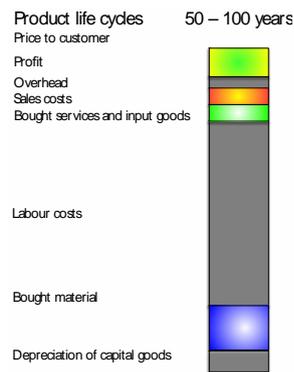


Figure 2. The cost structure of a company in 1900, own.

In the following 50 years it only marginally changed. Management attention and a new science of management had evolved and focused on *diminishing the direct labour costs*, by introducing *mean time measurement* (MTM) and *variable salaries*. These managerial strategies of course go back to Taylor (1911/2001) but were widely employed only after the second world war; a consequence of the arrested development of capitalism as a result of the two world wars.

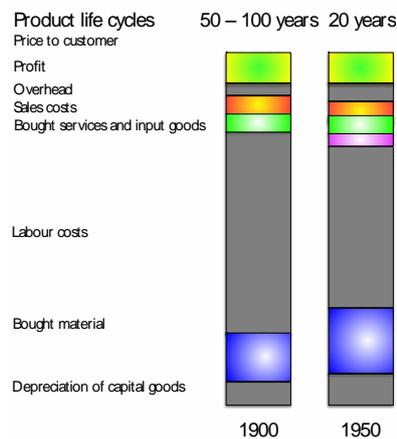


Figure 3. Cost structure in 1950 compared to the cost structure in 1900, own

In 1965, the efforts to diminish direct Labour costs had resulted in radically increased *costs of bought material* and hence, management attention and academic research focused on *Just-in-Time*, JIT, *capital rationalization*, and other means to beat down the costs of bought material. These practices were typically subject to academic research a decade later (Aglietta, 1979; Palloix, 1976, both after Sayer, 1986).

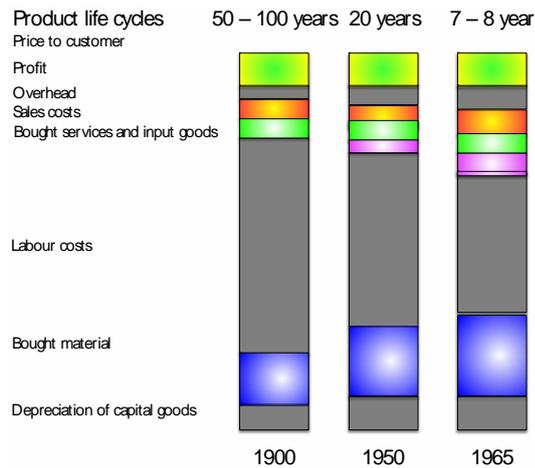


Figure 4. Cost structure in 1965 compared to those of 1950, and 1900, own.

By 1985 the new engineers that had been employed to work with the new management techniques had become Mintzberg’s technostructure, Mintzberg (1979), or *overhead costs* had become important enough to become the center of attention (see Johnson & Loewe, 1987).

In 1982 the author slashed down central staff and services at the then Asea Brown Boveri (ABB) headquarters in Västerås, Sweden....

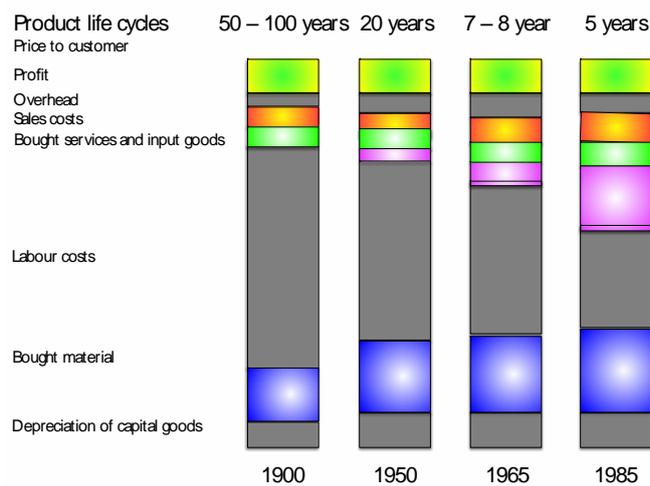


Figure 5. Cost structure in 1985 compared to those of 1965, 1950, and 1900, own.

In 2000 the cost structure had again radically changed. Increased competition had made *innovation* and the costs of *global niche marketing* the dominant elements and the center of attention.

In Figure 6 the *business risk costs*, innovation, organizing the value chain, and fixed marketing costs are identified as the lion’s share of the cost structure.

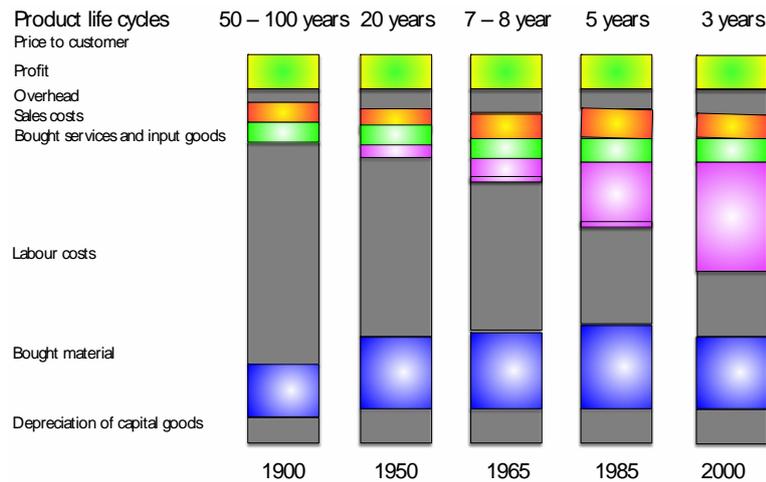


Figure 6. Cost structure in 2000 compared to those of 1985, 1965, 1950, and 1900, own.

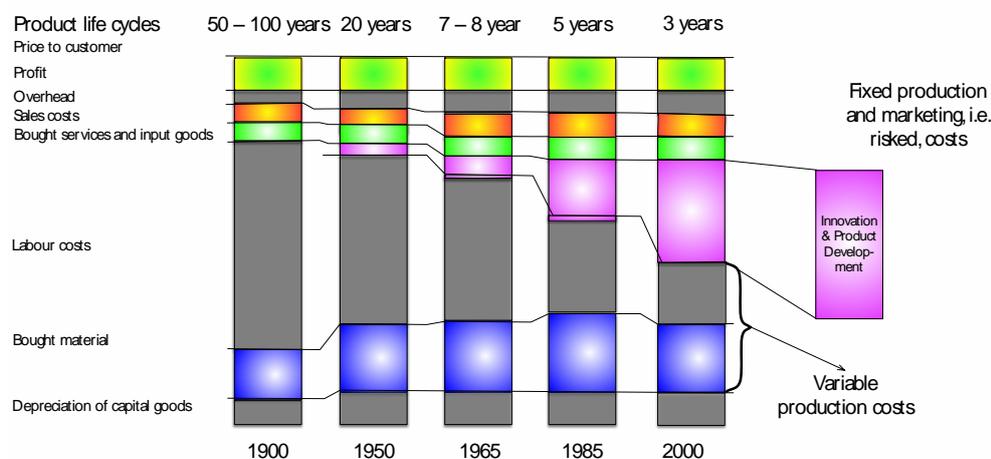


Figure 7. The Cost structure in 2000, own.

Products like personal computers and mobile telephones has a variable production cost of 10-15%, a Lacoste t-shirt 8%; a music CD 2%. Most of the costs are fixed production and marketing costs, paid upfront before any revenues can be collected. All these costs are risked in advance of not only any revenues, but even of any industrial production. A failed investment in innovation means that all the costs are sunk. Lost. Capitalism as we know it has become very risky. But still, some of the most successful firms do it. Why?

The fixed costs the are risked include:

- 'Pure' product development, R&D, development of the product or service architecture, interfaces between components, standards (proprietary or open).
- Fixed production costs, certain parts of production costs have to be taken before any product is sold, be it setting up plants, buying machines, and for developing machine tools.
- Fixed marketing costs, the production of marketing, buying 'space', etc., in order to be able to roll out the marketing when the 'window' of opportunity opens.
- Organizing the value chain.

SOCIETAL CONSEQUENCES

These changing cost structures also has societal consequences. The typical firm of the year 2000 is very different from that of 1900, see figure 8. As a consequence, society is very different. In 1900 the class distinctions and living conditions were sharply different between on the one hand the owner-capitalist

and the contre-maître (production director) and on the other the rest of the employees. In 2000 the spread in living conditions can be as large or larger, but the employees are “all over the place”, not at the other end of the spectrum.

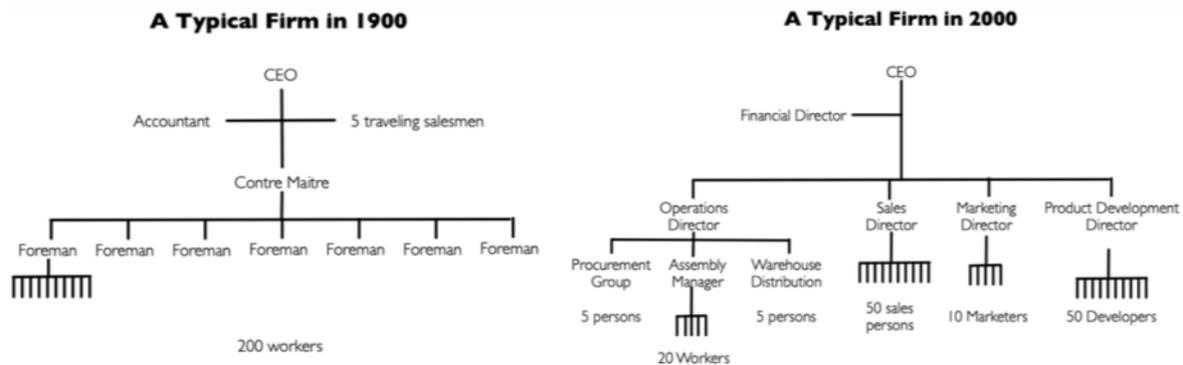


Figure 8. A typical firm 1900 and in 2000, own

There are three major reasons why firms develop new offerings:

1. To replace products that are no longer competitive.
Customers' needs evolve. If the company does not adapt competitors will. Hence, companies have to develop their offerings to meet competition or, if they fail to do so must develop new offerings to compensate for the loss of those. Offerings hence have a “life cycle”; they will not last forever.
2. To grow. If the company want to grow, it must add new offerings or increase market share for existing offerings.
3. To gain (temporary) monopoly rent, abnormal earnings.

CONCLUSIONS

The changing *cost-structures* raises fundamental question concerning resulting *the volatility of capitalism* and *the management of firms in such an increasingly more volatile environment*. In Philipson et al. (2016), we raised the question if it was possible to ride the dragon. Considering the importance of these phenomena, it is astonishing that we have not found any empirical research concerning them. They rest hypotheses, based on the author's almost 25 years of experience, as a senior executive in Scandinavian industry

PROPOSED FUTURE RESEARCH

1. Longitudinal case study of a product cost structure based on internal company archive.
2. Longitudinal study of variable costs as a percentage of corporate annual returns of listed companies and if identified *business risks* are compensated by lower *financial risks*, increased solidity, to balance the total risk.

REFERENCES

- Chesbrough H.W. (2007). Why companies should have open business models, *MIT Sloan Management Review*, 48(2), 22-28.
- De Figueiredo, J.M. & Kyle, M.K. (2006) Surviving the Gales of Creative Destruction: The Determinants of Product Turnover, *Strategic Management Journal*, 27(3) 241-264.
- Evanschinsky, H., Eisend, M., Calantone, R.J. & Jiang Y. (2012). Success factors of product innovation: An updated meta-analysis, *Journal of Product Innovation Management*, 29(S1), 21-37.
- Francis, J. & Schipper, K. (1999). Have financial statements lost their relevance? *Journal of Accounting Research*, 37(2), 319-352.
- Johnson, H.T. & Loewe, D.A. (1987). How Weyerhaeuser Manages Corporate Overhead Costs [2]. *Strategic Finance*, 69(2), 20-27.
- Magnier, A., Kalaitzandonakes, N. & Miller, D., (2010), Product Life Cycles and Innovation in the US Seed Corn Industry, *International Food and Agribusiness Management Review*, 13(3), 17-36.
- Mintzberg, H. (1979) *The Structuring of Organizations*, Englewood Cliffs, NJ: Prentice Hall.
- Olshavsky, R.W. (1980). Time and the Rate of Adoption of Innovations. *Journal of Consumer Research*, 6(4), 425-428.
- Philipson, S., Johansson, J. & Schley, D. (2016). Global Corporate Governance: The Maelstrom of Increased Complexity - Is It Possible to Learn to Ride the Dragon? *Journal of Business and Economics*, 7(3), 425-437. [http://doi.org/10.15341/jbe\(2155-7950\)/03.07.2016/007](http://doi.org/10.15341/jbe(2155-7950)/03.07.2016/007)
- Porter (1980), *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, New York, NY: The Free Press.
- Porter, M. (1996). What is Strategy? *Harvard Business Review*, 74(6), 61-78.
- Qualls, W., Olshavsky, R.W. & Michaels, R.E. (1981). Shortening of the PLC: An Empirical Test. *Journal of Marketing*, 45(4), 76-80.
- Rink, D.R. & Swan, J.E. (1979). Product Life Cycle Research: A Literature Review. *Journal of Business Research*, 7(3), 219-242.
- Sayer, A. (1986). New developments in manufacturing: the just-in-time system. *Capital & Class*, 10(3), 43-72.
- Taylor, F.W. (1911/2001) *The Principles of Scientific Management*, Mineola, NY: Dover Publications Inc.
- Van der Panne, G., van Beers, C. & Kleinknecht, A. (2003) Success and Failure of Innovation: A Literature Review, *International Journal of Innovation Management*, 7(3), 309-338.
- Von Hippel, E. (1988). *The Sources of Innovation*. New York: Oxford University Press.
- Wagner, S.M. & Busse, C. (eds) (2008), *Managing Innovation: The New Competitive Edge for Logistics Service Providers*, Bern: Haupt Verlag.

CONSUMERS AND ENTERPRISES AS ACTORS ON THE MARKET

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ABSTRACT

This conceptual paper discusses the phenomenon of differentiation made possible through branding or innovation or a combination of the two. Differentiation is eventually the driving force for the development of its own negation, commoditization. When customers have endured a commoditized market long enough the opportunities open up for creative destruction, this concept of Schumpeter (1942), means that an entrepreneur invents a completely new way of satisfying the customers' unsatisfied needs, making the industry that no longer bothered about their customers. Many researchers have tried to re/brand destructive innovation as their own, with concepts, such as of "transilience", and "blue ocean strategy", as opposed to 'red ocean strategy'.

The paper focuses on innovation as a differentiation strategy and on temporary monopoly rent as a driver of innovation. Increased competition and shortening and life cycles makes capitalism more volatile and the strategies to reduce the risks involved are discussed. These strategies lead to the real-world implementation of the concentration of capital forecasted by Marx and feared by Schumpeter.

The paper identifies the need to continuously monitor the concentration of capital and to understand individual markets by studying the firm's profit.

Keywords: Market, differentiation, commoditization, innovation, creative destruction, monopoly rent, organic composition of capital, volatility, concentration of capital.

INTRODUCTION

The concept "market" is central in marketing, but we are often sloppy in defining it and explain the mechanisms regulating markets. Sometimes we use the concept of "market forces" (a legacy from economics), but of what does these forces consist and how can we understand these. Different traditions in marketing rely on different perspectives on how to view the market and the mechanisms regulating it.

First, we give an example, *Wine making in France*, of how undifferentiated products can be differentiated. Then under *Competition and differentiation* we discuss how competition forces companies in general to differentiate their products and services, to reach higher profits. Neo-classical

and classical economy's view on these issues are discussed and the reasons why marketing is fundamentally classical in its foundations. There are *two ways to differentiate products*, **Innovation** and **Branding**. Here we are showing what they achieve for companies in the form of differentiation. Under **Innovation and Monopoly Rent**, we discuss the extra-ordinary profit levels that can be achieved by successful radical innovation. The risks inherent in investing in differentiation leads to increasing volatility are discussed under **The volatility risks and the management of these**. Under the header **Commoditization and creative destruction**, we show how markets mature from competition and enter into a phase of slow change that eventually ends in what is called **Creative destruction**, when the industry is over-run by a newly arising industry.

Commodities, undifferentiated homogeneous goods, satisfy basic human needs; be it a kilo of rice or potatoes to eat, or pine planks to build a house. But most needs are different for different customers, hence if we address these specific needs, we produce products and services which are differentiated, heterogeneous. Differentiation means that the product satisfies the need differently, through innovation, or better, because of quality. The firm that manages to produce such added value and communicate the extra value to customers reap higher profits in the market place.

WINE-MAKING IN FRANCE

In the 1960s, when I first visited Paris, most people brought their own bottle to the local food retailer and refilled in from a tap, almost as in a gas station. Wine was a commodity, not a differentiated product, and as such quite bad one, also in France.

Although wine making has a history going back more than a couple of thousand years, there were no possibility for customers, apart from a select few of the upper classes, to distinguish the hundred thousand wine peasants that produced wine, and hence buy it because of its quality. The select few, like the most prestigious vineyard in France, Domaine de la Romanée-Conti that goes back to 1232, had the royalty and the noblesse as customers.

In 1742 the first attempt to differentiate the vineyards was in Bordeaux, but it was not until 1855 that an official classification system of Bordeaux wine was made. The same year Burgundy got its first unofficial system, but it was not until 1936 that an official system was introduced. What the "appellation contrôlée"-system did was to classify the land, based on soil type, sun exposition, minerals, and water flow, which together with the climate during the year, give the **conditions** for wine making. The quality of the wine is primarily the result of the wine-makers efforts and the classification tells nothing about that. But the identification of the land made it meaningful for the wine maker to invest in quality, as the vineyard could be identified.

In the two villages Chassagne-Montrachet and Puligny-Montrachet in the lower central area of Burgundy, there are some 500 ha of land with wine, of which slightly more than 30 ha have the highest classification of "grand Cru". Of four grand Cru wines, the best the Montrachet, is the best dry white wine in the world. It is produced on less than 8 ha of land and subdivided in lots owned by 26 producers (2007). On a global market with 26 producers it is possible to differentiate yourself by outstanding quality.

Hence, the region in which the wine is produced tells something about the quality of the wine. The region labelled on the wine bottle signaling this quality. Thus, the wine becomes differentiated into different brands (vineyards), vintages (quality indicator) and regions (quality indicator). Other commodities have become differentiated in this way, especially food products from the agricultural sector, e.g. cheese, meat, etc.

COMPETITION AND DIFFERENTIATION

Markets as we know them are a consequence of industrialization and the capitalistic economic system that replaced the feudalism of the middle ages. The peasant produced either for the nobleman or for his own family, never for a market. The independent artisan did exchange the results of his work for money, but not with the aim to produce profit, just to support the family on a socially acceptable level (Marx, 1867/1970).

For the modern version of the artisan, be it a shoe-repairer or an owner of a taxi, the firm is also a basis of survival, rather than to produce profit and expand. In a favorable business cycle the company might expand slightly, with one or a few employees, and then contract in a less favorable one. In the slow cycle, the owner's hours of work could expand to 12 hours and in a good cycle diminish to 8 hours. Chayanov (1925/1966) explained the regulating mechanisms in these enterprises to be a socially acceptable subsistence level for the family. This type of companies can exist in sectors of the market characterized by a fragmented economy, no actor is able to differentiate to make substantial profits and outcompete others.

With industrialization markets evolved and companies sold goods for profit. The aim of the company was not to produce goods, but to produce profit. This was not without risk and the profit had to be on certain level to motivate the risk-taking involved. Over business cycles the *average profit* level has been some 5% over bank interest (cf. Nicholas, 2003:1045)), giving an average *interest* of around 2%.

Neo-classical economics presumes that markets are characterized by perfect competition, where no individual or buyer can affect price, i.e. only undifferentiated goods are exchanged on the market. Hence, all companies create average profit. But companies and business administration as their help

science, strives to get more profit, not only in absolute figures by growing, but relatively, as a percentage of the company equity, by differentiating products and services.

Classical economics (Smith, 1776/982; Malthus, 1798/1970; Ricardo, 1817/1971; Marx 1894/1970; and others) understood that there is a drive among capitalists to get more than the average profit. They recognized this as *monopoly rent*, a premium for being different, which meant that profits were re-distributed in the market place to the advantage of the company with a unique, and especially the most unique product. To begin this was supposed to be because of monopoly control of natural resources. Ricardo is credited with the clearest analysis of land rent. Marx (1894/1970; 1973) used Ricardo's concept for land rent, but for industrial capitalism. He introduced the concept of redistribution of profits by the organic composition of capital, a measure for how advanced the capital is in employing science and technology. Schumpeter (1942, 1947) used the term monopoly rent in a sense akin to Marx' concept, to explain the "long waves" of capitalism and fundamental effects of entrepreneurial "destructive changes"; when market conditions are fundamentally changed by the innovations of "entrepreneurs" (cf. Elliott, 1980). The entrepreneur gains a temporary monopoly rent by being unique (von Hippel, 1988).

This can be illustrated by the monopoly rent that Apple was able to gain by the introduction of the iPhone in mid 2007, illustrated in figure 1. In 2006, Nokia catches 60% of the profits in the market for mobile telephone terminals. Four years later, Apple had 75% of the profits and Nokia zero. Two years later Nokia, the monopolist six year earlier, had been forced out of the market.

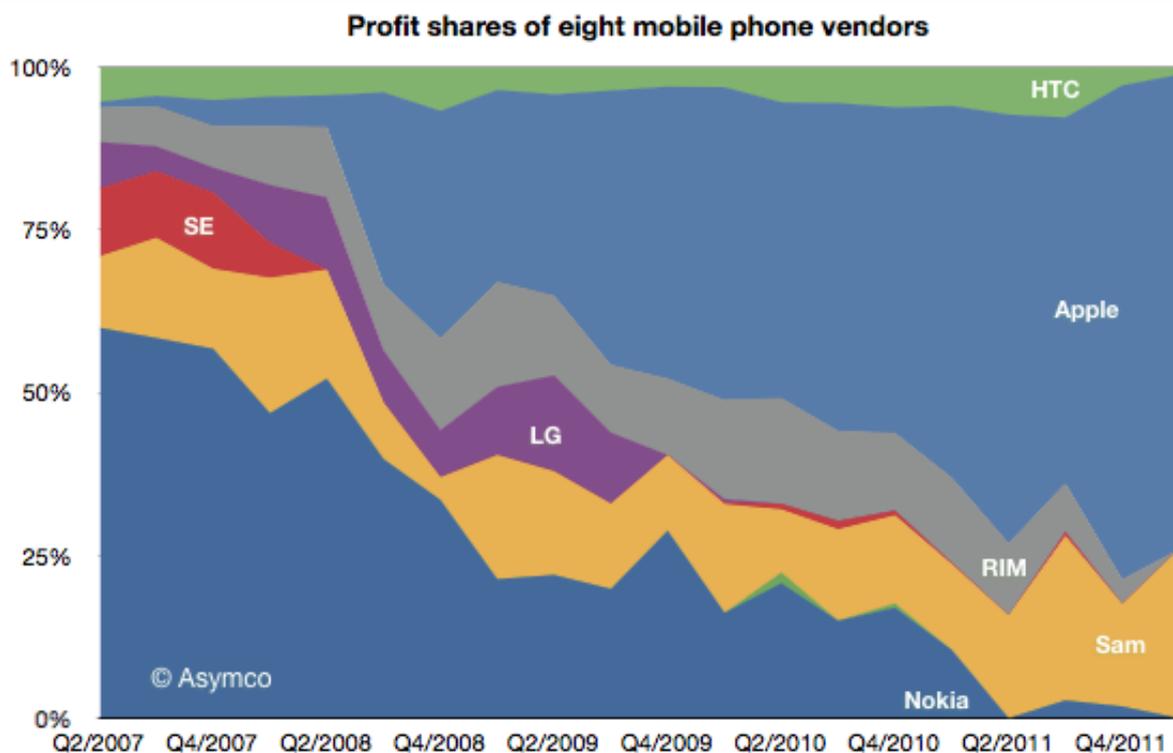


Figure 1. Profits in the Mobile Phone Vendor Market, Asymco (2013-06-28), with permission

In spite of what is commonly thought, given the increasing Android sales, Apple has increased its dominance, see Figure 2. The figure shows that in 2016, Apple took 92% of the profits in the market, although Samsung is the leader in terms of market share but does not earn any money! Google is the profit leader for operating systems (Android), but that does not trickle down to its partners using that operating system. Hence, even if a company has a smaller market share it can catch the lion's share of the profit, because of the monopoly rent gained by differentiation. This also illustrates the important difference between market share, share of total sales in industry, and profit share, share of the total profits industry. The market share does not tell who the industry leader is.

Global Smartphone Profit by Vendor	Operating Profit (US\$, Billions)	Operating Profit Share (%)
Apple	\$8.5	91.0%
Huawei	\$0.2	2.4%
Vivo	\$0.2	2.2%
OPPO	\$0.2	2.2%
Others	\$0.2	2.2%
Total	\$9.4	100.0%

Figure 2. Global Smartphone Operating Profit Share in Q3 2016, Strategic Analytics (2016-11-25).

Another example is Digital Equipment that in 1986 was number two in the computer market (after IBM), 9 years later it did not exist anymore (Spencer, Kirchhoff & White, 2008).

TWO ELEMENTS OF DIFFERENTIATION

Branding and innovation are two independent, but related elements of differentiation. As indicated by our narrative about French wine making, differentiation by branding is antecedent to exploiting the results of investing in innovation or quality. *Branding* is a differentiating phenomenon, which is promising quality.

"Firms with strong brands... tend to introduce fewer products and keep those products on their market longer than their weak-brand counterparts." (De Figueiredo & Kyle, 2006:242).

Firms with strong brands, measured by having high brand equity can capture higher price premiums on brand extensions into nearby product classes than firms without strong brands. (De Figueiredo & Kyle, 2006).

Unless customers can identify the innovator, the investments in innovation are unfruitful.

INNOVATION AND MONOPOLY RENT

Innovation makes it possible to reach Abnormal Earnings, AE, during the time that the innovation has not been imitated by competitors. Monopoly rent was used by Malthus (1798/1970), Ricardo (1817/1971), and Marx (1894/1970) to explain land rent and then other monopoly rents. Marx (1894/1970) explained AE as the result of the re-distribution of profit in relation to the organic composition of capital. In this he was a forerunner of the resource-based view (Penrose, 1959/2009), in that it that he focused on the technical resources and the more advanced capabilities of the company reaping monopoly rent. Schumpeter (1942; 1947) applied monopoly rent to innovation, to explain how a temporary monopoly gives the innovating firm a competitive advantage.

“Schumpeter argued that those who succeed at innovating are rewarded by having temporary monopoly control over what they have created. This control, in turn, is the lever that allows innovators to gain an enhanced position in the market and related temporary profits of “economic rents” from their innovations.” (von Hippel, 1988:43, 58).

In accounting literature AE is normally measured by the neo-classic Ohlson model (AbuGhazaleh, Al-Hares & Haddad, 2012; Bernard, 1995; Feltham & Ohlson, 1995; Lo & Lys, 2000; Lundholm, 1995, after Lundholm, 2014; Ohlson, 1995), which calculates the value of the firm as the net present value of future abnormal earnings. The Ohlson model updated the Gordon model (Gordon & Shapiro, 1956) with the Miller & Modigliani model (Miller & Modigliani, 1961).

“Abnormal earnings bear on the difference between market and book values, that is, they bear on a firm’s goodwill.” Ohlson (1995:662).

However, that the model recognizes abnormal earnings is in fundamental conflict with neo-classic economic theory, as it abstracts from the fundamental assumption of perfect markets. The Ohlson model is one of the most cited and respected models in the accounting literature, but it has one major flaw: although it is an empirically well-validated prediction model, it fails to explain why these abnormal earnings exist. Classical economics gives such a fundamental explanation. (Philipson, Johansson & Schley, 2016).

The result of monopoly rent, or abnormal earnings, is rapid, unforeseen changes. In mid-2007 Nokia retained 60% of the profits in the mobile phone vendor market. Then Apple introduced the iPhone. Four years later, Apple had 75% of the profits and Nokia zero! In 2013 Nokia ceased as an independent mobile phone manufacturer. In 2016, Microsoft that had bought Nokia, announced that it would close the mobile phone business (although it later emerged as a low-cost phone essentially for emerging markets). From being the leading and dominant player, it was forced out of the market in 6 years.

“...it can always be understood *ex post*; but it can practically never be understood *ex ante*...”,
Schumpeter (1947:150).

Apple has over the last 15 years managed to have a profit level of around 25%, which is some 18% more than the average profit level.

Figure 3. Profit level, own.

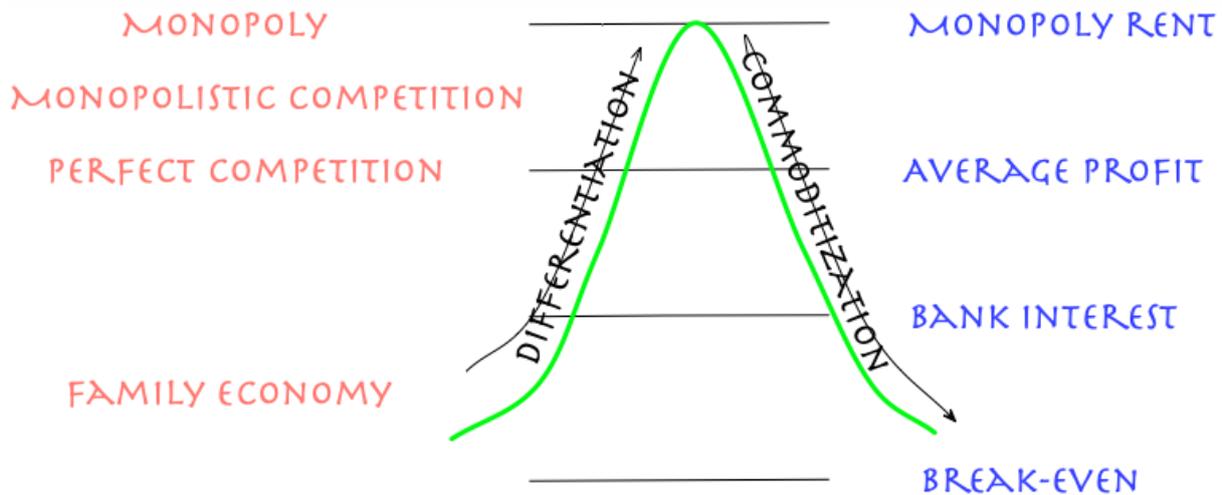


Figure 3 shows the profit level in different types of markets: family economy (subsistence companies), with 0-2% profit, bank interest, 2%, normal or average profit in competitive markets (perfect competition), 5-7%, monopolistic competition, and monopoly, 25%.

We have at length discussed differentiation and the monopoly rent that can become the result of such differentiation. The monopoly rent is however temporal. Sooner or later competitors will catch up with the monopolist by launching similar or equivalent products. This will start a process of commoditization; the downward slope of the bell-curve in figure 3, increasing price competition, mergers and acquisitions, eventually reaching a monopoly based on cost-effectiveness.

Then there are no incentives for innovation. Customers will become dissatisfied as the product does not adapt to evolving needs. Then the industry is ripe for destruction by a new creative destruction. Eventually this will also happen to Apple, even though it now has the dominant market share. As we showed this was what happened to Nokia.

VOLATILITY RISKS AND THE MANAGEMENT OF THESE

Capitalism becomes more and more volatile, because the increasing volatility associated with innovation and shorter life cycles (Philipson, 2019) We have now seen the mechanisms behind this spur of innovation and consequent short life cycles.

Destructive innovation covers the following five cases (Schumpeter, 1934:66, after Baumol, 1996):

- (1) *The introduction of a new offering* is one with which consumers are not yet familiar – or of a new quality of an offering.
- (2) *The introduction of a new method of production*, one not yet tested by experience in the industry. It might not be founded upon a new scientific discovery and can also exist in a new way of managing the offering commercially.
- (3) *The opening of a new market* – a market in which the offering does not exist presently.
- (4) *The conquest of a new source of supply of raw materials or components* – irrespective of whether this source already exists or whether it has first to be created.
- (5) *The carrying out of the new organization of an industry* – the creation of a monopoly position (for example through trustification) or the breaking up of a monopoly position.

The involved risks are managed on an ever-increasing scale, by:

- *An assortment of products* (shown by Carlin, Haskel & Seabright, 2001:70ff), Branding “...platforms have greater staying power on the market than the individual products.” (De Figueiredo & Kyle, 2006:261). Such an assortment of products means that the company can balance the risks of each individual product. If the assortment is well construed, the products does not contain the same risks.
- Several *plants* with different effectiveness (shown by Carlin, Haskel & Seabright, 2001:70ff), “...a capacity of multi-plant firms to manage the uncertainty of the market environment better than do single plant firms.” (Carlin et al., 2001:82). Workers in Sweden are normally more educated than workers in emerging markets, but their salaries are much higher. Hence, products and components with a high value-added are often produced in plants in Sweden and cost-sensitive products in emerging market countries. Short series are often produced near the selling market, because the company usually has to adopt quickly to changing demand.
- The presence in different **nations**, with different political risks (Gupta, 2013). Many emerging markets involve political risks, such as a military coup d’état in Thailand, social unrest, unclear legal conditions, etc.,
- By organized *long-term supply-chain cooperation*. “To find the balance point between imposing and meeting requirements in dialogue with vendors.” (Kjellström, 2019) [emphasis in original]; the supply-chain cooperation allowing a ‘dumper effect’ of volatile demand, by allowing the end-manufacturer to reduce or increase the amounts bought from co-operating suppliers as a function the evolution of market demand, and finally

- A presence in several *industries*, reducing the risk of creative destruction (Philipson & Oghazi, 2013). This is what corporations do and which eventually leads to the concentration of capital, see below

The concentration of capital

These increasing risks are ultimately managed by the concentration of capital. This is one of the most important tendencies in capitalism, as suggested by Marx (1894/1970; 1973).

“Schumpeter’s great fear was that large firms would come to dominate the innovation process through economies of scale and control of resources (Schumpeter, 1942). This, in turn, would lead to the concentration of wealth in the hands of a few large corporations, and necessitate a transition to socialism.” (Spencer & Kirchhoff, 2006:153).

Studying the period between 1890 to 1910, Austrian economist Rudolf Hilferding (1919/2007), German minister of finance 1923 and 1928-29, called this financial capital, i.e. financial corporations owning many businesses, thus balancing off the risks.

Glattfelder (2010) showed that this concentration has now proceeded to such heights that 50 corporations’ control 40% of the global wealth. It shows that although the same risk management effects can be achieved by all types of corporate experience with generalized capital functions (Philipson, 1980; Philipson & Oghazi, 2013), 29 of the 50 corporations are still financial corporations.

A recent study shows an even higher concentration in the US: BlackRock, Vanguard, and State Street (assets management companies) are together the largest shareholder in 88 percent of the S&P 500 firms. (Fichtner, Heemskerk & Garcia-Bernardo, 2017).

Hence, it is no question that Marx, Hilferding, and Schumpeter were right; the concentration of capital is today extreme; but we don’t know the consequences yet. All three of them saw this as a forerunner of socialism, whether with enthusiasm, Marx and Hilferding, or fear, Schumpeter.

COMMODITIZATION AND CREATIVE DESTRUCTION

Usually the eruptive innovator is imitated by others that want a share of the monopoly rent, or by lower quality brands that are “eating up” the uniqueness of quality brands, as can be seen in apparel branding over the last twenty years. If the innovator or brander does not manage to re-engineer its uniqueness, competition between the companies, producing the same quality for a lower cost, will increase and will eventually, over mergers and acquisitions, become an oligopoly or sometimes a monopoly, based on economics of scale. Often the new innovation must come “from outside” of the industry, as there are no longer any incentives to innovate. Thus, industries or business models have a lifecycle, whether it was department stores (150-200 years), landline telephones (125 years), or other industries.

Schumpeter's concept of creative destruction (1942) means that an innovation "changes the game", by launching an offering that makes an industry obsolete as a whole. Well-known examples are the mechanical calculator, which was replaced by the electronic calculator in just a few years and the mobile phone has globally replaced the land line, although that has been a much slower process.

"This is fundamentally different from general equilibrium theory, where competition is almost exclusively price-based. In Schumpeter's view, competition is not to be based solely on price – "the price variable is ousted from its dominant position" (Schumpeter, 1942:84) – but rather on non-price characteristics of a product such as capabilities and performance – shifting the basis of competition from the ability to minimize cost to the ability to innovate." (Spencer & Kirchhoff, 2006:147).

"...a firm's best – most loyal and most profitable – customers are the best precisely because they are heavily invested in the firm's current product offerings." (Christensen, 1997 after Spencer & Kirchhoff, 2006:150).

"...evolutionary technologies are driven often by customer demand for improvements of existing products; these improvements make products better without disturbing current customer behaviours. This type of innovation is often known as "demand-pull" innovation, because it is grounded in market research, identifying improvement desired by existing customers." (Spencer & Kirchhoff, 2006:151)

Other interpretations of creative destruction are the neo-classic economist Kirzner (1973, 1997), who based himself on Knight (1921), and Baumol (1993) (all after Spencer *et al.*, 2008:11-13). Abernathy & Clark (1985) tried to appropriate the concept with a new name 'transilience' but were not successful. Somewhat more successful in branding creative destruction as their own concept were Kim & Mauborgne, in rebranding it as "blue ocean strategy" as opposed to 'red ocean strategy', which take competition head on. These 'blue ocean' strategies are expected to give the company a higher monopoly rent and to be able to retain the temporary monopoly for a longer time. (Chan & Mauborgne, (2004, 2005a, 2005b; Kim & Mauborgne, 2005a, 2005b; Kaplan & Norton, 2008).

Sustainable creative destruction

Creative destruction must in the future encompass not only the industrialized countries but also the world's poor. If *the bottom of the pyramid* (Prahalad, 2011), the over four billion people, who live on less than \$2/day, shall be able to raise their living standards radically radical innovations must be made that can make products and services available to a fraction of present costs. Prahalad takes the examples of Tata's car for 2000 USD, cataract surgery for 50 USD, and mobile phone time for 0.01 USD per minute. By others this has been called frugal innovations (Zeschky, Widenmayer & Gassmann, 2011).

But these new products and services will create real creative destruction, when they are not only available to the Indian or Malawian poor, but also to the equally poor European Roma or the white poor in the US Appalachian Mountains. Poverty and riches are no longer properties of the developing and industrialized countries respectively, but both exist in parallel in all parts of the world.

It is often difficult to innovate for innovators that do not share the needs of the potential customers. Creative destruction for the bottom-of-the-pyramid is more likely to be made by people emerging from the bottom of the pyramid, than people coming out of the US ivy league schools.

CONCLUSIONS AND RESEARCH PROPOSALS

Markets are seldom as suggested by neo-classical economists. The strive for monopoly rent and the consequential volatility of markets, the real *anarchy* of the market, forces solutions of managing the volatility. The concentration of capital, as forecasted by Marx, Hilferding, and Schumpeter is already extreme. It represents an unforeseen *planning* on the level of capital. Will this concentration continue? *The concentration of capital must be continuously monitored by research.* Will popular demand put limit on this concentration, or will popular influence on the future (democracy) be completely replaced by the planning of a few corporate owners?

To understand the functioning of individual markets, *firm's profit share must be monitored*, not the simplistic analysis of market share, which neither tells anything about real market leadership, nor about how the market functions.

REFERENCES

- Abernathy, W.J. & Clark, K.B. (1985). Innovation: Mapping the winds of creative destruction. *Research Policy*, 14(1), 3-22.
- AbuGhazaleh, N.M., Al-Hares, O.M. & Haddad, A.E. (2012). The Value Relevance of goodwill impairments: UK Evidence, *International Journal of Economics and Finance*, 4(4), 206-216.
- Asymco (2013-06-28). Retrieved from: <http://www.asymco.com/2011/07/29/apple-captured-two-thirds-of-available-mobile-phone-profits-in-q2/>, with permission.
- Baumol, W.J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of business venturing*, 11(1), 3-22.
- Bernard, V.L. (1995). The Feltham-Ohlson framework: Implications for empiricists, *Contemporary Accounting Research*, 11(2), 733-747.
- Carlin, W., Haskel, J. & Seabright, P. (2001). Understanding 'the essential fact about capitalism': Markets, competition and creative destruction. *National Institute Economic Review*, 175(1), 67-84.
- Chan, K.W. & Mauborgne, R. (2004) Blue Ocean Strategy, *Harvard Business Review*, 82(10), 76-84.
- Chan, K.W. & Mauborgne, R. (2005a). Value innovation: a leap into the blue ocean. *Journal of Business Strategy*, 26(4), 22-28.
- Chan, K.W. & Mauborgne, R. (2005b). Blue ocean strategy: from theory to practice. *California Management Review*, 47(3), 105-121.
- Chayanov, A.C. (1925/1966) *The Theory of Peasant Economy*, Thorner, D., Kerblay, B. & Smith, R.E.F. (editors), Madison, WI: The University of Wisconsin Press.
- De Figueiredo, J.M. & Kyle, M.K. (2006). Surviving the gales of creative destruction: The determinants of product turnover. *Strategic Management Journal*, 27(3), 241-264.

- Elliott, J.E. (1980). Marx and Schumpeter on capitalism's creative destruction: A comparative restatement. *The Quarterly Journal of Economics*, 95(1), 45-68.
- Feltham G.A. & Ohlson J. A. (1995). Valuation and clean surplus accounting for operating and financial activities, *Contemporary Accounting Research*, 11(2), 689-731.
- Fichtner, J., Heemskerk, E.M. & Garcia-Bernardo, J. (2017) Hidden power of the Big Three? Passive index funds, re-concentration of corporate ownership, and new financial risk, *Business and Politics*, 19(2), 298-326.
- Glattfelder, J.B. (2010) *Ownership Networks and Corporate Control: Mapping Economic Power in a Globalized World*, doctoral dissertation, Zürich: ETH ZÜRICH.
- Gordon, M.J. & Shapiro, E. (1956). Capital equipment analysis: The required rate of profit, *Management Science*, 3(1), 102-110.
- Gupta, A. (2013). Environment & PEST analysis: an approach to the external business environment. *International Journal of Modern Social Sciences*, 2(1), 34-43.
- Hilferding, R. (1919/2007) *Finance Capital: A study in the latest phase of capitalist development*, London: Routledge.
- Kaplan, R.S. & Norton, D.P. (2008). Mastering the management system. *Harvard Business Review*, 86(1), 62-78.
- Kim, W.C. & Mauborgne, R. (2005a). Blue ocean strategy: from theory to practice. *California Management Review*, 47(3), 105-121.
- Kim, W.C. & Mauborgne, R. (2005b). How to create uncontested market space and make the competition irrelevant. *Harvard Business Review*, 4(13), 1-2.
- Kim, W.C. & Mauborgne, R. (2005c). Value innovation: a leap into the blue ocean. *Journal of Business Strategy*, 26(4), 22-28.
- Kjellström, E. (2019). *Outsourcing of Organizational Routines. Knowledge, control, and learning aspects*. Lund Studies in Economics and Management, Lund: Lund University.
- Lo, K. & Lys, T. (2000). The Ohlson Model: Contribution to valuation theory, limitations, and empirical applications, *Journal of Accounting, Auditing & Finance*, 15(3), 337-367.
- Lundholm, R.J. (2014). A tutorial on the Ohlson and Feltham/Ohlson models: Answers to some frequently asked questions, *Contemporary Accounting Research*, 11(2), 749-761.
- Malthus, T.R. (1798/1970), *An Essay on the Principle of Population*, Penguin Books, Harmondsworth, UK
- Marx, K. (1857/1973), *Grundrisse: Foundations of the Critique of Political Economy: rough draft translated with a foreword by Nicoulas, M.* Pelican Books, London, UK.
- Marx, K. (1867/1970) *Capital, Volume I*, New York: International Publisher.
- Marx, K. (1894/1970) *Capital, Volume III*, New York: International Publisher.
- Miller, M.H. & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares, *The Journal of Business*, 34(4), 411-433.
- Nicholas, T. (2003). Why Schumpeter was right: innovation, market power, and creative destruction in 1920s America. *The Journal of Economic History*, 63(4), 1023-1058.
- Ohlson, J.A. (1995). Earnings, book values, and dividends in equity valuation, *Contemporary Accounting Research*, 11(2), 661-687.
- Penrose, E. (1959/2009), *Theory of the growth of the firm*, Oxford: Oxford University Press.
- Philipson, S. (1980). *Kapitalfunktioner och arbetarnas ställning: marxistisk analys av företag utifrån arbetarkollektivets intressen*, Doctoral Dissertation, Linköping University, Linköping. LIBRIS-ID: 7638092 <http://libris.kb.se/bib/7638092?vw=full>
- Philipson, S. & Oghazi, P. (2013). Quantum leaps - the Resource Based View (RBV) and the School of Industrial Organization (IO) Revisited, *Advances in Management*, 6(4), 25-36.
- Philipson, S., Johansson, J. & Schley, D. (2016). Global Corporate Governance: The Maelstrom of Increased Complexity – Is It Possible to Learn to Ride the Dragon? *Journal of Business and Economics*, 7(3), 425-437. [http://doi.org/10.15341/jbe\(2155-7950\)/03.07.2016/007](http://doi.org/10.15341/jbe(2155-7950)/03.07.2016/007)
- Philipson, S. (2019). Sources of innovation: Consequences for knowledge production and transfer. *Journal of Innovation & Knowledge*. <https://doi.org/10.1016/j.jik.2019.01.002>
- Prahalad, C.K. (2011). Bottom of the Pyramid as a Source of Breakthrough Innovations. *Journal of Product Innovation Management*, 29(1), 6-12.
- Ricardo, D. (1817/1971), *On the Principles of Political Economy and Taxation*, Penguin Books, Harmondsworth, UK
- Schumpeter, J.A. (1942). *Socialism, Capitalism and Democracy*. New York: Harper and Brothers.
- Schumpeter, J.A. (1947). The Creative Response in Economic History. *The Journal of Economic History*, 7(2), 149-159.
- Smith, A. (1776/982). *The Wealth of Nations*, London: Penguin.

- Spencer, A.S. & Kirchoff, B.A. (2006). Schumpeter and new technology based firms: Towards a framework for how NTBFs cause creative destruction. *International Entrepreneurship and Management Journal*, 2(2), 145-156.
- Spencer, A.S., Kirchoff, B.A. & White, C. (2008). Entrepreneurship, innovation, and wealth distribution: The essence of creative destruction. *International Small Business Journal*, 26(1), 9-26.
- Strategic Analytics (2016-11-25). Retrieved from: <https://www.strategyanalytics.com>.
- Von Hippel, E. (1988). *The Sources of Innovation*, Oxford University Press, New York.
- Zeschky, M., Widenmayer, B. & Gassmann, O. (2011). Frugal innovation in emerging markets. *Research-Technology Management*, 54(4), 38-45.

DATA COLLECTION FOR A PERFORMANCE ANALYSIS ON WORKING CAPITAL MANAGEMENT

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ABSTRACT

The objective of the present work is to develop and set up a model for assessing how working capital management can influence performance in small and medium-sized enterprises (SMEs). With this aim, the initial part provides a literature review, with the goal of identifying the problem and all its components. The concept of optimization of working capital and its influence on company performance is then discussed. The main part of the work concerns the collection of data about small enterprises, which will be the sample for the analysis that will be carried on in a subsequent research work. In this paper we discuss the industrial sectors of the companies used as a sample and the method of data extraction, as well as the construction of two sets of variables: the first set containing the symptomatic indicators of the management of net working capital and the second set comprising the profitability indicators, to measure the company's performance.

Keywords: working capital, management, enterprise performance, value creation, data analysis, data collection, AIDA.

INTRODUCTION

The objective of this work is to collect data in order to verify if there is a link between a correct management of working capital and the profitability of the company. This concept, which instinctively seems obvious, since any optimization should result in better performance, has not yet been the subject of analysis with regard to the sector of small-medium Italian companies. It was therefore considered important to check whether this relationship existed, given the importance of this type of company in Italy.

The collection includes Italian SMEs belonging to three different sectors of the food industry. In order to proceed with a meaningful analysis, it was considered appropriate to analyze, in addition to SMEs, large companies in each sector to use them as a benchmark and most sensitive variable, as it consists of a smaller number of companies, more solid and global and therefore less sensitive to the effects of the crisis. This was done considering that the time horizon had to be as close as possible to the present, and

therefore certainly including years in which the effects of the 2008 crisis and its consequences were an important exogenous factor that greatly influenced company performance and variables.

As stated, the area of investigation chosen is therefore Italian SMEs. According to the "User's Guide to the definition of SMEs" (European Commission 2015) in Europe in 2013 nine out of ten companies are an SME, amounting to more than 21 million. They have offered 88.8 million jobs, creating 2 out of 3 jobs. It follows that this type of enterprise and its mechanisms are very important to investigate, if for no other reason than the importance that comes from such a spread. The basic criteria for assessing whether an enterprise is an SME are clearly based on size. It is important to distinguish SMEs from other types of companies, because they face a number of problems related to market failures and structural barriers that lead them to need special assistance, provided in the form of EU programmes.

The report issued by Cerved on SMEs 2015 (Cerved 2015) notes that 137,046 companies in Italy meet these requirements and are therefore to be considered as SMEs. This number was fairly high in 2007, but has been reduced since the second half of 2008. More precisely, the number since 2007 has fallen by 13 thousand units, about 9% of the total number of SMEs active in that period, due to a collapse in demand and the credit crunch, which triggered a selection process, which meant that there was a distinction of the most robust companies. In 2015, for the first time, the decline in the number of active SMEs came to a halt and it can be seen that the companies that have remained are characterized by a particularly strong economic and financial structure. Even those that, despite the exogenous aspects of the period, have grown from, for example, micro to small enterprises, are on average more productive, more financially solid, less dependent on bank credit and more profitable than companies that have made the same transition in other periods of time.

Another factor to consider is the anomalous increase, but consistent with the general situation, of companies with at least one bankruptcy or liquidation procedure, as it is symptomatic of the difficulties of companies in a context of poor access to credit and tight competition on prices. Since 2008, the number of companies in bankruptcy or in serious difficulty has grown rapidly, with a peak during 2013, followed by a continuous decrease in 2014 and 2015, bringing the values back to those of late 2008 - early 2009.

This figure has a great influence on the analysis, since if a company is in a precarious situation, it is unlikely that, despite excellent management of working capital, it will be able to achieve good performance. The cluster of SMEs is therefore made up of very solid companies that have managed to grow despite the difficulties and that have remarkable results, and companies in crisis, in a much larger number than in the past, which instead lower the average for the sector and global. It is a decidedly heterogeneous whole, but it represents the majority of the Italian entrepreneurial activity, and therefore it is considered valid of an in-depth analysis.

There are many variables that can influence the profitability of the company. The most important is the trend of the economy, which affects all companies operating in the country. In order to assess the effects of the crisis on productivity at national level, data were extracted for a summary indicator, GDP, the value of which is issued quarterly by ISTAT.

GDP is a macroeconomic measure sensitive to changes in output and hence in demand at the national level. During 2008 there was a collective collapse at the level of the European Union, but it was recovered completely (or almost) in 2011 by the other countries, primarily by Germany.

On the contrary, the Italian situation is still very critical, as evidenced by the fact that GDP has not yet returned to pre-crisis levels, even though it shows a slight increase in the data for 2017.

Other elements to consider before proceeding with the analysis are the data relating to the differences in productivity trends based on the size of the company. It is important to underline the differences between large enterprises and SMEs, especially as both categories will be used in the analysis, one as a variable in question and one as a control variable.

Unhealthy production levels still returned to the levels of 2007, prior to the outbreak of the crisis, confirming the adequacy of macro data such as GDP to judge the performance of each size category. It is interesting, however, to evaluate how the category of medium-sized enterprises managed to exceed the 2007 standards in 2014, the only positive note of the data under examination. It can also be seen that the average values, regardless of the year, are much higher in large companies than in SMEs, with a difference of around 20,000 euros in value added per employee.

This difference is physiological, as large companies can benefit from economies of scale and have fewer barriers to entry, as well as greater production and distribution capacity. The figure becomes even more important if we consider that the number of employees in recent years has progressively decreased in the SME segment. This is probably due to both technological innovation and the continuous drive to reduce costs, whether fixed or variable. This trend has not been so strong in large enterprises and could lead to further discrepancies in the results of the two categories.

A final point that should be mentioned in relation to SMEs in recent years is the suffering. Although the impact of indebtedness has already been considered in terms of bankruptcies or liquidations, it does require further attention, as it is not certain that the presence of impaired debts of companies will only lead to such consequences. Even those companies that have managed to manage the situation and survive the crisis may have had difficulties leading to late payments, the need to restructure loan conditions (which has seen truly exceptional growth) or exposure overruns.

These figures, however, relate to the complete set of defaulting credit positions held by the banks. An interesting starting point is to break down this total on the basis of the economic activity of the clientele that originated the impaired loans.

This representation is very significant, because it shows that until 2007 the cumulative level of suffering was more or less stable, with growth more in the household sector than in the entrepreneurial sector. Already in 2008 and even more so in 2009, non-financial corporations have jumped to four times the level of suffering recorded in 2004-2005 in 2013.

On the basis of the elements that characterized the SME, a time horizon was chosen starting from 2008, the first year in which the effects of the crisis occurred, in order to produce an analysis on the basis of a set of homogeneous values. Taking into account the data for 2007 would have meant creating significant distortions, given the evolution of the Italian market over the last decade, very different from what were the previous standards.

By monitoring the data of a large number of companies in the period 2008-2016, it should be possible to verify whether the hypotheses of correlation between a correct management of working capital and performance exist in reality.

NET WORKING CAPITAL

Net working capital (NWC) represents the difference between current assets and current liabilities (Banos-Caballero et al., 2010).

This amount emerges from the reclassification of the Balance Sheet with the criterion of management relevance and has, usually, a positive balance for industrial companies, since inventories and trade receivables generally have a greater amount than supply payables and other short-term liabilities. Accounting rules state that an asset or liability is defined as current if it is transformed into cash (in the case of assets) or paid (in the case of liabilities) within 12 months. The NWC is a quantity which, according to the traditional logic of the financial analysis of the capital context, expresses the degree of solvency in the short term. In fact, when it is positive, it shows how the short-term investments are adequately covered by sources with similar or longer-term time horizons, guaranteeing their financing. It is very important to note that when working capital is negative (current assets are lower than current liabilities), this means that the company is in an illiquid situation and, consequently, the financial position shows the coverage of fixed investments with short-term sources of financing. In this case, the company also finances part of its fixed assets with short-term sources (current liabilities), thus exposing itself to a high financial risk. In fact, current liabilities, having a potential short-term collectability, may not be met due to the longer time required to make fixed assets liquid. This situation may lead to the disinvestment of fixed assets, thus jeopardising the company's activities.

Negative net working capital is a cause for concern, as it has been shown that the company, having the remainder of its fixed assets, is unable to pay its short-term debts with current assets either. Moreover, if the medium to long term sources are fixed and consolidated contracts in the company's balance sheet,

the short term sources risk not being renewed and, consequently, leading the company to find itself without part of the financing it previously had available. This is not too serious when short-term liabilities are used to cover short-term assets, because they can be corrected quickly and with limited effects on the company's profitability. In the event of a negative NWC, however, the situation is much more dramatic and the consequences can be very serious, including forcing the company to dispose of assets in the medium to long term.

The notion of working capital in the strict sense of the term includes both cash and cash equivalents and investments related to the operating cycle, regardless of the date of conversion into cash. In this way, the composition is more heterogeneous from the point of view of the payment/realisation date, but more homogeneous in terms of purpose, enclosing in a single value all the elements linked to operations and therefore to the company's core business.

The concept of operating working capital can be further derived from this, which does not take into account cash and cash equivalents, but only the elements actually mobilised and not static: trade payables, trade receivables and stocks.

Since the 1970s, companies have been devoting particular attention to investments related to their day-to-day operations. It has started to be noted that control over day-to-day operations is often more difficult to implement than control over large investments in fixed assets. In fact, when it comes to large initiatives, emphasis is placed on the selection and implementation of decisions, while small amounts tend to be less conspicuous and may seem less significant. Another reason for this difficulty is that the choices related to the day-to-day management of resources are made by a large number of people and not by a few easily identifiable individuals, as is the case for large investments.

As time went by and competition grew, companies were forced to increase flexibility and efficiency to build a competitive advantage. One of the main levers available to management has been to expand the range of services and products offered. This type of action has an impact in particular on two elements of the assets: credits and stocks, which have therefore grown in importance, until they become two of the main components of the company management, not only for their weight in the balance sheet, but also for the strategic importance that they have acquired in this transformation.

If this focus on two components of working capital has influenced international competition since the 1970s, in the last fifteen years, with the spread of an increasingly global market, ever greater competitiveness and the effects of the economic crisis, these issues have become increasingly the subject of evaluation by all types of companies. In fact, an increasingly urgent need to control and plan working capital management has emerged in order to find the right compromise between financial and operational choices. At a time like the present, when there are considerable problems for access to credit, it can be very difficult to combine the needs of the financial area with those of the operating area,

in turn made problematic by competition and the need to maintain production at the level of quality required, without exceeding stocks and regulating the delay in payments.

Since the value of the NWC is so decisive, the choices that determine it acquire fundamental importance and must be evaluated both in a strategic key (evaluation and choice of the role of the single variables) and in a directional key (programming and control of the levels of the single variables, making budgets and forecasts).

It is possible to deepen the evaluation of the working capital going beyond its sign, but it is necessary to consider that, for example, an amount of €100.000 can be extremely significant for a small company, while it can be a variation of little account for a great group. The absolute value alone does not provide a clear indication of the company's performance, so it is advisable to check the deviations over time and its weight in percentage with respect to significant items in the financial statements. In addition, it should be noted that the NWC is not a static measure, because, as defined, it consists mainly of assets and liabilities that will be converted into cash within 12 months (conventionally the duration of the business operating cycle).

The choices made with regard to working capital can be considered among the decisions of the financing mix, which have direct effects on the financial structure and, consequently, on the cost of debt and the level of financial risk perceived by the markets. In addition, negative elements linked to the overall profitability of the company may emerge from the management of working capital in the form of past due or uncollectible trade receivables, or losses linked to inventory obsolescence.

Given this ability to change very quickly, and the importance of the elements that make it up, working capital is an indicator of the much more sensitive condition of others available to management. The use of working capital as a symptomatic variable of company performance is in fact very widespread, as it includes in a single value that can be monitored and is sufficiently sensitive to changes, both the effects deriving from financial risk factors and the elements sensitive to operational risk.

THE OPTIMISATION OF WORKING CAPITAL AND ITS INFLUENCE ON COMPANY PERFORMANCE

Working capital has been addressed by a wide range of sources of economic literature, starting with the main accounting and corporate finance manuals. However, it has been relatively little taken into account by business realities, despite the fact that a large proportion of failures were due to inadequate decisions in the management of business working capital. However, the literature also tended to address the issue of working capital mainly in relation to reclassifications of financial statements, calculations of indicators, and as a component to construct cash flow and financial statements, while today it has acquired new relevance. The lack of clarity and the misunderstandings regarding the

optimisation of working capital are justified by the fact that there is no balance sheet item that allows, at first glance, to identify the extent or trend of working capital. It is necessary to reclassify and choose which notion of working capital to consider, whether net, gross or operational... As a result of these difficulties, many authors have preferred, in the past, to overlook the concept and meaning of working capital, or have addressed it as a subject of lesser importance. This is very significant because a large part of the business failures that have occurred in the recent past have been caused by inefficient working capital management.

The purpose of corporate finance is to make the capital available as profitable as possible. When we talk about capital, we refer to equity and debt on the liabilities side and to fixed assets and current assets on the assets side. In this context, working capital can be considered as an indicator used by financial management to check short-term balances. By adopting this type of reasoning, the NWC acquires a much greater importance than that which has been reserved for this issue in the past.

Several independent studies of the financial statements of large European and US companies have shown that companies tend to hold around 25% more liquidity than necessary. Such a high level of excess liquidity is often associated with particularly high levels of credit, excessive inventory, high operating costs or debt, which are often accompanied by inadequate implementation of strategic initiatives. As a consequence, there will be greater losses in the creation of potential cash flows, profits or profits distributed to shareholders, accompanied by greater vulnerability to possible hostile acquisitions. Considering this scenario, it becomes increasingly obvious that effective management and optimization of working capital are indispensable, despite the fact that in the past they were not a priority, but rather occupied one of the last places on the list of priorities of entrepreneurs. Not only large companies, but also small to medium sized ones have had to recognize how working capital optimization in a critical context such as the current one can become an effective and integrated cost management tool.

This change has been confirmed in recent years by events on the capital markets as well as by new legislative requirements, such as those arising from the guidelines of the Basel II regulations for banks and other money lending institutions. These new regulations limit access to credit for companies, which therefore have to find alternative ways of financing themselves. One of the simplest and least costly mechanisms is sometimes the search for self-financing through proper and optimised working capital management.

During the growth of an activity, the management has the task of deciding which capital structure is best suited to the type of company and the needs that it develops. Often high-level officials tend to think in a long-term perspective, often overriding what is the administration of short term and therefore on the management of working capital. Recent studies (Al-Shubiri 2011) (Falope and Ajilore

2009) (Garcia-Teruel and Martinez-Solano 2007) have demonstrated the importance of managing current assets and liabilities. When a financing need arises, it is preferable to turn to long-term sources of finance instead of changing the company's internal liquidity management mechanisms. For many years, working capital management has been opposed to the excessive effort required to change short-term policies in relation to an insignificant increase in profits (Darun 2008).

Several authors (Meyer 2007) (Schaeffer 2002) (Weinraub and Visscher 1998) support the importance of working capital management, with particular reference to the importance of short-term needs and the management of capital reserves.

Since the financial crisis of 2008, companies have seen a deterioration of their operating environment, with managers forced to apply strict measures, cut costs and postpone investments so as to be able to respond to decreases in demand and consequent reductions in production. As a result, liquidity and working capital have become two variables under close observation, and therefore under continuous monitoring and control. Working capital management has changed a lot and the most common and widespread policies have been adapted to the new economic conditions. Due to the rapid changes in the economy, companies are renewing themselves and are finding new levers on which to focus to compete. Working capital is becoming increasingly important among these.

The optimization of working capital has become an important issue also because companies have had to explore markets looking for alternatives to finance themselves over the past few years, because, despite the fact that interest rates are reduced to record lows, the possibility of obtaining loans from banks or similar institutions has become increasingly reduced. It is a mechanism called credit crunch, i.e. a credit and liquidity crunch that began in the summer of 2007, which brought the spreads of Credit Default Swaps (CDS) to unprecedented levels following the default of Lehman Brothers in September 2008. According to a study of the period (PwC 2010), the companies, recording a decrease in revenues, focused exclusively on costs and revenues, therefore on indicators such as NOPAT in order to increase profitability. However, this attitude led to a general decrease in Return on Net Assets (RONA). As a result, it became necessary to improve this indicator in the medium to long term, the performance of which depends on the ratio of revenues, operating working capital and net assets. In addition to cost containment, the most appropriate way to counteract the worsening of RONA is to improve the factors that affect operating working capital, so as to balance the negative effect of the fall in turnover. In fact, the same study places funding, cash management and elements linked to technology and systems as a priority at the time of treasury, all of which are closely influenced by and/or correlated with working capital management. During the crisis, the number of companies that see working capital as an element of high priority has more than doubled, from 35% to 72%.

Working capital management policies have a direct impact on the supply chain and on relations between companies and customers. As a result, managers need to be aware of the impact of these policies on business performance. There are two main approaches to working capital management, both aimed at meeting the company's requirements for internal, buyer and supplier relationships. A study (Garcia-Teruel and Martinez-Solano 2007) explores these two strategies, one aggressive and the other conservative, which differ in their balance between the weight of current assets and liabilities. Others (Weinraub and Visscher 1998) follow the same line of thought, concluding that an aggressive approach results in a minimization of the capital used for current assets, in favor of medium to long-term investments.

The conservative approach requires the use of a large portion of liquidity in current assets, making the opportunity cost very high. This strategy implies that to finance itself the company has to bear higher costs, but in this way reduces the risks. This decrease in profitability is due to a reduction in the risk of having to deal with liquidity problems, which may arise if suppliers request payment. This method implies the presence of a capital structure in which current assets are mainly financed by long-term liabilities.

The aggressive approach, on the other hand, requires a balance sheet structure in which all non-current assets are financed by long-term sources, while all or part of the current assets are covered by short-term sources. In this way, the company does not own, or only to a very limited extent, long-term capital invested in current assets. By comparing the two strategies, the aggressive approach requires less working capital investment and is characterised by higher profits, accompanied by a higher level of risk. A liquidity problem could cause more money to be disbursed at a particular time than is the case with the conservative approach on a daily basis. Other studies (Meyer 2007) state that the ideal approach is a holistic one and divide the activity of circulating optimization into three activities: Order-to-cash; Purchase-to-Pay; and Forecast-to-Fulfill.

One element to consider is the grievance by many companies that working capital optimization risks damaging or destroying the relationship with the customer. The opposite is certainly true, i.e. that working capital management initiatives improve service to customers and make people more conducive to relations with the company. Similarly, payment of invoices in the required time will encourage suppliers to continue to have common interests, and lead to benefits such as fixed prices, better sales conditions and more services.

One of the possible problems that could rise analyzing the data of the balances is that, if there are accounts payable (or any other operating debt) for which the due date is expired (the company didn't pay in the due time), they should be considered in the financial debts and not in the working capital.

This way to use improperly the operating debts toward the suppliers (or other parts as Tax authorities or Social security Institute) is more significant for the companies which have difficulties to obtain enough financial loans.

So you could consider a decrease of NWC, because of the increase of operating debts, as the capability of the firm to obtain more favorable terms of payment from the suppliers, when in this case could be a signal of financial stress.

Measures to optimize working capital usually originate in a process of determining areas where improvement would be needed by analyzing balance sheets and evaluating changes in working capital over time. In larger companies, it may be useful to compare individual branches or branch offices in order to have the same selection of data. In this way, a potential improvement for the entire company can be quantified in internal comparisons based on the performance of the most important competitors. Once possible improvement actions have been identified, the responsible manager, usually the CFO, should work closely with other managers, customers and suppliers to develop a program to implement the problem. The CFO plays a very important role in this process because, in addition to being responsible for the company's economic and financial data and having a complete look at what the company's processes are, he is usually also involved in strategic decisions, since he must provide funding and communicate the logic of these choices to investors.

While the challenges of working capital optimization vary by company, experience has produced a set of best practices that can also be successful in different industries and are based on the three key processes at play: Order-to-cash; Purchase-to-Pay; and Forecast-to-Fulfill.

With regard to the Order-to-cash process, one has to consider the concept that dissatisfied consumers tend not to want to pay their credits and this can result in overdue credits that accumulate until they become uncollectible. In this regard, credit risk mechanisms should always be reviewed to ensure that they are consistent with the company's strategic objectives and that appropriate cover can be given to these non-payments. It is necessary to minimize the days of payment deferment offered to the level strictly necessary under a strategic sales perspective, involving the commercial department and perhaps offering incentive mechanisms to motivate its members. Moreover, it is advisable to simplify the invoicing system in order to prevent payment delays, also because there are more and more information systems that allow to manage this activity with reduced costs. An important measure concerns the way in which payments are solicited: a standardised and complete process with short reminder periods and the imposition of penalties is the requirement for a reduction in overdue credits, or in any case in the number of days of late payment.

With regard to the Purchase-to-Pay process, it can be noted that, although it is possible to benefit from it immediately, an arbitrary delay in the payment of invoices is not a long-term solution. In fact,

suppliers will notice additional costs and will no longer want to deal with the company. It's equally true that it's a good idea not to source from a single source, but to have a combination of several suppliers, so as to share purchases and the risk that derives from them among more subjects, thus becoming less vulnerable to the claims or failure of a single partner. It is therefore equally important to focus on optimizing business relationships with suppliers who have a high risk or significant impact on profits. This can be achieved by providing free access to privileged business information, developing processes in common with the supplier and sharing efficiency mechanisms. At the same time, reduce attention to low-risk suppliers by automating the purchasing process, for example. The efficiency of the supplier portfolio is very useful in particular for the proper management of relationships with suppliers at high risk of default, but which, having a reduced impact on turnover, is likely to be overlooked. Agreements are particularly valid in the case of suppliers or products with a high turnover, to make more advantageous the deferral time in the case of specific contracts with each subject, as they benefit both the effect on profits and the position for negotiation. A further option is to create internal controls to prevent pre-dated payments so as to make full use of the grace period.

With regard to the Forecast-to-Fulfill process, it should be noted that in the context of planning, production, storage and delivery, today's technology makes it possible to develop forecasts with the help of information about the company as a whole, also taking into account conflicts of interest regarding storage times, customer services, operating costs and product range. In industrial plants with constantly innovative technologies or with products that devalue in a very short time, this is particularly complex. The best method available to the company is to request to count in advance the quantities of product, so as not to buy or produce more than necessary. For the same reason, methodologies and procedures need to be developed to ensure that inventory can be easily located. In addition, a differentiated warehouse strategy is essential to manage a variety of products, although its structure depends on how quickly the goods can be replaced and how important they are to the production process.

The primary objective of working capital optimization is to manage short-term sources so that daily activities can be financed. This function is in fact responsible for the quality of the production, the maintenance of its uninterrupted rhythm and the sales, also because the correct management of the circulating capital makes it possible to increase the profits. Structuring an incentive policy based on working capital has proved to be a rewarding measure, also because greater awareness of sales personnel on these issues has created an information asymmetry with regard to counterparties, creating a competitive advantage and consequently having positive effects on the profitability and liquidity of the company.

In conclusion, the optimisation of working capital and the efficiency of a company's processes (and controls) make it possible to obtain benefits, both direct and indirect. This is because the control environment of this activity is particularly

PRODUCTION SECTORS

As far as the scope of the survey is concerned, it was decided to investigate the food industry, one of the largest and most important realities of Italian production. The three clusters chosen reflect three very interesting areas and relevant realities of the productivity of our country: the production of milk, its derivatives and cheeses, namely the dairy company, the first Italian food sector; the production of sweets, a reality worthy of note especially for the Piedmont region; and finally the production of flour and bakery products, which is a clear symbol of Italian identity in the world. The incidence of these three types of activity on the total turnover of the food industry is also remarkable.

These three areas have been examined because at the level of the production and supply cycle they should be considered as similar, all having to interact with local production, legislation related to the agricultural sector and a deterioration of products in the short term. For these reasons, the results of the analysis could be different, but the variables that affect them are more or less the same, making it possible to look for reasons in a very narrow range of variability.

It is also necessary to consider how, in the years 2008-2015, consumption expenditure related to non-alcoholic food and beverages in Italy has suffered a significant decline, as evidenced by the processing of ISTAT data.

It is clear that until 2006 the growth of average monthly household expenditure grew at a high rate, as evidenced by the moving average over two periods (red) and that from 2008 onwards this growth has not only stopped, but has returned to much lower levels. The sum of 462.33 euros on average for 2008 has never been reached again, despite the recovery underway since 2014. This external dynamic cannot but influence company performance and it will be necessary to take this into account when commenting on the results produced by the analysis.

We will now proceed to a brief analysis of the various sectors, to introduce their peculiarities and characteristics.

Dairy Sector

Dairy is Italy's leading food sector and is responsible for about 12% of the total turnover of the national agri-food sector. In 2009, the value of production exceeded 14.5 billion euros, obtained from one million tons of cheese, of which 460,000 tons of DOP products, three million tons of drinking milk, one billion eight hundred thousand jars of yogurt and 160,000 tons of butter. The processing companies guarantee

the daily withdrawal of all the milk produced in Italy at a price, however, higher than the European average. Moreover, these quantities are unable to meet the country's domestic demand and exports. Consequently, a large quantity of milk has to be imported, especially from other European countries. However, there are no possible alternatives to the current production system: for structural and environmental reasons, the availability of Italian milk will not only not increase, but will tend to decrease, especially in southern Italy.

The global economic crisis has severely affected the system of companies in the sector, putting its ability to survive to the test, due to the structural debt that characterizes it. This is due in particular to the fact that the payment times guaranteed to suppliers are about 60 days, a figure that is a long way from the 270 days that large retailers wait for before paying suppliers. This factor is all the more serious in view of the fact that large mature cheeses take three years from the initial investment before the proceeds are realized. The causes are to be found above all in the excessive pulverization of production. In fact, Italian companies are much smaller and have much less bargaining power than the European companies with which they compete, causing higher production costs and limited competitive capacity. In recent years, therefore, the trend has been towards concentration, due to the low overall profitability of the sector. In fact, examining the data relating to the total turnover of the sector shows that between the values of 2007 (pre-crisis) and those of 2013, there is a growth of only 3.83%. For the other two sectors examined, the results are very different, with a variation of 19,26% for flour and bakery products and 23,76% for the confectionery sector.

The low profitability of the sector is mainly due to a decrease in the attractiveness of milk-based products for consumers, due to the growing demand for vegetable products, lactose-free and compounds of substitutes, such as soybean milk or rice. Milk consumption fell at a rate of 1% between 2012 and 2016. In addition, the European milk quota system, which has greatly influenced the competitiveness, production and growth of the sector in recent decades, was abolished in 2015, allowing new challengers to enter the national market from territories with lower processing and stable milk costs. Despite this crisis, cheese sales made the biggest contribution (62.4% in 2016) to market profitability, compared with 14.5% of the total market share, keeping turnover levels stable.

However, milk is an integral part of the diet in many developed countries and it is not easy to replace it completely. In addition, alternatives for end consumers include other resulting products such as yoghurt and fresh cheese, which provide a similar nutritional supply. One of the major difficulties in the industry is that the rapid perishability of dairy products, together with the regulatory requirements for their preservation, cause high storage and logistical costs due to the high frequency of deliveries. Switching costs are not particularly high for customers and this has a negative impact on the stability of the purchasing trend, but companies can meet new market needs by creating different products. In

addition, there have been some signs of improved performance in the production of typical regional products, especially those with a certificate of origin and protected origin, which are perceived by consumers as a guarantee of high quality.

In order to increase the attractiveness of the sector, dairy companies have introduced new products to the packaging sector, launching formats that are more in keeping with the tastes of customers, and expanding the product portfolio to meet the various needs linked to the methods and opportunities of their consumption. This, in addition to the implementation of lactose-free and highly digestible lines, has led to stable levels of global turnover, which has offset the lower consumption.

Confectionery sector

The confectionery sector is responsible for more than 10% of the turnover of the Italian food industry. Production can be divided into the following segments: sweet bakery products and confectionery, chocolate and candy. This distinction is functional to the fact that the two types of output have very different growth rates. If the market of sweet bakery products has a constant and significant growth, that of confectionery is slowed down and characterized by an average profitability much lower. A special mention should be made of ice cream, a segment dominated by large multinationals and usually aimed primarily at the large-scale retail trade, consisting of large specialized companies and characterized by modest growth. On the contrary, bakery companies are still operating in a fragmented and not very concentrated market, where SMEs have a market share of 45-50%. As far as the chocolate production segment is concerned, there is a strong centralization in the hands of the large groups, first and foremost Ferrero.

As reported by Sole 24 Ore, according to Aidepi (association of Italian confectionery and pasta industries) the confectionery sector has managed to save itself from the negative effects of the crisis, also thanks to the growing openness to the foreign market (up to more than 50% of production), which has balanced the decline in the domestic market. Also on the latter, however, the decrease in consumption of some products such as ice cream and confectionery has found compensation in sales of chocolate and bakery products. This was because confectionery companies found ways to meet the needs of consumers, who in this case corresponded to a more complete range of products, adding to the lines already available a wide choice of premium products. Another important frontier was that of novelties linked to the growing attention of customers to their health, which led companies to develop novelties containing natural ingredients and with lower fat content.

On average, companies in this sector reacted promptly to the new demands of the crisis period, even though some historic brands lagged behind and struggled to relaunch themselves with a format that would survive in this market so influenced by ever decreasing spending budgets and a search for the "special" product to convince consumers to buy. The winning companies have been characterized by a

continuous series of product and packaging innovations, combined with aggressive marketing strategies and loyalty programs.

During the most critical years, the trend of Italian customers has been towards a return to domestic confectionery, to preparing cakes at home, as a cheaper alternative to buying products offered by resale channels. This has corresponded to an increase in the supply of products for the preparation of sweets and has encouraged companies to increase the quality of these types of goods. At the same time, increasing competitiveness among major brands has resulted in lower prices for bakery products, which have returned to being the preferred alternative for consumers as soon as the initial and worst of the crisis has passed.

In addition, it should be noted that companies with a typically seasonal production as Bauli have managed to increase their turnover with a better balance between seasonal and non-seasonal products in their portfolio. Certainly the recognizability of the brands, a guarantee of reliability and high quality of production, has had a great influence on the performance of this sector during the crisis, as the larger companies started from conditions of strength and customer loyalty. In order to maintain this leading role, the companies (e.g. Ferrero, Bauli, Melegatti, Vicenzi and so forth) have continued to produce new lines and new specific products for specific targets and have thus guaranteed a continuous cascade of new products on the market.

It seems appropriate to highlight how this sector has, however, suffered a strong shock during 2016, when a campaign against palm oil, the abuse of which could cause heart problems due to the high level of saturated fat, has made the average consumer reluctant to buy confectionery products, especially Nutella. This analysis, therefore, does not take into account the post-2015 trend and therefore the changes in the confectionery market following this major upheaval.

The flour and bakery products sector

For a complete analysis of this sector, it is appropriate to divide it into two parts: the production of bread and bakery products, and the production of pasta. The outputs of both these areas are configured as a basic product of our diet and one of the prominent symbols of the Made in Italy agri-food.

As far as the pasta industry is concerned, the national production of pasta in 2014 amounted to just under 3.5 million tons, about a value of 4.6 billion euros, or 3.5% of the national turnover of the food industry. Medium-term results show that the production of pasta between 2008 and 2014 has progressed at an average annual rate of around 1.5%. This growth is also underlined by the sectoral outlook produced by Cerved in 2017. As it is clear, this growth is mainly due to the increase in exports, while domestic consumption was stable. In particular, since 2005 the threshold of 50% of the production exported for sale abroad has been exceeded, while domestic demand has substantially

stabilized, as evidenced by the average annual per capita consumption of pasta (equal to 26.1 kg in 2008 and 24.9 kg in 2014) (ISMEA - Istituto per i Servizi del Mercato Agroalimentare 2015).

As far as bread is concerned, internal consumption has also decreased, in the wake of a new trend linked to low-carbs diets, which push, especially among young people and women, a net decrease in consumption of traditional bakery products and pasta. This trend has certainly negatively influenced the performance of companies that produced this type of food. However, flour companies have responded to this difficulty with various strategies, such as portfolio diversification through the launch of whole-grain products based on cereals or particular flours, including the novelty of large-scale products for coeliacs. Other companies have seen the possibility of attracting consumers through the sale of single-portion products that can be useful to avoid waste and reach a target of unique customers. This move was functional to ride the wave of a new need: to have something to "munch" and be able to comfortably take with them. In fact, the decrease in bread sales corresponds to the growth of a segment that is developing very quickly: that of savory snacks.

The search for different ingredients and the use of special flours as an alternative to wheat has made it possible to increase the unit price of products, since consumers demand higher quality raw materials, but are also willing to spend more. In fact, bulk bread showed the highest unit price increase in current currency in 2016. Another trend that should be taken into account is the fact that there has been an increase in sales of frozen bakery products, because despite a reduction in overall bread consumption, consumers appreciate the possibility of being able to keep these products for a long time so that they are available fresh and crisp at any time they want.

However, according to the Euromonitor report, flour products see an increase in sales of bread by local bakeries, and a decrease in sales of industrial products. Moreover, for both pasta and bread companies, the time taken by companies to adapt to new needs has not always been so fast and, as a result, there has been a concentration of production due to a sharp fall in the number of companies operating in the segment.

These factors have had a different influence on the two production lines of the sector: if the pasta company shows an average annual growth from 2008 to 2014 of the production of pasta both in volume (+1.4%) and in value (+1.6%), the same cannot be said for bakery products.

VARIABLES

In order to carry out the analysis, it is advisable to construct two sets of variables: the first set contains the symptomatic indicators of the management of net working capital, and the second set contains the profitability indicators, to measure the company's performance. Each set consists of a pool of variables and indicators, examined in detail in the next two paragraphs.

Variables of Net Working Capital

The variables taken into consideration for the evaluation of working capital belong to two types: the first relating to the dynamics of the operating cycle; the second to the incidence of working capital on turnover. The results of the indicators referring to the operating cycle represent a number of days, while those of incidence are percentages. They are:

Days Sales Outstanding (DSO)

This measure measures the average number of days before customers settle their claims on the company in question after a sale. Irrespective of the extension period granted by the company, creditors may pay before or after this period. The larger this number is, the longer the company has to wait before receiving payment for the goods and services provided and therefore the higher the probability that creditors will pay beyond the fixed deadline, letting the credits expire and having a strong negative impact.

It is physiological that this number is different from zero, but there are no standard values within which it can be considered "good". To make a judgement on the matter it is necessary to verify if the data of the single company are superior or inferior to the average of the enterprises of the same sector.

Days Inventory Outstanding (DIO)

This value represents the average number of days the stock is in stock before it is renewed. This indicator is that one that has perhaps more tie with the nature of the goods, in how much depends on the nature of the same the number of days for the rotation of the warehouse. Consequently, the dimension of such value depends a lot from the field of activity of the company, but generally if it is low it implies that the warehouse must be supplied of frequent in order to face the sales.

Also this indicator cannot have a null result and also in this case do not exist of the standard values in order to judge the goodness of it. It is therefore necessary to operate an evaluation on the basis of the average of the days of rotation of the stocks of the sector to which the company belongs.

Days Payable Outstanding (DPO)

The result of this indicator is equal to the average number of days before the company cancels the debts it has contracted with suppliers. In this case, the nature of the company's activity, but above all the size of the company, has an impact: a known and large company will have more bargaining power and will be able to manage the dynamics of trade debts at will. This consideration is important, because a longer delay on trade debts corresponds to the company's ability to finance itself.

Consequently, even if a value higher than the average could seem a negative signal and difficulty in payments, in the presence of a solid financial situation, it is a sign that the company is financing itself in an alternative way. Again, there are no established values and the results need to be compared with the industry average.

Average duration of the business cycle (Cash Conversion Cycle - CCC)

This value is the summary of the three previous ones, as it is obtained by adding the number of days of deferment of receivables to that of average stockpile, from which the number of days of deferment of debts must be subtracted. It is therefore a synthetic measure that expresses the number of days that a company needs to convert incoming resources into cash flows.

The operation required in order to calculate such indicator implies that it measures how fast an enterprise succeeds in converting the liquidity in stocks of warehouse and in trade debts, through the system of sales and credits, and consequently again in liquidity. Being formed from the combination of these indicators of the state of the business activity, the CCC indicates how much the management is able in the management of the assets and liabilities to short term in order to generate liquidity. Again, the entity should be measured on the basis of the averages of the sector to which the company belongs and the lower the value of the CCC, the more dynamic the company is and therefore the better the result.

Net working capital as a percentage of turnover

This indicator is the result of the ratio between the value of the net working capital and the turnover recorded in the same year. It represents a very simple way to make the NWC, otherwise difficult to compare, comparable between different companies and over different years. This shows the impact of short-term non-financial management on sales, which is sensitive to changes in demand.

The interpretation of the result of this variable is complex, since, as explained above, the NWC should not be negative and this would lead to interpreting the highest possible value as optimal. It is also true that as turnover increases, the result decreases and therefore even a reduction could seem to be a positive sign. Taking into account the fact that the dynamics of receivables, payables and stocks are, however, closely linked to sales, should correspond to an increase in them in correspondence with a growth in turnover. Consequently, the percentage of the incidence should not undergo great variations, therefore a positive value is considered an optimal result, in how much sign that the current management is primary regarding the other activities.

Incidence of active working capital on turnover

The result of this indicator is obtained by the ratio between the components of working capital assets, i.e. non-financial inventories and short-term receivables, and turnover for the same period. In this case, too, the main purpose is the comparability of the result between different financial years and companies, purging the raw data from the influence of the change in demand and making it in percentage and therefore comparable even in the case of companies with different structures and sizes.

As for the previous one, the interpretation of this value is subject to the action of different forces. First of all, it is a good sign that the value is positive, as short-term business growth shows that the

company's core business is dynamic and of considerable importance. Mathematics suggests that an increase in the denominator, i.e. in turnover, which is a positive sign for the company, would lead to a decrease in the result.

In this case, too, it is necessary to consider how an increase in turnover corresponds to an increase in receivables and inventories, with the result that the optimal result is that of a value above zero and consistent. This indicator is very important because it measures the degree of active circulating, that is the element that will contribute in a short time to bring liquidity in cash.

METHOD AND DATA COLLECTION

The main objective of this analysis is to verify whether Working Capital Management has an influence on business performance in Italian SMEs. More in detail, the survey is structured on three levels and on the basis of three questions:

1. Does Working Capital Management affect short-term profitability?
2. Is this incidence the same in SMEs and large companies?
3. Does this impact depend on the sector in which companies operate?

By verifying these three hypotheses, we believe that this survey is complete and that, for the first time, the Italian SME market is examined in depth, using the size and product sector of the companies taken into consideration as additional filters, with a span of time that allows reports to be made on the basis of different intervals.

In order to ensure that the survey basin is large enough to be significant, quantitative data were collected from an online database, AIDA, for the duration of the previously established time horizon (2008-2016). These data are collected for all the companies in the database in the dairy, confectionery, flour and bakery industries.

Once the companies were divided between SMEs and large companies, a descriptive statistical analysis was carried out, which provides an overview of the sector averages for each of the indicators chosen as determining factors and serves to give an overview of the trends of the period.

Subsequently, the indicators relating to working capital management were collected and a score assigned to each company for each year on the basis of these indicators. At this point, the presence of a statistical correlation between the variables related to the NWC and the main profitability indicators previously selected can be verified.

The results produced should be able to give an answer to the three questions mentioned above with regard to the Italian SME in the years following 2008.

AIDA, an online database, was used to collect the data. AIDA is a tool of Bureau van Dijk, a company specializing in the production of products containing company information at national and

international level. AIDA (Computerized Business Analysis) is a factual database containing structured information on more than 700,000 companies operating in Italy. The data are in historical series, up to a maximum of 10 years and the information is constantly updated. The contents are the complete financial statements, according to the scheme of the IV EEC directive, the sectors of economic activity, the complete personal data and a plurality of other information of the Italian capital companies.

Unfortunately, during the research it was found that the 2016 data of most companies were incomplete. As a result, it was decided to shorten the time horizon by one year, in order to facilitate the completeness of the data, which will then be 2008-2015. The research carried out was carried out through the use of ATECO codes, which serve to classify economic activities, to allow the results to be filtered by type of business activity. This classification is adopted by ISTAT for national economic statistics and is optimal for this analysis as it is based on the type of activity carried out by the companies and not on what they produce. In this way, companies grouped under the same code can be considered homogeneous in terms of production processes and therefore the need for supply, production cycle and type of plant. Consequently, such subdivision allows to consider the data of every sector as epurati of the exogenous variables, in how much all submitted to the same influences from the external environment.

As far as this analysis is concerned, in particular, we examined the sectors of the whole characterized by code 10, which groups together the food companies. In particular

Code 105 (dairy industry) was used as a filter for the dairy sector;

Codes 1072 (production of rusks and biscuits; production of preserved pastry products) and 1082 (production of cocoa, chocolate, candies and confectionery) were used to group companies in the confectionery sector;

Codes 1071 (production of bread; fresh pastry products) and 1073 (production of pasta, couscous and similar farinaceous products) were used to select flour and bakery products companies.

In addition to the codes, two conditions were used as additional filters to search for data for each sector: the first is the availability of balance sheets, the second is the presence of known values for CCC.

CONCLUSION, FUTURE WORK AND POTENTIAL LIMITATIONS

The main objective of this study was to setup a sample of Italian SMEs, in order to verify whether Working Capital Management has an influence on their performance. More in detail, the research was based on these three questions, corresponding to as many levels of investigation, i.e.: Does Working Capital Management affect short-term profitability? Is this incidence the same in SMEs and large companies? Does this weight depend on the sector in which the companies operate?

To satisfy these questions, several data were collected through the AIDA database, which lists the financial statements of Italian companies, relating to the variables of working capital, business cycle and performance. This information has been filtered in order to create six clusters, representing SMEs and large companies in each of the three sectors considered: dairy, confectionery and flour and bakery products.

In future works, through a scoring operation and a statistical correlation, results will be obtained, which represent the Pearson-Bravais correlation indices between CCN and profitability indicators over different spans of time (one, two and three years). It will then be possible to give answers based on the results obtained. Surely the WCM has a correlation with short-term profitability, as it will be evident from the fact that in many cases there is some kind of significant direct or indirect relationship. Also with regard to the impact of size on the size of this link, it can certainly be said that it has a weight, as within all sectors, large companies and SMEs behave differently. Finally, it will be shown that the result of the correlation depends on the sector, since each of the segments of the food industry considered has its own behavior.

Unfortunately, while it is undeniable that the WCM has an influence on business profitability by looking at the complete sample, as far as SMEs are concerned, there is often an un-correlation between the trend in working capital and the business cycle and the main performance indicators. This unsatisfactory result may be due to the peculiar conditions of the macroeconomic environment in the years under consideration, in particular the reduction in consumption and average family spending, which have aggravated a condition already made precarious by an exponential increase in suffering and, consequently, bankruptcies and liquidations. These conditions are due to the crisis that has hit the global markets since 2008, and the resulting credit crisis in subsequent years. It should also be borne in mind that the in-correlation results may be due to the typical characteristics of data dispersion. In fact, greater variability in values may invalidate the result of correlation studies, providing in-correlation outcomes even where there is no independence between indicators.

With regard to the management of without recourse, reference is made to a type of factoring that "lightens" the quantity of receivables in the company portfolio, thus affecting the correctness of the data relating to working capital. This tool has been widely used during the years included in the time horizon, since this ensured a better evaluation of the company by banks and lenders, making the company situation seem more prosperous. Unfortunately, the data relating to the use of without recourse would have to be requested individually from each of the companies included in the sample, through questionnaires or direct queries, which would have taken much longer and would have reduced even more the number of companies taken into account. On the other hand, as far as the completeness of the database used is concerned, of the 8,426 companies operating in the three sectors

considered, only 409 had data relating to the entire time horizon and with available values of the size of the business cycle. This sample, however large, corresponds to about 5% of the total and may not represent the total distribution of data.

REFERENCES

- Al-Shubiri, Faris Nasif. «The Effect of Working Capital Practices on Risk Management - Evidence from Jordan.» *Global Journal of Business Research*, 2011: 39-54.
- Banos-Caballero, Sonia, Pedro Juan Garcia-Teruel, e Pedro Martinez-Solano. «Working Capital Management in SMEs.» *Accounting and Finance*, 2010: 511-527.
- Blomdahl, Klas, e Ted Andersson. «Working Capital Management and Firm Performance.» Master's Thesis - Department of Business Studies of the Uppsala University. 30 maggio 2017.
- Borsa Italiana. Glossario. 17 gennaio 2011. <http://www.borsaitaliana.it/bitApp/glossary.bit?target=GlossarySearch>.
- . Sotto la lente - Lo schema Dupont. 03 febbraio 2012. <http://www.borsaitaliana.it/notizie/sotto-la-lente/identita-dupont178.htm> (consultato il giorno ottobre 22, 2017).
- Brugger, Gualtiero. *La Funzione Finanziaria nell'impresa*. Milano: Franco Angeli, 1975.
- Brunetti, Giorgio, e Luciano Olivotto. *Il Controllo del Capitale Circolante*. Torino: UTET, 1992.
- Bureau van Dijk. AIDA - Analisi Informatizzata Delle Aziende italiane. s.d. <https://aida.bvdinfo.com/> (consultato il giorno settembre 13, 2017).
- Capodaglio, Gianfranco. *Il Capitale Circolante Netto*. Bologna: Clueb, 1999.
- Cascio, Arnaldo. *Analisi del Bilancio con il Computer*. Milano: Il Sole 24 Ore, 1995.
- Cattaneo, Mario. *Il Capitale Circolante Netto*. Torino: Utet, 1988.
- Cerved. «Outlook settoriale - Pasta alimentare.» 2017.
- Cerved. «Rapporto Cerved PMI 2015.» 2015.
- Commissione Europea. Guida dell'utente alla definizione di PMI. Lussemburgo: Ufficio delle Pubblicazioni dell'Unione Europea, 2015.
- Cumbie, Joseph Brian, e John Donnellan. «The Impact of Working Capital Components on Firm Value in US Firms.» *International Journal of Economics and Finance* 9, n. 8 (2017): 138-150.
- Dalocchio, Maurizio. *Credit, Management, Economia e Finanza delle Politiche Commerciali*. Milano: Etas, 1993.
- Darun, Mohd Ridzuan. «The Determinants of Working Capital Management Practices: a Malaysian Perspective.» *Research Proposal, Commerce Degree with major in Accounting*. Lincoln University, 2008.
- Deloof, Marc. «Does Working Capital Management Affect Profitability of Belgian Firms?» *Journal of Business, Finance & Accounting* 30, 25 aprile 2003: 573-587.
- Di Diego, Sebastiano. *Come Fare un Piano Industriale e Reperire le Risorse Finanziarie. Tutto Quello che Occorre Sapere per Crescere e Superare la Crisi*. Milano: Franco Angeli, 2016.
- Enciclopedia Treccani. Dizionario di Economia e Finanza. 2012. http://www.treccani.it/enciclopedia/roa_%28Dizionario-di-Economia-e-Finanza%29/ (consultato il giorno ottobre 22, 2017).
- Euromonitor International. «Passport - Baked Goods in Italy.» 2016.
- Falope, Olufemi, e Olubanjo Ajilore. «Working Capital Management and Corporate Profitability - Evidence from Panel Data Analysis of Selected Quoted Companies in Nigeria.» *Research Journal of Business Management*, 2009: 73-84.
- Garcia-Teruel, Pedro Juan, e Pedro Martinez-Solano. «Effects of Working Capital Management on SME Profitability.» *International Journal of Managerial Finance*, 2007: 164-177.
- Il Sole 24 Ore. «Per i dolci più produzione e business.» *Agrisole*, 25 luglio 2014: 9.
- Il Sole 24 ore. Così è cambiata la UE negli ultimi 10 anni. 24 marzo 2017. http://www.ilsole24ore.com/art/mondo/2017-03-24/com-e-cambiata-l-europa-ultimi-10-anni-guarda-grafici-chiave-211459.shtml?uuid=AEzN7vs&refresh_ce=1 (consultato il giorno ottobre 18, 2017).
- ISMEA - Istituto per i Servizi del Mercato Agroalimentare. «Settore cerealicolo - L'industria pastaria.» Piano di settore, 2015.
- ISMEA - Istituto per i Servizi del Mercato Agroalimentare. «Settore Lattiero-caseario.» Scheda di settore, 2017.
- ISTAT. Classificazione delle attività economiche Ateco 2007. s.d. <https://www.istat.it/it/strumenti/definizioni-e-classificazioni/ateco-2007> (consultato il giorno 10 11, 2017).

- Kleipzig, Heinz-Jürgen. Working Capital and Cash Flow: Optimizing Financial Flows through Process Management. Wiesbaden: Gabler Publishing Company, 2008.
- Laudon, Ken, e Jane Laudon. Management Information Systems, 12th edition. Pearson, 2012.
- Lazaridis, Ioannis, e Dimitrios Tryfonidis. «The Relationship between Working Capital Management and Profitability of Listed Companies in the Athens Stock Exchange.» Journal of Financial Management and Analysis 19, n. 1 (2006): 26-35.
- Mariani, Giovanna. Politiche di Capitale Circolante e Gestione Economico-Finanziaria d'Impresa. Milano: Franco Angeli, 2007.
- MarketLine. «Dairy in Italy.» MarketLine Industry Profile, London, 2017.
- MarketLine. «Milk in Italy.» MarketLine Industry Profile, London, 2017.
- Meyer, Christian. Working Capital and Corporate Value. Springer-Verlag, 2007.
- Newbold, Paul, William L. Carlson, e Betty Thorne. Statistica. Milano, Torino: Pearson Italia, 2010.
- Preve, Lorenzo, e Virginia Sarria-Allende. Working Capital Management. Oxford: Oxford University Press, 2010.
- PwC. Il Ruolo della Finanza e della Tesoreria. Forum Progesa Risk & Performance Management Mantova, 1 Dicembre 2010.
- Rafuse, Maynard E. «Working Capital Management: An Urgent Need to Refocus.» Journal of Management Decision, 1996: 59-63.
- Raheman, Abdul, e Nasr Mohamed. «Working Capital Management and Profitability - Case of Pakistani Firms.» International Review of Business Research Papers, marzo 2007: 279-300.
- Saremi, Hamid, Shaban Mohammadi, e Behrad Moein Nezhad. «The Impact of Working Capital Management on Financial Performance in Various Industries Tehran Stock Exchange.» International Journal of Advanced Scientific Research and Development, ottobre-dicembre 2016: 128-135.
- Schaeffer, Mary. Essentials of Accounts Payable. New York: Wiley, 2002.
- Solomon, Ezra. The Theory of Financial Management. New York: Columbia University Press, 1963.
- Spiegel, Murray R. Statistica - Seconda edizione. Milano: McGraw-Hill Libri Italia, 1994.
- Tardivo, Giuseppe, Roberto Schiesari, e Nicola Miglietta. Corporate Finance —. Finanza Aziendale. Milano: Isedi, 2014. Milano
- Tewelde, Sebatleab. «Doctoral thesis on Working capital management.» The Case of Government-Owned, Transitional, and Privatized Manufacturing Firms in Eritrea. Groningen: University of Groningen, 2002.
- Van Horne, James, e John Wachowicz. Fundamentals of Financial Management, 13th Edition. Pearson, 2008.
- Weinraub, Herbert, e Sue Visscher. «Industry Practice Relating to Aggressive Conservative Working Capital Policies.» Journal of Financial and Strategic Decisions, 1998: 11-18.

A STUDY OF THE BENEFITS FOR STARTUPS COMING FROM INCUBATORS

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ABSTRACT

For more than half a century that incubation initiatives have been important for promoting entrepreneurship through technological and innovation policies, supporting the early stages of development and strengthening links among businesses (Schwartz, 2010). More recently, supporting the creation and growth of startups has become a priority (M'Chirgui, 2012). One of the tools for the development of startups are business incubators, institutions that, by promoting special conditions, present themselves as a business support in an embryonic phase, boosting the entry and development of these new organizations in the economic environment (Grimaldi and Grandi, 2005; Aerts et al, 2007; Theodorakopulos et al, 2014; Bollingtoft and Ulhoi, 2005).

The main topic to be examined in this paper is the gap between the value expectations that a startup expects from an incubator versus what it effectively obtains. Within the European Union framework, but focusing specifically on Portugal, it is examined here whether the gap between expectations and perceived benefits affects the overall satisfaction of the entrepreneurs and startups,

To achieve the research goals, an exploratory research, by the means of interviews, was conducted with startups incubated in the North Region of Portugal. While trying to understand and evaluate the startups' expectations regarding what the incubator truthfully offers for incubates development, significant divergences were found, suggesting a relevant level of mismatching between startups and incubators. This research outcome is somewhat surprising as one could expect a better interaction and alignment within the incubating-incubated relationship.

Keywords: Entrepreneurship; Startups, Business Incubators, Expectations Management; Service Quality, SERVQUAL, Customer Satisfaction; Innovation; Performance.

INTRODUCTION

During the 1980s, governments in Europe were facing rising unemployment in sectors such as engineering, including automotive industry, and it was the beginning of recognition that innovation

and technology were becoming key points for national economic growth, having gained strength in the knowledge-based economy (Bruneel, Ratinho, Clarysse, and Groen, 2012).

On the other hand, small businesses, which are the largest segment for job creation, have gained importance while attempting to meet the objectives of innovation, competitiveness and social cohesion. However, the survival ratios of these companies are quite low, especially during the early years (Bollingtoft and Ulhoi, 2005; Theodorakopoulos et al, 2014; Aerts, Matthyssens, and Vandembemt, 2007; Aldrich and Fiol, 1994). This lack of success for new and small businesses is particularly caused by lack of management experience, lack of marketing skills or access to venture capital (Bruneel et al, 2012).

The initial process of a startup and its growth have been the focus of study by several researchers (Aernoudt, 2004; Burns, 2001; Grimaldi and Grandi, 2005; McAdam and McAdam, 2008; Ries, 2011). More specifically, there has been a growing interest in identifying the factors, characteristics and conditions that benefit their creation, development and success (Grimaldi and Grandi, 2005). For these companies the onset of business can be hard and stressing, marked by all sort of difficulties. New companies often lack established products, technological know-how, long-term customer relationships, experienced management teams, sufficient capital and a strong reputation (Zhao and Aram, 1995). In addition, new companies present other pressures such as market entry (Aldrich and Fiol, 1994), access to administrative support and operating costs such as rents and fees, typical barriers for new organizations (Bollingtoft and Ulhoi, 2005).

Supporting the creation and growth of startups has become a priority (M'Chirgui, 2012). New support tools have emerged for new entrepreneurs including institutions that specialize in advising, launching and monitoring new business progress (Albort-Morant and Oghazi, 2016).

One of the tools for the development of startups are business incubators, institutions that, by promoting special conditions, present themselves as a business support in an embryonic phase, boosting the entry and development of these new organizations in the economic environment (Grimaldi and Grandi, 2005; Aerts et al, 2007; Theodorakopoulos et al, 2014; Bollingtoft and Ulhoi, 2005).

Accordingly, the main topic to be examined in this paper is the gap between the expectation of value that a startup expects from an incubator and what it actually obtains. Within the European Union framework, but focusing specifically on Portugal, it is also intended to examine some issues as identify

the main support services expected by Portuguese startups, and understand whether the characteristics of the incubates have some impact on their expectations and perceptions.

To achieve the research goals, an exploratory research, by the means of interviews, was conducted with startups incubated in the North Region of Portugal, with the purpose to understand whether the gap between expectations and perceptions affects the overall satisfaction of the entrepreneurs, regarding the incubators expected benefits.

THE ROLE AND IMPORTANCE OF INCUBATORS

For more than half a century that incubation initiatives have been important for promoting entrepreneurship through technological and innovation policies, supporting the early stages of development and strengthening links among businesses (Schwartz, 2010). Several changes have taken place during this period leading researchers to pay greater attention to the strategic capacity of incubators (Grimaldi and Grandi, 2005), especially for startups looking for complementary assets, technological, visionary and cognitive proximity (Vanderstraeten and Matthyssens, 2012). However, despite this growth recognition, there are still doubts about the ability of incubators to leverage the success of incubated companies (Cornelius and Bhabra-Remedios, 2003; M'Chirgui, 2012).

The concept of incubator is generally used as a general designation for organizations that form or create a supportive environment, contributing to the development of high potential startups (Bergek and Norrman, 2008; Hackett and Dilts, 2004). According to Aernoudt (2004), and most of the literature, the first incubator started in 1959 in Batavia, New York State, United States of America, in response to the closure of several factories (Aernoudt, 2004; Theodorakopoulos et al, 2014; Aerts et al, 2007). However, incubators have been operating since 1942 when Student Agencies Inc. in Ithaca, also in the "Empire State", began incubating student companies until, four years later, American Research Development created the first incubator outside the student community (Chinsomboon, 2000). Over this time business incubators have evolved and even changed or incorporated certain practices (Dee et al, 2011). In Europe the first incubators appeared in 1975, in the United Kingdom, when a British iron company decided to create a subsidiary to create jobs. Due to the collapse of traditional industries (Al-Mubarak and Busler, 2010) from the late 1970s in both the US and Europe, the incubation program would begin to be considered as an industry (Aernoudt, 2004), with the emergence of private companies with the function of supporting innovation and technology transfer (Al-Mubarak and Busler, 2010), where the goal would be to incubate new companies with high growth capacity (Hackett and Dilts, 2004). Despite the emergence of private organizations, most incubators remain public in nature because there is an interest in creating policies that place business incubators as the

main tool for economic rejuvenation (Hackett and Dilts, 2004; Bruneel et al, 2012).

Research on the relationship between the incubator and its incubators began in 1984 with the promulgation of the results of the “National Survey: Profile of Business Incubators” by Temali and Campbell. Despite these early efforts and academic interest in several countries to synthesize and analyze the state of incubation, there is still no consensus in the literature (Hackett and Dilts, 2004; Theodorakopoulos et al, 2014).

The growing spread of business incubators calls for a more detailed analysis and observation of what this phenomenon really is, what specific sources can be of value for entrepreneurs, what organizational foundations really work on, the practices, resources and services that help effectively to the growth of startups (Bollingtoft and Ulhoi, 2005).

BUSINESS INCUBATORS’ SERVICE QUALITY AND SERVQUAL DIMENSIONS

In order to business incubators effectively support the startups activities, it is important that they provide a service with quality. Nevertheless, because the service is a set of activities or processes that are produced and consumed simultaneously, it becomes difficult to manage and access quality control (Gronroos, 1988). The precise dimensions of a service’s quality vary from sector to sector, and while it is currently simpler to identify overall dimensions, there is some difficulty in developing the best method for measuring service quality (Ennew, Reed, and Binks, 1993). The concept is simple, and has been described as an attitude related to satisfaction (but not equivalent) and is measured from a comparison between expectations, i.e. expected quality, and perceptions, i.e. perceived quality (vig. E.g. Ennew et al, 1993; Cronin and Taylor, 1992). This means that quality of service is the measure of how well the provided service delivered matches with the customer expectations. Quality service occurs when a service meets previous expectations (Parasuraman, Zeithaml and Berry, 1985), meaning that a good quality of service is achieved when customer perception meets its initial expectations (Gronroos, 1988).

Service quality and SERVQUAL approach are very well documented and examined in literature, therefore one will not develop much further on this research paper. Nevertheless, it is important to stress that these concepts are important for the research, as they were used, inclusively with the inclusion of several SERVQUAL dimensions. Therefore it is relevant to briefly examine the importance of business incubators’ service quality for entrepreneurs and startups.

In resume, the incubator is regarded here as having to create customer value through a wide range of

services (Vanderstraeten and Matthyssens, 2012). A well-managed incubator with a good quality of service can bring several advantages to incubated ones, such as cost savings (Mian, 1996), space sharing and secretarial services (Buys and Mbewana, 2007) and increased credibility (McAdam and McAdam, 2008), enhancing certain skills associated with entrepreneurship (Abduh et al, 2007), access to mentoring (Scillitoe and Chakrabarti, 2010), internal and external synergies, information (Tötterman and Sten, 2005) and funding (Mas-Verdú et al, 2015). This distinction depends on tenants' expectations and perceived value in offering different benefits (Vanderstraeten and Matthyssens, 2012), giving importance to the clients' point of view on the services provided (Abduh et al, 2007). Among other dimensions of analysis of business incubators value creation for startups, in this paper the effective satisfaction of the entrepreneurs with this incubating service is examined, in order to access whether the expected benefits from the incubators' provided service are real and according to the startups expectations.

A STUDY OF THE EXPECTATIONS AND PERCEIVED BENEFITS FOR STARTUPS COMING FROM INCUBATORS

In a changing world and business environment, Portugal has been facing several difficulties, which even led to the need of a program of international financial aid. The last decade has produced major changes in the international environment, which, together with domestic economic issues, produced deep effects on the Portuguese economy, mostly negatives, as the rise in unemployment, but with policies as well to try to cope with the negative situation, as measures to support entrepreneurship, ease of establishment and closure of companies, tax changes, or the new "Business Insolvency and Recovery Code " (D&B, 2017a). Together with technological advancements and a greater ease of access to information, the most recent period proved to be more prone to entrepreneurship, so that according to the Barometer D&B Informa in a recent period of 12 months (July 2017), in Portugal were created 39,015 companies, more 5.7% over the 12 months immediately before (D&B, 2017b). Therefore, one can wonder whether this has something to do with any incubators role.

However, the incubators benefits for startups may not be that clear. According to the literature, incubators provide a number of benefits that favour the creation, growth and stability of startups such as more economical rents, support services, location, and more. However, in numerous empirical studies on the relationship between an incubator and an incubated (Al-Mubarak and Busler, 2010; Bollingtoft and Ulhoi, 2005; Tötterman and Sten, 2005), these benefits have been analyzed from an incubator perspective rather than from the new business point of view. For the acquisition and organization of information, many studies carry out incubator surveys. It is a useful but limited

method as it cannot represent the incubated point of view, making it difficult to correctly assess the perspective of new companies (Dee et al, 2011). Accordingly, one can wonder whether the incubators are effective in their purpose to properly assist entrepreneurs and startups.

Research framework

When thinking about the objectives of a startup integrated into an incubation process, common sense tells us that the purpose of this relationship is to survive in the early years of business where it is new and relatively small. However, the objectives of the incubate can go beyond that. Startups may choose to adhere to an incubation strategy for as many reasons as the number of benefits incubators can offer. As analysed during the literature review, studies on the relationship between startups and incubators are still very few, and very limited, especially when this is analysed from the perspective of the incubated ones. The research so far focused mostly on topics from the incubator's point of view. This evaluation makes it difficult to analyse the expectations and the perception of the incubated ones about the process, two crucial factors for satisfaction assessment within a service.

Therefore, in this paper, the examination is based on the perspective of the startups in order to obtain conclusions that indicate how the incubator is evaluated by the incubator in its strategic plan, development and cycle.

Research hypotheses

This paper intends to analyse the gap between the expectations and the perceived quality of the incubation process taking into account the experience of the startups. We intend to examine, from the perspective of the incubated ones, the initial expectations of the startups when they join an incubator and what is the quality perceived after the incubation experience. To achieve this purpose, it is necessary to identify the main benefits expected by the startups and what they really feel the incubator may provide them.

It is also intended to understand the role of the characteristics of the incubated in the expectations and perceptions of the same. Finally, if there is a significant gap, we intend to analyse its impact on overall satisfaction. In resume, the basic research question of the paper can be assumed as an examinable hypothesis: *is there a gap between expectations and perceptions of startups in the face of an incubation process?*

Complementary, it is considered relevant to make an assessment regarding the main benefits expected versus observed by the incubated during the incubation process, together with an assessment of whether there is a confirmation or disconfirmation of expectations and how they affect the overall satisfaction of the startups, being such also considered as hypotheses for further possible testing.

Research methodology

The research method used was the interview, as its advantages range from depth of information to flexibility (Gill, Stewart, Treasure, and Chadwick, 2008). In order to develop a rich and flexible method, semi-structured interviews (vid. e.g. Zhang and Wildemuth, 2016) were applied to five Portuguese startups belonging to different incubators in the Porto city region. In semi-structured interviews there are no specific questions. In turn, an interviewer has a list of key points and topics that he or she wants to see addressed, covering the issues depending on the direction the interview takes (Longhurst, 2016). The five companies that agreed to be interviewed were sent a guide with the questions and key points they intended to address. In addition to the factors mentioned above, the interviewing method is advantageous because the interviewer can delve into the issue if he / she believes it is necessary, as well as can investigate more specific key points of the interviewees and not just adhere to the interview guide, or even recreate the questions, if they are not clear to the interviewee (Kajornboon, 2005). On the other hand, semi-structured interviews also have their disadvantages, such as the interviewer's possible inexperience that can result in unanswered key questions and greater difficulty in probing unclear crucial points (Kajornboon, 2005). The time required to perform this method is also another disadvantage, since one has to select participants, decide where to conduct the interview, set an available date for both, and transcribe the interview (Longhurst, 2016). The five companies that were available to conduct the interview were sent a document with the questions that were considered crucial for the exploration phase. Subsequently, interviews were scheduled and conducted at the incubator facilities (only one of the companies preferred to conduct the interview in a neutral location). Interviews were transcribed shortly after their completion, as listening to the audio shortly after it is made transcribing it much simpler (Longhurst, 2016). All interviews were sent to the company concerned to confirm that there were no errors regarding the terms used, names of companies, acronyms, as well as if the idea received was in agreement with what the company wanted to demonstrate. After confirming all the transcripts, the generated data were then collected and analysed with the support of NVivo software in order to produce a questionnaire that corresponded to the reality of the panorama to be investigated. In NVivo, two distinct positions were created for the data: expectations and perceptions. Each of these positions initially clustered eleven nodes, where six corresponded to those analysed in the literature review (subsidiary space rental, funding and policies, sharing facilities and services, relief services, credibility and social capital) and five corresponded to the key SERVQUAL dimensions: reliability, security, understanding, empathy and tangibility. The text was analysed and marked if a statement was related to a particular node, both in the expectation or in the perception position.

Research sample

In order to carry the study of the incubated perspectives, before it started the incubation process, the

data collection involved two stages of collection of information, allowing to prepare two different samples, but which, however, have the same characteristics, i.e. companies that belonged or belong to an incubation process in Portugal. For the research presented here, i.e. using semi-structured interviews, we chose a sample of companies located in incubators in Greater Porto region. As referred before, the sample comprises five companies that have been shown a semi-structured script in order to be interviewed.

The first company interviewed was SBSS Consulting. This company belongs to the consulting and SAP partnerships and was created in 2014 with only one founder, Luís Barros. However, shortly thereafter, two new members, both close friends, joined the organization to support the commercial side. The founder already had experience in the SAP area, but had never taken on the role of entrepreneur. The company was initially incubated at ANJE (Associação Nacional de Jovens Empresários - National Association of Young Entrepreneurs) from Maia city, but in the meantime, with the hiring of two new employees, ANJE's space became small and moved to a Business and Innovation Centre, the NET (Novas Empresas e Tecnologias – New Enterprises and Technologies). Currently the company employs seven employees.

The second interview was made to BYP - Boost your project, a company established in September 2016 which was founded by two partners. Pedro Santos, the founder who was available to be interviewed, has training in the area of management, and has professional experience in several multinationals. The decision to start a project of his own arose two and a half years ago, when he met the other partner in a training on entrepreneurship. After a long period of brainstorming and optimization of the idea, came the BYP, which consists of developing a set of service solutions and management support, which until then did not exist in a significantly integrated way, combining some concepts of sharing economy. Since the beginning of its activity, this company has used the support of the INOVAGAIA incubator.

The third interview was held soon after, following a contact obtained by Cideb. The company that was made available was Ibeen, a company founded exclusively by Daniel Costa, in 2015, which consists of the design of the funny concept associated with tourism in t-shirts and merchandising, i.e. closely linked to the creative industry. The founder had academic experience in management and at professional level had experience as an entrepreneur once he started the Montaditos business in Portugal. The company was inserted in several incubators, incubating, at an early stage in the PEC pole of UPTEC (Science and Technology Park of University of Porto). Subsequently decided to relocate to another incubator, this time to Cideb. However, the company, at a stage of product development, made the strategic decision to incubate in a more technical incubator and business

incubator, Fábrica Santo Thyrsó, in Porto city outskirts.

The fourth interview took place some days after and was directed to Samuel Gonçalves, the only founder who has academic and professional experience in the area of architecture. The company consists of an architectural studio, officially created in 2015, after being a finalist of the National Creative Industries Award. The size of the company is fluctuating, with between three and five employees (the effect of the Erasmus Plus support program that allows the number of employees to be expanded). The company is not seen as a traditional studio, as it seeks to create processes and constructive systems with the goal of minimizing construction at the level of resources and time. The company is headquartered at UPTEC, at the pole of the creative industries, after having passed through the Startups School of UPTEC, a program that provides training and support base of management and creation of a business.

Finally, we had the opportunity to interview Luís de Matos, the founder of the company Follow Inspiration. This company was born officially in 2012 to develop the WiiGo product, which consists of a shopping cart completely autonomous, designed to carry the purchases of a customer with reduced mobility. This project appeared when Luis de Matos, the founder, was finishing his degree in Computer Engineering and had to develop a final project. The first prototypes were developed at the university where they were incubated for a year. Later they migrated to the incubator Parkubis, but only with the commercial and financial part for reasons of business policy. In spite of invitations from countless incubators, they decided to never strategically engage in an incubator until the emergence of CEIIA, a private incubator that had the resources needed for Follow Inspiration to produce its hardware allied to an internal and external network that matches the needs of the incubated company.

RESEARCH RESULTS

In order to present the research results in a concise way, two figures were prepared. Both figures represent the ratio of nodes that each benefit presents in respect to the totality of the information collected from the interviews. In Figure 1, shown below, are presented the entrepreneurs benefits expectations with the incubating process.

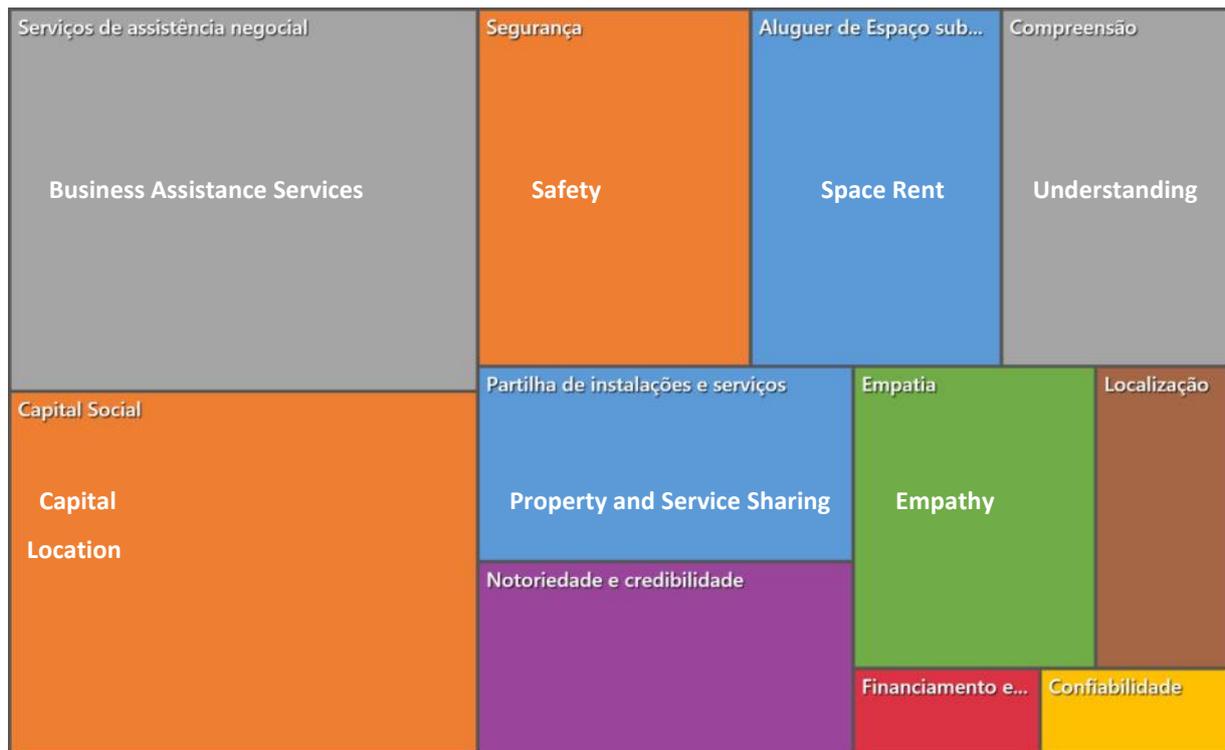


Figure 1. *Expectations: importance by size node of each expected benefit type*

Similarly to Figure 1, in Figure 2, below, is shown the importance and quality of benefits as perceived by the startups with the incubating process, being such importance understood by the node size of each expected benefit type.

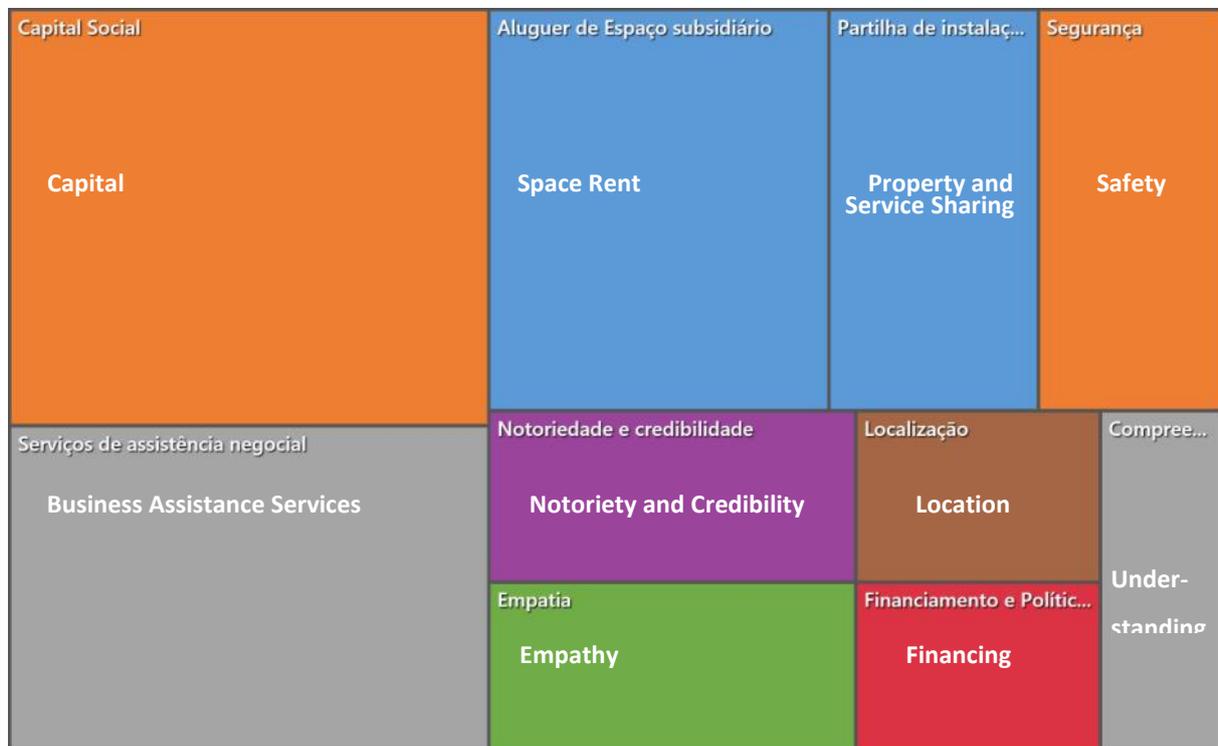


Figure 2. *Perceived Quality: importance by size node of each perceived benefit type*

As we can observe from Figure 1 and Figure 2, SERVQUAL factors were added to the analysis.

However, the tangibility factor does not seem to be a relevant factor for the incubated companies in the Portuguese panorama, since during the five interviews it was not mentioned not even once.

Furthermore, it was not possible to corroborate many findings of existing literature, as they were not, overall, observed in the research presented in this paper. On the one hand, a new benefit has been added in both the research sides of expectation and perception. This benefit is the "location", since it was mentioned in several interviews. Localization is important for service firms (Goldstein, Ward, Leong and Butler, 2002) and is where and why companies practice their activity in a specific area (Goerzen, Asmussen and Nielsen, 2013). On the other hand, during interviews it was possible to verify that most of the benefits were mentioned by all the interviews, but not in the same way; i.e. although a certain benefit is mentioned in different interviews, it might not have, however, the same weight in the decision, or incubation strategy. For example, in one of the interviews, the employee assumes that he "had the expectation of receiving some management support", but that "he may not have looked for the best", because it was not the factor most needed. There is no factor that measures the difference between a benefit mentioned with great appreciation, and the same benefit mentioned, but that is not given so much relevance. Consequently, beyond the expectations and perceptions, was added the "importance" factor as well, given by the incubated company to a certain factor.

DISCUSSION OF RESULTS

Considering the results, as shown in figures 1 and 2, we can conclude that the factors mentioned during the interviews are referred about the same number of times in both expectations and perceptions. However, by analysing the interviews contents as well, it is possible to verify that the expected factors are not exactly the perceived ones. In this discussion about such divergence, we will quote directly the respondents. Nevertheless, as we need to respect the confidentiality of the respondents, we will use the code letters: A, W, X, Y, and Z, as a proxy for each startup that participated in the study.

In the case of Capital benefits, respondents said they opted for the incubator because they expected greater proximity to "partner companies and other technology companies" (X) by networking. Nonetheless, from the various incubated companies, one could record that "only two or three other incubates can boost my business" (e.g. Y), whereas "networking exists, but there is potential for much more" (e.g. Z).

Concerning Business Assistance Services, which is very much negotiation assistance, the incubated "sought mentoring, someone to help with the next steps and with the notion of business"; someone

who help to “position yourself in business”; and “predicting the difficulties”. However, their perception about the incubating services were that “no”, “you have no one to do that”, because “those who are helping to create businesses are people who have never created businesses” (Z). The incubators indicate that there are “events and trainings” running, but is missing “a personal advisor or management support that was more capable and more experienced” (X).

Complaints from startups come in several forms. For example, for most respondents, incubators “choose to do what is easier: being merely a business condominium” (Y). For W, “an incubator has to stop being an simply an incubator, can not only rent space, has to accelerate its incubations”.

Nonetheless, there was satisfaction expressed as well. A, assumes that all expectations have been confirmed, i.e. the business has decided going for the incubator to acquire “communication support”, linking to the university, facilitating contacts and negotiating assistance. Consequently, such satisfaction is expressed clearly: “the perception I had before entering turned out never to be defrauded”. This behaviour can be observed in most factors (exception to reliability, not mentioned in the perceptions).

In resume, it is possible to observe that the factors most expected by the incubated actually exist, but not in the expected way, suggesting that there is a lack of confirmation of expectations. However, infrastructure factors such as “Rental”, “Sharing”, “Security” and “Location” are closer in terms of expectations versus perceptions. For the other factors, many respondents assume their existence, but not at the expected level. Respondents assume that the service adopted by incubators is “standard” (X; Y; Z). This concept may justify the greater disparity between expectations and perceptions regarding benefits that do not involve infrastructure and require greater specialization such as “Business Assistance Services, Understanding and Capital”.

CONCLUSIONS

While trying to understand and evaluate the startups’ expectations regarding what the incubator truthfully offers for their development, significant divergences were found, suggesting a relevant level of mismatching between startups and incubators. This research outcome is somewhat surprising as one could expect a better interaction and alignment within the incubating-incubated relationship.

The results suggest indeed a high level of “non-confirmation” of expectations from startups. Capital and Business Assistance Services are good examples as such divergences, as startups are not getting the type of benefits they were expecting to. However, infrastructure factors such as “Rental”, “Sharing”, “Security”, and “Location”, are closer in terms of expectations versus perceptions

evaluation.

Another symptom of dissatisfaction from startups, revealing incapacity from the incubators side to fulfil the needs and aspirations of their incubated businesses, is the fact they are constantly changing and moving from incubator to incubator. One could perceive that as natural, as many incubators have deadlines for the incubating process, or because different incubators may offer different features and benefits. Nevertheless, the level of expectations gap captured in this research suggests that, indeed, incubators may not be performing as expected, forcing startups to move and to search for other options.

Despite this negative finding, it is important to bear in mind that, as any research, this presents limitations as well. The main one may be considered the low size of the sample used to draw conclusions. Accordingly, as further research we suggest to expand the sample and the nature of the research itself. That did not allow entirely fulfilling the research goals and providing comprehensive answers to every research hypothesis outlined here. Regardless this fact, while testing the hypothesis whether there is a gap between expectations and perceptions of startups in the face of an incubation process, enough evidence has been collected to support the existence of such gap. Furthermore, it becomes clear that the divergence not only exists, but is supported by qualified opinions as well.

Therefore, as main contribution, we believe that this research may serve for incubators to understand what are the key factors effectively valued by startups. This may help incubators to find a better focus in order to actually be more successful while helping startups to be successful as well. Finally, we recall that, unlike most previous research, which was carried looking by the lens of the incubators, in our study the subject of examination was the entrepreneurs and startups' views, and therefore our exploratory findings may be considered as a significant developing research breakthrough.

REFERENCES

- Abduh, M., D'Souza, C., Quazi, A. and Burley, H. T. (2007), "Investigating and classifying clients' satisfaction with business incubator services", *Managing Service Quality: An International Journal*, Vol. 17, N°1, pp. 74-91.
- Aernoudt, R. (2004), "Incubators: Tool for Entrepreneurship?" *Small Business Economics*, Vol. 23, N°2, pp. 127-135.
- Aerts, K., Matthyssens, P. and Vandenbempt, K. (2007), "Critical role and screening practices of European business incubators", *Technovation*, Vol. 27, N°5, pp. 254-267.
- Albort-Morant, G. and Oghazi, P. (2016), "How useful are incubators for new entrepreneurs, *Journal of business research*", Vol. 69, N°6, pp. 2125-2129.
- Aldrich, H. E. and Fiol, C. M. (1994), "Fools Rush in? The Institutional Context of Industry Creation", *The Academy of Management Review*, Vol. 19, N°4, pp. 645-670.
- Al-Mubarak, H. M. and Busler, M. (2010), "Business incubators models of USA and UK: A swot analysis", *World Journal of Entrepreneurship*, Vol. 6, N°4, pp. 335-354.
- Bergek, A. and Norrman, C. (2008), "Incubator best practice: A framework. *Technovation*", Vol. 28, N°1, pp. 20-28.
- Bollingtoft, A. and Ulhoi, J. P. (2005), "The networked business incubator - leveraging entrepreneurial agency?", *Journal of Business Venturing*, Vol. 20, N°2, pp. 265-290.
- Bruneel, J., Ratinho, T., Clarysse, B. and Groen, A. (2012), "The Evolution of Business Incubators: Comparing

- demand and supply of business incubation services across different incubator generations", *Technovation*, Vol. 32, N°2, pp. 110-121.
- Burns, P. (2001), *Entrepreneurship and small business*. Nova Iorque: Palgrave.
- Buys, A. J. and Mbewana, P. N. (2007), "Key success factors for business incubation in South Africa: the Godisa case study", *South African Journal of Science*, Vol. 103, N°9, pp. 356-358.
- Chinsomboon, O. (2000), *Incubators in the new economy*. Massachusetts. Massachusetts Institute of Technology.
- Cornelius, B. and Bhabra-Remedios, R. (2003), *Cracks in the egg: improving performance measures in business incubator research*, 16th Annual Conference of Small Enterprise Association of Australia and New Zealand (pp. 1-19), Ballarat, 28 September-1 October.
- Cronin, J. and Taylor, S. A. (1992), "Measuring Service Quality: A Reexamination and Extension", *Journal of Marketing*, Vol. 56, N°3, pp. 55-68.
- D&B, I. (2017a), 10 alterações no tecido empresarial português na última década. *Human Resources*: <http://hrportugal.pt/2017/01/10/10-alteracoes-no-tecido-empresarial-portugues-na-ultima-decada/>. Retrieved 15 de June 2017.
- D&B, I. (2017b), *Barómetro: Dinâmica do tecido empresarial*. Lisboa: Informa.
- Dee, J. N., Livesey, F., Gill, D. and Minshall, T. (2011), *Incubation for Growth. A review of the impact of business incubation on new ventures with high growth potencial*, Londres: NESTA.
- Ennew, C. T., Reed, G. V. and Binks, M. R. (1993), *Importance- Performance Analysis and the Measurement of Service Quality*, *European Journal of Marketing*, Vol. 27, N°2, pp. 59-70.
- Gill, P., Stewart, K., Treasure E. and Chadwick, B. (2008), "Methods of data collection in qualitative research: interviews and focus groups", *British Dental Journal*, Vol. 204, pp. 291 - 295.
- Goerzen, A., Asmussen, C. G. and Nielsen, B. B. (2013), "Global cities and multinational enterprise location strategy", *Journal of International Business Studies*, Vol. 44, N°5, pp. 427-450.
- Goldstein, S. M., Ward, P. T., Leong, G. K. and Butler, T. W. (2002), "The effect of location, strategy, and operations technology on hospital performance", *Journal of Operations Management*, Vol. 20, N°1, pp. 63-75.
- Grimaldi, R. and Grandi, A. (2005), *Business incubators and new venture creation: an assessment of incubating models*. *Technovation*, Vol. 25, N°2, pp. 111-121.
- Gronroos, C. (1988), "Service quality: The six criteria of good perceived service", *Review of Business*, Vol. 9, N°3, pp. 10-13.
- Hackett, S. M. and Dilts, D. M. (2004), "A systematic review of business incubation research". *Journal of Technology Transfer*, Vol. 29, N°1, pp. 55-82.
- Kajornboon, A. B. (2005), "Using interviews as research instruments", *E-journal for Research Teachers*, Vol. 2, N°1.
- Longhurst, R. (2016), "Semi-structured interviews and focus groups". In N. Clifford, M. Cope, T. Gillespie and S. French, *Key Methods in Geography*, Londres: SAGE. pp. 143-156.
- M'Chirgui, Z. (2012), "Assessing the performance of business incubators: recent France evidence", *Business and Management Research*, Vol. 1, N°1, pp., 62-76.
- Mas-Verdú, F., Soriano, D. R. and Tierno, N. R. (2015), "Firm survival: The role of incubators and business characteristics" *Journal of Business Research*, Vol. 68, N°4, pp. 793-796.
- McAdam, M. and McAdam, R. (2008), "High tech start-ups in University Science Park incubators: The relationship between the start-up's lifecycle progression and use of the incubator's resources" *Technovation*, Vol. 28, N°5, pp. 277-290.
- Mian, S. A. (1996), "Assessing value-added contributions of university technology business incubators to tenant firms", *Research Policy*, Vol. 25, N°3, pp. 325-335.
- Parasuraman, A., Zeithaml, V. A. and Berry, L. L. (1985), "A Conceptual Model of Service Quality and Its Implications for Future Research", *Journal of Marketing*, Vol. 49, N°4, pp. 41-50.
- Ries E. (2011), *The lean startup: How today's entrepreneurs use continuous innovation to create radically successful businesses*, Nova Iorque: Crown Business.
- Schwartz, M. (2010). A control group study of incubators impact to promote firm survival. *The Journal of Technology Transfer*, Vol. 38, N°3, pp. 302-331.
- Scillitoe, J. L. and Chakrabarti, A. K. (2010), *The role of incubator interactions in assisting ew ventures*. *Technovation*, Vol. 30, N°3, pp. 155-167.
- Theodorakopoulou, N., Kakabadse, N. K. and McGowan, C. (2014), "What matters in business incubation? A literature review and a suggestion for situated theorising", *Journal of Small Business and Enterprise Development*, Vol. 21, N°4, pp. 602-622.
- Tötterman, H. and Sten, J. (2005), "Start-ups. Business incubation and social capital", *International Small Business Journal*, Vol. 23, N°5, pp. 487-511.
- Vanderstraeten, J. and Matthyssens, P. (2012), "Service-based differentiation strategies for business incubators:

Exploring external and internal alignment", *Technovation*, Vol. 32, N°12, pp. 656-670.

Zhang, Y. and Wildemuth, B. M. (2016), "Unstructured Interviews. In B. M. Wildemuth", *Applications of Social Research Methods to Questions in Information and Library Services*, California: Libraries Unlimited. pp. 239-247

Zhao, L. and Aram, J. D. (1995), Networking and growth of young technology-intensive ventures in China. *Journal of Business Venturing*, Vol. 10, N°5, pp. 349-370.

FINANCIAL STRUCTURE INSTABILITY AS FAILURE SYMPTOM IN THE AVIATION INDUSTRY - THE JET AIRWAYS BANKRUPTCY CASE

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ABSTRACT

The global aviation industry has been changing very rapidly in latest years, most of all because of evolving technology and consequent commercial models. These changes have impacted also the Indian sector, forcing Indian airlines companies to face new and unpredictable challenges, not always successfully. The bankruptcy of Jet Airways is a relevant example in this respect. In the following study, the financial structure of the corporation has been an object of a particular investigation, aiming at understanding if financial turbulence for an airlines company could constitute an antecedent for predicting risk of bankruptcy. A combined evaluation using Altman's Z score, Piotroski's F score, and Beneish's M score has allowed to highlight that these equations can reveal financial instability as bankruptcy predictor, and potential earnings manipulation as financial malpractice in the governance and management.

Keywords: Aviation sector, airlines, bankruptcy prediction, financial structure instability, India.

INTRODUCTION

Companies operating in the aviation sector serve almost every part and every corner of the world, and hence they play an important role in the creation of the world economy. Considering the global turnover generated by airlines, the aviation sector in general constitutes a major financial force, with reference not only to the related supply chain (aircraft manufacturing and maintenance, fuel, and so forth), but also to the related sectors (for example and most of all, tourism).

The international aviation industry has seen a considerable growth in last five years (from 2014 to 2018) and is anticipated to reach around USD 832.8 billion in 2020 with 3.7% of CAGR (Compounded Average Growth Rate) over the few years till 2020 (Lucintel, 2012). A strong contribution for this development comes also and most of all from promising economies around the sphere, with continuously increasing demand for consumption, desire for carriers, deregulation for transportations,

and so forth, all factors which are driving the aviation industry escalation for example in markets like Middle East and Asia.

From the inception of the first airplane, the sector has dealt with many discoveries and innovations, from jet airplanes for commercial use in the 50s to the “jumbo jets” in the 70s. At the same time, airlines companies were heavily regulated throughout the globe, making an atmosphere in which technological advances and government policies took preference over profitability and competition.

After the economic deregulation of the aviation sector in the USA in 1978, competitive behaviour, operating a customer satisfaction / cost efficiency balance, with strong focus on profitability, become a priority issue for airlines management. After US showing the way, aviation deregulation and consequent ‘liberalization’ involved much of the industrialized world, affecting both domestic and international air travel, allowing continuing development of a very competitive international sector.

With specific focus on India, civil aviation has emerged as one of the fastest growing sectors during the latest years. Currently, India is thought to be the 3rd largest domestic aviation market in the world and experts predict that in coming future India can surpass the UK and become the 3rd largest air passenger market by 2025 (IBEF, 2019).

Indian aviation industry is on the increase at very fast pace: enormous geographical spread, industrial growth, and also enhanced connectivity, which nowadays is crucial for the success of airline companies, are all factors that make the airline industry ever more meaningful. Because of this continuous demand, the Indian government is thinking about increasing the total count of airports to 250 till the year 2030, spending around USD 12.1 billion on infrastructures to support this evolution, with a private contribution, out of all the above-mentioned investment, of around USD 9.3 billion. Technology, expertise, and funds of private players are interesting fascinations for enhancing the aviation sector growth opportunity, and thus the Indian government has decided to attract private capital through an intensive use of Private-Public Partnership (PPP) models and also foreign capital increasing potential FDIs (Foreign Direct Investments) up to 49%. Therefore, the aviation industry, which in the past was largely if not totally controlled by the government agencies, will work with the private sector, only in airlines companies, and this possibility will benefit passengers and customers in general by increasing competition (Sathpaty et al., 2017).

In a so evolving context, Indian airlines are experimenting new business models and solutions. From the innovating structure of the domestic market and from the intriguing dynamics of the global market, can derive as usual advantages and disadvantages, for whose handling soft skills like strategic flexibility, resiliency, and serendipity are critical. Some airlines have found acceptable, successful, or excellent ways to react and succeed, and others have not; the latter is the case of Jet Airways.

Thus, main aim of the research in question is to understand if financial instability can constitute a relevant symptom for prediction failure (also) in the Indian aviation industry, considering the peculiar nature of the sector and the particular characteristics of an emerging economy. In this respect, the case of Jet Airways, for the specific reasons that will be analyzed, constitutes a very useful object of investigation, trying to determine also if potential misconduct in governance and management of the company could have influenced the business failure.

The paper structure is as follows: after a literature review on bankruptcy prediction models, with specific evidence on those ones that has been used so far for the aviation industry, research objectives and methodology are object of presentation, with following determination and application of three financial models for bankruptcy prediction to the case study under investigation. Consequent results discussion, with indication of research limits and implications, will highlight the main contribution of the paper.

FOCUSED AND ESSENTIAL LITERATURE REVIEW

Bankruptcy prediction modelling is a considerable and widely studied issue in the business community, and these applications are going to have an ever more significant impact on financial institutions' profitability, from lending decisions to finance restructuring. To the best of our knowledge, the most important studies about predicting bankruptcy have been object of development by scholars like Altman, Piotroski, and Beneish, and among these scientific results quite probably the most known indicator at global level (Amendola et al., 2011; Kosmidis and Terzidis, 2011; Fusco and Migliaccio, 2018) is Altman's "Z score" (Altman, 1968).

$Z = .012X_1 + .014X_2 + 0.033X_3 + 0.006X_4 + 0.999X_5$, where

X_1 = Working Capital / Total Assets

X_2 = Retained Earnings / Total Assets

X_3 = Earnings Before Interest and Taxes / Total Assets

X_4 = Market Value Equity / Book Value of the Total Debt

X_5 = Sales / Total Assets

Altman evolved the calculation equation during the years, arriving to the following formula, which nowadays is the most common in use to calculate the Z score (Altman, 2000):

$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$

The exact cut off of this discriminant analysis is equal to 2.675, even though this should represent a 'grey' area. More reliably, a value over 2.99 implies high probability of high financial stability, while a value under 1.81 implies high probability of high financial instability.

With particular reference to the sectorial perimeter of study of the current research, Altman developed further evolution for his model(s), extending its application also to preventing financial distress (Fulmer, 1986; Altman, 2013), non-manufacturing firms (Altman, 2000; Kolte et al., 2018), and emerging markets (Altman, 2005).

For non-manufacturing companies, Altman's model was further revised as follows (Altman, 2000):

$$Z = 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

For emerging markets, Altman's model was further revised as follows (Altman, 2000):

$$Z = 3.25 + 6.56X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

In revised models created for non-manufacturing companies and emerging markets, calculation of X_4 was operated using book value of equity in place of market value of equity. In new models, a value over 2.6 implies high probability of high financial stability, while a value under 1.11 implies high probability of high financial instability.

Furthermore, it is to remember, with particular reference to the geographical perimeter of study of the current research, that Altman's Z score has been used also for investigations about the Indian Banking System, pointing out the high level of NPAs (Non-Performing Assets) in Indian nationalized banks – around USD 120 billion collectively in 2016 – and a quite evident connection of this financial malpractice to management factors like moral hazard, outright corruption, and political nepotism. That is why the following analysis about Jet Airways will consider not only Altman's Z score, but also Piotroski's "F score" (for confirmation about bankruptcy prediction), and even Beneish's "M score" (for evidence about potential misconduct).

Piotroski's F score evaluates the overall strength of the financial position of the company. Piotroski assigned 0 and 1 on the basis of specific conditions and criteria, with this score ranging from 0 to 9, on a clearly imaginable positive meaning (Piotroski, 2000).

$F = X_1 + X_2 + X_3 + X_4 + X_5 + X_6 + X_7 + X_8 + X_9$, where

$X_1 = \text{ROA}$	= EBI (net income before extraordinary items) / TA (total assets)	1
$X_2 = \Delta\text{ROA}$	= difference as concerns ROA from year to year	1
$X_3 = \text{CFO}$	= CFFO (cash flow from operations) / TA	1
$X_4 = \text{ACCRUAL}$	= (EBI – CFFO) / TA	1
$X_5 = \Delta\text{MARGIN}$	= difference as concerns (gross margin / TA) from year to year	1
$X_6 = \Delta\text{TURN}$	= difference as concerns (total sales / TA) from year to year	1
$X_7 = \Delta\text{LEVER}$	= difference as concerns (total long term debt / average TA) from year to year	1
$X_8 = \Delta\text{LIQUID}$	= difference as concerns (current assets / current liabilities) from year to year	1
$X_9 = \text{EQ_OFFER}$	= common equity issue (1 if not, 0 if yes) ``	1

If Piotroski's F score is around 8-9, then the company's financial structure is strong; if it is around 0-2, then the company's financial structure is weak. Obviously, the higher the score is, the greater the strength of the financial structure of the company is, and vice versa.

Finally, Beneish's M score is about possible earnings manipulation (Beneish, 1999). For the calculation of this indicator, assessors must use a combination of 8 indexes to obtain a global score for detecting if the earnings of the company have been object of manipulation or not (Rao, 2013).

$$M = -4.84 + 0.92X_1 + 0.528X_2 + 0.404X_3 + 0.892X_4 + 0.115X_5 - 0.172X_6 + 4.679X_7 - 0.327 X_8,$$

where

X_1	= DSRI	= Days Sales in Receivables Index
X_2	= GMI	= Gross Margin Index
X_3	= AQI	= Asset Quality Index
X_4	= SGI	= Sales Growth Index
X_5	= DEPI	= Depreciation Index
X_6	= SGAI	= Sales General and Administrative (expenses) Index
X_7	= TATA	= Total Accruals to Total Assets
X_8	= LVGI	= Leverage Index

A score that would be higher than -2.22 (that is, less negative) show high probability of manipulation. In truth, Beneish developed also a 5 indexes combination, with different weights, as in the following formula:

$$M = -6.065 + 0.823DSRI + 0.906GMI + 0.593AQI + 0.717SGI + 0.107DEPI$$

Standard applications of the above-described scores (Altman's Z and Piotroski's F in particular, while Beneish's M can be considered a 'potential' indicator, expressing suspect of misconduct) use them as unique indicators for bankruptcy prediction. In the following investigation, as above-mentioned, they will be used altogether, for reciprocal interaction / confirmation.

When considering the aviation industry in particular, Altman's Z score has been object of consideration in several studies about bankruptcy prediction (Wang et al., 2013; Vasigh et al., 2014; Lu et al., 2015; Stepanyan, 2014; Majid et al., 2016), even after the calculation of a specific industry model, named "Air Score" (Chow et al., 1991). Adoption of Altman's Z score has been frequent also with particular reference to the Indian aviation industry (Pandey and Rathore, 2013; Kolte et al., 2017; Safiuddin, 2017; Kulkarni, 2018; Mahtani and Garg, 2018).

To the best of our knowledge, instead, while only one study considers altogether Altman's Z score and Piotroski's F score about bankruptcy prediction for the aviation industry (Kolte et al., 2018), no previous study considers altogether Altman's score, Piotroski's score, and Beneish's score in a

combined analysis. In this original combination, the contribution of the current investigation should find main evidence.

RESEARCH QUESTIONS AND METHODOLOGY

With general focus on the aviation sector, and with particular focus on the India aviation sector, forced to face several innovative management issues in the latest years, the specific scope of investigation of the current research concerns the possibility of evaluating the financial instability of an airlines company for detecting / predicting possible bankruptcy, subsequently considering also potential misconduct of the company governance and management. A case study – Jet Airways – has been object of investigation in order to give answer to the following research questions:

- 1) Was the financial structure of the company good or bad in the close years before bankruptcy?
- 2) Was it possible to predict the bankruptcy of Jet Airways?
- 3) Was there any earnings manipulation in the financial communication?

All the financial data about Jet Airways that have been object of analysis in the current study have been retrieved from annual reports, balance sheets, profit and loss accounts, and cash flow statements of the company. In addition, specific online sources regarding business community information have been investigated, most of all for retrieving some ratios of the company (for example, Moneycontrol.com, Valueresearch.com, and others), and obviously the corporate website. Calculation results have relied mainly on consolidated financial statements, and appropriate assumptions and interpretations were used wherever required.

In particular, Altman's Z score has been calculated to find evidence about bankruptcy probability, the Piotroski's F score to find evidence about financial structure strength, and the Beneish's M score to find evidence about likelihood of earning manipulation. A global and final evaluation of all the above-mentioned indicators has allowed a general assessment of the overall financial condition of Jet Airways before its official bankruptcy.

THE CASE STUDY INVESTIGATION

Jet Airways Ltd. was founded by Naresh Goyal, who, after almost three and a half decades of domination by Air Indian Airlines and Air India in the domestic market, when the Indian government reopened the Indian domestic aviation market to private carriers in April of 1989, was ready to found Jet Airways in 1992. During its 'normal' lifetime, the company has been very successful, becoming the most important domestic operator in India, with an average fleet age of 4.45 years and many routes inside and outside India, arriving at almost the half of the domestic market with a 43% coverage; nonetheless, in the recent past Jet Airways carried 1.28 million passengers per year, out of 4.08 million

passengers carried by the whole airlines industry in India (Mehra, 2011). The company enjoyed a high reputation for punctuality and outstanding service, consequently attracting tourism and business travellers.

Unfortunately, Jet Airways stopped in 2018 its international flights, remaining active only with the domestic ones: in 2019, after the resignation by the founder Naresh Goyal, also the domestic flights were stopped. Reasons for this crisis has been illiquidity consequent to high losses, with the impossibility of the company to pay suppliers and service providers as concerns airplanes leasing payments, fuel, and wages for employees: on the 20th of June, 2019, «... the National Company Law Tribunal has ordered the commencement of a corporate resolution, insolvency resolution process of the Jet Airways (India) Limited» (www.jetairways.com).

In order to understand if this crisis could have been predicted and, if possible, differently managed, Altman's Z score, Piotorski's F score, and Beneish's M score have been object of calculation. Following subparagraphs will focus on each of them, while the following results discussion will present some specific and global considerations.

Altman's Z score calculation on Jet Airways

Financial Ratios	Mar-18	Mar-17	Mar-16	Mar-15	Mar-14	Mar-13
Working Capital / Total Assets	-0.56	-0.52	-0.51	-0.57	-0.57	-0.45
Retained Earnings / Total Assets	-0.56	-0.54	-0.32	-0.38	-0.25	-0.10
EBIT / Total Assets	0.01	0.19	0.12	-0.07	-0.18	0.02
Market Cap. / Total Liabilities	0.53	0.46	0.36	0.32	0.16	0.24
Book Value of Equity / Total Liabilities	-0.55	-0.50	-0.30	-0.37	-0.24	-0.10
Sales / Total Assets	1.94	1.96	1.36	1.30	1.17	1.09
Z Score (revised formula)	0.84	1.47	0.93	0.06	-0.35	0.63
Z Score (Non-Manufacturing Industries)	-5.99	-4.46	-3.89	-5.79	-6.00	-3.21
Z Score (Emerging Markets)	-2.74	-1.21	-0.64	-2.54	-2.75	0.04

Table 1 – Authors' elaboration on data from Money Control, 2019; and Value Research, 2019.

After looking at the results of Altman's Z score (revised formula based on Altman's Z score model of 1968) calculation, it is quite evident that this application could have predicted bankruptcy of Jet Airways. The Z score remains much below 1.81, which is evidence that the company may face financial crisis or may go bankrupt in the future, since through the years it is constantly lower than 1.81, thus implying high probability of high financial instability.

In the current research, Z score for Non-Manufacturing Industries and Z score for Emerging Markets have been calculated in particular considering Jet Airways (as non-manufacturing company) and India (as emerging market). If the score is lower than 1.1 (and it is constantly negative through the years), there is high probability of high financial instability, with the company that is most likely to go bankrupt anytime in the future.

Piotroski's F score calculation on Jet Airways

Indicator	2018	2017	2016	2015	2014
F Score	5	7	9	7	5

Table 2 – Authors' elaboration on data from Money Control, 2019; Rediff Moneywiz, 2019; and Value Research, 2019.

From the above calculation it is quite evident that during the observed years Jet Airways has never been in a 'safe' zone, i.e. equal or higher than 8, except in 2016. It is also evident that in some years (2015, 2017) the financial situation of the company was not completely distressed, but at the same time, according to Piotroski' M score, it was not considerable as a good investment (Timmermans, 2018).

Beneish's M score calculation on Jet Airways

Variable	2018	2017	2016	2015
DSRI	0.888	0.806	1.094	1.005
GMI	0.940	0.966	1.187	1.143
AQI	0.930	1.605	1.014	1.173
SGI	0.926	0.982	0.925	0.884
DEPI	0.001	0.001	0.001	0.001
SGAI	0.968	1.004	1.029	1.073
TATA	-0.197	0.041	-0.071	-0.124
LVGI	0.957	0.740	1.046	0.953
TAA-CA-PPE (from Table 1)	1,815.000	1,708.590	4,155.100	4,145.670
M8	-4.186	-2.776	-3.357	-3.562
M5	-3.236	-2.855	-2.751	-2.737

Table 3 – Authors' elaboration on data from Moneycontrol, 2019 (2014 data not available).

Beneish's M score provides global idea about the potential earning manipulation that might have happened in the company, after combining the eight or five values in the formula. If considering the 8 variables formula, a score higher than -2.22 (that is, less negative) shows high probability of manipulation: from the above table it is quite evident, through the observed years, that all the M scores have been lower than -2.22, thus implying that according to the M score the financial data of Jet Airways were not object of manipulation.

RESULTS DISCUSSION

Put it shortly, answers to the three research questions are the following:

Id.	Research Question	Answer
1	Was the financial structure of the company good or bad in the close years before bankruptcy?	Bad
2	Was it possible to predict the bankruptcy of Jet Airways?	Yes
3	Was there any earnings manipulation in the financial communication?	No

Table 4 – Answers to the research questions (RQ).

More analytically, Jet Airways started in 1992 and showed great potential through its business life, but constantly facing troubles, most of all with regard to the financial structure (and liquidity above all), even though its results from a commercial point of view were successful. Thus, the major reason for the crisis of the company, which in April 2019 blocked completely domestic and international flights, must be found not in the commercial model, but in the finance model, or better still in the capacity of Jet Airways of transforming revenues into cash.

In truth, if adopting Altman's Z score or Piotroski's F score, information for predicting a potential bankruptcy was completely available: in fact, none of the values of these two scores during the 2014-2018 period was sufficient to guarantee financial stability to the company. On the opposite, these values were all predicting clearly potential bankruptcy.

However, considering that Beneish's M score has showed constantly, during the observed years, that the financial data of the company have not been object of manipulation, it is possible to argue that the failure of Jet Airways was not due to fraudulent intentions of the entrepreneur and / or managers, but to their above-mentioned incapacity of handling efficiently the finance model of the company. This consideration seems to confirm first, how budgetary control is vital for successful performances (Dowd et al., 2010), and second, that business failure is the result of a non-performing process, and not only the potential consequence of negative situations (Jimeno-García et al., 2017).

As fundamental contribution emerging from this investigation, the combined use of the indicators that have been considered (Altman's score, Piotroski's score, and Beneish's score) seems more complete and enlightening than single indicators adoption. First, because Altman's score and Piotroski's score can be used for reciprocal confirmation, considering that anyway they are financial calculations and not measures of 'live' business (as happens also in previous studies); second, because Beneish's score can provide evidence about potential misconduct or not, thus giving chance to better understanding if bankruptcy prediction derives from distortion in the business management or in the earnings

manipulation (as happens, to the best of our knowledge, and limiting this consideration to the Indian aviation industry, only in this specific research).

RESEARCH LIMITS, IMPLICATIONS, AND CONCLUSION

The most evident limitation of the research concerns the use of secondary data for understanding the possible reasons of failure of the company under investigation, while naturally business environment, competition, and 'struggle' are much more complex than a document containing financial information. Thus, empirical investigation through interviews of qualified stakeholders would constitute a further step for the progress of the research.

From a scientific point of view, the study has confirmed validity and reliability of Altman's Z score and Piotroski's F score, since both were clearly indicating potential bankruptcy for Jet Airways in the period under observation, while Beneish's M score revealed the absence of manipulation. From a managerial point of view, it seems evident that the failure of Jet Airways was not due to a malfunctioning of the commercial model, but most probably to the incapacity of managers about making the finance model work.

At the last, financial structure instability is an evident failure symptom, also in the aviation industry, as emerged from the Jet Airways bankruptcy case. Application of most used scores for bankruptcy prediction is then absolutely required, at least for alerting the managers responsible in charge for taking into careful and continuous consideration both parts of the business model, i.e. the commercial one and the financial one.

REFERENCES

- Altman, E. (1968), "Financial ratios discriminant analysis and the prediction of corporate bankruptcy", *The Journal of Finance*, Vol. 23 No. 4, pp. 589-609.
- Altman, E. (2000), "Predicting financial distress of companies: revisiting the Z-score and ZETA models", New York University Stern School of Business Working Paper, pp. 1-54. Retrieved from <http://pages.stern.nyu.edu/~ealtman/Zscores.pdf> (accessed on the 31st of May, 2019).
- Altman, E. (2005), "Emerging market credit scoring system for corporate bonds", *Emerging Markets Review*, Vol. 6 No. 4, pp. 311-323.
- Altman, E. (2013), "Predicting financial distress of companies: revisiting the Z-Score and ZETA® models", pp. 428-456, in Bell, A.R., Brooks, C. and Prokopczuk, M., *Handbook of Research Methods and Applications in Empirical Finance*, Elgar, Cheltenham, UK.
- Amendola, A., Bisogno, M., Restaino, M. and Sensini, L. (2011), "Forecasting corporate bankruptcy: empirical evidence on Italian data", *EuroMed Journal of Business*, Vol. 6 No. 3, pp. 294-312.
- Beneish, M.D. (1999), "The detection of earning manipulation", *Financial Analysis Journal*, Vol. 6 No. 4, pp. 24-36.
- Chow, G., Gritta, R.D. and Leung, E. (1991), "A multiple discriminant analysis approach to gauging air carrier bankruptcy propensities: The AIRSCORE Model", *Journal of the Transportation Research Forum*, Vol. 31 No. 2, pp. 371-377.
- Dowd, J., McGonigle, W. and Djatej, A. (2010), "The optimal level of budgetary goal difficulty: an experimental study", *International Journal of Managerial and Financial Accounting*, Vol. 10 No. 2, pp. 153-160.

- Fulmer, J. (1986), "A bankruptcy classification model for small firms", *Journal of Commercial Bank Lending*, Vol. 8 No. 6, pp. 25-37.
- Fusco, F. and Migliaccio, G. (2018), "Crisis, sectoral and geographical factors: financial dynamics of Italian cooperatives", *EuroMed Journal of Business*, Vol. 13 No. 2, pp. 130-148.
- IBEF (2019), "Indian Aviation Industry". Retrieved from <https://www.ibef.org/industry/indian-aviation.aspx> (accessed on the 31st of May, 2019).
- Jimeno-García, I., Rodríguez-Merayo, M.A. and Vidal-Blasco, M.A., (2017), "The failure processes and their relation to the business interruption moment", *International Journal of Managerial and Financial Accounting*, Vol. 9 No. 1, pp. 68–83.
- Kolte, A., Capasso, A. and Rossi, M. (2017), "Predicting Financial Distress of firms. A Study on bankruptcy of Kingfisher Airlines", *Proceedings of the 10th EuroMed Conference on "Global and national business theories and practice: bridging the past with the future"*, Rome, Italy, 13-15 September, pp. 770-784.
- Kolte, A., Capasso, A. and Rossi, M. (2018), "Critical analysis of failure of Kingfisher Airlines", *International Journal of Managerial and Financial Accounting*, Vol. 10 No. 4, pp. 391-407.
- Kosmidis, K. and Terzidis, K. (2011), "Manipulating an IRB model: considerations about the Basel II framework", *EuroMed Journal of Business*, Vol. 6 No. 2, pp. 174-191.
- Kulkarni, S. (2018), "Analysis of Z Score For BSE Listed Airline Companies In India", *Paridnya – The MIBM Research Journal*, Vol. 6 No. 1, pp. 24-29.
- Lu, C., Yang, A.S. and Huang, J.F. (2015), "Bankruptcy predictions for U.S. air carrier operations: a study of financial data", *Journal of Economics and Finance*, Vol. 39 No. 3, pp. 574-589.
- Lucintel (2012), "Growth Opportunities in the Global Airline Market". Retrieved from <https://www.lucintel.com/airline-market-2020.aspx> (accessed on the 31st of May, 2019).
- Mahtani, U.S. and Garg, C.P. (2018), "An analysis of key factors of financial distress in airline companies in India using fuzzy AHP framework", *Transportation Research Part A: Policy and Practice*, Vol. 117 No. (2018), pp. 87-102.
- Majid, S., Sucherly and Kaltum, U. (2016), "Analysis on the Factors Causing Airlines Bankruptcy: Cases in Indonesia", *International Journal of Management Sciences and Business Research*, Vol. 5 No. 2, pp. 25-40.
- Mehra, P. (2011), *Communicating in a Crisis and the Role of a Business Leader: The Case of Jet Airways*, *Journal of Case Research*, Vol. 2 No. 2, 133-145.
- Pandey, S.L.D. and Rathore, G.S. (2013), "An Analysis of Bankruptcy in Indian Aviation Infrastructure Firms", *The Indian Journal of Commerce*, Vol. 66 No. 3, pp. 238-252.
- Piotroski, J.D. (2000), "Value investing: the use of historical financial statement information to separate winners from losers", *Journal of Accounting Research*, Vol. 38 No. (Supplement: Studies on Accounting Information and the Economics of the Firm), pp. 1-41.
- Rao, N.V. (2013), "Analysis of bankruptcy prediction models and their effectiveness", *Great Lakes Herald*, Vol. 7 No. 2, pp. 1-17.
- Safiuddin, S.K. (2017), "Prediction of Insolvency-A Study of Select Companies in Indian Aviation Industry", *International Research Journal of Management Science & Technology*, Vol. 8 No. 10, pp. 304-309.
- Sathpaty, I., Patnaik, B. and Kumar, S. (2017), "Indian aviation industry - An overview", *International Journal of Academic Research and Development*, Vol. 2 No. 6, pp. 802-805.
- Stepanyan, A. (2014), "Altman's Z-Score in the Airline Business. Case Study of Major U.S. Carriers. Are they Potential Bankruptcy Candidates?", *International Journal of Advances in Management and Economics*, Vol. 3 No. 1, pp. 16-24.
- Timmermans, M. (2018), "Bankruptcy predicting models", *School of Economics and Management*, Vol. 5 No. 2, pp. 36-49.
- Vasigh, B., Fleming, K. and Humphreys, B. (2014), *Foundations of Airline Finance: Methodology and Practice*, Routledge, London, UK.
- Wang, Z., Hofer, C. and Dresner, M.E. (2013), "Financial condition, safety investment and accident propensity in the US airline industry: A structural analysis", *Transportation Research Part E: Logistics and Transportation Review*, Vol. 49 No. 1, pp. 24-32.

jetairways.com
 money.rediff.com
 moneycontrol.com
 valueresearchonline.com

AN AHP MODEL TO EVALUATE THE INFLUENCE OF CALENDAR EFFECTS ON INVESTMENT CHOICE

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ABSTRACT

The aim of this paper is to apply the analytic hierarchy process (AHP) to an investment choice problem regarding two financial markets: France and Spain. Our model's evaluation criteria are stock market return, government bond performance, the presence of calendar anomalies and the number of listed firms for both markets.

As regard to stock market return, government bond and the number of listed firms, they are widely available from international database; instead, in order to study calendar anomalies, we have to perform some mean difference tests for different financial markets.

Once we constructed the model, we collected data through questionnaires: the analysis involved 50 students from DEMM Department of the University of Sannio (Italy) who have worked on financial market simulators. The application of AHP shows that investors prefer diversified investments, with a prevalence of the French over the Spanish market; furthermore, in their choice, they are influenced by the presence of calendar anomalies.

Keywords: calendar anomaly; investment choice; AHP.

INTRODUCTION

Due to the globalization, today, investors can choose among many products (stocks, bonds, government bonds, derivatives) in different financial markets (Almujamed and Alfraih, 2019). Portfolio management choices are complex and dynamic because financial investors differ in their objectives and constraints (Khaksari et al., 1989) and require flexible and analytic decision tools and methodologies for investors. Furthermore, an investment decision is regarded as a major and strategic choice and, therefore, should be conveniently modelled (Zopounidis, 1999). Many qualitative and quantitative factors may influence an investment choice, and these factors often conflict with one another. So, portfolio management choice may be considered as a multi-criteria decision problem.

Zopounidis and Doumpos (2002) analysed in-depth some multicriteria characteristics of financial decisions and provided useful applications of multicriteria methods to financial problems (Bankruptcy and credit risk assessment, Portfolio selection and management, Corporate performance evaluation,

Investment appraisal). Zopounidis et al. (2015) provided a bibliographic survey of multi criteria decision aiding for finance.

Based on these statements, the aim of this paper is to propose a theoretical decision model to investment choice problems and provide an empirical analysis. The Analytic Hierarchy Process (AHP) may be useful for this task (Saaty 1980, Ülengin and Ülengin, 1994 and Zopounidis, 1999). Zopounidis (1999) stated that the AHP has an original contribution to the investment decision process, intervening across the whole process, from the stages of perception and formulation to evaluation and choice.

Several evaluation criteria could be considered in this analysis. In our model we take into account three evaluation criteria: stock market return, government bond yields, the number of listed firms and the presence of calendar effects. In particular, we focus on the influence of calendar anomalies on the investment choice. Calendar effects are cyclic earnings irregularities where the series is founded on the calendar. "The calendar time hypothesis states that the market behaves differently at different hours of the day, on different days of the week, and at various times of the month and year" (Rossi, 2015). Different researchers such as Agrawal and Tandon (1994), Gultekin and Gultekin (1983), and Ariel (1987) exhibited the existence of observed calendar anomalies with their evidence in different stock exchanges of world.

We point out that, with regard to this last criterion, we have to perform some statistic tests.

The paper is structured as follows. At first, we present the literature review about AHP method and calendar effects. Then, we propose our theoretical model and show some results of an empirical analysis. Finally, we provide some concluding remarks and limitations and future directions of our research.

LITERATURE REVIEW

AHP background

AHP is a multicriteria decision method developed by Saaty at the end of the 1970s that allows to analyze complex problems by combining both qualitative and quantitative aspects in a single framework and generating a set of priorities for alternatives, using pairwise comparisons (Saaty 1980).

AHP is widely applied for dealing with different choice problems in several fields (Marcarelli, 2018). Typical choice. With regard to finance, it is used for financial performance evaluation, credit appraisal, financial failure prediction, and portfolio selection. The AHP is used for evaluating the exchange rate (Ülengin and Ülengin 1994), to predict financial failure (Hogan et al. 2000). Zopounidis (1999) analyses the contribution of AHP in solving financial decision problems in a realistic, multidimensional context. Spronk et al. (2005) realized an in-depth presentation of the contributions of multi-criteria decision analysis (MCDA) in finance, focusing on the methods used and applications. Zouponidis et al. (2015)

present a systematic bibliographic survey of MCDA contributions in financial decision making, and identify established and emerging research topics, future opportunities and challenges.

Calendar anomalies background

Calendar anomalies are intended when precise dates or periods of the calendar year affect the change in share prices. The calendar effects hypothesis states that the market behaves differently at different hours of the day, on different days of the week, and at various times of the month and year. Numerous studies and experimental research projects (Wachtel, 1942; Rozeff and Kinney, 1976; French, 1980; Barone, 1990; Agrawal and Tandon, 1994; Dodd and Gakhovich, 2011) have been conducted on this topic. Below, the most important calendar anomalies are examined.

Weekend effect. The weekend effect is a calendar anomaly under which the market is characterized by low mean returns on the first day of the week in comparison with the other days of week. Fama (1965) and Granger and Morgenstern (1970) were the first to show that in the stock market the closing price on Monday is less than the closing price on the previous Friday (Latif et al., 2011). The presence of a weekend effect on the market was confirmed by several studies over the years (Gibbons and Hess, 1981; Schwert, 2003; Miller et al., 2006).

January effect. "As goes January, so goes the year" is a popular rule in the stock market famous as the January effect. In particular, "Evidence is provided that there are strong seasonalities in the stock market return distributions... The seasonality, when it exists, appears to be caused by the disproportionately large January returns in most countries..." (Gultekin & Gultekin, 1983: 469). Though Wachtel (1942) provided the earliest evidence of abnormal stock returns in January for US stock markets, Rozeff and Kinney (1976) were the first to formally report this effect in the US stock market. Similar results were reported by Barone, 1990; Agrawal and Tondon, 1994; Wong et al., 2006; Mylonakis and Tserkezos, 2008; Rossi and Fattoruso, 2017.

Holiday effect. The holiday effect can be defined as a fully predictable stock exchange closure because of a public holiday (Pettengill, 1989). This anomaly affects the performance of daily stock returns and is observable in markets characterized by different holidays (American, English and Japanese). Al-Loughani et al. (2005) and Ariel (1990) verify that growth is particularly significant in the days leading up to Christmas and May 1st compared to other holidays. Different observations (Lakonishok and Smidt, 1988; Meneu and Pardo, 2004; Dodd and Gakhovich, 2011), confirm these results.

Turn-of-the Month effect. The turn-of-the-month effect was first identified by Ariel in 1987 for the US equity market. He observed that mean returns are higher at the end of one month and at the beginning of the next month. Moreover, Pettengill and Jordan (1988) showed that cumulative returns during the short window of the turn-of-the-month could constitute as much as 55–70% of monthly

returns. Similar results were reported by Hensel and Ziemba, 1996; Wong et al., 2006; Rossi and Fattoruso, 2017.

METHODOLOGY

This paper proposes a theoretical model, based on the AHP, to an investment choice problem regarding different financial markets France and Spain. We select these European countries because they are unknown to our sample (in term of stock market return, government bond, number of listed firms and calendar anomalies). The evaluation criteria used in our model are stock market return, government bond performance, number of listed firms and calendar effects in the financial markets considered. To analyze last criterion, we performed some mean difference test regarding a 10-year period.

First, we analyze the calendar anomalies introduced in the previous section.

For studying each calendar effect, we calculate the averages of the rates of change for both indices and perform a graphical analysis to evaluate the behavior. Then, to verify if there is a significant effect in the markets, the following statistical test on proportion differences is performed:

$$H_0: \pi_1 - \pi_2 = 0$$

$$H_1: \pi_1 - \pi_2 > 0 \quad \text{or} \quad H_1: \pi_1 - \pi_2 < 0$$

where π_1 is the population proportion of positive (or negative) changes in the considered period (for example January), whereas π_2 is the population proportion in the other periods.

In order to verify if the null hypothesis (H_0) has to be rejected or not, we consider the following statistic:

$$Z = \frac{p_1 - p_2}{\sqrt{p_c(1 - p_c) \left(\frac{1}{n_1} + \frac{1}{n_2} \right)}} \sim N(0,1)$$

where:

p_1 is the relative frequency in the sample extracted from the first population

p_2 is the relative frequency in the sample extracted from the second population

$$p_c = \frac{n_1 p_1 + n_2 p_2}{n_1 + n_2}$$

n_1 and n_2 are the sizes of the two samples.

If $Z > z_\alpha$ (or $Z < -z_\alpha$) then the null hypothesis has to be rejected. z_α is the quantile of the normal standardized distribution and α is the chosen significance level (Piccolo, 2010).

Weekend effect. To test the presence of the weekend effect, we analyse the relationship between changes in stock prices that occur on Monday and on weekends. The goal is to verify if the proportion of positive changes on Monday is lower than the proportion of positive changes on Friday.

January effect. To verify the presence of the January effect, we examine whether the proportion of positive changes in stock prices that occur in January is greater than the proportion of positive changes in stock prices in the other months of the year.

Holiday effect. To test the presence of the holiday effect, we verify if the proportion of positive changes that occurred during the days preceding the holidays is greater than the proportion of positive changes on the other days of the year.

Turn-of-the Month effect. To verify the presence of the turn-of-the-month effect, we observe if the proportion of positive changes in stock prices on the last day of the month and the first three days of the following month is greater than the proportion of positive changes on the other days of the month.

Established the four evaluation criteria we construct the AHP model.

The AHP procedure involves the following 4 phases (Saaty, 1994; Saaty and Vargas, 1982).

1. *Decomposition of the problem into a hierarchy:* the first level of the hierarchy contains the overall objective of the problem; the second level contains the evaluation criteria; the next levels may contain more detailed criteria (sub-criteria); finally, the bottom level contains the alternatives.
2. *Data collection by means of pairwise comparisons:* the elements of each level are pairwise compared with regard to each element of the upper level. A numerical value a_{ij} expresses how much the i -th element, x_i , is preferred to the j -th element, x_j , as regards a given criterion: if x_i is strictly preferred to x_j then $a_{ij} > 1$, whereas $a_{ij} < 1$; the indifference among the elements is indicated by $a_{ij}=1$. Judgments are assigned using the Saaty's fundamental scale. For each hierarchical level, pairwise comparison matrices are constructed. These matrices are reciprocal, that is $a_{ji}=1/a_{ij}$, for $i,j=1,\dots,n$, and all values on the main diagonal are equal to 1. The judgments expressed by pairwise comparisons may be not consistent (transitivity and/or proportionality could not hold). The consistency of judgements is important because it is strictly connected to the reliability of preferences (Grzybowski, 2016).

Several consistency indices have been proposed in literature to measure the level of inconsistency of pairwise matrices (Saaty, 1980; Koczkodaj, 1993; Salo-Hamalainen, 1997; Crawford and Williams, 1985).

3. *Deriving relative priorities.* The priority vector may be estimated by using one of the following methods: the eigenvector method, the arithmetic mean method, the row geometric mean method, the logarithmic least squares method, the singular value decomposition, to cite just a few (Saaty 1980, Aguaron and Moreno-Jimenez 2003, Pelaez and Lamata 2003, Gass and Rapsak 2004).

4. *Synthesizing relative priorities to obtain the global ranking*: relative priorities are aggregated by the principle of hierarchical composition to obtain global priorities providing the final ranking of alternatives.

ANALYSIS OF RESULTS

An empirical analysis is performed to verify the presence of calendar anomalies in the two markets, using the CAC 40 and IBEX 35 indices' price data. Euronext Paris calculated the first one and "Sociedad de Bolsas S.A." calculated the second. The survey examined the calendar anomalies for the period 2007-2017 and data were collected on "Yahoo finance". There are 2811 and 2807 observations for CAC 40 and IBEX 35, respectively. To evaluate the presence of calendar effects in the two markets, the statistical test described in the previous section was implemented, using a significance level $\alpha = 0.05$ ($n = 1.645$).

Table 1 synthesises the results of our analysis for the two markets for the period 2007 – 2017, using the CAC 40 and IBEX 35 indices.

Table	Presence of calendar effects	
	Financial markets	
Calendar effects	France	Spain
Weekend effect	Yes	Yes
January effect	Not available	Not available
Holiday effect	Not available	Yes
Turn-of-the month effect	Not available	Yes

Table 1. *Presence of calendar effects in France and Spain - authors' calculations*

When the calendar anomalies are analysed, the problem is hierarchically structured in order to apply the AHP. The hierarchy is composed by three levels: the goal, 4 criteria and 4 investment choices (Fig. 1).

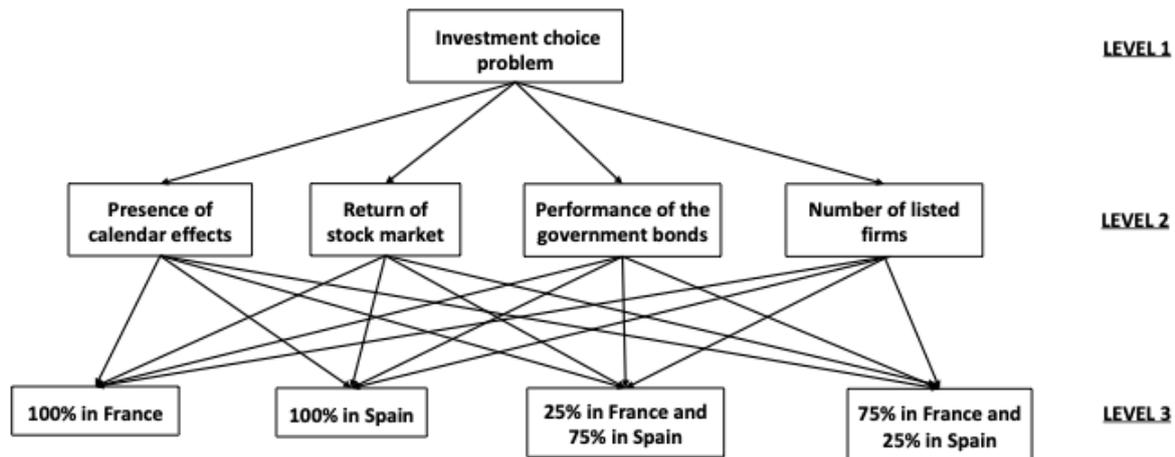


Figure 1. Hierarchical structure of the problem.

A simple questionnaire is constructed and submitted to 50 experts. Then individual judgments expressed by experts are entered in matrices by using Expert Choice (Expert Choice 1994), a software which implements the AHP method.

By aggregating the relative priorities, a global priority vector is calculated for each expert: this vector represents the individual ranking of preferences.

The same procedure is applied to each expert so we have 50 individual priority vectors. The methods commonly used in the literature for aggregating individual priorities in the AHP context are the weighted arithmetic mean and the weighted geometric mean methods (Forman & Peniwati, 1998).

We aggregate individual preferences assuming that all experts are weighted the same. Table 2 shows the global ranking of the alternatives for the group of experts: students prefer a diversified investment with 75% in France and 25% in Spain; the worst choice is the investment with 25% in France and 75% in Spain. Regarding to the weight assigned to criteria, Tab. 3 shows that the presence of calendar anomalies is less important than the stock market return (0.35), but more important than the government bond performance (0.22) and the number of listed firms (0.16): the experts assign a weight equal to 0.27 to the presence of calendar anomalies, and the most important criterion in the investment choice is the stock market return in 2017.

Table	The global ranking of the investment choices		
	Priority vectors and ranking		
Investment choice	Priority vector	Normalized priority vector	Ranking
100% France	0,2509	0,2714	2
100% Spain	0,2189	0,2369	3
25% in France and 75% in Spain	0,1947	0,2107	4
75% in France and 25% in Spain	0,2597	0,2810	1

Table 2. Ranking of the investment choices

Table	The global ranking of criteria		
	Priority vectors and ranking		
Criteria	Priority vector	Normalized priority vector	Ranking
Presence of calendar effects	0,2157	0,2719	2
Return on the stock market	0,2739	0,3451	1
Performance of the government bonds	0,1776	0,2238	3
Number of listed firms	0,1263	0,1592	4

Table 3. Ranking of evaluation criteria

CONCLUSION

This paper proposed a multi-criteria theoretical model to analyse a problem of investment choice in two financial markets: France and Spain. In particular, we taken into account the influence of calendar anomalies on that choice. At first, we make an in-depth analysis of calendar anomalies through some statistic tests: there are three anomalies in Spain (weekend, January and turn of the month effects) and one calendar anomaly in France (weekend effect).

The aim is to define the application of AHP in a stock market decision investment. We want to realise a model that could help decision maker to define a strategy in the investment decision. This is a preliminary study and it requires important improvement to generalise the results. In this first application of AHP, we detected that students prefer a diversified investment in the two countries with a prevalence of France on Spain. Concerning the criteria, the weight of the presence of calendar anomalies is lesser than that associated with the stock market return.

The AHP model allows us to decompose the problem into a dominance hierarchy and provides for subjective judgements expressed through pairwise comparisons that require a consistency check. Moreover it is flexible and allows us to check if the ranking changes based on varying criteria weights.

Instead, we have to point out that the uncertainty of other investors' behaviours and the uncertainty connected to the country risks could influence the AHP results.

In this paper, we presented some preliminary results. To avoid any influence, we have considered investors coming from Countries other than those considered in the analysis. Our aim is to extend the analysis by involving a great number of students/investors and compare results obtained by applying other multicriteria methods. Furthermore, we could assign to each student a weight depending on his/her level of knowledge of financial tools (i.e. based on the year of undergraduate degree course).

REFERENCES

- Agrawal, A. and Tandon, K. (1994). Anomalies or illusions? Evidence from stock markets in eighteen countries. *Journal of International Money and Finance*, Vol. 13, No. 1, pp.83–106.
- Aguaron, J., Moreno-Jimenez, J. (2003). The geometric consistency index: Approximated threshold, *European Journal of Operational Research* 147, 137–145.
- Almujamed, H. and Alfraih, M. (2019), "Value relevance of earnings and book values in the Qatari Stock Exchange", *EuroMed Journal of Business*, Vol. 14 No. 1, pp. 62-75
- Al-Loughani, N.E., Al-Saad, K.M. and Ali, M.M. (2005). The holiday effect and stock return in the Kuwait stock exchange. *Global Competitiveness*, Vol. 13, No. 1, pp.81–91.
- Ariel, R.A. (1987). A monthly effect in stock returns. *Journal of Financial Economics*, Vol. 18, No. 1, pp.161–174.
- Ariel, R.A. (1990). High stock returns before holidays: existence and evidence on possible causes. *The Journal of Finance*, Vol. 45, No. 5, pp.1611–1626.
- Barone, E. (1990). The Italian stock market: efficiency and calendar anomalies. *Journal of Banking and Finance*, Vol. 14, Nos. 2–3, pp.483–510.
- Crawford, G., Williams, C. (1985). A note on the analysis of subjective judgment matrices, *Journal of Mathematical Psychology* 29, pp. 387–405.
- Dodd, O. and Gakhovich, A. (2011). The holiday effect in Central and Eastern European financial markets. *Investment Management and Financial Innovations*, Vol. 8, No. 4, pp.29–35.
- Expert Choice Software, Expert Choice, Inc. (1994) 4922 Ellsworth Ave., Pittsburgh 15213.
- Fama, E.F. (1965). The behavior of stock-market prices. *The Journal of Business*, Vol. 38, No. 1, pp.34–105.
- Forman, E., & Peniwati, K. (1998). Aggregating individual judgements and priorities with the analytic hierarchy process. *European Journal of Operational Research*, 108, pp. 165–169.
- French, K.R. (1980). Stock returns and the weekend effect. *Journal of Financial Economics*, Vol. 8, No. 1, pp.55–69.
- Gass, S., Rapcsak, T. (2004). Singular value decomposition in ahp. *European Journal of Operational Research*, 154, pp.573–584.
- Gibbons, M. and Hess, P. (1981). Day of the week effects and asset returns. *Journal of Business*, Vol. 54, pp.579–596.
- Granger, C.W.J., Morgenstern, O. (1970) *Predictability of Stock Market Prices*. Heath Lexington Books, Lexington, MA.
- Grzybowski, A. (2016). New result on inconsistency indices and their relationship with the quality of priority vector estimation. *Expert Systems with Applications*, 43, pp.197–212.
- Gultekin, M. N. & Gultekin, N. B. (1983). Stock Market Seasonality. *International Evidence*. *Journal of Financial Economics*, 12(4), pp.469-481.
- Hensel, C. R. & Ziemba, W. T. (1996). Investment results from exploiting turn-of-the-month effects. (Digest Summary). *Journal of Portfolio Management*, 22 (3), pp.17-23.
- Hogan, K.M., Oolson, G. and Rahmlow, H. (2000). A Model for the Prediction of Corporate Bankruptcy Using the Analytic Hierarchy Process. *Multi-Criteria Applications*, 10, 85-102.

- Khaksari, S., Kamath R. & Grieves, R. (1989). A new approach to determining optimum portfolio mix, *The Journal of Portfolio Management*, Vol. 15, No. 3, pp. 43-49.
- Koczkodaj, W. (1993). A new definition of consistency of pairwise comparisons. *Mathematical and Computer Modelling* 18, pp.79–84.
- Lakonishok, J. and Smidt, S. (1988). Are seasonal anomalies real? A ninety-year perspective. *Review of Financial Studies*, Vol. 1, No. 4, pp.403–425.
- Latif, M., Arshad, S., Fatima, M., & Farooq, S. (2011). Market Efficiency, Market Anomalies, Causes, Evidences, and Some Behavioral Aspects of Market Anomalies. 2 (9/10). *Research Journal of Finance and Accounting - Institute of Management Sciences Bahauddin Zakaria University, Multan, Pakistan*.
- Marcarelli G. (2018), "An Integrated Network Model for performance management: a focus on healthcare organizations", *International Journal of Managerial and Financial Accounting*, Vol.10, No.2, pp.163 – 180
- Meneu, V. and Pardo, A. (2004). Pre-holiday effect, large trades and small investor behaviour. *Journal of Empirical Finance*, Vol. 11, pp.231–246.
- Miller, J.A., Atkinson-Palombo, C.M. and Balling, R.C. (2006). Quantifying the ozone 'weekend effect' at various locations in Phoenix, Arizona. *Atmospheric Environment*, Vol. 40, No. 39, pp.7644–7658.
- Mylonakis, J. and Tserkezos, D. (2008). The January effect results in the Athens Stock Exchange (ASE). *Global Journal of Finance and Banking Issues*, Vol. 2, No. 2, pp.44–55.
- Pelaez, J., Lamata, M. (2003). A new measure of consistency for positive reciprocal matrices. *Computer and Mathematics with Applications* 46, pp.1839– 1845.
- Pettengill, G.N. (1989). Holiday closings and security returns. *The Journal of Financial Research*, Vol. 12, No. 1, pp.57–67.
- Pettengill, G.N. and Jordan, B.D. (1988). A comprehensive examination of volume effects and seasonality in daily security returns. *Journal of Financial Research*, Vol. 11, No. 1, pp.57–70.
- Piccolo, D. (2010). *Statistica. Il Mulino*.
- Rossi, M. (2015). The efficient market hypothesis and calendar anomalies: A literature review. *International Journal of Managerial and Financial Accounting*, 7(3-4).
- Rossi, M. and Fattoruso, G. (2017). The EMH and the market anomalies: an empirical analysis on Italian stock market. *International Journal of Managerial and Financial Accounting*, Vol.9, No.3, pp.222 – 241.
- Rozeff, M. S., & Kinney, W. R. (1976). Capital market seasonality: the case of stock returns, *Journal of financial economics*, Vol. 3, No.4, pp. 379-402.
- Saaty, T.L. (1980). *The Analytic Hierarchy Process*. Mc Graw-Hill, New York.
- Saaty, T.L. (1994). How to make a decision: the analytic hierarchy process. *Interfaces*, November–December, Vol. 24, No. 6, pp.19–43.
- Saaty, T.L. and Vargas, L.G. (1982) *The Logic of Priorities; Applications in Business, Energy, Health, and Transportation*, Kluwer-Nijhoff, Boston, Reprinted in Paperback (1991), RWS Publications, Pittsburgh.
- Salo, A., Hamalainen, R. (1997). On the measurement of preference in the analytic hierarchy process. *Journal of Multi-Criteria Decision Analysis* 6, pp.309– 319.
- Schwert, G.W. (2003). Anomalies and market efficiency. *Handbook of the Economics of Finance*, Vol. 1, pp.939–974.
- Spronk, J., Steuer, R.E. and Zoupounidis, C. (2005). Multicriteria decision analysis/aid in finance, in Figuera, J., Greco, S. and Ehrgott, M (eds), *Multiple Criteria Decision Analysis: State of the Art Surveys*, Springer Science, New York, pp. 799-857.
- Ülengin, F., & Ülengin, B. (1994). Forecasting Foreign Exchange Rates: A Comparative Evaluation of AHP. *International Journal of Management Science*, 22(5), pp.505-519.
- Wachtel, S. B. (1942). Certain observations on seasonal movement in stock prices. *Journal of Business*, Vol. 15, No. 2, pp.184–193.
- Wong W. K., Agarwal A. and Wonf, N. T. (2006). The disappearing calendar anomalies in the Singapore Stock Market. *The Lahore Journal of Economics*, 11(2), 123-139 Wing-Keung.
- Zopounidis, C. (1999). Multicriteria decision aid in financial management. *European Journal of Operational Research*, Vol. 119, No. 2, pp. 404-415.
- Zopounidis, C. and Doumpos, M. (2002). Multi-criteria Decision Aid in Financial Decision Making: Methodologies and Literature Review. *Journal of Multi-Criteria Decision Analysis* 11, pp. 167–186
- Zouponidis C., Galariotis, E., Doumpos, M., Sarri, S. and Andriosopoulos, K. (2015). Multi criteria decision aiding for finance: An updated bibliographic survey. *European Journal of Operational Research*, Vol. 247, No. pp. 339-348.

KURDISTAN REGIONAL GOVERNMENTS' (KRG) ECONOMIC RELATIONS WITH RUSSIA IN CONTEXT OF DEVELOPING MUTUAL HYDROCARBONS INDUSTRY

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ABSTRACT

The objective of the paper is to look into economic and political situation of Iraqi Kurdistan in context of its oil industry relations with Russia. In the Kurdistan Region of Iraq (KRI), economic development and infrastructure recovery extended at a great pace over the last decade. In order to achieve the aim, authors firstly adequate explained to research below a brief history of the Kurdistan and political relations with the sample country. Next, it presents underlying economic relations of (KRG) with Russia in recent years in the oil field.

In this article, the authors argue that ensuring the cooperation and good political relations between Kurdistan and Russia will guarantee: (a) changes in power relations of the Kurdistan Region with Iraqi government and own achievements in self-governance, (b) solve the problem of difficult circumstances accompanying the region's oil export and as a result making economic development and national security of Kurdistan, (c) benefits and long contracts of the two parties will help to solve political crisis of the Region with other neighbor countries especially Russian factor to solve unexpected tensions between Kurdistan and Turkey, Iran regarding Kurdistan's independence, (d) after American sanctions on Iran especially in the sector of oil and gas, Russia can fill this gap with investment in Kurdistan oil and gas sector to increase the mutual hydrocarbons industry development.

Keywords: Kurdistan Regional Government, Russia, Economic Development, Rose Neft, Hydrocarbons, National Security, Economic Resources, Macroeconomics, Kurds, Iraq.

INTRODUCTION

Kurds are the largest stateless minority in the world, with an estimated 30 million Kurds in a geographic area encompassing territories in Turkey, Iraq, Iran, Syria, and Armenia. They comprise 18% of the population in Turkey and 15-20% in Iraq, and are the third largest ethnic group in the region after the Arabs and Persians (Galloway, 1958). According to (Philips, 2016)The Kurdish people

is a distinct one in the Middle East, it is the fourth largest ethnic group with an estimated population of 40-45 million and are divided between Iraq (7 million), Iran, Turkey and Syria. Their history dates before the existence of the Sumerians, Medes, Ayyubids, Safavids and Ottomans. The modern history of the Kurdish people has for the past 100 years been centered on four main themes; betrayal, abuse, war, and the struggle for national liberation. The Kurdistan Regional Government (KRG) was formed in 1992 by the Kurdistan National Assembly, the first democratically elected parliament in Kurdistan (and in Iraq) following the no-fly zone designed to protect the Kurdistan Region from the violence of Iraq's former Ba'ath regime. The KRG developed experience and expertise throughout successive cabinets, especially after the fall of the former regime in 2003. These included the construction of international airports, proactive oil and gas policy, reconstruction of the Region's infrastructure, the promotion of relations with members of the international community, and greater funding for social and economic projects within the Region (gov.krd, 2018).

Engaging actively with the main regional players on a number of issues, including security and economy is not new for the KRG. By and large, the KRG has attempted to circumvent Baghdad by building strong ties with Turkey. The result is that Turkey is the biggest trading partner for the Kurdistan Region (Denise, 2016). The Region is currently exporting almost all of its oil, around 600.000 bpd, via the Turkish port of Ceyhan and the KRG ranks third as Turkey's export destination (Soner & Ege, 2016). In addition, in 2013, approximately 1,500 Turkish companies were operating in the Region, which translated into 65% of all foreign business operating in Kurdistan (investingroup.org, 2018).

Unlike the other governorates in Iraq, the KRG was, for the most part, unaffected by the sectarian fighting and terrorism that exploded following the 2003 US invasion. The termination of UN economic sanctions on Iraq, the end of the Baathist regime's internal sanctions on the KRG, and the formal recognition of the Kurdistan Region in the Iraqi Constitution in 2005 was significant developments for the expansion of the Turkish private sector as the sole vent of Kurdistan economy. The KRG adopted the Bush administration's neoliberal agenda concerning the ease of doing business in the region. Although state socialism still dominated, there was willingness to allow market capitalism to emerge in conjunction with the rise of the oil industry as the economic driver of the economy. The KRG was assured that 17 percent of the Iraqi central budget would, in recognition of their percentage of the total population, be transferred to them by Baghdad. It was these budget transfers that gave the KRG the financial capacity to begin reconstruction of inadequate and damaged infrastructure in its jurisdiction. The recognition of the KRG, as a legitimate governing body, allowed foreign companies to negotiate and sign agreements directly with its agencies.

Kurdistan's oil and gas strategy came to fruition in 2011, just as American troops were preparing to withdraw from Iraq and leave a newly formed Iraqi government in place. In October of that year

Exxon Mobil, signed production sharing agreements with the Kurdistan Region, which included production from Kirkuk and other disputed areas of control. This was significant not only in the potential revenues but it showed the increasing stature of Kurdistan in the international community and would lend legitimacy to Kurdistan's territorial claims as well as independence. Exxon Mobile's confidence was contagious; by July of the following year, Chevron signed contracts, followed by French oil company Total at the end of July and Russian energy company Gazprom Neft in August (Gareth Stansfield, 2013).

Problem Statement and Questions

The aim of this article is to examine Russian's role in ensuring economic security of Iraqi Kurdistan in context of cooperating mutual hydrocarbon sector for supporting economic development of Kurdistan as we know that economic benefits supports political relations. From those questions arises: How to define economic development? What are the underlying conditions of Iraqi Kurdistan economy? How to characterize the relations between Iraqi Kurdistan and Russia in context of economic security? Is the character of Russian giant oil companies working in Iraqi Kurdistan can be characterized as a chance, to Iraqi Kurdistan economic development and security? To accomplish that goal authors have studied the press materials, literature, reports and scientific papers. Research was predicated of analysis of science sources and media and field research, both in Russia and Iraqi Kurdistan in 2015-2018. With observations came conversational interviews with policymakers, Kurdish officers, scientists and investors.

State of society-economic system of entity of that much unfavorable environment can decide of his survival. KRG aim to provide adequate economic growth and strengthen ability to satisfy increasing needs of citizens. Iraqi Kurds are currently dealing with many problems, economic too. Nature of these problems, and their intensity led to multidimensional crisis.

Purpose of the Study

The KRI used its natural resource rents wisely. Contributing around 80 percent of GDP, oil and gas rents are the cornerstone of the KRI economy. Although it is required to export through Iraq proper, direct export deals with global companies like Exxon, Chevron, Rosneft, Gazprom and other companies facilitated billions in capital reserve accumulation. Authorities directed such funds principally into infrastructure rehabilitation and the gentrification of historic Erbil. The purpose of the study is to show the macroeconomic situation of KRG and economic resources of the region, historical and economic relations of the Russian federation for support the energy sector of the KRG with extracting and marketing of the oil and gas. Kurdistan Region in Iraq is the most stabilized territory in that country. It can change without international support. Actions are needed to be taken to improve economic security and development of that Region. Kurds are trying to strengthen ties with world

market and economies of other states. Currently other entities have interests in survival and stabilization of Iraqi Kurdistan.

LITERATURE REVIEW

Economic development is at the same time concept, activity and professional practice. Economic development is not only a topic of popular discussion, but also an activity for which there are great expectations and considerable investment of public funds. Perhaps the only agreement currently is that economic development is difficult to define. However, the definition of economic development is a necessary prerequisite for moving the discussion towards an objective political discussion and solid measures. The first step in defining economic development is to distinguish it from the concept of economic growth. Economic growth has a strong theoretical basis and can be easily quantified as an increase in total production. David Ricardo (1819) and later Robert Solow (1956) and many others see an economy as a machine that produces economic production in response to factors such as work, land and equipment. Growth occurs when performance increases. Output can increase either when we add more inputs or use technology or innovation in order to enhance the efficiency with which we transform inputs into outputs. In part because of this straightforwardness, economic growth, with its emphasis on increases in population, employment or total output dominates the debate, despite the fact that increases in any or all of these could be associated with both improvements and/or declines in prosperity and quality of life.

According to Schumpeter, economic development means a fundamental transformation of the economy. This implies a change in the industrial structure, in the educational and professional characteristics of the population and in the entire social and institutional fabric. While growth is measured by the fact that more people work within an existing economic framework, economic development aims to change that framework so that people work more productively and the economy moves towards higher value activities. While economic growth can be measured quarterly, it may take decades or generations to achieve economic success (Schumpeter, 1961).

With so much at stake, it is necessary to clearly define economic development and consider the underlying logic. Based on a review of the literature, we define economic development as the development of abilities that improve the capacities of economic agents. These actors can be individuals, companies or industries. While the actors have a different perceived potential, it is difficult to foresee or understand the next new idea of how genius can emerge. Unlike a resource-based economy, where the site was limited to natural opportunities, a modern knowledge-based economy depends on the capacity that accumulates over time. Many successful regional economies

have evolved from historical incidents, but luck favors preparation: the ability to benefit from the possibility depends on the underlying skills (Feldman and Francis, 2003).

Michael Porter (1998) says in his highly influential work *The competitive advantage of nations* "Economic development is committed to long-term sustainable development in a standard on the purchasing power parity of a people's living standards" has, as defined Tatyana Soubbotina from the World Bank (2004), could they are "differently equitable and balanced" is referred to, which means that open-ended development must continue to balance the interests of different population groups in three major interrelated areas -economic, social and environmental. "But Porter unfortunately combines economic growth with economic development:" The standard of living is determined by the productivity of an economy on the value of goods and services (products) produced per unit of human capital also and the nation's physical resources. "If economic development is confused with economic growth, then building the private sector are often used uncritically as a means of assessing public investment.

KRG's natural resources and energy policy, as well as its openness to foreign direct investment and its relationship with the world market, have been praised as a positive image of KRG's economic policy (Gunter, 2012 and Bengio, 2010) . The International Crisis Group Report No. 80 (2008), an expert in the region, mentions the conversion of 17% of Iraq's oil revenues into the KRG as the main pillar of the KRG's economic development (Paz, 2011). The KRG claims that its oil reserves are 45 billion barrels, which, if true, is "the sixth largest" oil-rich country. Furthermore, it has "100-200 billion cubic feet of natural gas without oil" (Gunter, 2012). Although not approved by the FGI, KRG has completed about 50 oil contracts with international oil companies (IOC). Another positive indicator for the KRG's economy is openness to foreign investment and commercial capacity with its neighbors, particularly Turkey. Bilateral trade growth between Turkey and the KRG is expected to reach from \$6 billion in 2012 to \$20 billion in 2016 (El Gamal, 2010). Khalil (2009) states that KRG's economic policy is committed to "foreign investment in their region" and is proud to have the "friendliest" investment law in the region. "

RESEARCH METHODS

In order to get a broad range of material, this study has sought to triangulate different sources of material by conducting interviews as well as using different already published/written sources of material in (online) newspaper articles, books, scholarly publications, non/governmental sources and research centers that have dealt with the issues of Kurdish/ Russian. The reason for why material from such a broad spectrum of sources has been collected is because of material from one or a few number

of sources may be biased affecting the reliability and to an extent the validity of the study. However, collecting material from different sources as it has been done in this study, makes the study more transparent and reliable, which in itself will lead to valid and sustainable research outcomes. The research method applied in this study is qualitative and data was sourced by primary and secondary data. Yin (2003) has identified six sources of evidence that work well in qualitative research settings: documentation, archival records, interviews, direct observations, participant observation and physical artifacts. In this research, the most important method data was collected was by documentation, archival records.

KRG MACROECONOMICS VIEW AND THE CRISIS OF THE REGION

The Kurdistan Region of Iraq (KRI) is a semi-autonomous government established in the northern provinces of the Iraqi federal state with an area of 40,643 km² and a population of 5.1 million (estimated in 2012). The KRI has huge reserves of oil (45 billion barrels of oil and about 6 trillion cubic meters of natural gas), which represents about a third of Iraq's reserves and exceeds what Libya has. The KRI is one of the ten richest areas in the world, where the per capita oil reserve indicator is more than 8,800 barrels, more than double than Iraq and even more than Saudi Arabia. Therefore, hence the KRI was named by financial times as “an Ocean of reserves waiting to be tapped”.

According to the World Bank's description, “a stable macroeconomic environment enhances prospects for growth and improved living standards, and besides the ultimate goal of macroeconomics is to avoid uncertainty and risk in economic decision making” (worldbank.org, 2018). In general, macroeconomic policies include taxes, government spending and borrowing, exchange rate determinants, and monetary and credit rules. Dealing with the concept of macroeconomics in Iraqi Kurdistan is a complex issue which has direct influence on the economic growth of the region. The efficiency of macroeconomics in Kurdistan led to rapid economic growth since 2003, which resulted in economic stability, reduced poverty, and improved living standards. It is pointed out that the critical concern in the KRG's macroeconomic measures is complete dependency on oil revenues, and the distribution of wealth, which triggered drawbacks in economic growth rather than a healthy progress for the region. The KRG receives the annual budget from the federal government at the end of every financial year, and the budget for the next year is prepared and approved by the Iraqi Council of Ministries. Continued economic development in the Kurdistan Region is stressed in the recent “regional development strategy for 2012–2016”, in which the 2003-2008 national income increased from IQD 4,373 billion to IQD 35,665 billion, an average growth rate of 46.6% at current prices. In the same period, GDP increased from IQD 2,419 billion to IQD 24,725 billion, an average growth rate of 68.9%. The per capita GDP

income increased from IQD 0.524 million to IQD 4,754 million, representing an average growth rate of 64.3%. The strategic plan for economic development applies a multi-dimensional approach with focus on all factors of economy, as they are interrelated (gov.krd, 2018).

The same report analyzed the economic indicators, which show that based on the available data, in mid-2010, local and foreign investments amounted to about USD 12.491 million, while government investment in the 2004–2009 periods increased by 92.1%, with the government investment expenditures making 25% of the overall public spending in the same period (gov.krd, 2018). Macro-economics in the KRG is highly complex, fragile and burdened with conflicts. In this context, macroeconomics is the driver underlying the conflicts, since the distribution of the wealth of natural resources is contested.

The regional government is weak to overcome the current economic threats in the Kurdistan Region, because the budgetary issues of the Kurdistan Region have always been bargained on by the federal government (Collier & Hoeffler, 2014). The financial crisis hit the Kurdistan Region hard, and the most severe phase of the crisis, which involved in the budget dispute with the federal government of Iraq was dragged for 4 years (2014–2017). Some are of the opinion that the key point is that “a fiscal hole is a fall in availability of budget revenue to fund spending” (IMF, 2018). The current crisis was caused by an unexpected security- and instability-related tension that emerged from the Islamic State of Iraq and Syria (ISIS), also reducing the oil prices and economic stability is very worrying, because the KRG’s economic ability is manipulated by the federal government, to a large extent.

Economic Development Resources of Kurdistan Region

In essence, the KRG economic sector is based on oil revenues which are generated since 2007 by the KRG government independently. “An estimated 45 billion barrels of oil reserves, up to 200TCF of natural gas reserves and relatively unexplored mineral deposits” (IKG, 2013). The Kurdistan region’s energy-related revenues are still untapped, and this makes the Kurdistan region an attractive economic region for the global energy importers. “In 2011, GDP of KRG was over USD 23,6 billion, with a per capita income standing at USD 4,452, and the growth rate being 12% in 2012, predicted to reach 8% in 2013.” (investingroup.org, 2018) The economic sector of the Kurdistan is completely dependent on oil, and this is directly affected by the international oil companies in the region, which are the source of foreign direct investment. It is estimated that “almost 55% of all investment in Iraq is made in Kurdistan region” Despite of that KRG is only able to export almost 400,000 barrels pre-day, which is approximately 16% of the Iraq’s total exports (Frank, 2014).

The eco-natural growth depends on oil revenues, which is risky for a developing region like Kurdistan due to the security situation and the political instability of Iraq and the Middle East. However, since the invasion attracts more foreign investors to invest in Kurdistan rather than in other parts of Iraq. Economically, the KRG is a rich oil dependent region, the same as the federal government, approximately, 95% of the budget depends on oil, in which the revenues share of the oil is calculated and distributed according to the population of the regions, based on this calculation constitutionally, KRG has 17% of the oil share. The Kurdistan region was a hub of foreign investment in the region, with a very peculiar and impressive fast economic development since 2003. Notably, “in 2007, 65% of foodstuffs in the Kurdistan Region was imported, and 35% was produced domestically” (www.trade.gov/KRG, 2008).

Kurdistan Region's Hydrocarbons and Budget Problems with Iraq

Since Iraq's invasion by the United States, the relations between Baghdad and Erbil have changed, are more fragile than before and dispute resolution seems to be pending. The Kurdistan Regional Government adopted its own hydrocarbons law, the oil and gas law of the Kurdistan Region in 2007. Prime Minister Nechirvan Barzani highlighted that this move is a “historic moment” and “together with the Iraqi Constitution, it will be the foundation of our economic development” (KRG, 2007). However, the federal government proclaimed the oil export deals of the KRG to be illegal and unconstitutional. “In January 2014, the KRG started to ship the oil independently to the Turkish port of Ceyhan.” (Presthuis, 2014) Deputy Prime Minister for Energy, Hussein al-Shahristani, pointed out that “the central government had been entrusted with the wealth of the country and cannot remain silent when the Kurdistan Region's oil is being exported without its consent” (www.almonitor.com, 2009). In this respect, the Baghdad–Erbil relationship has a long history of mistrust, and besides, both sides officially blame each other for the ongoing dispute. 2014-2018 were the years of economic crisis in the Kurdistan Region, and currently, the region faces economic difficulties, apparently rooted in the tension between Baghdad and Erbil. Since 2014 the federal government of Iraq has suspended the KRG budget, due to a disagreement between the parties over shares in the oil production in the Kurdistan Region. Basically, this directly affected public servants in the KRG, and jeopardized the KRG's economic stability. Economic downturn in the Kurdistan Region triggered different economic concerns, including unemployment especially in the private sector. “In 2014 in the region almost 100 thousand foreign and local workers have lost their jobs (Shafaq News, 2014).

KRG Economic Development and Geopolitical Impact of Energy

For Iraqi Kurdistan economic security is the key role in realization of Kurds national interests – survival and aiming for independence. In order to make a proper assessment about state of economic security of Kurdistan region in Iraq, one must familiar himself with indicators of this security, which are f. ex. GDP, GDP per capita, or inflation. Official data on this topic is posted on Kurdistan Regional Government in Poland website (Kurdish Regional Government in Poland 2017). On this site we can learn, that Kurdish GDP was tripled from 2006, and in 2015 was at 25, 5 billion dollars. Similar to GDP per capita, which had grown 1400% from 2003, and now it is on 7000 dollar level. Economic growth between 2015 and 2016 was at 8%, unemployment 10%, and inflation 6%. Value of foreign investments is 3 billion \$, and overall value in years 2006-2014 elevate to 41.4 billion \$. Investments projects are calculated to be about 2, 3 billion \$. Labor force stand at 2.1 million people. In GDP of Kurdistan Region in 2013 consist (Sosnowski, 2016): services: 30,1%; public services: 20,6%; agriculture:17,5%; trading and transport:13,5%; mining production:9,4%; construction:7,6%; banking and insurance:1,3%. Also key elements of Kurdish economy are oil and gas resources:

- reported oil reserves stands at 45 billion barrels;
- oil export in 2014 was above 34,5 million barrels;
- reported reserves of natural gas stands at 165 TFC (2015);
- Amount of Kurdish investments in energy sector: 20 billion \$.

Since Iraq and Turkey became divided, Turkey has demanded its share of Iraqi oil, particularly in Kirkuk and the Mosul area as per the Ankara agreement of 1926. When the Soviet Union collapsed and new states emerged in the Eurasia region, oil became part of Turkey's foreign policy decision-making and institutions, in the context of energy security and other strategic considerations. This resulted in a national policy proposal incorporating the Caspian oil pipeline within the framework of Turkish foreign and security policy. Turkish energy security policy will have significant repercussions if converted into reality; possibly, it might reposition Turkey geopolitically. The emergence of Turkey as a significant transit country will arguably give it increased power on the international stage, and it could also mean that the country has more of a stake in geopolitical, regional changes, such as a future independent Kurdistan (Matthew, 2012). Turkey therefore finds itself needing to play a future role regarding the securing of oil to the EU and the international market. For example, the outcome of the Blue Stream gas pipeline that runs from Russia to Turkey has shed light on potential future political games, as well as blackmail factors, with Turkey focused on two major tools regarding security policy

that are central for any state: political and economic gain. Also table 2 shows the Kurdistan oil and gas reserves according to (Paasche, Mansurbeg, 2014):

Table 2. Oil and gas reserves of Kurdistan Region of Iraq

Confirmed reserves of oil	4 billion barrels
Estimated undocumented reserves of oil	45 billion barrels
Confirmed reserves of gas	~ 5753 km ³ (165 TCF)
Possible reserves of gas	~ 1020 km ³ (35.37-38 TCF)

Source: Paasche, Mansurbeg, (2014).

On KRG territory there is searching for energy resources all the time, so data presented in table 2 can grow in time.

KRG AND RUSSIAN FEDERATION ECONOMIC RELATIONS AS DETERMINANT OF KRGS' ECONOMIC SECURITY AND DEVELOPMENT

Russia's New and Historical Relations with the Kurds

Russia's cooperation with the Kurds of Iraq and Syria in the fight against ISIL has been widely publicized by the Western media. However, less well-known is the fact that Russia's relations with various Kurdish groups date back almost two centuries. Russia's southern expansion (from the 18th century on) in search of secure borders and natural resources brought it into contact with different Kurdish tribes. Since then, Moscow has maintained relations with Kurds both inside and outside of its borders. This history forms an important part of Russia's relationship with the Middle East and underscores its unique position between Europe and Asia.

In 1941, wartime allies Britain and the Soviet Union invaded Iran to secure crucial Allied supply lines. At the end of the war, Moscow refused to leave its zone of influence and began to sponsor breakaway republics in Iranian Azerbaijan and Iranian Kurdistan. The latter republic was established at Mahabad in 1946. Qazi Mohammad served as its president, and Mustafa Barzani, the Kurdish rebel leader from Iraq, served as its Minister of Defense. The euphoria of this Kurdish republic was short-lived. Stalin withdrew support after Moscow secured oil concessions from the West. The Mahabad republic was subsequently crushed by Tehran (<http://origins.osu.edu>, 2018).

On September 25, 2017, the Kurds of Iraq held a referendum on political independence from Baghdad, which 92.3% of the population supported. The result provoked an angry response from the Iraqi

central government, supported by Turkey and Iran. The tension culminated in Baghdad's capture of the oil-rich city of Kirkuk.

Russia was restrained in its reaction to the referendum. Although it "respected the national aspirations of the Kurds," it simultaneously encouraged dialogue between Erbil and Baghdad. Significantly, Russia was the only major power that did not call on the Iraqi Kurds to cancel the referendum. In addition to Moscow's historical ties to the Barzani clan, it is the top funder of Iraqi Kurdish gas and oil deals. Russia has emphasized that cooperation in the energy sphere remains unaffected by the referendum. On October 18, Russian energy giant Rosneft signed an energy deal with Iraqi Kurdistan, reaffirming its commitment to the region (<http://origins.osu.edu>, 2018). The Deputy consul-general of the Russia Federation in the Kurdistan Region said Russia would respect the decision of the people of Kurdistan on independence. Evgeny Arzhantsev said that Russia has good relations with the Kurdistan Region, Russia wants to have "good and permanent political relationship with the leadership of Kurdistan," The deputy consul-general said that Russia is working to improve its military relations with the Kurdistan Region. Arzhantsev revealed that Russia delivered four shipments of military assistance to the Peshmerga forces, stating that twice the shipments were sent via Baghdad but the last two shipments were sent directly to the Kurdistan Region. Arzhantsev told Kurdistan24. "This means that we respect Peshmerga fighters who have a big burden on their shoulders to fight Daesh and we respect that Peshmerga forces are fighting on behalf of the world," (Kurdistan24.net, 2016).

According to Reuters, "We are interested that the Kurdish people like any other nation on the planet can fulfill its hopes and aspirations," Foreign Minister Sergei Lavrov said in July. "We start from the fact that the legitimate aspirations of the Kurds, like other peoples, need to be fulfilled within the framework of existing international legal norms." But unlike other powers, Moscow has avoided giving a verdict on the legality or wisdom of holding the referendum itself. The Foreign Ministry in Moscow said it had nothing to add to Lavrov's comments on the matter from July (Reuters, 2017). Russian President Putin said. Russia is going to continue its cooperation with Iraq and Iraqi Kurdistan, he said. "Our companies, including Rosneft, are working in Iraq and Iraqi Kurdistan in particular," the "We believe this cooperation will benefit Iraq at large and Iraqi Kurdistan, and the Russian economy," "We traditionally have very good and trust-based relations with Kurdistan and Kurds in general," Three Russian companies are working on Iraqi fields now - Lukoil, Gazprom Neft, and Bashneft (tass.com,2017).

The Relations of KRG and Russian Federation Companies in Hydrocarbons Industry

The authorities of Iraqi Kurdistan are determined to develop economic relations with Russia, Mahmood Mohammed, the official representative of the Kurdistan Democratic Party (KDP), "We consider that Russian firms have a better understanding of how to invest in our economy than companies from many other countries. That is why we are open for cooperation. There are no obstacles. Kurdistan wants to develop relations based on mutually beneficial cooperation with many countries, and Russia is one of these states," (sputniknews.com, 2017).

On 1 august 2014 Gazprom Neft has begun drilling an exploration well at the Shakal block in Kurdistan (Iraq) and is soon to commence drilling on a second exploration well. The project will study two oil reservoirs in the Shakal block including flow testing. Well testing will be completed by late 2014 / early 2015. Grey Wolf (Canada) has been appointed as contractor for the project based on the company's extensive experience in the region. The wells will have a depth of up to 3.5km. Earlier, 2D seismic surveys have been conducted covering an area of more than 1,000 linear kilometres at the Shakal block, where an exploration well has also been drilled. 3D seismic surveys covering 290 square kilometres have also been conducted since Gazprom Neft joined the project. Gazprom Neft is involved in three projects in Iraqi Kurdistan. In addition to its operations on the Shakal block, the company is conducting geological surveys of the Halabja block where it is planning 2D seismic surveys covering 1,000 linear kilometres in 2014, and drilling the block's first exploration well in 2015-2016. Gazprom Neft is also involved in the development of the Garmian block where the deposit is currently undergoing further exploration and preparation for full scale development. The Kurdistan Regional Government (KRG) is currently considering the initial field development plan (gazprom-neft.com, 2014).

Gazprom Neft is the only Russian company that is currently producing crude oil in the volatile Iraqi region of Kurdistan. In an interview with Company, Sergei Petrov, general director of Gazprom Neft Middle East, explains why the company aims to expand its presence in the region and outlines how existing projects are progressing. When oil prices were high, companies invested in all regions, expanded their presence at very different markets. After the oil price collapse and disappointment in initial geological expectations, companies reconsidered efficiency indexes and reduced the least efficient projects. Gazprom Neft considers its assets portfolio in terms of its long-term economic efficiency. I believe that we have good prospects in the Iraqi region of Kurdistan, and we can get good results on these projects. Also he mentioned Gazprom Neft is active at three blocks. At present, production is carried out on the Garmian Block from the Sarqala-1 well. In February 2016, Gazprom Neft took over operation of the block from its partner, Canadian Western Zagros. Since Mar. 1, 2016, we are the full-fledged project operator. Last year production at Sarqala-1 stood at 3,863 barrels per

day. We started 2017 with daily output of some 5,500 b/d. During this year we managed to significantly increase production to 9,600 b/d. At Garmian, we expect that in the period from 2019-22, production might rise to 1 million tons/yr. We are ready to expand, to look at new blocks. Gazprom Neft is in constant negotiations on the issue with the regional natural resources ministry, which offered us some 10 blocks for consideration. Having studied the available geological data, we chose the most promising license areas and are currently holding negotiations (gazprom-neft.com, 2017).

Speaking about the development of Russia's economic influence in the Middle East after the Arab Spring, it should be noted that Gazprom Neft has recently been the operator of projects in Kurdistan. Economic penetration of Russia assumes reduction of positions of the Arabian countries in oil and gas branches. Russia received observer status with OPEC and participates in current forums of gas-exporting countries since 2008. According to Reuters, Russian state giant oil Rosneft announced its latest investment, to help Iraqi Kurdistan develop its natural gas industry, for domestic supplies and eventual export. The full value of the deal has not been disclosed officially, but according to industry sources familiar with it, it is worth more than \$1 billion. It is Rosneft's third giant venture in the Kurdish region since February, transforming Moscow from an outsider with little profile in Kurdistan into the region's biggest source of cash. According to the industry sources, Rosneft's deals since it first arrived in Kurdistan last December are worth around \$4 billion in total. That exceeds the \$2 billion in financing the Kurdish region has previously received for oil sales from international trading firms that pre-pay for its exports, and \$1.5 billion it has received from neighbor Turkey. It also marks a big change in focus for the Iraqi Kurds, who have had close ties with Washington since 1991 when the United States offered them protection from Saddam Hussein, the dictator later toppled by U.S. forces in 2003 (Reuters, 2017).

Kurdistan has estimated recoverable reserves at 45 billion barrels of oil and 5.66 trillion cubic meters of gas, which could rise further with exploration. In February 2017, Rosneft ramped up its cooperation by agreeing to lend the semi-autonomous region \$1.2 billion, becoming the first big foreign oil company to publicly commit to pre-financing Kurdish exports. Kurdistan's minister of natural resources Ashti Hawrami called the deal a ground-breaker for the region that would help its economic independence - a crucial condition for seeking political independence. Russia became the Kurds' single biggest financier with its next deal in June this year to lend money and help search for more oil, bringing its total investments close to \$2.8 billion. This week's Russian pledge to invest more than \$1 billion in Kurdistan's gas infrastructure could help the region become a major gas exporter to Turkey and Europe one day, Rosneft says. The independence referendum won't be a problem. "Holding the referendum will not affect our work. We are doing business in an autonomous region in Iraq that has

been recognized by law," Rosneft spokesman Mikhail Leontev said. "This place is run by Iraqi Kurdistan's nation and it is the people of Iraqi Kurdistan who live there. That is why we don't think we are embarking on an adventure." (Reuters, 2017).

According to Voanews.com Russian energy major Rosneft has agreed to take control of the main oil pipeline in Iraq's Kurdistan, further boosting its role as the main international investor in the semi-autonomous region. Rosneft said its share in the project may total as much as 60 percent, while the current pipeline operator KAR Group will retain 40 percent. And Rosneft's investment in the project was seen totaling about \$1.8 billion. Iraq, along with neighboring Iran and Turkey, has pledged to isolate Kurdistan in the wake of last referendum. That includes cutting off air and banking ties and reviving an old pipeline to Turkey to deprive Erbil of a big chunk of oil revenues. Rosneft will be investing in expanding Erbil's independent pipeline, which Baghdad has targeted, hoping to boost its capacity by a third to 950,000 barrels per day. That is the equivalent of about 1 percent of total global supply. With Rosneft acquiring 60 percent in the project. Rosneft has already agreed to invest \$400 million in five oil blocks in Iraqi Kurdistan. It also had previously loaned Kurdistan \$1.2 billion, guaranteed by oil sales, and is seeking to help Erbil build two major oil and gas pipelines (voanews.com, 2017).

Rosneft Steps of Deals with KRG

On 21 February 2017, Rosneft and the Kurdistan Regional Government of Iraq signed a Cooperation Agreement in the fields of upstream, infrastructure, logistics and trading. Pursuant to the Cooperation Agreement the parties signed a pre-financed Crude Oil Purchase and Sale Contract of Kurdistan Region Crude oil over the period 2017-2019. The purchaser of crude will be Rosneft's trading arm – Rosneft Trading SA (Rosneft.com, 2017).

On 02 June 2017, Rosneft and the Kurdistan Regional Government, as part of the XXI St. Petersburg International Economic Forum, signed a series of agreements on widening their cooperation in exploration and production of hydrocarbons, commerce and logistics. The documents were signed ahead of the meeting between the President of the Russian Federation Vladimir Putin and the Prime Minister of Iraqi Kurdistan Nechirvan Barzani by Igor Sechin, Rosneft Chief Executive Officer, and Dr. Ashti Hawrami, Minister of Natural Resources for the Kurdistan Regional Government. The Parties signed an investment agreement under which they committed to develop cooperation in exploration and production, agreed on monetization of the export oil pipeline in Iraqi Kurdistan, as well as entered into a number of production sharing agreements. The agreement outlines the main terms of the project which provides for the establishment of a joint venture for implementation of the long-

term contract related to infrastructure systems in Iraqi Kurdistan. Rosneft will get access to the major regional transportation system with the throughput capacity of 700 thousand bbl per day, which is planned to be expanded up to 1 million bbl per day by the end of 2017. The signed documents strengthen cooperation between Rosneft and Iraqi Kurdistan, which started in February 2017 from signing a contract on purchase and sale of crude in 2017-2019. The new agreements will allow to talk about full entry of the Company in one of the most promising regions of the developing global energy market with the expected recoverable reserves in the order of 45 billion bbl of oil and 5.66 trillion m³ of gas (according to the estimate of the Ministry of Natural Resources of Kurdistan Region) (Rosneft.com, 2017).

Also at 18 October 2017, Rosneft and the Government of the Kurdish Autonomous Region of Iraq signed the documents required to put into force Production Sharing Agreements (PSA) with respect to five production blocks located in the Kurdish Autonomous Region. The share of Rosneft Group Subsidiaries in PSA will be 80%, the amount of payments for the projects farm-in and geological information for each of five blocks ranges from 40 to 110 million USD. and may total to 400 mln.USD (incl. 200 mln.USD that can be compensated by oil produced from block), the heads of terms of the agreements and the basic principles of product distribution are similar to the PSA in Iraqi Kurdistan that were signed by other international oil and gas companies. The parties agreed to implement the geological exploration program and to start pilot production as early as in 2018. In case of success, in 2021 it is planned to start full-field development of the blocks. According to conservative estimates, the total recoverable oil reserves at five blocks may be about 670 million barrels. And at 19 October 2017 Rosneft and Kurdistan Regional Government are continuing to build on agreements they have reached previously. On the sidelines of the X Eurasian Economic Forum in Verona the parties have announced the start of joint implementation of an infrastructure project for the operation of the oil pipeline in the Kurdish Autonomous Region. Rosneft's share in the project may amount to 60%. The other project participant with 40% share will be KAR Group, who is the current pipeline operator.

In October, the Company and the Government of the Kurdish Autonomous Region of Iraq signed the documents required for the enactment of Production Sharing Agreements (PSA) for five production blocks with a conservative estimate of recoverable oil reserves of 670 million bbl which are located in the Kurdish Autonomous Region. The key terms of the agreements and the basic principles of production distribution are similar to the PSA in Iraqi Kurdistan that were signed by other international oil and gas companies. On 18 December 2017, in the third quarter of the year, Rosneft successfully closed the deal to enter Essar Oil Ltd, one of the largest Refining, Commerce and Logistics companies operating in India, one of the world's fastest growing markets. The implementation of this

project, as well as gaining an expanded access to substantial crude resources of the Kurdistan and Venezuela fields provided a stable basis for creating additional value through the integrated use of various oil baskets, crude and oil products trading (Rosneft.com, 2017).

CONCLUSIONS

To date, Iraqi Kurdistan has played certain and important role in wars and the world energy market. The positions of the Kurdish elites and Russia are the closest to the fight against the ISIS. Partial coincidence of the positions of Moscow and the Kurds is possible by solving the Kurdish problem and the Iraqi settlement. At the beginning of the 21st century, especially after 2011, Russia emerged from political uncertainty and forms a fairly clear foreign policy strategy; its socio-economic and political situation has reached a new level. In this regard, the Russian influence on the foreign policy level has significantly increased. Political leaders of the leading countries of the world, as a rule, understand that they cannot do without constructive dialogue with Russia in order to realize their own national interests. The current geopolitical interests of the Russian Federation in the Middle East are now being considered in the context of the Kremlin's attempts to change its foreign policy and foreign economic positions not only in the Middle East but throughout the world, which, after the collapse of the Soviet Union of Risk, fell. In the 1990s, the geopolitical influence of the Russian Federation weakened in the Middle East also in the world in connection with what had happened after the collapse of the USSR. Strengthening the positions and the vigilant and economic role of Kurds in the Middle East, especially also in the world, requires Russia to intensify Russian-Kurdish interaction. From the perspective of the Kremlin, the Kurds are a moderate secular force, playing an increasing role in the fight against the ISIS, also in the global energy market that poses a threat to the security interests and geo-economics of Russia. The fight against terrorism and playing a role in global energy are a key area for possible cooperation. Moscow is ready to cooperate with these issues and expand cooperation with all groups of Kurds in Iraq and Syria. Russia will understand and respect the Kurdish aspirations of the Russian Foreign Ministry said during the referendum on September 25, 2017. Thus, at the world level, one of the most important national interests of Russia is active and full participation in the formation of an effective system of international relations that meets its political economic and intellectual capabilities, military-political and foreign economic needs and potential. Kurdistan on the political map of the world occupies a key geopolitical and geostrategic position in the Middle East region. Determining its exact boundaries remains a complex issue to this day due to the absence of a Kurdish state. Kurdistan oil reserves are estimated at 45 to 50 billion barrels (sixth in the world), 60% of the stock of all Iraqi oil is in the territory of Kurdistan.

The logic of economic development requires certain capacities that require collective action through government. For government to be effective in creating economic development there is a need for performance and impact measurement systems that are able to provide decision support for strategic investments, to assess progress made in the catalytic capacity building function, and to assess the limitations and barriers that prevent the utilization of capacity that government investments build. From the literatures presented in this paper we can conclude that the giant oil companies of Russia have signed long term and strategic contracts with KRG in the field of extracting and marketing of oil and gas sector of Iraqi Kurdistan, It will secure economic security and development of the region. The history of Kurds is full of confronting problems by Iraqi government and Turkish frighten in any case, also imposing sanctions regarding extracting and marketing of its hydrocarbon resources. Thus, the Russian factor can reduce the challenges of extracting and marketing of the Region's oil and gas to the international markets, that's why securing the political security and economic development of the region. In the context of mutual benefits of oil industry between them, the Russia can protect Kurdistan Region from the threaten faced by Iraqi government and neighbors countries (Iran, Turkey) that have Kurdish problem in their countries, regarding imposing sanctions on the economic development of the Region for preventing independence economic development and self governance.

The West punishes Kurds for agreements with Rosneft and Gazprom, but the leadership of Kurdistan has made the right decision by signing agreements with Russian companies". Further economic cooperation with Russia should be developed, and in the future, if possible, the two party's investors should invest mutually, too. But anyway, it can be said that the prevailing circumstances in Kurdistan provide an opportunity for Russia to catch up on the Kurds. And with a reasonable approach, and the ability to balance Russian foreign policy, which will not damage Russia's relations with the countries of the region, and even vice versa. We note that this approach is very rational at this stage of the development of Russian-Kurdish relations. Former President Kurdistan M. Barzani once argued that there will be a serious reworking of relations with the United States. According to him, Russia's position was friendlier for Iraqi Kurds than Washington's position on the referendum and independence.

REFERENCES

- Gazprom Neft Sees Good Prospects in Kurdistan. (2017), Interview with general director of Gazprom Neft Middle East Sergei Petrov. 28 September. <http://www.gazprom-neft.com/press-center/lib/1159674/>.
- Rosneft Board of Directors approves 2018-2019 plan of financial and economic activities. OPERATING RESULTS FOR Q3 AND 9M 2017. Rosneft and Kurdistan Regional Government announce the entry of Rosneft into an infrastructure project in the Kurdistan Autonomous Region. Rosneft and the Government of the Kurdish Autonomous Region of Iraq agree on cooperation at five production blocks. Rosneft Develops Projects in Iraqi Kurdistan. <https://www.rosneft.com/press/releases/item/189205/>.

- Russia to Control Iraq Kurdistan's Main Oil Pipeline. (2018), <https://www.voanews.com/a/russia-iraq-kurdistan-oil-pipeline/4078802.html>.
- Dmitry Zhdannikov. (2017), Russia becomes Iraq Kurds' top funder, quiet about independence vote, <https://www.reuters.com/article/us-mideast-crisis-kurds-referendum-russi/russia-becomes-iraq-kurds-top-funder-quiet-about-independence-vote-idUSKCN1BV11H>. September 20, 2017.
- Iraqi Kurdistan Seeks to Develop Economic Ties With Russia – KDP. (2017), <https://sputniknews.com/business/201709131057361454-iraq-kurds-ties-russia-party/>. 13.09.2017.
- Putin on Kurdistan's future. (2017), Iraqi sovereignty and laws must be respected, Russian Politics & Diplomacy. December 14. <http://tass.com/politics/981082>.
- Kurdistan24.net. (2016), Russia respects the decision of people of Kurdistan over independence, <http://www.kurdistan24.net/en/interview/ca846290-2e60-428d-8088-631978d3e299/russia-respects-the-decision-of-people-of-kurdistan-over-independence>. August 24-2016.
- Origins , (2018) Top Ten Origins: Russia's Relations with the Kurds. Current Events in Historical Perspective. <http://origins.osu.edu/connecting-history/top-ten-origins-russia-s-relations-kurds>.
- "Kurdish oil flow to Turkey begins, exports await Iraqi consent," January 2, 2014, <http://www.reuters.com/article/2014/01/02/turkey-iraqidUSL6N0KC0M220140102>.
- Paasche T.F., Mansurbeg H. (2014), Kurdish Regional Government –Turkish energy relations: a complex partnership, Routledge, London.
- Piotr Sosnowski. (2016), Relations with Turkey as determinant of Iraqi Kurdistan economic security, War Studies University, Warsaw, Poland, Securitologia No 2.
- Phillips, David. (2016), Looking for Friends in the Middle East: Try the Kurds. http://www.huffingtonpost.com/david-l-phillips/iraqi-kurds_b_1912568.html Rereitved: 2017-04- 18.
- Matthew J. Bryza. (2012), "Turkey's Dramatic Shift Toward Iraqi Kurdistan: Politics Before Peace Pipelines." Turkish Policy Quarterly, 53-61.
- Michael Georgy. (2014), Isabel Coles: Kurdistanregion,Baghdad reach deal on oil exports and payments. Reuters, November 13. www.reuters.com/article/2014/11/13/us-iraq-kurdistan-idUSKCN0IX1X520141113 (Accessed on 15 April, 2018.)
- The Kurdistan Region of Iraq Needs an Estimated US\$1.4 billion this Year to Stabilize the Economy. (2015), the World Bank IBRD-IDA, February 12. www.worldbank.org/en/news/press-release/2015/02/12/kurdistan-region-iraq-stabilize-economy (Accessed on 15 April, 2018.)
- Ahmad Paiman Ramazan, Economic Hub "Kurdistan Region" During the 2014 Economic Crisis, <https://polgariszemle.hu/archivum/95-2015-junius-11-evfolyam-1-3-szam/tanulmanyok-a-nemzetkoezi-terbolterrol/667-economic-hub-kurdistan-region-during-the-2014-economic-crisis>.
- Countries hosting Syrian refugees, solidarity and burden-sharing. (2013), Provisional release, The UN Refugee Agency, UNHCR, September.
- ISIS and Baghdad siege on Kurdistan hit the economy and drives 100 thousands into unemployment. Shafaq News, September 30, 2014. english.shafaq.com/index.php/stories/11543-isis-and-baghdad-siege-on-kurdistan-hit-the-economy-and-drives-100-thousand-into-unemployment (Accessed on April 20, 2016.)
- Prime Minister Nechirvan Barzani. (2007), KurdistanOil and Gas Law approved by Kurdistan Parliament. KRG. ORG, 6 August, 2007. cabinet.gov.krd/a/d.aspx?s=010000&l=12&a=19507 (Accessed on 2 April, 2018.)
- Jens Presthus: The return of reason. (2014), the Baghdad-Erbil oil dispute, Nouri Al-Maliki and Haider al-Abadi. St Andrews Foreign Affairs Review, November 18, 2014. foreignaffairsreview.co.uk/2014/11/the-return-of-reason-the-baghdad-erbil-oil-dispute-nouri-al-maliki-and-haider-al-abadi/ (Accessed on 2 April, 2018.)
- Baghdad-Erbil oil dispute: agreeing to disagree, for now. Al Monitor, March 24, 2009. www.al-monitor.com/pulse/fa/originals/2013/12/baghdad-erbil-kurdish-oil-dispute.html (Accessed on 2 April, 2018.)
- Market Overview – Kurdistan Region of Iraq. IKG, property. (2013), dbxkurdistan.com/PDF/IKG-PropertyErbilQ3Report.pdf (Accessed on 2 April, 2018.)
- Overview: Kurdistan Region of Iraq economy. IIG. www.investinggroup.org/publications/kurdistan/over-view/economy (Accessed on 2 April, 2018.)
- The Potential for Food Processing in Iraq. March 15, 2006. www.trade.gov/static/iraq_foodprocessing.pdf KRG. Ministry of Agriculture, Descriptive Survey, March 3, 2008.
- Gunter Frank: The ISIL invasion of Iraq: economic winners and losers. Foreign Policy Research Institute, July 23, 2014.
- Denise Natali. (2014), Turkey's Kurdish Client State, Al Monitor, 14 November 2014, available at <http://www.al-monitor.com/pulse/originals/2014/11/turkey-kr-g-client-state.html>, accessed 1 April 2018.
- Soner Cagaptay, Christina Bache Fidan, Ege Cansu Sacikara. (2015), Turkey and the KRG, Signs of Booming Economic Ties, 25 February 2015, available at <http://goo.gl/PHn4sS>, accessed 1 April 2018.

- Invest in Group. (2013), *Determined to Grow: Economy*, October 2013, available at <http://investingroup.org/review/236/determined-to-grow-economy-kurdistan/>, accessed 1 April 2018.
- Kurdistan Regional Government. (2018), <http://cabinet.gov.krd/p/p.aspx?l=12&p=224>, accessed 1 April 2018.
- Kurdistan Regional Government. (2015), Prime Minister Barzani and Turkish Prime Minister discuss bilateral relations, 27 December 2015, available at <http://cabinet.gov.krd/a/d.aspx?s=040000&l=12&a=54081>, accessed 1 April 2018.
- J. P. N. Galloway. (1958), 'A Kurdish Village of North-East Iraq', *The Geographical Journal*, Vol. 124, No. 3 (Sep., 1958), pp. 361-366 Published by: Blackwell Publishing on behalf of The Royal Geographical Society (with the Institute of British Geographers)
- Macroeconomic policy. (2014), the World Bank Group, IBRD-IDA, December 22, 2014. www.worldbank.org/en/topic/macroeconomics/brief/macroeconomic-policy (Accessed on 1 April, 2018.)
- Regional Development Strategy for Kurdistan Region, (2012–2016), Kurdistan Regional Government, Ministry of Planning-Erbil-Kurdistan Region-Iraq, 2018. <http://cabinet.gov.krd/p/p.aspx?l=12&p=224>
- Confronting budget deficits. (1996), International Monetary Fund, September, 1996. www.imf.org/external/pubs/ft/issues3/ (Accessed on 1 April, 2018.)
- P. Collier – A. Hoeffler. (2014), Aid, policy and growth in post-conflict countries. *The European Economic Review*, Vol. 48, 2004, 1125–1145.
- Yin, R. K. (2003), *Case Study Research: Design and Methods*. 3rd Ed. Applied Social Research Methods Series; v.5. Sage Publications.
- Gareth Stansfield. (2013), "The Unravelling of the post-First World War state system? The Kurdistan Region of Iraq and the transformation of the Middle East." *International Affairs* 89 vol. 2, 2013, (Blackwell Publishing Ltd, Oxford UK), 273
- Gunter, M., (2012), "Iraqi Kurdistan's Two Contrasting Economic Images", *International Journal of Contemporary Iraqi Studies*, 6:1, pp. 89-95.
- Bengio, O., (2010), "On the Brink: State and Nation in Iraqi Kurdistan", in A. Baram, A. Rohde and R. Zeidel eds *Iraq Between Occupations: perspectives From 1920 to the Present*, New York: Palgrave Macmillan, pp.61 -78.
- Khalil, L., (2009), "Stability in Iraqi Kurdistan: Reality or Image?", (Online), The Saban Centre for Middle East Policy at the Brookings Institution, Available at: http://www.kurdistaninvestment.org/docs/kurdistan_khalil.pdf Accessed: 25 December 2012, pp. 1 -41.
- Paz, A., (2011), "Oil and Political Authority: An Analysis of Relations Between the Government of Iraq and the Kurdistan Regional Government", Online, New Initiative for Middle East Peace, Tufts University and The Institute for Global Leadership, Available at: http://tigrarchives.org/sites/default/files/resources/nimep/v5/NIMEP_Insights_2011_2_2-47.pdf (Accessed 12 November 2012).
- El Gamal, R., (2010), "Turkey, Iran Battle for Clout Deals in Iraq", (Online), Reuters, 8 December 2010, Available at: <http://www.reuters.com/article/2010/12/08/us-iraqiran-turkey-idUSTRE6B72YB20101208> (Accessed 10 March 2013).
- Schumpeter, J. A. (1961), *the theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (Vol. 55). Transaction Books.
- Feldman, M. P. and J. Francis. (2003), Fortune Favors the Prepared Region: The Case of Entrepreneurship and the Capitol Region Biotechnology Cluster. *European Planning Studies*, 11 (7): 765-788.
- Porter, M. E. (1998), *Competitive advantage of nations*. New York: Free press.
- Ricardo, D., Gonner, E. C. K., & Li, Q. (1819), *The principles of political economy and taxation*: World Scientific.
- Solow, R. M. (1956), A contribution to the theory of economic growth. *The Quarterly Journal of Economics*, 70(1), 65-94.

**PERFORMANCE INDICATORS AND CLINICAL MONITORING:
USEFUL MEASURES FOR IMPROVING QUALITY AND REDUCING
COSTS IN HEALTHCARE ORGANIZATIONS**

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ABSTRACT

In the last few years, increasing attention was captured by the question related to evaluating the performance and to monitoring the clinical activity in the healthcare organizations. Besides to show how accreditation and certification processes have to be performed, recent researches assess the healthcare performance in order to check their efficiency and effectiveness. Such capability is described as the competence to contribute with treatments improving the patient's health.

This study, dealing with scientific and technological developments, screening programs and well-defined indications for accessing to minimally invasive surgery, focuses on techniques for identifying, through a clinical audit process, the criteria and key performance indicators useful for assessing whether the indication for minimally invasive endovascular surgical treatment was performed in the right way. The research, after having introduced readers to the wide contest on measuring strategies, performance, outcomes indicators and clinical monitoring, aims attention at the clinical audit involving to explain the concept of quality of care in the vascular and endovascular surgery area. Sub-objectives were: (1) verify if according to the evidence-based recommendations, the indication for minimally invasive treatment for EVAR and TEVAR is appropriate; and (2) evaluate the performance of minimally invasive treatment. The results will be able to guide professionals to prescribe the right care to the patient and reduce costs. In conclusion, to confirm the feasibility of performance indicators and clinical monitoring, a practical application defining criteria and indicators for evaluating the indication for the minimally invasive treatment and for assessing the performance of the procedure is proposed.

Keywords: healthcare organization; performance indicator; performance improvement; health performance; clinical audit; healthcare costs; quality of care.

INTRODUCTION

The development and use of methodologies making measurable the actions implemented by health professionals, has now become an increasingly widespread issue in healthcare organizations (Smith, 2009). In healthcare practice, clinical indicators are part of performance measurement, a mode for assessing the quality of care by investigating the frequency of specific results. Instituting measures for the use of constant performance monitoring and the consequent enhancement, has evolved into a fundamental element of healthcare in most organizations worldwide (Braithwaite, 2017).

The right identification of the quality measures represents one of the most important factors in the entire process of clinical monitoring (Morris and Bailey, 2014). Unfortunately, one single indicator cannot represent the general concept of quality of care, since it has a multidimensional approach. To confirm this, several authors have shown the usefulness to adopt a multidimensional approach to evaluate the performance (Keegan *et al.*, 1989; Azzone *et al.*, 1991; Lynch and Cross, 1991; Kaplan and Norton, 1992; Brown 1996; Neely *et al.*, 2001, Awwad and Akroush, 2016). In particular, the Donabedian' approach (1988) splitting the performance concept into "structure – process – outcome" areas, represents for most of the scholars the quality-oriented measurement system more used (Kennedy *et al.*, 1999; Lindsay *et al.*, 2002).

According to Donabedian, for each area a cluster of indicators should be used to get accurate assessments. Since such indicators are used in several areas to cope the requests of different stakeholders, the choice of one rather than another, has to be related to the aim of the analysis. Furthermore, the outcomes indicators representing the last step of the healthcare analysis, may not be useful to identify aspects that have implications for performances. In this case, to know what affects performance, an efficient index should measure not only the final findings but also the care processes as a whole (Braithwaite, 2017; Ibrahim, 2001). In a performance management vision, the clinical processes have to be connected with enhanced patient health results. This expectation is ensured applying process measures than outcomes measures as they give the opportunity to the health professionals to assess exactly which procedures are necessary follow to positive affect patient outcomes (Burton, 2014).

Nowadays, a greater awareness of quality and safety topics has implemented the improvement of clinical indicators for healthcare governance, services, patient safety as well as particular disease. Such measures are collected from healthcare administrative sectors and the clinical audit has to develop and check a range of indicators. The improvement process requires continuous measurements for evaluating health care. In order to reach the desired optimal result, such approach is then compared with good practices identified on scientific evidence (Dixon, 2001).

Clinical audit is a process that involves all healthcare professionals. Through a systematic review of clinical practice, they try to improve the quality of patient management. Constant monitoring of the indicators is carried out to confirm or reject the improvement of the healthcare system (Dixon, 2001).

BACKGROUND AND SCIENTIFIC RATIONALE

Healthcare organizations are constantly evolving in response of today's and future health sector challenges (Saviano *et al.*, 2014). The main issues are the resources' cutbacks; population ageing; technological innovation with increasingly expensive investments and lastly the rising demand for quality healthcare (Aggelidis and Chatzoglou 2008; Lega *et al.*, 2013). Such aspects, producing both an increase in the quality of services and an increase in expenses, lead healthcare organizations to spend time and resources to develop correct measurement systems to evaluate how care is provided. Healthcare management seeks to identify the appropriate key performance indicators (KPIs) to quickly find useful information about the various activities. The indicators are fundamental for any clinical audit process.

The study, through a clinical audit process, defines the criteria and KPIs for minimally invasive endovascular surgical treatment. Such treatment is chosen because among the diseases of the cardiovascular system, aortic pathologies represent an important European health problem (ESC, 2014; ISTAT, 2017; Pratesi *et al.*, 2016; Speziali *et al.*, 2015). The Italian Society of Vascular and Endovascular Surgery has detected about 84,000 people suffering from abdominal aortic aneurysms and 27,000 cases are diagnosed each year (Pratesi *et al.*, 2016; Speziali *et al.*, 2015). Repair of an aneurysm may be performed in two ways: traditional surgery (open repair) or through the endovascular prosthesis with a minimally invasive procedure.

The minimally invasive procedures "EndoVascular Abdominal Aortic Repair" (EVAR) and "Thoracic Endovascular Aortic Repair" (TEVAR), replacing the traditional surgery, reduce surgical and post-surgical risks (Saqib *et al.*, 2012; Wang and Fairman, 2009).

Among field studies, Powell *et al.*, (2017) has proved how the minimally invasive cardio-surgical treatment is associated with a 66.7% reduction of: perioperative mortality, complications' rate and hospital recoveries compared to traditional surgical treatment (Hiratzka *et al.*, 2013; Patel *et al.*, 2018; Patel *et al.*, 2016).

In recent years, scientific and technological developments, screening programs and well-defined indications for accessing to minimally invasive surgery, have shed light on the increase in the economic burden on the healthcare system and on the constant raise in cardio-surgical treatments (ESC, 2014; Pratesi *et al.*, 2016; Speziali *et al.*, 2015).

Statistically, in 2017 the use of abdominal thoracic aorta prostheses (systematic surgical codes: 39.71, 39.73, 39.79) increased compared to the previous year. In the field studies, cost monitoring has highlighted an increase in vascular prosthesis procedures, generating 10% increase in costs and 75% increase in budget compared to 2016. Such budget using has taken into account the use of more expensive custom-made system than the standard system. The data showed that in the case of custom-made systems, the costs of medical devices exceeded the DRG tariff rate which should remunerate all hospitalization costs. Given the increase in activities and costs of surgery' medical devices, a clinical audit was scheduled in order to gather more information on the way in which the activities are carried out.

OBJECTIVES

The principal aim was to identify, through a clinical audit process, the criteria and KPIs useful for assessing whether the indication for minimally invasive endovascular surgical treatment was performed in the right way.

Such main objective was split into two sub-objectives:

1. verify if according to the evidence-based recommendations, the indication for minimally invasive treatment for EVAR and TEVAR is appropriate;
2. evaluate the performance of minimally invasive treatment for EVAR and TEVAR;

The results will be able to guide professionals to prescribe the right care to the patient, thus generating a positive impact both for patients in terms of better quality of care and for the healthcare organization in terms of savings.

METHODOLOGY

Study Design

In the preliminary phase a literature review was carried out. Using the PubMed database the national and international guidelines have been identified. The keywords: "Abdominal Aortic Aneurysm", "Toracic Aortic Aneurysm", "Endovascular Aortic / Aneurysm Repair"; "Thoracic Endovascular Aortic / Aneurysm" and the following limits: "English, Italian, studies published in the last 3 years, Humans, Practice Guidelines" were used as inclusion criteria. The identified guidelines were subsequently submitted to an evaluation following the criteria defined by Grilli *et al.*, (2000).

The "Guidelines on the diagnosis and treatment of aortic diseases of the European Society of Cardiology" (ESC, 2014) was considered the best guideline. Furthermore, in order to consider the applicability in the context of the Italian health system, some recommendations such as: "Patologia

aneurismatica dell'aorta infrarenale, aneurismi viscerali e aneurismi periferici" (Pratesi *et al.*, 2016) and "Trattamento delle patologie dell'aorta toracica e toraco-addominale" (Speziali *et al.*, 2015) were included.

The sample was built on the basis of various health information sources. The data was recorded and processed with the STATA statistical software version 24.0.

Population

The sample's inclusion criteria were:

- adult patients with an indication for elective or urgent surgical treatment;
- patients who have an endovascular graft implant operation with ICD9-CM: 39.71, 39.73, 39.79, divided by aneurysm size, type of graft and surgical unit.

The sampling was carried out considering a 90% confidence interval with a margin of error of $\pm 10\%$.

On a total of 160 patients, 53 patients were considered eligible.

Criteria, monitoring and key performance indicators

In order to cope the first sub-objective, verify if according to the evidence-based recommendations, the indication for minimally invasive treatment for EVAR and TEVAR is appropriate, 9 criteria of which 5 related to the abdominal area and 4 to the thoracic area were defined. Indicators and criteria are shown in Tab. 1.

As for the second sub-objective, evaluate the performance of minimally invasive treatment for EVAR and TEVAR, 8 indicators were identified (Tab. 2).

ABDOMINAL AREA		
indication for minimally invasive treatment for EVAR		
Criterion 1		Patients enrolled to a Abdominal Aortic Aneurysm (AAA) treatment with favorable anatomy and a high surgical risk due to perioperative complications are submitted to EVAR surgery (ESC, 2014; Pratesi <i>et al.</i> , 2016).
Indicator	Numerator	The number of patients with indication for AAA surgery, high surgical risk and favorable anatomy.
	Denominator	All patients submitted to EVAR surgery with indication for AAA, high surgical risk and favorable anatomy.
Criterion 2		Patients enrolled for AAA treatment with favorable anatomy and a medium or low risk due to perioperative complications are submitted to EVAR or OPEN surgery (ESC, 2014; Pratesi <i>et al.</i> , 2016).
Indicator	Numerator	The number of patients with indication for AAA surgery, medium or low surgical risk and favorable anatomy.
	Denominator	All patients submitted to EVAR surgery with indication for AAA, medium or low surgical risk and favorable anatomy.
Criterion 3		Patients enrolled for AAA treatment with NO favorable anatomy for EVAR are submitted to OPEN surgery. If the risk of perioperative complications is high, medical therapy is indicated (ESC, 2014; Pratesi <i>et al.</i> , 2016).
Indicator	Numerator	The number of patients with indication for AAA surgery

		and NO favorable anatomy for EVAR.
	Denominator	All patients submitted to EVAR surgery with indication for AAA.
Criterion 4		Patients enrolled for broken or symptomatic AAA with favorable anatomy are submitted to EVAR surgery if the risk of perioperative complications is high and the structure is adequate (minimum 50 surgery per year) (ESC, 2014; Pratesi et al., 2016).
Indicator	Numerator	The number of patients with indication for broken or symptomatic AAA, high surgical risk and favorable anatomy.
	Denominator	All patients submitted to EVAR surgery with indication for broken or symptomatic AAA and high surgical risk.
Criterion 5		Patients enrolled for broken or symptomatic AAA with NO favorable anatomy for EVAR are submitted to OPEN surgery (ESC, 2014; Pratesi et al., 2016).
Indicator	Numerator	The number of patients with indication for broken or symptomatic AAA and No favorable anatomy for EVAR.
	Denominator	All patients submitted to EVAR surgery with indication for broken or symptomatic AAA.
THORACIC AREA		
indication for minimally invasive treatment for TEVAR		
Criterion 6		Patients with chronic dissection associated with connective tissue disorders, aneurysm > 5.5cm and without severe comorbidity are submitted to OPEN surgery (ESC, 2014; Speziali et al., 2015).
Indicator	Numerator	The number of patients with indication for Abdominal Thoracic Aorta Aneurysm (ATA), aneurysm > 5.5cm and without severe comorbidity.
	Denominator	All patients submitted to TEVAR surgery with indication for ATA.
Criterion 7		Patients with ATA associated with connective tissue disorders and aneurysm > 6cm or less if associated with Marfan or LoyezDietz pathology are subjected to OPEN surgery (ESC, 2014; Speziali et al., 2015).
Indicator	Numerator	The number of patients with indication for ATA associated with connective tissue disorders and aneurysm > 6cm or less if associated with Marfan or LoyezDietz pathology.
	Denominator	All patients submitted to TEVAR surgery with indication for ATA.
Criterion 8		Patients with ATA associated with connective tissue disorders and aneurysm > 6cm or less if associated with Marfan or LoyezDietz pathology, are subjected to TEVAR surgery if there is a high perioperative risk (ESC, 2014; Speziali et al., 2015).
Indicator	Numerator	The number of patients with a high perioperative risk and indication for ATA associated with connective tissue disorders and aneurysm > 6cm or less if associated with Marfan or LoyezDietz pathology.
	Denominator	All patients submitted to TEVAR surgery with high surgical risk and indication for ATA.
Criterion 9		Patients with an abdominal or traumatic thoracic aortic aneurysm, saccular aneurysms, or post-operative pseudoaneurysms are subjected to TEVAR surgery (ESC, 2014; Speziali et al., 2015).
Indicator	Numerator	The number of patients with indication for ATA associated

		with traumatic or aneurysm > 6cm or saccular aneurysms, or post-operative pseudoaneurysms.
	Denominator	All patients submitted to TEVAR surgery with indication for ATA.
THORACIC-ABDOMINAL AREA		
OUTCOMES - EVAR /TEVAR – DIVIDED INTO OPERATIVE UNITS, PROCEDURE AND GRAFT TYPE		
Indicator 1: Intraoperative mortality	Numerator	The number of patients died during EVAR or TEVAR surgery
	Denominator	All EVAR or TEVAR surgery
Process RESULTS - EVAR /TEVAR – DIVIDED INTO OPERATIVE UNITS, PROCEDURE AND GRAFT TYPE		
Indicator 2: average duration of hospitalization	average and range	Average hospitalization days for EVAR or TEVAR surgery
Indicator 3: average duration of surgery (minutes)	average and range	End of surgical operation - Start of surgical operation for EVAR and TEVAR
Indicator 4: Type of anesthesia - general / local	Numerator	The number of patients with indication for EVAR or TEVAR surgery under general / local anesthesia
	Denominator	All patients with indication for EVAR or TEVAR surgery
Indicator 5: average duration of hospitalization in intensive care unit (days)	average and range	Average stay in intensive care unit after EVAR or TEVAR surgery.
POST-OPERATIVE COMPLICATIONS - EVAR /TEVAR – DIVIDED INTO OPERATIVE UNITS, PROCEDURE AND GRAFT TYPE		
Indicator 6: repeated	Numerator	The number of patients with indication for EVAR or TEVAR surgery who had an episode of surgical re-

surgery		intervention in the current hospitalization.
	Denominator	All patients with indication for EVAR o TEVAR surgery.
Indicator 7: conversion rate	Numerator	The number of patients with indication for EVAR or TEVAR surgery who had a switching episode to OPEN surgery during the hospitalization.
	Denominator	All patients with indication for EVAR o TEVAR surgery
Indicatore 8: endoleak complications	Numerator	The number of patients with indication for EVAR or TEVAR surgery who had an endoleak following or prior to surgery.
	Denominator	All patients with indication for EVAR o TEVAR surgery

Table 1. *criteria and indicators for evaluating the indication for the minimally invasive treatment EVAR and TEVAR (sub-objective 1).*

THORACIC-ABDOMINAL AREA		
OUTCOMES - EVAR /TEVAR – DIVIDED INTO OPERATIVE UNITS, PROCEDURE AND GRAFT TYPE		
Indicator 1: Intraoperative mortality	Numerator	The number of patients died during EVAR or TEVAR surgery
	Denominator	All EVAR or TEVAR surgery
Process RESULTS - EVAR /TEVAR – DIVIDED INTO OPERATIVE UNITS, PROCEDURE AND GRAFT TYPE		
Indicator 2: average duration of hospitalization	average and range	Average hospitalization days for EVAR or TEVAR surgery
Indicator 3: average duration of surgery (minutes)	average and range	End of surgical operation - Start of surgical operation for EVAR and TEVAR
Indicator 4: Type of anesthesia - general / local	Numerator	The number of patients with indication for EVAR o TEVAR surgery under general / local anesthesia
	Denominator	All patients with indication for EVAR o TEVAR surgery
Indicator 5: average duration of hopitalization in intensive care unit (days)	average and range	Average stay in intensive care unit after EVAR or TEVAR surgery.
POST-OPERATIVE COMPLICATIONS - EVAR /TEVAR – DIVIDED INTO OPERATIVE UNITS, Procedure AND GRAFT TYPE		
Indicator 6: repeated surgery	Numerator	The number of patients with indication for EVAR or TEVAR surgery who had an episode of surgical re-intervention in the current hospitalization.
	Denominator	All patients with indication for EVAR o TEVAR surgery.
Indicator 7: conversion rate	Numerator	The number of patients with indication for EVAR or TEVAR surgery who had a switching episode to OPEN surgery during the hospitalization.

	Denominator	All patients with indication for EVAR o TEVAR surgery
Indicatore 8: endoleak complications	Numerator	The number of patients with indication for EVAR or TEVAR surgery who had an endoleak following or prior to surgery.
	Denominator	All patients with indication for EVAR o TEVAR surgery

Table 2. *indicators for assessing the performance of the minimally invasive procedure (sub-objective 2).*

RESULTS

According to the inclusion criteria, the sample of 53 eligible patients was defined. 51% of patients submitted a minimally invasive EVAR surgery. 96% were male patients and 77% of participants in the age group 60-79 years. The size of the aneurysm was ≥ 5 cm in 78% of cases, of which 71% is male in the age group 60-79 years. As for TEVAR surgery, 47% of patients submitted for the treatment. 72% were male in the age groups 40-59 years (28%) and 60-79 years (44%).

Sub-objective 1: Indication to the intervention EVAR or TEVAR

To cope the sub-objective 1, criteria and indicators exposed in Tab. 1 were used. The results are shown below.

Abdominal area

Criterion 1: 60% of patients with favorable anatomy and high surgical risk due to surgical complications, was submitted to EVAR surgery. The remaining 40% does not meet the criterion for the EVAR surgery indication, as in 2 cases it was not possible to find information and in 2 other cases the CT Angiography (CTangio) was not favorable to the surgical intervention.

Criterion 2: 100% of patients with favorable anatomy and medium-low surgical risk due to surgical complications, was submitted to EVAR surgery.

Criterion 3: 8% of patients with no favorable anatomy and high surgical risk due to surgical complications, was submitted to EVAR surgery.

Criterion 4: 100% of patients with aneurysm of the broken or symptomatic abdominal aorta, favorable anatomy and high surgical risk due to surgical complications, was submitted to EVAR surgery.

Criterion 5: No patient with aneurysm of the broken or symptomatic abdominal aorta, no favorable anatomy and high surgical risk due to surgical complications, was submitted to EVAR surgery.

In the tabs 3 and 4 the criteria and indicators applied to the abdominal area are shown.

DIAGNOSIS	SURGICAL RISK (HIGH MEDIUM LOW)	CT angiography (0)	CT angiography (1)	NA	TOTAL
1 (441.4)	Low		1		1
	Medium		11		11
	High	2	6	2	10
	NA		1		1
	Subtotal	2	19	2	23

1 (441.4) + (442.2)	Medium		1		1
	Subtotal		1		1
1 (442.2)	Medium		1		1
	Subtotal		1		1
TOTAL (1)		2	21	2	25
3 (441.3)	Medium	0	1	-	1
	High	0	2	-	2
TOTAL (2)		0	3	-	3

Table 3. *abdominal area*

CRITERIA	EVAR (Y/N)	SURGICAL RISK (HIGH MEDIUM LOW) & CTangio (0/1)	TARGET (0/100)	INDICATORS
N. 1	Y	HIGH - CT angiography 1	100	60%
N. 2	Y	MEDIUM-LOW - CT angiography 1	100	100%
N. 3	N	HIGH - CT angiography 0	0	8%
N. 4	Y	CT angiography 1	100	100%
N. 5	N	CT angiography 0	0	0%

Table 4. *criteria and indicators – abdominal area**Thoracic area*

Criterion 6: No patient with chronic dissection associated to connective tissue disorders, aneurysm > 5.5 cm, no severe comorbidity and no favorable anatomy, was submitted to TEVAR surgery.

Criterion 7: No patients with ATA associated to connective tissue disorders and aneurysm > 6cm or less if associated with Marfan or LoyezDietz pathology, was submitted to TEVAR surgery.

Criterion 8: No patients with ATA associated to connective tissue disorders and aneurysm > 6cm or less if associated with Marfan or LoyezDietz pathology and high surgical risk due to surgical complications, was submitted to TEVAR surgery.

Criterion 9: 80% of patients with saccular aneurysms, or post-operative pseudoaneurysms, was subjected to TEVAR surgery.

In the tabs 5 and 6 the criteria and indicators applied to the thoracic area are shown.

	DIAGNOSIS	Severe comorbidity (NO)	Severe comorbidity (YES)	TOTAL	
Thoracic and thoraco-abdominal aorta dissection (aneurysm > 5.5cm)	6 (441.01) No connective tissue disorders	1	1	2	
	6 (441.03) No connective tissue disorders	2	6	8	
	Subtotal	3	7	10	
Thoraco-abdominal aorta aneurysm (aneurysm > 6 cm in 3 cases and <6 in 1 case)	5 (441.7) No connective tissue disorders, Marfan or LoyezDietz	0	4	4	
	TOTAL	0	4	4	
Thoraco-abdominal aorta aneurysm			Medium risk	High risk	
	5 (441.7) No connective tissue disorders, Marfan or LoyezDietz		1	3	4
	TOTAL		1	3	4

		Aneurysm size			
		>= 5,5	04-05		
Thoraco-abdominal or traumatic aorta aneurysm	5 (441.7)	4	0		4
	7 (901.0)	0	1		1
	TOTAL	4	1		5

Table 5. *thoracic area*

CRITERIA	DESCRIPTIONS	TARGET (0/100)	RESULT
N. 6	connective tissue disorders & no severe comorbidity & aneurysm > 5.5cm	0	0%
N. 7	connective tissue disorders & no severe comorbidity & aneurysm > 5.5cm	0	0%
N. 8	connective tissue disorders & high surgical risk & aneurysm > 6cm or or less if associated with Marfan or LoyezDietz pathology	100	100%
N. 9	connective tissue disorders & high surgical risk & aneurysm > 6cm or or less if associated with Marfan or LoyezDietz pathology	100	80%

Table 6. *criteria and indicators – thoracic area*

Sub-objective 2: Evaluation of the performance of minimally invasive treatment' performance for EVAR and TEVAR surgery

In the following tables, the results of the indicators applied as defined in tabs 1 and 2 are shown. The evaluation of: the average Duration of Hospitalization (DH-average) (Tab. 7), the average Duration of Surgical Intervention (DSI-average) (Tab. 8), the type of anesthesia (Tab. 9), the average Duration of Hospitalization in Intensive Care Unit (DICUaverage) (Tab. 10), the access to Intensive Care Unit (ICU) (Tab. 11), the surgical re-interventions (Tab. 12), endoleak complications (Tab. 13) are presented below with a brief discussion of significant results.

The DH-average was 8 [3-19] days in the EVAR surgery, was 11 days [4-25] in the TEVAR surgery. The overall result of both treatments was 9 days [3-25] of DH-average (Tab. 7).

ICD9-CM CLASSIFICATION	GRAFT TYPE *	Cardiac Surgery Unit				Vascular surgery Unit				TOTAL			
		n	DH-average	Ma x	Mi n	n	DH-average	Ma x	Mi n	n	DH-average	Ma x	Mi n
39.71	CMD	1	9	9	9					1	9	9	9
	CMD+STD					2	12	12	11	2	12	12	11
	STD	1	6	6	6	2	7	19	3	2	7	19	3
		2	8	9	6	2	8	19	3	2	8	19	3
39.73	CMD	1	4	4	4					1	4	4	4
	CMD+STD	1	7	7	7	3	19	25	9	4	16	25	7
	STD	1	11	21	6	4	11	23	5	2	11	23	5
		1	10	21	4	7	14	25	5	2	11	25	4
39.79	STD					1	10	10	10	1	10	10	10
						1	10	10	10	1	10	10	10

	TOTAL	20	10	21	4	33	9	25	3	53	9	25	3
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* CMD: Custome made, CMD+STD: Custome Made + Standard, STD: Standard

Table 7. *DH-average classified into surgery, graft type and operating unit*

The DSI-average was 03:31 [01:45-07:05] in the EVAR surgery, was 03:32 [01:40-06:40] in the TEVAR surgery. The overall result of both treatments is 03:30 [01:40-07:05] (Tab. 8).

ICD9-CM CLASSIFICATION	GRAFT TYPE *	Cardiac Surgery Unit				Vascular surgery Unit				TOTAL			
		n	DSI average	Max	Min	n	DSI average	Max	Min	n	DSI average	Max	Min
39.71	CMD	1	03:00	03:00	03:00					1	03:00	03:00	03:00
	CMD+STD					2	0	06:35	06:35	2	06:35	06:35	06:35
	STD	1	03:20	03:20	03:20	23	0	07:05	01:45	24	03:24	07:05	01:45
		2	03:10	03:20	03:00	25	03:33	07:05	01:45	27	03:31	07:05	01:45
39.73	CMD	1	02:25	02:25	02:25					1	02:25	02:25	02:25
	CMD+STD	1	05:10	05:10	05:10	3	0	06:05	03:26	4	04:47	06:05	03:26
	STD	16	03:25	06:05	01:45	4	0	06:40	01:40	20	03:20	06:40	01:40
		18	03:27	06:05	01:45	7	0	06:40	01:40	25	03:32	06:40	01:40
39.79	STD					1	0	02:40	02:40	1	02:40	02:40	02:40
						1	0	02:40	02:40	1	02:40	02:40	02:40
	TOTALE	20	03:25	06:05	01:45	33	0	07:05	01:40	53	03:30	07:05	01:40

* CMD: Custome made, CMD+STD: Custome Made + Standard, STD: Standard

Table 8. *DSI-average classified into surgery, graft type and operating unit*

The type of anesthesia was 92% local and 33% general for the EVAR surgery, 0% local and 67% general for the TEVAR surgery. The overall result of both treatments is 23% in local anesthesia and 68% in general anesthesia. This information was missing for 33% cases in the EVAR surgery and for 20% cases in the TEVAR surgery, overall the missing data is 9% (Tab. 9).

ICD9-CM CLASSIFICATION	GRAFT TYPE *	Cardiac Surgery Unit						Vascular surgery Unit						TOTAL	
		General		Local		n.a		General		Local		n.a		n	%
		n	%	n	%	n	%	n	%	n	%	n	%		
39.71	CMD		0,00%			1	1,90%		0,00%		0,00%		0,00%	1	1,90%
	CMD+STD		0,00%				0,00%	1	1,90%		0,00%	1	1,90%	2	3,80%
	STD	1	1,90%				0,00%	10	18,90%	11	20,80%	2	3,80%	24	45,30%
		1	1,90%	0	0,00%	1	1,90%	11	20,80%	11	20,80%	3	5,70%	27	50,90%
39.73	CMD	1	1,90%				0,00%		0,00%		0,00%		0,00%	1	1,90%
	CMD+STD	1	1,90%				0,00%	3	5,70%		0,00%		0,00%	4	7,50%
	STD	15	28,30%			1	1,90%	4	7,50%		0,00%		0,00%	20	37,70%
		17	32,10%	0	0,00%	1	1,90%	7	13,20%		0,00%		0,00%	25	47,20%
39.79	STD		0,00%				0,00%		0,00%	1	1,90%		0,00%	1	1,90%
			0,00%	0	0,00%		0,00%		0,00%	1	1,90%		0,00%	1	1,90%
	TOTAL	18	34,00%	0	0,00%	2	3,80%	18	34,00%	12	22,60%	3	5,70%	53	100%

* CMD: Custome made, CMD+STD: Custome Made + Standard, STD: Standard

Table 9. *Type of anesthesia classified into surgery, graft type and operating unit*

The DICU-average was overall for both treatments 1 day [0-4]. No substantial differences in the type of EVAR or TEVAR surgery were identified (Tab. 10).

ICD9-CM CLASSIFICATION	GRAFT TYPE *	Cardiac Surgery Unit				Vascular surgery Unit				TOTAL			
		n	DICU-average	Ma x	Mi n	n	DICU-average	Ma x	Mi n	n	DICU-average	Ma x	Mi n
39.71	CMD	1	1	1	1					1	1	1	1
	CMD+STD					2	4	4	3	2	4	4	3
	STD	1	1	1	1	2	0	2	0	2	0	2	0
		2	1	1	1	2	1	4	0	2	1	4	0
39.73	CMD	1	1	1	1					1	1	1	1
	CMD+STD	1	1	1	1	3	2	3	1	4	2	3	1
	STD	1	1	3	1	4	2	2	1	2	1	3	1
		1	1	3	1	7	2	3	1	2	1	3	1
39.79	STD					1	0	0	0	1	0	0	0
						1	0	0	0	1	0	0	0
	TOTAL	2	1	3	1	3	1	4	0	5	1	4	0

* CMD: Custome made, CMD+STD: Custome Made + Standard, STD: Standard

Table 10. *DICUaverage classified into surgery, graft type and operating unit*

Access to ICU after the surgical intervention was 66% for both treatments, respectively 19% and 49% EVAR and TEVAR (Tab. 11).

ICD9-CM CLASSIFICATION	GRAFT TYPE *	ICU using (NO)	ICU using (YES)	TOTAL
39.71	CMD	0%	2%	2%
	CMD+STD	0%	4%	4%
	STD	32%	13%	45%
		32%	19%	51%
39.73	CMD	0%	2%	2%
	CMD+STD	0%	8%	8%
	STD	0%	38%	38%
		0%	47%	47%
39.79	STD	2%	0%	2%
		2%	0%	2%
	TOTAL	34%	66%	100%

* CMD: Custome made, CMD+STD: Custome Made + Standard, STD: Standard

Table 11. *ICU using after surgical intervention classified into surgery, graft type and operating unit*

During the same hospitalization the surgical re-interventions were 0% (Tab. 12).

ICD9-CM CLASSIFICATION	GRAFT TYPE *	Cardiac Surgery Unit			Vascular surgery Unit			TOTAL
		Surgical re-interventions in the same hospitalization						
		NO	YES	n.a	NO	YES	n.a	(n)
39.71	CMD	1						1

	CMD+STD				1		1	2
	STD	1			23			24
		2			24		1	27
39.73	CMD	1						1
	CMD+STD	1			3			4
	STD	13	2	1	3	1		20
		15	2	1	6	1		25
39.79	STD				1			1
					1			1
	TOTAL	17	2	1	31	1	1	53

* CMD: Custome made, CMD+STD: Custome Made + Standard, STD: Standard

Table 12. *Surgical re-interventions classified into surgery, graft type and operating unit*

Overall endoleak complications did not occur in 70% of cases, respectively 59% and 38% for EVAR and TEVAR surgery. Early endoleak complications occurred overall in both procedures in 15% of cases, respectively 63% and 38% for EVAR and TEVAR surgery. Endoleak complications detected in previous surgery were observed overall in both procedures in 13% of cases, all in the TEVAR surgery (Tab. 13).

ICD9-CM CLASSIFICATION	GRAFT TYPE *	Cardiac Surgery Unit				Vascular surgery Unit			TOTAL
		NO Endoleak	Early Endoleak	Endoleak from previous surgical intervention	na	NO Endoleak	Early Endoleak	Endoleak from previous surgical intervention	
39.71	CMD	1							1
	CMD+STD					1	1		2
	STD	1				19	4		24
		2				20	5		27
39.73	CMD	1							1
	CMD+STD			1		2	1		4
	STD	9	1	5	1	2	1	1	20
		10	1	6	1	4	2	1	25
39.79	STD					1			1
						1			1
	TOTAL	12	1	6	1	25	7	1	53

* CMD: Custome made, CMD+STD: Custome Made + Standard, STD: Standard

Table 13. *Endoleak complications occurred during surgical intervention and early endoleak complications*

CONCLUSION AND FUTURE DIRECTIONS

The study provides useful support to healthcare organizations by developing and implementing effective performance measurement systems in order to improve the quality of care provided. Clinical audit processes based on appropriate indicators can effectively support healthcare management. It was decided to analyze the minimally invasive endovascular surgical treatment because it represents a critical performance in terms of costs and outcome quality for many healthcare organizations in

industrialized countries. The results of the research can address towards an appropriate indication of the minimally invasive procedure, generating benefits both for the patient and for healthcare organizations.

As mentioned in the literature (Brown *et al.*, 2012; Patel *et al.*, 2016) the results of the minimally invasive procedure compared to traditional surgery (open repair), show a reduction in hospitalization time, surgical intervention time, hospitalization in intensive care unit and a complete elimination of intraoperative mortality. Such elements should be quantified considering the burden of the endoprotheses costs. Furthermore, a complete absence of early endoleaks complications and surgical re-interventions during the same hospitalization was identified in the study. These benefits are to be considered in reference to a life expectancy, quality of life and complications that appeared only in the short term. Indeed, it takes years to define if the surgical intervention of repair of an aortic aneurysm has been effective and has avoided subsequent accesses to the emergency room or subsequent hospitalizations due for example to the new intervention for the endoprosthesis repositioning.

In light of the above, the clinical audit showed that continuous monitoring to be recorded in an internal database, would be desired. Mortality should be detected not only during the intervention, but also in subsequent medium and long-terms.

A critical element in identifying useful information for the correct indication to minimally invasive treatment, was to define the patient's operative risk. The lack of a score as a reference index has made the information collection complicated. The advice given by the clinical audit would be to use a unique score for the evaluation of the operative risk. To this end, the EuroScore could be considered, but the literature asserts that it is scarcely used in the clinical-assistance documentation (Patel *et al.*, 2018; Corio *et al.*, 2013).

REFERENCES

- Aggelidis, V. P., and Chatzoglou, P. D. (2008), "Methods for evaluating hospital information systems: a literature review", *EuroMed Journal of Business*, Vol. 3, No. 1, pp. 99-118.
- Awwad, A., and Akroush, D.M.N. (2016), "New product development performance success measures: an exploratory research", *EuroMed Journal of Business*, Vol. 11, No. 1, pp. 2-29.
- Azzone, G., Masella, C., and Bertelè, U. (1991), "Design of performance measures for time-based companies", in *International Journal of Operations & Production Management*, Vol. 11, No. 3, pp. 77-85.
- Braithwaite, J., Hibbert, P., Blakely, B., Plumb, J., Hannaford, N., Long, J. C., and Marks, D. (2017), "Health system frameworks and performance indicators in eight countries: a comparative international analysis", in *SAGE open medicine*, Vol. 5.
- Brown, L.C., Powell, J.T., Thompson, S.G., Epstein, D.M., Sculpher, M.J. and Greenhalgh, R.M. (2012), "Health Technology Assessment 2012", Vol. 16, No. 9 in "The UK EndoVascular Aneurysm Repair (EVAR) trials: randomised trials of EVAR versus standard therapy", ISSN 1366-5278.
- Brown, M. G. (1996), "Keeping score: Using the right metrics to drive world-class performance", in *Quality Resources*.
- Burton, T. (2014), "Why process measures are often more important than outcome measures in healthcare", *HealthCatalyst*. Presentation.

- Corio, M., De Rango, P., Perrini, M.R., Cao, P., Migliore, A., Jefferson, T. and Cerbo, M. (2013), "Protesi endovascolari per gli aneurismi dell'aorta addominale: analisi dell'efficacia e della costo-efficacia", Agenas - HTA Report Adaptation .
- Dixon N. (1998), "Come condurre un Audit Clinico a beneficio dei pazienti", HEALTHCARE. QUALITY QUEST. Ulrich Wienand. Edition 2011.
- Donabedian, A. (1988), "The quality of care: how can it be assessed?" *Jama*, Vol. 260, No. 12, pp. 1743–1748.
- European Society of Cardiology, (2014), "ESC Guidelines on the diagnosis and treatment of aortic diseases: Document covering acute and chronic aortic diseases of the thoracic and abdominal aorta of the adult. The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC)", *Eur Heart J.*, Vol. 1, No. 41, pp. 2873-926.
- Grilli, R., Magrini, N., Penna, A., Mura, G., Liberati, A., (2000), "Practice guidelines developed by specialty societies: the need for a critical appraisal", *THE LANCET*. Vol. 355.
- Hiratzka, L.F., Bakris, G.L., Beckman, J.A., Bersin, R.M., Carr, V.F., Casey, D.E. Jr, Eagle, K.A., Hermann, L.K., Isselbacher, E.M., Kazerooni, E.A., Kouchoukos, N.T., Lytle, B.W., Milewicz, D.M., Reich, D.L., Sen, S., Shinn, J.A., Svensson, L.G. and Williams, D.M. (2010), "ACCF/AHA/AATS/ACR/ASA/SCA/SCAI/SIR/STS/SVM guidelines for the diagnosis and management of patients with Thoracic Aortic Disease: a report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines, American Association for Thoracic Surgery, American College of Radiology, American Stroke Association, Society of Cardiovascular Anesthesiologists, Society for Cardiovascular Angiography and Interventions, Society of Interventional Radiology, Society of Thoracic Surgeons, Society for Vascular Medicine", *Am CollCardiol*. Vol. 62, No. 11, pp.1039-1040.
- Ibrahim, J.E. (2001), "Performance indicators from all perspectives", *International Journal for Quality in health care*, Vol. 13, No. 6, pp. 431-32.
- ISTAT (2017), *Stato di Salute della popolazione*. Available at: <https://www.istat.it/it/archivio/condizioni+di+salute>.
- Kaplan, R. S. and Norton, D. P. (1992) "The balanced scorecard--measures that drive performance", *Harvard Business Review*, Vol. 70, No. 1, pp. 71–79.
- Keegan, D.P, Eiler, R.G., and Jones, C.R. (1989), "Are your performance measures obsolete?" *Management accounting*, Vol. 70, No. 12, pp. 45–50.
- Kennedy, M.P., Boyce, N.W. and Logan, M.E., (1999), "Quality management in Australian emergency medicine: translation of theory into practice", *Int J Qual Health Care* Vol. 11, No. 4, pp. 329-336.
- Lega, F., Prenestini, A. and Spurgeon, P. (2013), "Is management essential to improving the performance and sustainability of health care systems and organizations? A systematic review and a roadmap for future studies", *Value in Health*, Vol. 16, No. 1, pp. S46–S51.
- Lindsay, P., Schull, M., Bronskill, S. and Anderson, G., (2002), "The development of indicators to measure the quality of clinical care in emergency departments following a modified-Delphi approach", *AcadEmerg Med*, Vol. 9, No 11, pp. 1131-1139.
- Lynch, R. L. and Cross, K. F., (1991), "Measure up!: Yardsticks for continuous improvement", Cambridge, MA: Basil Blackweel Inc.
- Morris, C. and Bailey, K. (2014), "Measuring health care quality: an overview of quality measures", *Families USA* issue brief May.
- Neely, A., Adams, C. and Crowe, P., (2001), "The performance prism in practice", *Measuring Business Excellence*, Vol. 5, No. 2, pp. 6–13.
- Patel, R., Powell, J.T., Sweeting, M.J., Epstein, D.M., Barrett, J.K. and Greenhalgh, R.M. (2018), "The UK EndoVascular Aneurysm Repair (EVAR) randomised controlled trials: long-term follow-up and cost-effectiveness analysis", *Health Technol Assess.*, Vol. 22, No. 5, pp. 1-132.
- Patel, R., Sweeting, M.J., Powell, J.T. and Greenhalgh, R.M. (2016), "EVAR. Endovascular versus open repair of abdominal aortic aneurysm in 15-years' follow-up of the UK endovascular aneurysm repair trial 1 (EVAR trial 1): a randomised controlled trial", *Lancet*, Vol. 388, No. 10058, pp. 2366-2374.
- Powell, J. T., Sweeting, M. J., Ulug, P., Blankensteijn, J. D., Lederle, F. A., Becquemin, J. P., ... and Buxton, M. J., (2017). "Meta-analysis of individual-patient data from EVAR-1, DREAM, OVER and ACE trials comparing outcomes of endovascular or open repair for abdominal aortic aneurysm over 5 years", *British Journal of Surgery*, Vol. 104, No. 3, pp. 166-178.
- Pratesi, C., Alberti, V., Apostolou, D., Blangetti, I., Brustia, P., Coppi, G., Dorigo, W., Fargion, A., Fazzini, S., ... and Verzini, F., (2016), "Linee Guida SICIVE. Patologia aneurismatica dell'aorta infrarenale, aneurismi viscerali e aneurismi periferici", *Italian journal of vascular and endovascular surgery*, Vol. 23, No.1.

- Saqib, N., Park, S. C., Park, T., Rhee, R. Y., Chaer, R. A., Makaroun, M. S., and Cho, J. S. (2012), "Endovascular repair of ruptured abdominal aortic aneurysm does not confer survival benefits over open repair", *Journal of vascular surgery*, Vol. 56, No. 3, pp. 614-619.
- Saviano, M., Parida, R., Caputo, F., and Kumar Datta, S., (2014), "Health care as a worldwide concern. Insights on the Italian and Indian health care systems and PPPs from a VSA perspective", *EuroMed Journal of Business*, Vol. 9, No. 2, pp. 198-220.
- Smith, P. C., Mossialos, E., Leatherman, S. and Papanicolas, I., (2009), "Performance measurement for health system improvement: experiences, challenges and prospects", Cambridge University Press.
- Speziali, F., Cao, P., Camparini, S., Chiesa, R., Locatelli, A., Lomeo, A., Mangialardi, N., Palombo, D., Ruberto, F., Sirignano, P., (2015), "Linee Guida SICIVE. Trattamento delle patologie dell'aorta toracica e toraco-addominale", *Italian journal of vascular and endovascular surgery*, Vol. 22, Sup. 2, No. 3.
- Wang, G. J., and Fairman, R. M., (2009), "Endovascular repair of the thoracic aorta", in: *Seminars in interventional radiology*, Vol. 26, No. 01, pp. 017-024.

GLOBALISATION PROPENSITY OF TRANSITION LEADERS: PUSH AND PULL FACTORS

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ABSTRACT

The purpose of this paper was to detect which motivational “push” and “pull” factors are influencing globalization propensity of transition leaders, and to analyse to what extent certain motivational push and pull factors influence higher or lower globalization propensity. The method used was personal interviews with Croatian leaders of different ages, both genders coming from a variety of fields. Based on the collected inputs, and in order to get the quantitative data the questionnaire was created, and distributed to all 100 respondents (face-to-face, as well as online via Google Form). According to the research findings the higher the dissatisfaction with career development potential, opportunities for making gain and profit, as well as standard of living the more expressed the globalization orientation of transitional leaders. The global tendency, and behaviour was additionally amplified by loss of employment, but also support of closest associates. On the other hand, subjective characteristics manifested through passion and love towards ones work, and the desire for self-assertion, realization of personal idea, the desire to raise the level of living standard, attracted more forcefully transitional leader towards globalization.

Keywords: Globally oriented leaders, transition leaders, globalisation propensity, career development, intrinsic and extrinsic variables

INTRODUCTION AND THEORETICAL RATIONALE

Based on the limitation of the previous two papers (Samardzija 2016, 2017) the purpose of this paper was to detect which are motivational “push” and “pull” factors influencing globalization propensity of transition leaders, and to analyse to what extent certain motivational push and pull factors influence higher or lower globalization propensity. More specifically the goals was to understand how the typical value of the created dependent variable (or 'criterion variable') *Globalization propensity* changes when any of the independent variables is varied, while the other independent variables are held fixed. Therefore, the basic research questions of this study are: “Which are motivational “push” and “pull” factors influencing globalization propensity of transition leaders?”, and “To what extent certain motivational push and pull factors influence higher or lower globalisation propensity?”

Framework for hypothesis development

Based on the previous research conclusions (Samardžija 2016) applied cluster analysis procedure of general leadership characteristics singled out three clusters Moderates, Internalists and Globalists. It is indicative that 53.6% of all leaders' respondents belong to the Globalist cluster mostly focused on international collaboration and leaders within that cluster think that they are able to learn from international praxis a lot and subsequently applying modified international business praxis to the Croatian market, a result of their belief is that foreign markets have an extreme influence on their businesses. These leader experience their leadership as a dispositional social role. On the other hand it is valuable to note a huge potential of leaders that belong to the so called Internalist cluster (23.7%). If leaders who belong to Internalist cluster would open their minds to the external, world praxis and enable international markets to influence their daily business that could improve self-perception of Internalists cluster, what could subsequently lead them to Globalist mindset, what would have a positive impact on their business, but also overall economic performance.

Additionally, according to the Samardžija (2017) study the most important factor of transition leaders' career development is to achieve self-assertion. The factor analysis has clearly ranked five latent dimensions percentage of the total variance: 1. Acquisition and presentation of wealth (27.4%), 2. Life satisfaction (18.2%), 3. Economic importance (10.1%), 4. Satisfaction with human relationships (7.1%), 5. Impact on society and policy (5.4%). Significantly lower 10.1% of varying of all results which goes towards economic importance was manifested with following variables: "The market share of our services and products" and "The number of foreign markets that company is present at."

Therefore we can conclude that Croatian leaders who have undergone a transition process are mainly characterized by intrinsic components, the desire for self-assertion and affirmation of personal creativity and after that comes a significantly lower impact of external motivation component of classical capitalism such as attraction and desire for making gain and profit and consequently raising the social status.

In order to answer the main research questions of this study: "*Which are motivational "push" and "pull" factors influencing globalization propensity of transition leaders?*", and "*To what extent certain motivational push and pull factors influence higher or lower globalisation propensity?*" the following four hypotheses were developed:

H0: Croatian transition leaders do not have globalisation propensity.

H1: Transitional leaders are differently influenced by push and pull factors.

H2: Push factors have stronger influence on transition leaders.

H3: The most important push factor is "loss of employment".

LITERATURE REVIEW

Since 1990s many businesspeople and scholars exchanged term international with the adjective global when describing organizational and leadership strategies, thinking, and behavior. Overall unity in global markets, global communication, global knowledge sharing, global supply chains, global marketing, global careers, and global finance created need for global leaders (Bird, A., & Mendenhall, M. E., 2016). However, the competition also became global, and sharper than ever, and the global leaders were about to step on the scene. Accordingly, corporate world (Ghemawat, 2012; Reiche, 2015), but also academic society (Adler, 2001; Mendenhall, Reiche, Bird, & Osland, 2012) demonstrated rising interest for characteristics of global leadership. Doing global business requires reduced ethnocentrism, greater cultural flexibility, collaboration and coordination among people from different cultures. Cultural flexibility is positively related self-confidence and self-esteem and (Mendenhall & Oddou, 1985) which helps in adapting to the foreign environments. We can conclude that the presence of higher level of cultural flexibility can enhance effectiveness of global leaders when they are living and working internationally for extended periods of time or if they collaborate with international business partners. Although there is a growing number of researches based on the global leadership (Osland, Li, & Mendenhall 2017) there are still very few theories in the field of global leadership. Shakir and Lee (2017) model advances the constructs of both interpersonal connections and multiculturalism. Global leadership typology by Reiche, Bird, Mendenhall, and Osland (2017) derived four ideal-types of global leadership roles based on the two foundational dimensions of task and relationship complexity: Integrative Global Leadership, Connective Global Leadership, Incremental Global Leadership, and Operational Global Leadership. According to the mentioned model Croatian global leaders, are, placed in Connective global leadership type which emphasises low task complexity, and high relation complexity. Other recent theoretical models in the global leadership field provide propositions that can be empirically tested include those of Herman and Zaccaro (2014), and Clapp-Smith and Lester (2014). Another research Caligiuri and Tarique (2012 p.1) “found a combined effect of personality characteristics (extraversion, openness to experience, and lower neuroticism) and cross-cultural experiences (organization-initiated cross-cultural work experiences and non-work cross-cultural experiences) as predictors of dynamic cross-cultural competencies (tolerance of ambiguity, cultural flexibility, and reduced ethnocentrism).” Apart from that, Huesing and Ludeman (2017) study of global leaders at work identified 10 characteristics of global leaders’ work among others functional expertise with global scope, and long working hours. According to Vogelgesang Lester, G., Palanski, M., Hammond, M., & Clapp-Smith, R. (2017. p. 135) “the foundation of leader identity is provided very early in life from experiences in school, groups, sports, and family dynamics—in other words, in a multi-domain context.”

Findings of Erkutlu, H. V., & Chafra, J. (2017 p.146) showed a “significant negative relationship between leader narcissism and subordinate embeddedness, and point out the importance of reinforcing an ethical context as well as the importance of leader selection.” According to Khodabandehloo, A. (2014 p 149.) “An effective network requires a process leader who promotes trust and mutuality, and pushes the network in the desired direction”. Global context is inevitable for any future leader, and organizations are responsible for identifying, attracting, developing and retaining individuals with the global leadership ability and motivation and international experience Beechler & Javidan, 2007; Caligiuri & Tarique, 2009, Caligiuri and Tarique 2012). Study suggests that developmental cross-cultural experiences occur through both work-related and non-work activities, but the beginnings can also be found in family, and friends related international experiences. Enhancing global orientation and collaboration is critical for effective global leader multiplier effect.

DATA AND METHODOLOGY

Firstly, extensive personal interviews with 100 leaders across Croatia were conducted (Samardžija, 2013). The idea was to interview different Croatian leaders of all ages, both genders, working in small and big businesses. Since the idea was to cover a wide range of different fields of business, the research sample included not only residents of the entire Croatian region but also exceptional expatriates (Table 1). Based on the collected inputs, and in order to get the quantitative data, the questionnaire was created, and distributed to all 100 respondents. Combination of questionnaires distributed face-to-face, as well as online via Google form was used. The response rate was 95%. The first part of the questionnaire was a forty-two item, seven-point side-by-side matrix scale ($\alpha=0.93$). The bipolar descriptions used, represent optimal leaders' characteristics and their opposites. The second pool of 44 leadership characteristics questionnaire (Cronbach's Alpha $\alpha =.93$) was created using an inductive approach. All of the 44 descriptive adjective pairings of personal leadership characteristics were empirically derived from face-to-face life interviews with 100 Croatian leaders as well as corresponding notes and voice recordings of the interviews (Samardžija, 2013). The second component of the second part of the leadership questionnaire asked respondents to rank indicators of one's success (11 items, $\alpha=0.74$), and a ranking item in which leaders were required to rate on a scale from 1-5 the importance of factors relevant for personal success.

Gender	Female	55,4 %
	Male	44,6 %
Age	18-29	18,8%
	30-39	29,7%
	40-49	32,7%
	50-59	11,9%
	60 and more	6,9%
Activity – field of interest	architecture and building	5
	banking	7
	distribution & trade	9
	media & publishing	10
	researchers & inventors	6
	industrial production	9
	non – profit organization	4
	food industry	10
	sport	11
	tourism & gastronomy	5
	art	12
science & education	12	
Did you establish the company you work for?	Yes	26%
	No	74%
Where did you grow up?	City with a population greater than a million	4,9%
	Town	48%
	Smaller place	4,9%
	Village	12,7%
	Hamlet	11,8%
	Other	8,9%
How many times have you moved/changed place of residence?	Once	27,5%
	Twice	29,4%
	Three times	19,6%
	Four times	10,8%
	Five or more times	12,7%

Table 1. *Sample characteristics (N=97)*

RESULTS AND DISCUSSION

In order to expand the previous research based on the globalist perspective, the goal of this study is to additionally investigate motivational push and pull factors influencing globalization propensity of transition leaders, as well as the intensity of the each separate factor. While answering research questions the regression analysis with focus on the relationship between a set of independent variables “predictors”, and one dependent “composite” - criterion variable was used in order to test if specific factors having predictor character, are demonstrating statistically significant coefficients of multiple correlation – R. Therefore the regression equation towards composite variable was used. Conclusion goes towards higher or lower orientation towards globalisation of the business, and usage of the world’s best practices in daily business activities. While doing so, composite criterion variable (globalisation propensity) was constructed by using 5 questions extracted from leadership questionnaire, specifically answers of our sample of transitional leaders on the following question.

Question 19 of our sample: *Do you collaborate with international companies?*

Question 20 of our sample: *Are you learning from the best world praxis in your industry?*

Question 21 of our sample: *Is your company source of the best praxis in your industry?*

Question 22 of our sample: *Do you modify international praxis, and latter apply them in your business in Croatia?*

Question 23 of our sample: *To what extent international markets influence your business in Croatia?*

Summing of the answers given by each specific respondent on Likert scale starting from 1=not at all to 5=pronouncedly, the aggregate result was derived. Distribution of those results was given in the figure 1.

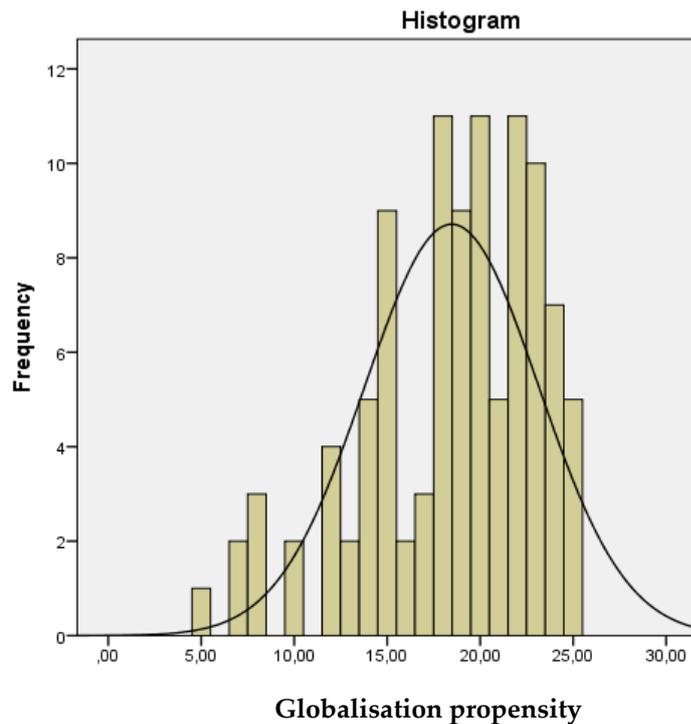


Figure 1: Distribution of results obtained from composite variable - globalisation propensity

According to the results the distribution is negatively asymmetric, it leans towards higher values while variable *Desire for making gain and profit* has positive asymmetry meaning it is lean towards lower values therefore the variable *Desire for making gain and profit* was calculated not as mean but as median or central value in order to avoid artificial leaning of the distribution towards lower values. Based on the frequency histogram (Figure 1.) we can conclude that given distribution of the frequencies of composite variable is negatively asymmetric. Based on the response results we may conclude that based on the question related to the communication with the global business entities (those out of the Croatia) the respondents answered pronouncedly positive.

The influence of the "push and pull" factor on globalisation propensity

The selection of predictors is based on the following question of the questionnaire: „*What encouraged you to proactively take responsibility for your career development?*”

Based on the sub questions the external factors encouraging “pushing” individual to take a proactive role were derived, as well as pull factors attracting individual towards proactive personal career development were defined. Putting created “push” and “pull” factors into regression equation in combination with composite variable “globalization propensity” the following coefficients of multiple correlation (R) were gotten, and table 1 also shows standard Pearson correlation coefficients r of each predictor with composite variable.

PUSH FACTORS					PULL FACTORS				
Factor	r	R	R2	F test	Factor	r	R	R2	F test
Loos of employment	.856	.856	73%	277,1	Spite/challenging situations	.838	.838	70%	237,7
Profit earning	.934	.935	87%	347,5	Realizing personal idea	.920	.941	89%	388,8
Higher living standard	.937	.953	95%	242,6	Higher social status	.901	.944	89%	267,8
Unsatisfactory career development path	.934	.958	91%	215,3	Self-assertion	.920	.950	90%	229,3
Closest associates					Love towards my job	.934	.953	91%	190,5

Table 2. The results of the single (r) and multiple correlation (R) coefficients obtained with step wise

Push factors	Loos of employment	Profit earning	Higher living standard	Unsatisfactory career development path	Closest associates
Loos of employment	1000	.289*	-.169	.080	.171
Profit earning		1000	.136	.137	.135
Higher living standard			1000	-.068	-.145
Unsatisfactory career development path				1000	.233*
Closest associates					1000

Table 3. Inter correlation component matrix based on "push factors"

Minus sign stands for a negative correlation meaning when one of the variables increases, the other tends to decrease.

Pull factors	Spite/challenging situations	Realizing personal idea	Higher social status	Self-assertion	Love towards my job
Spite/challenging situations	1000	.168	.114	.442**	.463**
Realizing personal idea		1000	.302**	.113	.323**
Higher social status			1000	.058	.079
Self-assertion				1000	.530*
Love towards my job					1000

Table 4. Inter correlation component matrix based on "pull factors"

(Symbol * refers to statistical significance .05 and symbol ** to statistical significance .001)

Coefficients of multiple correlation given in the table 2 are the result of successively added individual predictors to regression analysis in order to make a contribution of each individually included

predictor visible while explaining the level of overall multiple correlation. On the other hand, as table 2 suggests there is a quite small increase in coefficients growth at each 'push', and 'pull' factors, but there is extremely high percentage of explanation of summed variance of each individual predictor, and composite criteria variable, as evidenced by a high coefficient of determination R^2 . While first push predictor 'Loss of employment' explains 73% that percentage increases to 87% once second predictor 'Profit earning' is added. After that it slightly increases to 89% once the third predictor 'Gaining higher standard' is introduced, but when including fourth predictor 'Unsatisfactory career development path' it rises at the same pace to 91%. Finally it stays almost at the same level 92% when including final, fifth predictor, 'Encouragement given by closest associates'.

Almost identical situation is determined in regression analysis of pull factors where combined influence of all five pull factors resulted in remarkably high explanation of 90% of common variance of composite criteria variable results, and all predictor variables. Therefore, we can conclude that named "push" and "pull" factors had extreme significance on the globalization propensity. This way we may conclude that: loss of employment, desire for making gain and profit, and rising of the living standard, in combination with unsatisfactory career development potential, and support of closest business associates "pushed" transition leader towards orientation on foreign markets, and adopting achievements of the world's best praxis. On the other hand, spite – challenging situation that others have said is impossible to achieve, the desire for self-assertion, and realization of personal idea followed by passion and love towards ones work were strongly "pulling", attracting, those leaders with globalization propensity, and international environment in comparison with those keeping their interest, and business in domestic environment.

Intercorrelation table 3 and table 4 prove that all push factors have an independent impact, each of the predictor acting separately on overall globalization propensity. In another words, loss of employment has strong separate influence on one segment of leaders who experienced that situation to turn towards foreign markets. Separate influence was also based on the expressed desire for making gain and profit, reaching higher level of living standard from one side, and dissatisfaction with career development potential, as well as the closest associates support on the other side. Similar influence pattern is visible at pull factor specifically the desire to raise the level of living standard but other pull factors are in relatively significant mutual correlation, making their influence intertwined. For instance, love towards ones job is significantly connected with the desire for self-assertion, but also with spite, challenging situation that others have said is impossible to achieve. However, the intercorrelation height is not reaching level of functional influence that some pull factors have separately or combined on the variations of composite criteria variable – globalization propensity (those which R is higher than .900).

RESEARCH RESULTS

Goldsmith et al. (2003) predict global considerations to become critical in the future in addition to overall general leadership skills, such as, managing change, strategic thinking, decision-making, enabling teams, managing results etc. Their study identified five overall clusters: thinking globally, appreciating cultural diversity, developing technological savvy, building partnerships and alliances, and sharing leadership. Also Mendenhall & Oddou (1985) consider cultural flexibility to be positively related to self-confidence and self-esteem which helps in adapting to the foreign environments. According to Croatian leaders study we can conclude that the presence of higher level of cultural flexibility can enhance effectiveness of global leaders when they are living and working internationally for extended periods of time or if they collaborate with international business partners. Generally based on the this study results different factors had independent influence on globalization propensity and orientation of transitional leaders, while push, and pull factors had almost equal intensity of action. On the other side subjective characteristics manifested through passion and love towards ones work, and the desire for self-assertion, realization of personal idea, the desire to raise the level of living standard, attracted more forcefully transitional leader towards globalization, and if those subjective characteristics were not more pronounced, transitional leaders tendency was to keep their business in their own country limits. Cohen (2010) points out that methods for global leadership development include examination, education, experience and exposure but having “global” experiences at work does not guarantee effective global leadership. According to (2010, p.27) “Effective global leadership requires having lived in more than one country; having traveled to other countries; speaking more than one language fluently; managing a globally diverse team; having experienced an international assignment; and having been schooled abroad.” Croatian leaders’ research results proved the higher the dissatisfaction with career development potential, opportunities for making gain and profit, and standard of living the more expressed the globalization orientation of transitional leaders. The global tendency, and behaviour was additionally amplified by loss of employment, but also support of closest associates. Furthermore, Vogelgesang Lester, G., Palanski, M., Hammond, M., & Clapp-Smith, R. (2017. p. 135) study results suggests “the foundation of leader identity is provided very early in life from experiences in school, groups, sports, and family dynamics—in other words, in a multi-domain context.” Besides that (Beechler & Javidan, 2007; Caligiuri & Tarique, 2009, Caligiuri and Tarique 2012) claim that developmental cross-cultural experiences occur through both work-related and non-work activities, but the beginnings can also be find in family, and friends related international experiences. To conclude with enhancing global orientation and collaboration is critical for effective global leader multiplier effect. Therefore, in order to create more global leaders the leader multi-domain context should be strengthened first.

LIMITATION AND FUTURE RESEARCH

Future research could go towards expanding the sample base including CEO-s of Croatian companies dominantly focused on global markets in order to detect the “push” and “pull” factors influencing their globalization propensity, and then compare Croatian leaders’ globalization propensity with “push” and “pull” factors influencing other Central, and Southeast European countries.

CONCLUSION

The study proved that push and pull factors explaining composite variable have influence on globalisation propensity of Croatian leaders’ therefore null hypothesis was rejected. Regarding H1 transitional leaders are differently influenced by push and pull factors since all push factors have an independent impact, each of the predictor acting separately on overall globalization propensity. Although similar influence pattern is visible at pull factor specifically the desire to raise the level of living standard it is not confirmed in other pull factors which are in relatively significant mutual correlation, making their influence intertwined. However, the intercorrelation height is not reaching level of functional influence that some pull factors have, separately or combined, on the variations of composite criteria variable – globalization propensity. Therefore, H2 Push factors have stronger influence on Transition leaders, is confirmed. H3 The most important push factor is “loss of employment” is partially proved because although the influence is evident we are not able to isolate this variable as the unique variable causing globalization propensity.

REFERENCES

- Adler, N. J. (2001), *Global leadership: Women leaders*. In M. Mendenhall, T. Ku’hlmann, & G. Stahl (Eds), *Developing global business leaders: Policies, processes and innovations*: 73–97. Westport, CT: Quorum Books.
- Beechler, S., & Javidan, M. (2007), *Leading with a global mindset*. In M. Javidan, R. Steers, & M. Hitt (Eds), *Advances in International Management*, vol. 19: 131–169. Oxford: Elsevier.
- Bird, A., & Mendenhall, M. E. (2016), *From cross-cultural management to global leadership: Evolution and adaptation*. *Journal of World Business*, 51(1), 115-126.
- Caligiuri, P., & Tarique, I. (2009), *Predicting effectiveness in global leadership activities*. *Journal of World Business*, 44(3): 336–346.
- Caligiuri, P., & Tarique, I. (2012), *Dynamic cross-cultural competencies and global leadership effectiveness*. *Journal of World Business*, 47(4), 612-622.
- Clapp-Smith, R. and Vogelgesang Lester, G. (2014), *Defining the “Mindset” in Global Mindset: Modeling the Dualities of Global Leadership*, *Advances in Global Leadership*, v. 8, 2014.
- Cohen, S.L. (2010), *Effective global leadership requires a global mindset*, *Industrial and Commercial Training*, Vol. 42 No. 1, pp. 3-10.
- Erkutlu, H. V., & Chafra, J. (2017), *Leader narcissism and subordinate embeddedness*. *EuroMed Journal of Business*, 12(2), 146-162.
- Ghemawat, P. (2012), *Developing global leaders*. *McKinsey Quarterly*, 2012(3): 100–109.
- Herman, J.L., Zaccaro S. J., (2014), *The Complex Self-Concept of the Global Leader*, in (ed.) *Advances in Global Leadership*, Volume 8, Emerald Group Publishing Limited, pp.93 – 111

- Goldsmith, M., Greenberg, C.L., Robertson, A. and Hu-Chan, M. (2003), *Global Leadership: The Next Generation*, Financial Times Prentice-Hall, Upper Saddle River, NJ.
- Herman J.L., Zaccaro S.J., (2014), *The Complex Self-Concept of the Global Leader*, in (ed.) *Advances in Global Leadership*, Volume 8, Emerald Group Publishing Limited, pp.93 – 111
- Huesing, T. and Ludeman, J.D. (2017), *The nature of global leaders' work*, *Advances in Global Leadership*, edited by Joyce Sautters Osland, et al., Emerald Publishing Limited, 2017. ProQuest Ebook Central, p. 3 -39.
- Khodabandehloo, A. (2014), *Networking for regional development: A case study*. *EuroMed Journal of Business*, 9(2), 149-163.
- Mendenhall, M. & Oddou, G. (1985), *the dimensions of expatriate acculturation - a review*. *Academy of Management Review*, 10(1), 39-47.
- Mendenhall, M. E., Reiche, B. S., Bird, A., & Osland, J. (2012), *Defining the "global" in global leadership*. *Journal of World Business*, 47(4): 493–503.
- Reiche, B.S. & Bird, A. & Mendenhall, M. E. & Osland, J. (2016). *Contextualizing leadership: A typology of global leadership roles*. *Journal of International Business Studies*. 48.
- Osland, J. S., Li, M., Mendenhall, M. E., & ProQuest (Firm). (2017), *Advances in global leadership* (First ed.). Bingley: Emerald.
- Reiche, B. S. (2015), *An integrative approach to cross-border expansion: The role of global leadership*. The Center for Global Enterprise.
- Reiche, B. S., Bird, A., Mendenhall, M. E., & Osland, J. S. (2017), *Contextualizing leadership: A typology of global leadership roles*. *Journal of International Business Studies*, 48(5), 552-572.
- Samardžija, J. (2013), *Intervjui sa 100 hrvatskih lidera o životu i razvoju karijere*, Zagreb: Motivacijski govornik.
- Samardžija, J. (2016), *Interpreting Typical Profile of Transition Leaders - Case Croatia*. *Zagreb International Review of Economics & Business*, Vol. 19, pp.15-28.
- Samardžija, J. (2017), *Propulsive leadership characteristics for upgrading new generation of leaders in transition societies*, The 10th annual Euromed Academy of Business Conference (EMAB) *Global and national business theories and practice: bridging the past with the future*, Rome, Italy, 13-15 September, EuroMed Academy of Business Conference Book of Proceedings, 1615-1628.
- Shakir, F. Y and Lee, Y.t. (2017), *Connecting Across Cultures: An Empirical Examination of Multicultural Individuals as Global Leaders*, *Advances in Global Leadership*, v. 10, 2017
- Vogelgesang Lester, G., Palanski, M., Hammond, M., & Clapp-Smith, R. (2017), *Multi-domain leadership: A whole person approach to leading in the workplace.and beyond*. *Organizational Dynamics*, 46(3), 133-139.
- (2010) "Acquiring a global leadership mindset", *Development and Learning in Organizations*, Vol. 24 No. 4, pp. 27-29

DIASPORA AS ORGANIZATION, THE CASE OF THE FRENCH'S ORIGIN LAO

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ABSTRACT

The diaspora as an organization, a contribution to the tension between image, figuration and configuration for a research field of French experts of Laotian origin is our thesis in management sciences. This diaspora has been formed since 1975 following the takeover of communists in the Kingdom of Laos and the exodus of more than three hundred thousand people to Western Europe, the United States, Canada and Australia. The theoretical framework of our thesis is based on the authors of the organization such as the image of Morgan (1986), the configuration of Mintzberg (1982, 1986, 2003), the figuration of Pesqueux (2002, 2005)

During our work we found that it is impossible to distinguish the conceptual part from the empirical validation. Indeed, our immersion (Bogdan and Taylor, 1975), since our childhood thanks to our volunteer parents and very active in the Laotian community of France, has allowed us to provide us with the ground for a longitudinal study (Pettigrew, 1990), a structural anthropology (Lévi-Strauss 1958, 1974) of the kinship.

The twenty first century saw these Laotian associations organized around the mythical figure of assembly. Despite tensions around this image, the people who have worked for this annual celebration continue to gather today with forms of organization that differ from those of the beginning.

How does our input contribute to business management theories and practices in a dynamic competitive environment?

Our theoretical, epistemological and conceptual framework leaves it to decision makers, practitioners, the choice to broaden, adapt their decision to their environment (e), at the moment (t) and context (c). We give some insights of our work through our immersion study.

Keywords: organization, culture, diaspora, network

A SELF-ETHNOGRAPHIC LONGITUDINAL SURVEY

“Self-ethnography is the result of a descriptive and analytical field study of the culture of a specific population, with the participation of the researcher in its activity.”

These ideas can be found in Woods about ethnography, such as “the ability to penetrate levels of reality, the power of expression, the ability to recreate scenes and cultural forms and to “bring them to life”, to tell a story with an underlying structure” (...) Field ethnography “fundamentally involves participant observation (a notion that defines both ethnography as a whole and prolonged observations made in the field by participating in people’s lives), ...and analysis of “official and personal materials”.

Our investigation goes through five successive steps that are:

- Observing ; we are looking
- The collection process; we note, we record
- Analysis of the data; we analyze everything we do from the beginning
- The verification process; we check the consistency of our notes
- The validation process; we reread to make sure that everything goes smoothly.

We can then use those results. This is the idea imbricated by two series of concepts, the PDCA, for Plan, Do, Check, Act, and with the concepts of Review, Verification, Qualification in the framework of "Quality Management".

This self-ethnographic survey is based on three phases:

- The presentation of the contextualized method guiding research on the life of associations,
- The practical problem encountered in the implementation of the methodological approach, namely the choice of site, the collection of data, the degrees of involvement,
- Lessons to be learned from this methodology on the change process.

An approach that offers vertical and horizontal analyses, or procedurals, is called contextual. A contextualized method is a contextualistic or contextualistic analysis of a process such that the transformation it induces is based on phenomena or levels of analysis of vertical and horizontal processes, as well as their interconnections as they evolve over time. Vertical level refers to the interdependencies between higher and/or lower levels and horizontal level refers to the sequential interconnection between historical, diachronic, present and future phenomena. The key points to note are first the importance of integration, the study of transformation in the context and the levels of interconnected analysis, and second, the importance of temporal interconnection by localizing change in the past, present and future. And finally, the question of how the context is the product of the action and vice versa comes from the central hypothesis that the transformation is neither linear nor singular. In the context of a simple migration, a linear transformation aims at direct immigration from one country to another without going through an intermediate step. And singular means that the migrant moves individually. However, this is not the case for a migration of a people, in this case the diaspora, which crosses a transitional territory before reaching the host country.

The second hypothesis of this study is the importance of contextualism on temporal interconnectedness where history is not only an event of the past but where it is alive in the present and can shape the future. History is not only linked to a series of events and chronological events, but to more significant paths if one digs on the side of the underlying structures and logics.

The third hypothesis relates to the role of context and action in which actors perceive, understand, learn to remember and help shape the process.

1 The mythical figure: emblem of assembly

To better understand the mythical Prabang, we interviewed some presidents of associations as well as their members, secretaries, treasurers, coordinators during the annual feasts of their association, or at the 6 pagodas for many years since we participated actively in 2002.

However, due to lack of a suitable place to welcome thousands of people but also because of the transfer of the Velouvanaram pagoda, in 2012 the meeting could not take place.

These cultural, family and inter-welfare associations have enabled us to observe a model of organization that we call an event. The approach of sociological theory leads to this thesis for which we found very little work, apart from the management advice of the projects of the event.

The work of ethnologist Marie H el ene Rigaud on transmission and cultural reinterpretation leads us to ask ourselves questions about the feasts developed by these associations: are they of the same order or do they differ in their object and representation? An organization is considered an event when it needs donations, cooperation, culture, belief, festivals, generations, games, leadership, myths, networks, rites and traditions.

SP, Deputy Secretary General of the Lao Buddhist Youth's Association, has kindly responded to our interviews. Asked how he felt about the organization of the Prabang ceremony, he replied in these words: "as a volunteer senior coordinator and appointed to coordinate the whole party because of my organizational knowledge, my ability to organize and my availability... If it doesn't move, I introduce myself, but it rarely happens... How do we get organized? An office is created, ideas are gathered, discussions and exchanges with each other... "Go, I follow you" is a motto for uniting the world, no matter what the tasks, from sanitary, to reception, techniques, festive or food accessories and even to the information service, each one having to be multidisciplinary... Regarding contact with other associations, the key word is "don't push, it's volunteer! The Lao mentality is that everyone is the leader, we show the way and we also execute except in the case of the royal family.... Convincing others but not shoving and giving them importance, contact is made every day.

TS, president of the association of former teachers of Laos, qualifies the organization of Prabang as a consensus, «Ao Chay Khone» means etymologically touching the heart of the person, going in its direction, not annoying it to be able to work together. Working arrangements are discussed at

meetings with the exception of misfortunes, undecided decisions on the timing, which points to difficulties of three kinds:

- Intellectually: the protocol is the domain of a single person in this case Mr. Arya Panya in view of his knowledge of the royal protocol and who has kept an unwritten memory but transmitted orally.
- The protocol regulation based on diplomats, from the official to the Minister of Foreign Affairs who have disappeared since 1975,
- At the level of participation, mobilization is inertia, a laxity linked to the term “bo pengnang” which means “it doesn’t matter, if it happens like that and not as we decided...”

Sometimes associations decide not to participate for two or three years and come back (this because of problems of inertia sometimes, rarely, laxity). We are detecting a tension within the organizers related to the rise of network leadership. It follows that the project is not enhanced by general coordination.

TS adding that the Prabang festival is also celebrated in the USA in Tennessee, at the Nashville pagoda. In Laos, the RDPL also celebrates Prabang, to show its elements to the Lao people, but also abroad, and even to guarantee the unity of the country.

The question he would like to ask the associations is: what is the interest of Prabang, of this event, of this gathering? The capacity of Laotians to have such a broad common idea is called into question. Hence the interest of seeking consensus with as “objective” learning to accept, to argue; learning about democracy far beyond what we know. How do we live together? How can we be useful? But the poor pride of the Lao not to lose face is sorely lacking.

How is Prabang’s organization felt abroad?

Since 1975, Prabang has not been celebrated in Luang Prabang, its city of consecration, but for the past five years, the RDPL has been releasing a statue of its so-called original chest, buried for the rest of the time at the National Bank of Vientiane, the capital of Laos.

N «For twelve years, everyone participated, and the goal was the gathering and this year it is "if you do not, we do it"»

To understand the rites of Prabang and its importance in the life of the Lao diaspora, it is important to trace its origin, the creation of the new statue for the French of Lao origin.

In France, the Lao de France community celebrated Prabang since 1999 through its associations and under the patronage of Prince Sauryavong Savang²³. The associations decided to celebrate the Day of Remembrance on Pentecost Day so that the faithful (a few hundred to two thousand participants depending on the years) could attend the performance. An active, voluntary and trans-generational organization (4 generations are in contact with each other on this day) characterizes this celebration. For the first generation of exiles, this gathering means a day of commemoration of the bond that

²³ Sauryavong Savang is the youngest son of the late king Savang Vattana, the last king of Laos, exiled to France since 1975. Various cultural and religious events are placed under his patronage.

connects them to their homeland. The charismatic and mythical leader is a statuette of Prabang, reconstructed for the occasion by the venerable Viengsay Sudaros²⁴. The presidents of the association Lao of France, family, cultural, cultural, friendly, sporting, cooperative and support, gather their members, every year and participate together in the preparation of meals, the setting up of places of the ceremony, the cleaning, the security, the service of order and the running of the party. Each organized member has a specific role and performs specific tasks, according to decisions taken in plenary session. The agenda for each meeting shall be set in advance and minutes shall be constituted and sent to each Chair.

The case of the celebration of the statuette of Prabang shows the interest of the study of a cultural practice in the reflection on the organization, in a rationale of territoriality.

As regards this organization, two phenomena occur, which lead to a temporalization concomitantly to its territoriality.

The first phenomenon is the transmission of culture to the youth of the diaspora. On the one hand the family organization is formally persisted, but on the other its significance on the new territory changes. Indeed, our participation in the ceremonies led us to see a reinvention of the meanings of ancient rites.

There is a contrast between respect for values and the disappearance, in a different territory, of the conditions for the application of these values, which transforms their nature by the transmission of ancestral rites, despite a recreation of the rite based on a scrupulous reconstitution of the statuette. From this point of view, the rite indicates a concomitance between, on the one hand, continuity with the maintenance of the family organization and its role in the transmission of culture, and, on the other hand, an organization of rupture with the destruction of orders of precedence. This order of precedence is, however, retained for one person: Prince Sauryavong, the political heir of the kingdom in exile. This Prince, or at least his advisors, is at the origin of the second phenomenon: the division in 2012 of the community.

It would seem that a break is emerging: on the one hand the faction following the prince remains attached to the order of ancestral and political precedence, recreating a link between politics, religion and organization that evokes the beginnings of the kingdom of Fa Ngum, on the other hand completing to cut this link. Does the organization then reside in the creation of an exiled kingdom based on the traditional family transmission of social values and behaviors, or in the commemoration

²⁴ The venerable Viengsay Sudaros joined the Buddhometta pagoda in 1978. Artist, sculptor and cartoonist, his talents allowed him to create a large white statue of Buddha sitting on a lotus. He had made a vow to join the monastic community at the end of his work, which he did. He became himself venerable and spiritual leader of this pagoda.

of a distant origin – both in time and in space – as a link that organizes by a cyclical time a community that is completely integrated into what is now its territory?

The territoriality of the organization is accompanied by history: the return to tradition becomes undeniable after the 2012 split. Two scenarios emerge: one evokes the reconstitution of a kingdom – or more generally a mode of government – deterritorialized, while the other evokes the commemoration of identity of extraterritorial origin. These two scenarios could be compared to other organisational cases, in space and time: the first to the organization of the Tibetan government in exile, the second to the exodus of settlers in America.

2 The Network as a Factor of Organizational Sustainability

Rightly so, these facts recounted above give us elements that allow us to better understand our study case. We find a figure of uniqueness and specificity that we will describe as reticular with more or less stable relationships of a variety of people, hierarchies and talents with affiliated preferences, people benefiting from their affiliations with respect to obvious principles accepted by all people of goodwill in order to respond to the problems that arise in practice. As a collection of individuals, it leads them to decide on the most effective forms of organization. This common perspective of economic, political and moral type identification is a form of managerial-centered substance.

As in an industrial cluster that is a set of complementary enterprises effectively coordinated around a more general common objective (Ferrary-Pesqueux, 2004 p. 115) and bearer of "economic dynamics", these networks of embeddedness (*rooting, embedding, recessing or even anchoring*) are a form of organizational success as they lead to the sustainability of the organization. *There is a high frequency and a high density of social relationships to enable us to anticipate individual behaviour that could lead to exclusion from the exchange if the social network does not provide relevant information; the transitivity of social links depends on the speed of concretization and the density of the strategic behaviour linked to each individual's affiliations.*

Community identity is materialized by philanthropic actions characterized by the gift. These symbolic and psychological goods are of the order of exchanges of politesses, feasts, rites, dances, feasts, the obligation to make them, on the one hand, an obligation to receive them, on the other; covenant and communion in these institutionalized places of socialization are implicit rules of the constituent community of networks leading to a "reticular organization".

This community is bound by an informational dimension and by a cultural dimension of interpersonal knowledge, for which the dissemination of new information between social coercion and common knowledge translates honest behaviour, a collective rule, behaviour in conformity with a general rule, arbiter of common knowledge.

The main vector of this network is therefore its ability to inform its entourage and federate around this rite in order to reach a lasting organization. This reference to the organization of the territory of origin of the diaspora has concentrated on the cultural organization: are rites likely to form an organization?

The younger generation seems to question the meaning and usefulness of ancestral beliefs, through the gestures and the fundamental rules of a Buddhist feast particularly loaded with cultural and political value among the Lao. Before the 2012 split, it is the change of territory that seems to create organization, in a logic of return to a tradition. Thus, the cultural approach is an indicator of the organization generated by exile, and therefore allows for more general reflection in terms of territorialization of the organization.

LONGITUDINAL RESEARCH PRACTICES IN ORGANIZATIONAL CONTEXTS

Observation of longitudinal research practices in organizational contexts has revealed several comparisons, between companies in the same industrial sector and then enterprises in different sectors. They were refined by direct sector comparisons based on a combination of retrospective analysis. Other comparisons involved real time, duration, limited to three years instead of twenty years. However, ICI's strategic work (Pettigrew, 1985) is based on a ten-year real-time analysis, comprising 20 years of retrospective data and 10 case studies over a three-year period. In addition, the researcher is responsible for defining the design of research within its theoretical framework. Miller and Friesen (1982) quantitatively and in pieces described Pettigrew's revolutionary and evolutionary era (1985). While Tushman and Romanelli (1985) interested in periods of convergence and reorientation.

The significance of change is the important and essential question in temporal analysis, as Whipp (1988 p. 221) recalls on the social and subjective necessity of time. What does transformation mean in research? Elchardus (1988 p. 36) argued that time is increasingly recognized as a relevant and non-secondary factor in social change. Time is not just "over there" as a mere chronology, it is "here" as a social construct.

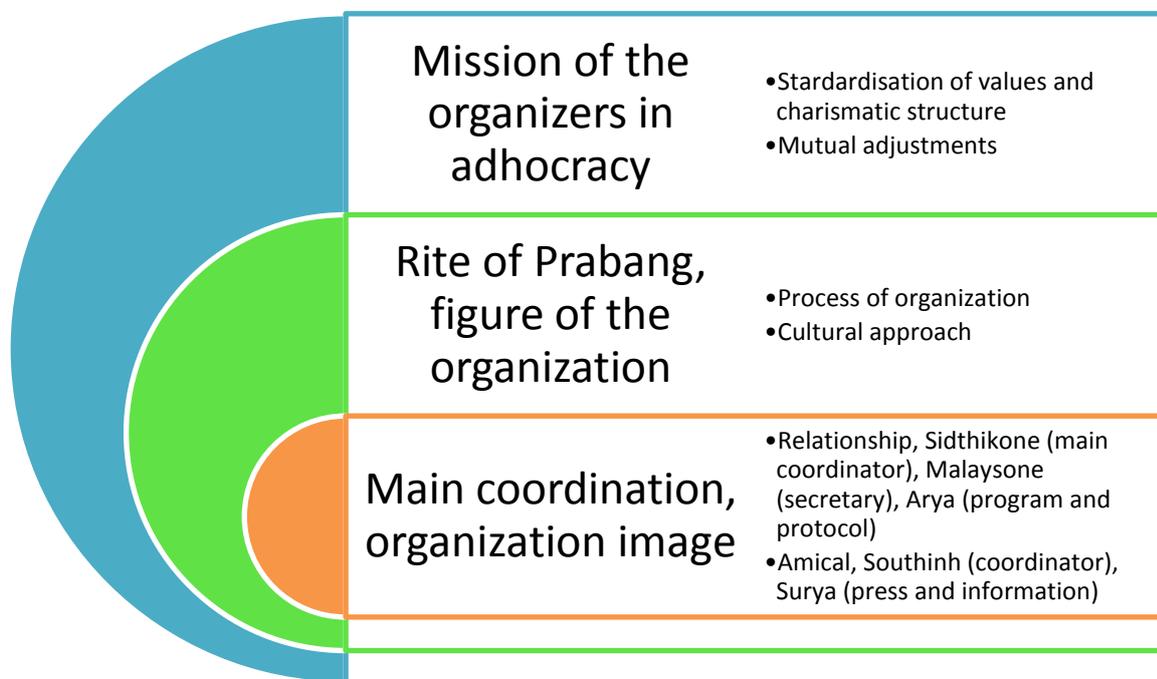
For the longitudinal research practitioner, time issues are crucial in relation to chronological choice; the beginning and end of the process, the best time, the evolution of the result. Is time just a series of chronological events? Is it a socially constructed phenomenon that influences behaviour? Choosing data collection is important to connect the past and the future.

1 The rite and symbol of the network

The ritual of the celebration of Prabang is a recurring element of the network coming to make organization; it allows the organizing associations to speak in the name of a single culture, a common sense in the way of the *sense-making* of K. E. Weick. Making sense of this day, living together, laying down weapons, banishing belligerent thoughts gives them the fullness of the moment.

However, this strong symbol of the network which is the statuette representing one of Buddha's lives is rhythmic for the organization itself. Between October and November, a summons to the preparatory meeting of this festival is sent by the main secretariat. AP and his wife, MP of the Sri Savang Vatthana Foundation, are responsible for these administrative tasks. The role of the main coordinator is attributed to Mr Sidthikone, President of the Luang Prabang Association and is MP's brother.

Table 1 Organization nexus Prabang Cakayamouni network



This cross-section of the Prabang Organizational Holiday Management highlights the kinship and friendship between the various coordinators (Sidthikone and Southinh), the planners of the ceremony (the Panya family) and the senior blogger (Surya).

- Sidthikone is Malaysone's older brother, wife of Arya Panya,
- Southinh was Surya's stepfather from 1990 to 2014.

In close collaboration, these people conduct the organization of the Prabang ritual regularly once a year and mobilise associations and friends.

This organisational process becomes a cultural anchor with adhocracy management whose main action is of two kinds: take into account mutual adjustments and standardize common values by highlighting the common charism.

Prabang Cakayamouni Network

According to Southinh's notes, The Statue of Prabang Cakayamouni covering the holidays from 2000 to 2012 was made in France, with the assistance of Venerable Sudaros, superior of the Pagoda BOUDDHAMETTA.

Alloy materials such as gold, silver and copper were offered by the Lao diaspora. It can be said that this statue is a common heritage of all Lao in Europe.

Construction of a main building of the new Pagoda is complete. The development of Chamigny at Bussy Saint Georges was carried out towards the end of 2012. The location of the new Pagoda is one fifth of the surface of Chamigny. Perhaps, for the reason of the reduced surface, the superior of the Pagoda organized from 2013 the celebration of Prabang with the Statue belonging to his Pagoda. It can be seen that the organising associations have reduced considerably (see table of the 2nd network)».

Coordination and management of the Prabang Cakayamouni Network

- 5 cultural and cultural associations participate in the ceremony of Prabang Cakayamouni Network from 2000 to 2012 except in 2008 for the association of young Buddhists and their president do not join the organizing committee because they are monks and generally take care of the religious aspect.
- 4 family associations have also participated since 2000 and the 5th, the Sananikone association has joined the organization since 2006. The Princes Sauryavong and Soulivong SAVANG are presiding over this feast.
- Of the 15 territorial associations, 6 have started since the beginning without interruption and each year a family association enters the circle.
- 10 support and support associations also participate in 2000 and 2012. Their president and member joined the committee except for the Lao of Orleans fraternity and the Lao classical musical heritage for reasons of remoteness and training. Safeguarding the legacy of music involves training on weekends and holidays. So they don't have time to participate in the organization. On D-Day, however, the members of these associations are active in helping with culinary preparation and playing ancient musical instruments imported from Laos.
- 4 companies have followed the celebration from the beginning with donations in cash and in kind such as drink, administrative supplies and maintenance products, cutlery. For example, Raja entered through its employee, Mrs. PHOUMPADIT, from 2010 to 2012.
- 1 blogger on behalf of Surya Pravong acts as a communications and press blogger via his blog laonet.fr. By doing so, it informs the date of preparation, transfers invitations, takes and publishes the

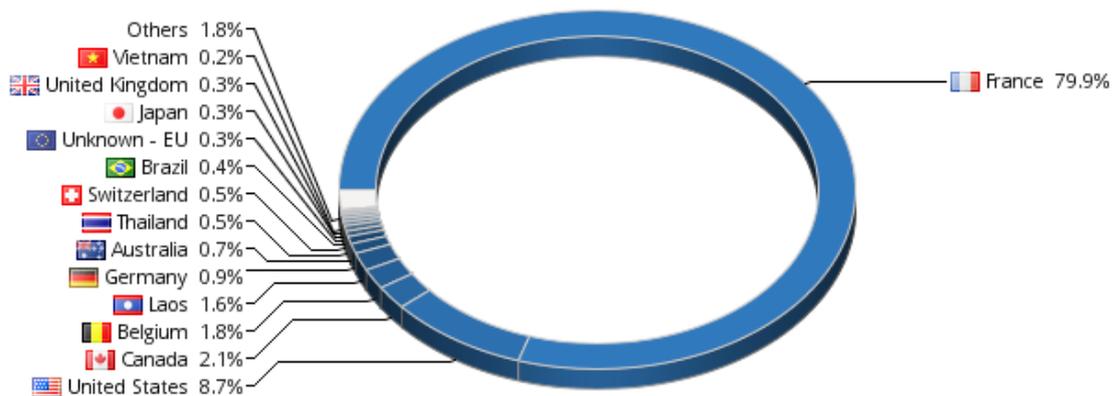
photos and videos of the ceremony every year without interruption. This is how the Lao diaspora abroad and in Laos saw the ceremony unfold. Above, the screen capture dated 27/05/2018 showing the number of visitors from France (209,438), USA (22,743), Canada (5,605), Belgium (4,741), Laos (4,253) and Germany (2,342).



Visitors	20/10/2018
Yesterday:	13
30 day average:	18
Record: 409 on April 18,	2012

Flag	Counter	Views
Yesterday:	15	
30 day average:		28
Record: 771 on April 18,		2012

155 different countries have visited this site. 216 flags collected. [View all details >](#)



From 2013, a second network of the organization of this ceremony marks the split between the Prabang Cakayamouni network and that of Phouthalavanh.

The organizers

We find that teamwork is also a family affair. We have participated in these meetings over the past three years at the request of our parents, who manage an association called *Amicale des Anciens*

Compagnons (AAC) renowned since this year *Amicale des Amis Lao (AAL)* to rejuvenate it (this association has existed for more than thirty years). The Lao Women's Association in France *is the oldest*.

The ritual of the assemblies is above all a matter of ceremony: the meetings take place at the Buddhometta pagoda in the presence of two monks which guarantors of tolerance of comments.

Two or three weeks after the end of the celebration of Prabang, a general assembly of balance sheet closures takes place at the same pagoda followed by the same rituals.

The network of friends and families provides a pleasant working structure and gives each other the strength to achieve the goals set out together at these meetings. Mutual support is a strong symbol for the advancement of this network: any preparation, whether culinary, or embellishment of the pagoda, works, requires the participation of volunteers, consenting, available and natural participants.

2 The nature of the relationship with the country of origin through its humanitarian actions

The Laotian diaspora gives time, money, food to share in the form of donations. Marcel Mauss calls it a gift/counter-gift and Marc Abeles adds that it represents non-economic goods (symbolic, psychological, etc.). We have identified donations from individuals and associations as shown in the following tables for the organization of the celebration of Prabang between 2002 and 2010. The surpluses are given to the pagodas Velouvanaram and Bouddhametta to serve as working capital for the following years.

Table 2 Comparison of revenue and expenditure Prabang

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010
Revenue	8 691	7 238	7 746	6 454	10 239	7 575	11 241	15 378	11 566
Expenditure	4 398	3 612	3 249	3 112	6 366	6 168	3 821	9 595	7 086
Donation							7 420	5 783	4 172
Excess	4 293	3 626	4 497	3 342	3 873	1 407	0	0	308

This table concerns the organization of Prabang Cakayamouni's processions from 2002 to 2010.

Food donations are supported by all participating associations. Each association or large family takes care of a culinary dish, logistics, stewardship, security, cleanliness, hospitality, information, presentation, and site cleanup operations. There is no leader, supervisor in the group, but the advice given is generally taken in the context of tolerance, where the level of belonging is equivalent, the case of friends, and in the context of caring, for example, from a father or mother to his children. Children also follow the advice of the 'elder' even if they are not part of the same family.

LONGITUDINAL STUDY AND TRANSFORMATION

Comparative longitudinal case analysis (Menard, 1991) is interesting because of its capacity to modeling the transformation process and, on the other hand, the strategic changes linked to the evolution of the organization in the hierarchy, which are supposed to have an impact on the entire organization and its strategic management.

The longitudinal analysis has three characteristics: the data collected cover at least two distinct periods; the subjects are identical or at least from one period to the next; o, the analysis usually consists of a comparison of data between or over two distinct periods, or a restitution of observed evolution. The comparison between two periods is based on a longitudinal analysis of a comparative static type. Comparison of data over two periods and restitution of observed evolution are longitudinal analyses of a dynamic type.

Pettigrew, Woodman, and Cameron (2001) emphasize the consideration of time in longitudinal studies and elevate entrenchment to a basic methodological principle for conducting a longitudinal case study. For the author, the causes of transformation are neither linear nor singular, they involve multiple levels of interconnected analysis that evolve over time, and whose boundaries are often blurred. The study of organisational processes over time requires understanding the evolution of their context, but also their content, and the actors involved. An embedded configuration enables systematic comparisons to be made between the evolution of different contexts, and thus offers the opportunity to reveal beams of multiple causes, causative loops and various interconnections. Forgues and Vandangeon-Derumez (2007) underline the relationship between longitudinal research and time, agreeing on the importance of time varying depending on the type of research conducted.

Here the choice of model is that of two representation modes, either by reference to figuration or by reference to configuration. The reference to Pettigrew and the longitudinal study relates to our close-up case study. Thus data from the field are detailed to try to establish comprehensions by mobilizing theories. Pettigrew 1990, Van de Ven 1992, Langley 1999 proposed methodological paths for the realization of longitudinal empirical studies whose purpose to generate an understanding of transformation. According to them contexts, contents, processes and their interactions are to be explored in order to grasp multiple causalities, feedback loops within the same context.

It states that *“research on change that is both useful for theory and practice must explore contexts, content and processes, as well as their interactions over time (Pettigrew et al, 2001). Researchers are then faced with a dual challenge of both catching reality in flight and studying long-term processes in their natural context, leading to multiple levels of interconnected analysis (Barley, 1990; Pettigrew et al, 2001). They therefore need appropriate methods to study these dynamic phenomena in order to grasp multiple causalities, feedback loops within the same context (Langley, 1999)”* [in *“Strategies for Theorizing from Process Data”*, cited by Musca (2006,

pp. 153-176) in the paper "A Processual Research Strategy": The Longitudinal Study of Encased Cases].

1 The longitudinal concept

Observation and verification of this form of self-ethnography ask the questions of data collection and the degree of involvement of the observer. Yin (1984) raises the issue of listening, adaptability, flexibility, expertise, and impartiality of this observation, as well as verification of sound knowledge on social and policy issues that affect different levels and functions within and outside the organization.

The data collection process is linked to the following:

- Processual the emphasis is on action and structure,
- Comparative; and the idea is a series of studies in various sectors,
- Pluralistic; Describing and analyzing the often contradictory versions of reality seen by those involved in process change,
- History; taking into account the historical evolution of ideas and actions in order to understand their transformation, as well as the constraints to which decision makers are subject,
- Contextual examining the reciprocal relationships between processes and contexts at different levels of analysis,
- Data collection aims to show how actors mobilize in economic, sectoral contexts to legitimize and delegitimize ideas for transformation and continuity at the organizational level.

In the field, we use a triangulated methodology to collect the different types of data through cross-checking. The purpose of triangulation is to build on the particular strengths of the case study. Interviews can bring depth. Documents can provide facts. Direct observation provides access to group processes and can help the researcher confront the views of interviewees from informal conversations about their actions, which they actually do. Data collection concerns observation and verification.

McKee and Pettigrew (1988) presented their case studies in public services as follows:

- (a) *In-depth interviews* with key informants: chosen because of their leadership position in the organization or in the process of change being analyzed; those affected by the changes as well as the initiators of change; the different elites and interest groups internal and external to the organization (on average 50 interviews per case). The interviews are recorded. The proformas interviews are discussed in each research team, tested in the field, and modified if necessary.
- (b) The documentary and archival data - *including relevant meeting minutes, policy or strategy documents, secondary data related to activity levels, project discontinuances and disclosures, memos, and correspondence.*

- (c) Observation and ethnographic material: *including formal assistance, meeting on site facilities, visits to meet staff; as well as informal based on chance, meetings, conversations, and time spent in the organization.*

They have worked on a sample of about 15 individuals in key positions within the organization, in the past, in the present, or who are explicitly linked to the organization's future concerns.

In view of these archive, elements of fact and interpretation, the general trends of this type of case appear with:

- Analysis of the chronologies,
- Interpretation in relation to theory,
- The meta-analysis.

Clarity on research objectives is crucial for any social scientist. These objectives include:

- The precision of the measurement,
- Generality on actors and situations,
- The realism of the context,
- Theoretical and conceptual development,
- The contribution goes from the individual to the general on issues of policy and practice.

In the introduction, we also see that Pettigrew quotes on page 269 that we must conduct the analysis called contextualism of a process between two levels of analysis, time sequences in horizontal that will interconnect and in vertical intra-organizational and environmental elements. A cross contains in abscissa (horizontal) the time that can be connected and interconnected and in ordinate (vertical), the organizational scale from inside to outside.

Page 273 is the synthesis of other researchers which is the approach of the theoretical question on time. This measure is defined, framed *ex-ante* by this theoretical and systematic definition: it is not historical time but historical framing, from such period to such period.

The subtlety in management is to study a given year at a present time to see until the new reform, for example on the health issue: a time interval and a field for the researcher that they will define from the question that we ask ourselves. From there comes, and the terrain, and the observation period for those who study transformation.

Theoretical frameworks of change will not have the same intervals, the same cuttings in sequence and in event. Pettigrew, realizing this, overlaps the various frameworks of in fine *analysis*, in a multi-dimensional approach. For him the meaning of time in a temporal analysis is the duality of time, first as a chronology, it is the horizontal arrow and time as a social construction that is the vertical arrow.

On this basis of his analysis, Pettigrew does not look at a single point of view but different facets in a

chronological sequence from events that are linked to each other. The tension of time appears as a social construction and these events in this timeline.

These time loops are implicit rites in a logical of social system and not temporality from the point of view of historical science. Interactions between ritual sequences will create social time; it is the laying of first stones in an event structure. In other words, what is important is not the ritual but the social construction that results from it.

Pettigrew wonders how the event is built but once the stone, that is, the object is laid, the very meaning of the event changes over time. Take for example the decision to build the Concorde, marchais-Roubelat (2000, p. 197) wrote: *The French adventure of the Concorde began in the fifties, it continues to this day. Officially, the decision to build a supersonic transport aircraft (TSS) dates from the signing of an agreement between France and Great Britain on 29 November 1962. This agreement is part of a process that created the conditions for its onset, while its effects in turn guide the process.*"

A few years later, this Concorde became an economic and financial pit. Twenty years later, the industrialists commercialized the plane and in the end he ended his race dramatically taking two hundred people to death in Gonesse, a suburb of the Parisian East. From the decision to build the Concord and as other events occurred later, the original meaning changed: in (to), this meant construction, in t1, t2 or T3 meaning changed. The meaning of events is therefore not fixed in time. The facts change not only the context of meaning but also the meaning itself.

In this logic, the study of the organizational structure of an undertaking is made of its creation when it reaches one hundred employees. We then analyze when it changes its structure and what the correlation is between the number of employees and the structure of the company, but nothing says that we see what is really happening; we imply that before the creation of the company there was nothing, but this company could have been informal for a number of years with actors who did not appear in the context of its formal creation with the deposit of its statutes. There is a t0 with a certain structure that in t-5 already has its structure while the study was done from its formal creation.

When one takes the event history, according to the context, the perspective of historians, the place, the history is not taken in the same way, which constitutes the rupture between one and the other and the basis of discussion. It is therefore important to justify time borders in management in relation to the problem we have.

For our field study, we use a longitudinal approach, but the question is whether the organization is a figure, a configuration or an image. By definition, the diaspora exists only over a long period of time with this temporal depth of twenty years to make a generation, so this duration is long enough to see generational change. (Pesqueux, Mintzberg and Morgan). We justify a knowledge that can go back quite far even if the analysis in the field is shorter but that this analysis is justified ultimately by the

organizational processes that are the rites and routines that will organize this diaspora, especially through the cult of Prabang. A 17-year period (2000 to 2017):

- Period 1, 2000-2004,
- Period 2, 2005-2008,
- Period 3, 2009-2012,
- Period 4, 2013-2016=> Breakdown

2 The process of transformation

The diaspora can only imagine itself as an organization in relation to its duration and with this generational change what one can have over these 12 years but at the same time it is a network that is founded by an organizational process that is the rite of Prabang. This shorter period of observation, but in which the problem of this rite is particularly important, is linked to this crisis at the end of 2012, where the twelfth year of the organization of the rite, which is precisely in our time focus, sees the split in two of the supporters of the rite of Prabang.

We posit that it is an organization in the sense of Weick, atypical but with an organizational process; it shows a tension over time, a configurative vision at the Mintzberg, an image at the Morgan, a vision of the «figure of the organization» type at the Pesqueux: three visions of an organization that can be understood through these three prisms.

This diaspora organization is atypical with an international, geographical and above all a defined dimension because the actors recognize themselves as belonging to the diaspora, or at least that some recognize themselves there and also because this diaspora lasts. The diaspora is not just organized immigration, it is an organization that lasts in time.

Our case study relies on this methodology with a long time period to allow the constitution of the diaspora. People recognize themselves to belong to the diaspora and therefore to the process of organization. In order for this entity made up of people to exist, a common activity is the starting point for the coordination of behaviors for an organizational purpose, for example, through the rites of Prabang.

The land of the Laotians will allow us to follow the text of Pettigrew linearly showing the figure of the organization through Prabang. In this case, the working hypothesis is that the members of the diaspora, over time, will change a local or even global organization according to the different environments in which they settled in France or the USA. In other words, a configuration logic leads to think that the diaspora will change depending on where it is located and is influenced by its different environments.

In a figurative logic, it is rather a holistic vision that wins. What will characterize the figure ? And if it is an image, it is a type of operation, we will analyze the organization, the evolution of its operation

according to this type of image. The specificity of the diaspora entity exists only because it lasts, and this through a longitudinal analysis over eighteen years to have all the context but also that of individuals, inter-groups in these different national and international environments understood in relation to the country of origin by showing the different events that will happen. It will be a double temporal analysis on a long time with the arrival of the young people while also observing the functioning of this organization with regard to the evolution of the rite of Prabang.

To sum up, Prabang, a mythical hero, is at the origin of the creation of Kingdom of Laos. As a result, its commemoration and the ritual process are organized by royalty and the principality. But since the advent of communists in the kingdom, the principality has been exiled and the rite has been revived from 1997. The original statue is not exactly in Laos because the diaspora thinks that it is elsewhere, probably in the USSR after this mass exodus of Laotians. The myth of Prabang is linked to Laos ; the provinces, the partisans of each principality can unite only if Prabang is in this kingdom. In France for the purposes of this ritual and to show to the French of Laotian origin the reunification of all associative activity, another statuette was built for the diaspora. But a crisis erupts in 2012 about this statuette created at the time of the gathering of the diaspora ; another is used during the twelfth ceremonial, and creates a first tension. A second tension will arise from the split between the organizing members about the purpose of this day, the day of the diaspora or the worship of the ancients.

It is a longitudinal but also self-ethnographic study that is justified by access to the field in immersion and participant observation. The ethnographic part, on a more recent period, is based on surveys and a position, not auto-ethnographic, but justified by our identification of the diaspora (Marie H el ene Rigaud, 2012).

In this longitudinal approach, the horizontal axis marks the departure of the diaspora in the different countries. The two rites of Prabang in France are integrated on this axis and a third in Laos, the country of origin which remakes its commemoration. Here we see continuity.

On the vertical axis, the participants of the diaspora from:

- Different groups of the diaspora spread around the world,
- The diaspora as such brings together all the groups,
- The diaspora in the countries of arrival where the groups are (for contingency),
- A particular country for the justification of the diaspora, Laos.

A contextual analysis of a process highlights a horizontal phenomenon that is the timeline in the form of three arrows. The vertical level shows the interdependence between levels of analysis and to explain a phenomenon belonging to another level, this is:

- Youth

- Subgroups of diaspora,
- Organizers of the diaspora,
- Groups organized by country,
- Both organizational and geographic levels characteristic of the diaspora,
- Countries in which the diaspora exists and,
- Laos against weight.

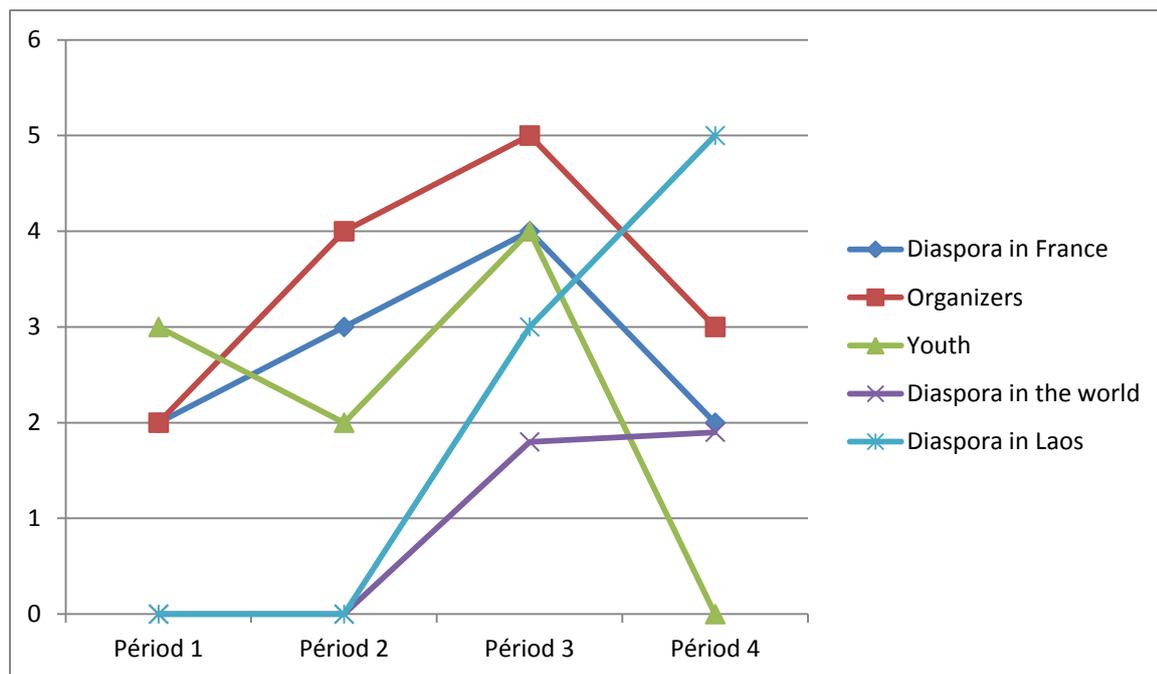
The guests, the organizers, all the participants form a group. The first group represents the organizers, their environments. The second group consists of the whole of the diaspora compared to the rest of the world and finally the third group is that of the participants in Laos.

So our question is what will happen from one level to another.

It is noted that the diaspora will interact on the country of origin by the cult of Prabang, and, subsequently, impact the role of the organizers at all levels. The presence of the diaspora of the different countries, which symbolizes (a little too) the rest of the world, will modify the diaspora itself, this because of the effect of contingency and the relation to the country of origin, Laos. Thus the Pettigrew interaction is distinguished by this schema developed by Besson D., Olaba A. (2017).

The difficulty of the thesis is to justify by figures, the organization of the myth of Prabang in the country of origin. We can't obtain it because, on the one hand, since our exodus, we have never returned to our country of origin, Laos, and, on the other hand, our field of research is constituted by the Laotian diaspora in its together, that is to say by all the participants of this day and living outside Laos. However, photos obtained on the site of luangprabang-heritage.org show well the rite of Prabang in Laos on 17/04/2015 and also that of 20/04/2018 on the site of laoslike.com.

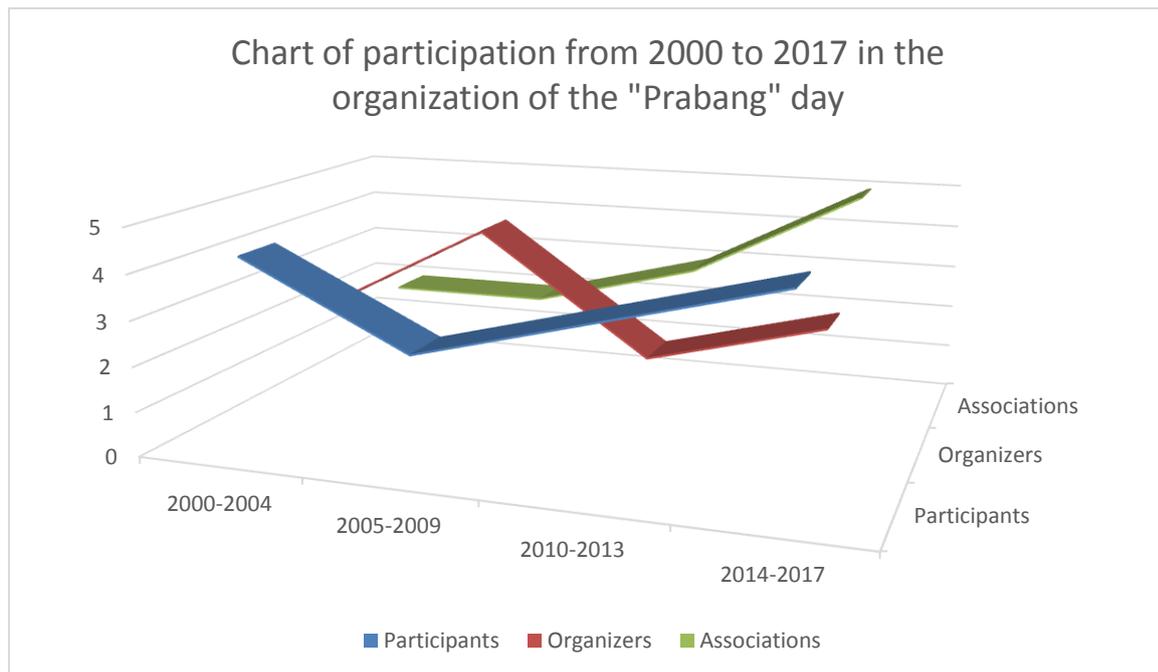
In order to compare the rituals in Laos with those made in France, we have collected 3 main photographs showing the statuette of Prabang as well as the procession of participants, and, old photographs, April 1974, showing the king in procession. The ceremony unfolds as almost identical. (Figure 19 and 20)

Table 3 Longitudinal plan Pettigrew

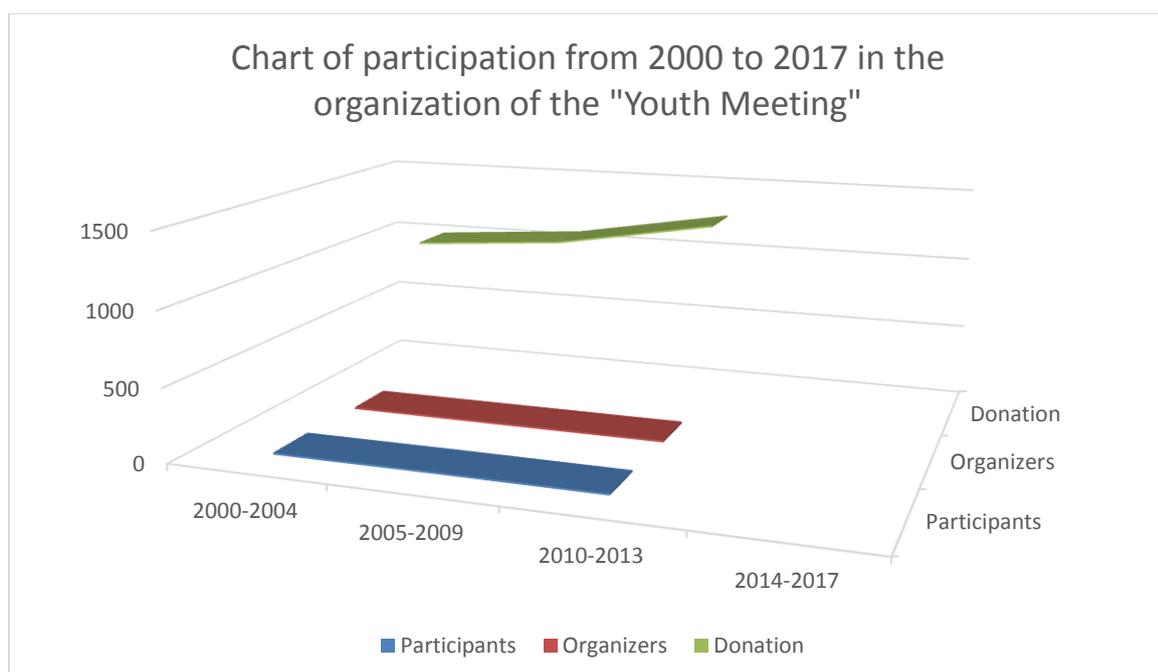
According to our reading, the graphs in three dimensions below, give a possible comparison with regard to the number of participants, organizers and associations according to our 4 periods of time (defined above) since the beginning of the organization of this gathering until it breaks.

As noted, this rupture appears between the supporters of the so-called day of the diaspora and those of the day, so-called, of the worship of Prabang, in other words, a rupture of interpretation between an old version and (so-called) news. On the same basis of representation, a graphic for the organization of the Laotian "Youth Encounter", will allow to evaluate the impact of the participation of the new generation of Laotian emigrants on these cult-cultural gatherings of the Laotian diaspora.

These two tables are the basis of work for the empirical part of our thesis.

Table 4 Prabang from 2000 to 2017

This graph shows us that the curves of participants and associations follow an upward trend from 2005-2009. That of associations believes more quickly from the period 2010-2013. But note that the three curves are going up since 2010-2013. This is explained by the massive mobilization of members of associations, their networks. In addition, the organizers give their time for the preparation of the place, the kitchen, the cleanliness but also financially. Likewise, participants bring offerings, consisting mainly of fruits, desserts, rice, drink, but also money for incompressible expenses such as water, electricity, renting dumpsters, mobile toilets ... (Annexes C 2002 p. 176 à C 2012 p. 187 et P 2012 p. 187 à P 2018 p. 199).



This table shows us that young people are actively involved in the beginning of the creation of this meeting in 2002 then the number decreases in 2003, 2004 and goes up slightly from 2005 to 2008. 2009 sees a significant decrease of the young people and 2010, a strong increase then goes down again until its total shutdown in 2013 with the transmission of the organization to the representative of Solidarity of Lao Youth ". This is explained by the age of the second generation approaching fifty or even for some sixties. Another factor is that the third generation begins to build their working lives with the search for work and the foundation of their family. (Annexes RJ 2002 p. 244 à RJ 2012 p. 295)

The organizers' curve is on the roof, the opposite of the youth curve This is explained by the fact that the 1st generation gives breath to the third by entrusting more responsibilities to the former participants so that they take over. This succession takes care of the days of meetings, the program, the workshops of history, geography, dance, cooking.

The associations take care of all the logistics, the budget and the expenses of these days. Each of them gives 100 € per year and to date, about 1 400 € are in the fund of the Amicale des Amis de Laos, formerly known as the Amicale des Anciens Compagnons. These associations increase each year and in connection with the organization of Prabang.

In the case of the Laotian diaspora, we limit the external and internal contexts to the following characteristics:

- The external context includes the origin of the diaspora, its characteristics and its evolution.
- The internal context highlights trust, its history, the action of the coordinators, its organization, the generations.

Longitudinal analysis is eventually supplemented by surveys, using a method of field immersion in the form of self-ethnographic participation. Two periods are observed, that of the organization through the rite of Prabang, with its evolutions, and that of the reproduction of the diaspora. For the latter, it is the study of representative associations of global action, of meetings between young people and their parents, data of participants, their associations and their members.

The quantitative data of associations, their members, surveys and ethnography are a first step in the analysis.

Two levels of organization, one internal, constituted by the archives, and the other external, which is the reproduction of the diaspora over time, demonstrate that the whole resists as such (a form of resilience then). The multiplications of the ritual process forms of Prabang reveal that on the one hand, the younger ones do not fully respect, or at all, the ancestral values, of origin of the myth, if not the old ones in any case, but that of on the other hand, they are the ones who will create a new mythology of diasporic Prabang.

This is how an organization, which finally has the characteristics of the approach of contingency,

image and figure, and at the same time will surpass them all at the same time, becomes an interesting look to study, hence our research project.

L'ANTHROPOLOGIE STRUCTURALE ET L'IMMERSION PARTICIPANTE

The study of our field, the case of the Laotians plunges us into the family structure, the organizations of ceremonies, parties, marriages, births and deaths in the community around the Paris region but also in the Provinces of France and sometimes of Belgium.

The structural anthropology and participatory immersion approach allowed us to study these habits and customs.

1 Structural Anthropology

The transformation of mythical narratives into the structure of kinship is one of the contributions of Lévi-Strauss in the social sciences and deals with mythology and ritual, which interests us particularly. According to him, the stories are messages to transmit, metaphorical speeches.

For Lévi-Strauss, the structure is an order that must be accounted for :

- The importance of exchange and reciprocity in all cultures.
- The importance of social and cultural activities, such as beliefs and customs, kinship rules, myths.

In the first chapter, his demonstration is based on language and kinship, social organization, magic, religion, and art. The basis of any structure is the family consisting of father, mother and children (Radcliffe-Brown, 1926). The composition of this family creates, moreover, social relations first degree:

- Parents and Children
- Children - same parents
- Husband-wife parents of the same child

The second degree is that of the relationship of the parents on the father's side, the siblings on the mother's side, and the mother's sister on the mother's side.

The third degree is the sibship of the father, the fourth and fifth degrees are cousinhood, of the family distant several degrees. To illustrate our point, it is common for our parents to introduce us to people who have very strong friendships and whom we consider to be first-degree family members. This is what we call the best friends of our parents, father and mother. This is in order to structure and thus maintain the links that also benefit children. These sometimes become much more than our own brothers or sisters. Afterwards, the patriarch or the leader, the coordinator can thus mobilize the world for a large-scale activity. The Prabang organization and the Youth Meeting brought together all these structures.

It is accepted and advised to have a language marked " good word ", Neutral and anxious to gather and not to divide. Language structures social activity. The preparatory meetings and commemorative days of Prabang are held at the pagoda. We pay more attention to what we say or do. In each report, it is stated that before starting the meeting, each person prays to calm his ardor. The appendices relate these prayers in the minutes of 2002, 2004 and 2010 (Appendix C2002, C2004, C2010).

2 Participating immersion

The participatory observation method is abundant. Georges Lapassade quotes Bogdan and Taylor (1975), who define participant observation as a research characterized by a period of intense social interaction between the researcher and the subjects, in the middle of the latter. During this period, data are systematically collected (...)

The data collected comes from several sources in the research field : researcher observation, casual conversations, official documents and meeting reports. In observation, there is the idea of remoteness, restraint, no intervention. It is peripheral, active, complete, from the outside and the inside, with a distance from its object. However, this observation, in some cases, remains a brake on active research.

A variant to participant observation is immersion.

The land of the Lao diaspora is conducive to participating immersion. Strong involvement in the approach to the field to understand the workings of such a machine.

What is Participating Immersion ?

The researcher is immersed in the heart of his research field. He actively participates in the social activities of his research subject. He is at the heart and ready of the stars ". Through this, he knows the habits and customs, tradition, language, posture to observe vis-à-vis his land. This will allow him to understand the correspondent when the latter reveals a strict minimum.

Immersion in a sensitive area, often the case of the diaspora, calls for a look of kindness. It is in these conditions that we obtain the Keywords To open the field of the possible, the dialogue, the common language.

Participatory immersion allows crossing the collected data with the lived experience. As a result, it provides additional lighting from the angle of the observer. The researcher uses 3 prisms : that of observation, that of immersion, and that of participation.

In parallel with our theories mobilized, the observation is seen from the angle of the image, the immersion, that of the figure and the participation, it is associated with the configuration. Is it an abuse of language ? This must be demonstrated.

The working documents come from 4 different sources :

- That of Southinh, President of associations and coordinator of youth meetings and the day of Prabang Cakayamuni (C),

- That of Tiao Bouavong, adviser of the prince and responsible for the organization of Hot Song Prabang Phouthalavanh (P),
- Those of AP, former head of the Protocol at the Luang Prabang Palace, active participant and total immersion in the organization of Prabang C,
- The photos, images, on the blog of Surya Pravong, informal press of the Laotian community in France.

Our immersion during these 12 years allowed us to make a state of the art of data :

- A formal structure of the documents provided by Southinh shows an awareness of the configuration.
- The organization of Prabang P at the beginning was informal and doing like the organization of Prabang C, with the program, the publication of the moral and financial report, here appears the figure of the organization.
- The images shown by Surya before and after the ceremony of Prabang C and P testify to the power of these rites.

CONCLUSION

We talked about the diaspora's interest as an organization by giving several definitions from the angle of geographers, historians, political scientists, economists and financiers. We give a definition for our discipline, which speaks of the non-linear and non-singular transition over several generations in several territories. It is a scattering of a population in great mass around the world because of the man and / or because of the nature.

Through our work on the fifty Laotian associations in France, we have identified and understood this diaspora which is organized into a network of relatives and friends. This allowed us to define the problematic of our thesis which is of three orders :

- Understand the nature of this organization,
- Look for tensions related to the organization
- Identify the sustainability of the organization

This is how we became interested in these festivals and ceremonies by immersing ourselves in these organizations. Hence our search for theories that come closest to the case study.

Our method of work is based on Pettigrew's longitudinal practices, the collection of data related to processual, comparative, pluralistic, historical and contextual aspects. The collection of numerical data shows the mobilization of the actors and legitimizes the ideas of transformation and continuity of the organization. This is possible thanks to our actions and our immersion in the field in a structural anthropological approach of Lévi Strauss.

Morgan's images, Mintzberg's structures, Pesqueux's figuration and representation model gave us the starting and ending nature of the Laotian diaspora.

What do the principles of diaspora organization bring to the management sciences given the relationship to time? On the one hand, there is a local adaptation, young people in America are not like in France, so there is a configurational phenomenon which, at the same time, does not change the diaspora as such. On the other hand, there is also that which relativizes and questions the belonging to the diaspora. The approach figurative goes complete an approach configurational to explain the existence of the Diaspora so that entity that is going survive over time because they are not relations but belonging to the same body, a common ideology, values shared that goes enable people to participate. In same time, the approaches figurative and configurational show the limits in relation to the relation to the objective, the goal, the missions.

REFERENCES

- Besson D., Olaba A. (2017), Une approche contextualiste des pratiques de gestion des compétences par l'informel : une enquête sur quatre PME, *Revue de CAIRN « Annales des Mines – Gérer et comprendre (2017/2 N° 128) p. 112.*
- Elchardus M. (1988), *La Redécouverte de Chronos : Le nouveau rôle du temps dans la théorie sociologique*, Forgues B., Vandangeon-Derumez I. (2007), *Analyses longitudinales in Thiétard R.-A. (coord.), Méthodes de recherche en management*, Dunod, Paris, p. 439-465.
- Langley, A. (1999), *Strategies for Theorizing from Process Data*, *Academy of Management Review*, 24 : 4, 691-710, in Musca G. (2006), *Une stratégie de recherche processuelle : l'étude longitudinal des cas enchâssés*, *Management 2006/3 vol. 9, Cairn info. p. 153-176.*
- Lévi-Strauss C. (1958, 1974), *Anthropologie structurale*, Agora Pocket.
- Marchais-Roubelat A., (2000), *De la décision à l'action, essai de stratégie et de tactique*, *Economica, Bibliothèque Stratégique.*
- Menard S. (1991), *Longitudinal Research (Quantitative Applications in the Social Sciences)*, Sage University Paper.
- Menard S. (1991), *Longitudinal Research (Quantitative Applications in the Social Sciences)*, Sage University Paper.
- Miller D. et Frisen PM. (1982), *L'analyse longitudinale des Organisations : A méthodologique Perspective*, *Sciences de Gestion*, 28, 9, 1013 à 1034.
- Mintzberg H. (1982), *Structure et dynamique des organisations*, Editions d'Organisation.
- Mintzberg H. (1986, 2003), *Le pouvoir dans les organisations*, Editions d'Organisations, p.399-598.
- Mintzberg H. (2003), *Le pouvoir dans les organisations*, Nouvelle édition, Editions d'organisation, pp. 431-446.
- Montbrial T. (2003), *L'action et le système du monde – PUF. ch. 1 Unités actives et problèmes praxéologiques – p. 3.*
- Morgan G. (1986), *Images e l'organisation*, Les Presses de l'Université Laval.
- Pesqueux Y. (2002, 2005), *Organisations : modèles et représentations*, Gestion PUF.
- Pettigrew, A.M. (1990), *Longitudinal Field Research on Change : Theory and Practice*, *Organization Science*, 1 : 3, 267-292. x² in Musca G. (2006), *Une stratégie de recherche processuelle : l'étude longitudinale des cas enchâssés*, *Management 2006/3 vol. 9, Cairn info. p. 153-176.*
- Pettigrew A. M., Woodman R. W., Cameron K. S. (2001), *Studying organizational change and development: challenges for future research" in Special Research Forum on Change and Development Journeys into a Pluralistic World*, *Academy of Management Journal*, vol. 44, n° 4, p. 697-713.
- Tushman M. & Romanelli E. (1985), *Évolution organisationnelle : Un modèle de Metamorphosis de convergence et Réorientation*, dans L. Cummings et B. Staw (Eds.), *recherche en comportement organisationnel.*

- Van de Ven, A.H. (1992), Suggestions for Studying Strategy Process : A Research Note, *Strategic Management Journal*, 13 : Summer Special Issue, 169-191, in Musca G. (2006), Une stratégie de recherche processuelle : l'étude longitudinale des cas enchâssés, *Management 2006/3* vol. 9, Cairn info. p. 153-176.
- Weick K.E. (1979), *The Social Psychology of Organizing*, Addison-Wesley.
- Whipp R., Pettigrew AM & Sparrow PR. (1989), Une nouvelle technologie, la concurrence et la firme: Un cadre pour la recherche, *International Journal of Vehicle Design*, 10, 4, 453-469.
- Woods P. (1990), *L'ethnographie de l'école*, Paris, Armand Colin.

WORK CITED

Electronic template Yvon Pesqueux, « Un modèle organisationnel du changement ? », *Communication et organisation* [on line], 33 | 2008, put on line the 1 june 2011, accessed the 30 september 2016. URL : [http:// communicationorganisation.revues.org/490](http://communicationorganisation.revues.org/490) ; DOI : 10.4000/communicationorganisation.490.

Célébrations de Prabang à la Pagode Vélouannalam à Chamigny (1er Réseau Cakayamouni, 2000 à 2012) - Le Petit Rougebourse, RN 3, 77260 Chamigny																		
N°	Organisme	Responsables	Coordinateurs Principaux	Membres – Participants	Année de la célébration													
					2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Associations à caractères culturels et culturels																		
1	Association Vat Buddhoubouxa (Roubaix)	Vénérable Chatsawan SURIN		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Association des Jeunes Bouddhistes Lao	Vénérable Viengsay SUDAROS		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	Association des Jeunes Bouddhistes en France	M. Bounsouane VEOPRASEUTH		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	Association des moines Bouddhistes	Vénérable Chanthay SOUPHANTHAVONG		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Associations à caractères familiaux																		
1	Association Fa-Ngum	S.A.R. Tiao Soulivong SAVANG	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Fondation Sri Savang Vatthana	M. Bouavanh NORASING		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	Maisons princières de Champassak	Chao Heuane Chitprasong NA CHAMPASSAK		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	Maisons princières de Meuang Phouang	Chau Vatthana NOKHAM		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	Association Sananikone	M. Vang Ngeunh SANANIKONE		x								x	x	x	x	x	x	x
Associations à caractères territoriaux																		
1	Association Khammouane	M. Kéodara XOSANAVONGSA		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Association Phinong Champassak	Chao Sisanga Na CHAMPASSAK		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	Association Lao de Villepinte	M. Khamvieng CHAMPAPHANEVILAY	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	Association Lao de Languedoc Roussillon	M. Bounhéng SAIGNAVONGSA		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	Association Mittaphab Houa Phan	M. Thoumma THAMMACHACK	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6	Association Lao de Xieng Khouang	M. Khamxing DAOSISAVANH		x								x	x	x	x	x	x	x
7	Association Luang Prabang	M. Sidthikone PHOUNSAVATH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
8	Groupe Nang Kéo Orléans	Jeunes danseuses bénévoles		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9	Association Sithandone Samphanh	Dr Parissone ABHAY		x								x	x	x	x	x	x	x
10	Association Lao de Melun	M. Monethong BANGSITTIDETH		x								x	x	x	x	x	x	x
	Association Lao de Calvados	M. Bounsay NAMMATHAO		x								x	x	x	x	x	x	x
11	Association Lao Héritage	Mme Phissamay SOUMPHOLPHAKDY		x								x	x	x	x	x	x	x
12	Association Souane Mone																	
13	Association Lao de Bruxelles	M. Ounheune SUDAROS		x														
14	Association Lao de Moselle	M. Khénh THAMMAVONG		x														
15	Association Thong Long Ngum	M Thanh SIHAPANYA		x														
Associations à caractères de l'aide et Soutien																		
	Association pour la Démocratie Lao																	
2	Association de soutien au Bouddhisme et d'action socio-culturelle Lao	M. Samrong SOUDACHANH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	Association Fraternité Lao d'Orléans	M. Thao SEUY		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	Association de Promotion Culturelle	M. Khamkhoue VONGSA	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	Association pour la Sauvegarde du Ballet Royal	Mme Khamphou VISOUTHIPHONGS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6	Association d'entraide Médico-sociale Lao	Dr Xéng SITHY	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
7	Association Lao Football Club de France	M. Sisomdeth SYHANATH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
8	Solidarité des Jeunes Lao	M. Bertrand KHENNAVONG	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9	Coordination des Rencontres de la Jeunesse	Mme Sanong SIHAPANYA	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	Association pour la sauvegarde et la promotion de l'héritage Musical Classique Lao	M. Chanthakhat SIVORAVONG	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Associations à caractères Amicaux, Artistiques et Professionnels																		
1	Amicale 3-4-5	Mme Akhalv THIRAVONG	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Amicale de la Police Nationale Lao	M. Bounhéng BOUAPHA		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	Amicale des Anciens Compagnons	M. Southinh SANGKHAVONGS	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	Amicale des Militaires Lao	M. Souphanh PHOMSOUVANH		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	Amicale des Anciens Combattants Hors du Laos	Mme Pathoumma NA CHAMPASSAK		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
6	Amicale Xoumphone Artistique et Culturelle	M. Kolaka INSISIENMAY	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
7	Association Taxi Lao	M. Phay SOUNALATH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
8	Cercle des Amis	M. Lamvieng INTHAMONE		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
9	Amicale des Anciens Enseignants Lao	M. Thanh SIHAPANYA	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
10	Association des Femmes Lao de Maine et Loire Vendée	Mme Thongsouk PATTHAMMAVONG		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
11	Association des Femmes Lao en France	Mme Viengsouvanh BOVORASMY	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
12	Lane Xang Mahory	Dr Thay THIRAVONG	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
13	Association Mit Lao de Melun	M. Issaraphong BOUNSIANG		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
14	Rassemblement des Anciens Elèves du Lycée de Vientiane	M. Sisouk SOUTHAMMAVONGSA	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Entreprises privées																		
1	Sté Micro Direct - Notebook.com	Mme ViVatthana APHAYVONG		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2	Société Phayvanh Services	Mme Phayvanh PHITAYAPHONE		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
3	Société Tang Frères	M. Bounmy RATANAVAN	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
4	Société Vientiane Distribution	Mme Khammouane KHAMSIANG		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
5	Entreprise RAJA	Mme Pron PHOUNPADIT																
Blogueur																		
1	Laofr.net	M. Surya PRAVONG	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Nombres des associations organisatrices					44	44	46	48	48	49	50	53	52	53	55	55	55	55
Estimation des visiteurs par année					650	700	750	800	800	850	900	950	1000	1100	1300	1400	1500	1500
Recettes estimées par année (€)					6000	6000	6500	7000	7000	7500	8000	8000	9000	9500	10000	10000	10000	10000

Célébrations de Prabang à la Pagode Vélouvannalam à Bussy Saint Georges (2ème Réseau Phouthalavanh de 2013 à 2018) 5, allée Madame de Montespan 77600 Bussy Saint Georges								
N°	Noms des participants	Noms des responsables	Année de la célébration					
			2013	2014	2015	2016	2017	2018
1	Association des moines Bouddhistes Lao en France	Vénérable Chanthy SOUPHANTHAVONG			X	X	X	
2	Association Fa-Ngum	S.A.R. Tiao Soulivong SAVANG			X	X	X	
3	Fondation Sri Savang Vatthana	M. Bouavanh NORASING			X	X	X	
4	Association Sananikone	M. Vang Ngeunh SANANIKONE			X	X	X	
5	Association Khammouane	M. Kéodara XOSANAVONGSA			X	X	X	
6	Association Lao de Villepinte	M. Khamvieng CHAMPAPHONEVILAY			X	X	X	
7	Association Luang Prabang	M. Sidthikone PHOUNSAVATH			X	X	X	
8	Association Mittaphab Houa Phan	M. Thoumma THAMMACHACK			X	X	X	
9	Association Phinong Champassak	Chao Sisanga Na CHAMPASSAK			X	X	X	
10	Association Thong Long Ngum	M Thanh SIHAPANYA			X	X	X	
11	Association pour la Sauvegarde du Ballet Royal	Mme Khamphou VISOUTHIPHONGS			X	X	X	
12	Association d'entr'aide Médico-sociale Lao	Dr Xéng SITTHY			X	X	X	
13	Association Lao Football Club de France	M. Sisomdeth SYHANATH			X	X	X	
14	Solidarité des Jeunes Lao	M. No LUANGRATH			X	X	X	
15	Association pour la sauvegarde et la promotion de l'héritage Musical Classique Lao	M. Chanthakhat SIVORAVONG			X	X	X	
16	Amicale de la Police Nationale Lao	M. BounHéng BOUAPHA			X	X	X	
17	Amicale des Anciens du Laos	M. Kouthay PHOTHIRATH						
18	Amicale des Militaires Lao	M. Nenekéo MANIVONGG			X	X	X	
19	Amicale Xoumphone Artistique et Culturelle	M. Kolaka INSISIENMAY			X	X	X	
20	Association Taxi Lao	M. Phay SOUNALATH			X	X	X	
21	Association des Femmes Lao en France	Mme Viengsouvanh BOVORASMY			X	X	X	
22	Rassemblement des Anciens Elèves du Lycée de Vientiane	Dr Kabkéo SOUVANLASY			X	X	X	
23	Comité de soutien Vat Vélouvannaram	Mme Pinhkéo FRICHITTHAVONG			X	X	X	
24	Société Tang Frères	M. Bounmy RATANAVAN			X	X	X	
25	Laofr.net	M. Surya PRAVONG			X	X	X	
26	Association des Jeunes Bouddhistes en France	M. Southinh SANGKHAVONGS				X	X	
Nombres des organisateurs par année				14	24	25	25	
Estimation des visiteurs par année				800	900	900	900	
Recettes estimées par année				10621			8695	

“IS UNCERTAINTY AVOIDANCE THE NEW TABOO DIMENSION?”**RESPONSIBLE LEADERSHIP AND UNCERTAINTY AVOIDANCE****INDEX (UAI) IN LUXEMBOURG****Schinzel, Ursula**

Unicaf University

ABSTRACT

Purpose: The aim of the present study is the combination of three different studies with the final aim to shed lights on the links between Responsible Leadership and the Uncertainty Avoidance Index (UAI) developed by Hofstede (1998, 2001) in Luxembourg. The main research question is: “Does the high uncertainty avoidance affect international cooperation because of the tendency for high-uncertainty avoidance societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions?” This is compelling because it seems as if Uncertainty Avoidance was a new Taboo Dimension.

Design: This is the combination of three different studies: The first one was mainly performed in 2011, the second one in 2015 and the third in 2018. From the first study, a quantitative study with 134 respondents, the results about UAI were taken and combined with the 2017 qualitative study, where 51 semi-structured interviews were conducted in four culturally different samples, namely: (1) Luxembourgers with Luxembourgish Nationality (Lux.Nat.), (2) foreigners who reside in Luxembourg (Lux.Foreigner), (3) cross-borderers, and (4) the rest of the world (World). These results were compared with the results from the 2018 study, where 40 respondents from the same 4 samples were interviewed.

Findings: Responsible leadership spans three areas: first the ecological, second the social and human, and third the economic/business area; these areas are long- or short-term oriented. The high Uncertainty Avoidance Index is mainly held responsible for being the brake to much-needed change and innovation. Critics call for precisely this change and innovation, blaming the high UAI for constituting an obstacle to it. In their opinion, there is an urgent need for managers to learn responsible leadership and overcome the UAI.

The main outcome of the respondents' responses is the fact that language is THE key to success. The Luxembourgish language is used as an identifier, subject to the author's earlier publications (2013, 2014a, 2014b). However, Luxembourgers are a culture apart, on the one hand sticking to their old traditions, avoiding any change, on the other hand forerunners in innovation and advancement, peace and European integration, space, satellite technology.

The lack of talent, especially the lack of talent in speaking Luxembourgish, is one of the biggest issues to be solved in the future.

Research implications: This article contributes to the discussion on change and innovation in the field of leadership theory, first with particular emphasis on the cultural dimension Uncertainty Avoidance following Geert Hofstede and the GLOBE, second on responsible leadership following Michael Maccoby, and third on multilingual and multicultural Luxembourg in the middle of Europe, following Geert Hofstede and Edgar Schein.

Originality: This study is the combination of research about responsible leadership and Hofstede's cultural dimension Uncertainty Avoidance (UA).

Keywords: Responsible leadership, Hofstede's cultural dimension Uncertainty Avoidance, Cross-cultural management, International business, Change and Innovation, Luxembourg

1. INTRODUCTION

The purpose of this research is to shed lights on the links between Responsible Leadership and Hofstede's cultural dimension Uncertainty Avoidance in Luxembourg. The author would like to explore (i) the effects of uncertainty avoidance on international cooperation, and (ii) the role of culture and leadership in this relation.

The research questions are: What is the link between 'responsible leadership' and 'uncertainty avoidance' in Luxembourg? Does the high Uncertainty Avoidance affect international cooperation because of the tendency for high-uncertainty avoidance societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions? Please give some examples. "Is Uncertainty Avoidance the new Taboo Dimension?"

Geert Hofstede (1998) wrote about the taboo dimension masculinity and femininity as long ago as 1998. Many things have changed since then. One of the changes might be that the new taboo dimension is 'uncertainty avoidance', besides Hofstede's taboo dimension 'masculinity versus femininity'. Because of the overall tendency towards globalization, internationalization and international trade, uncertainty avoidance tends to be less popular as a cultural dimension as it prevents ambiguity and uncertainty in international business transactions, preferring domestic transactions. Is this correct? Do you know any examples? Or, is it taboo to be uncertainty avoidant?

The present research takes an initial step in this direction: "Is Uncertainty Avoidance the new Taboo Dimension?"

The author would like to cite Hofstede (2001) and Shenkar (2001) in Venaik and Brewer (2010): "UA is expected to affect international cooperation because of the tendency for high-UA societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic

transactions". This relationship between high UA and international business transactions avoidance remains to be verified.

134 questionnaires were collected in the 2011 replication of the VSM2008, 51 semi-structured interviews were conducted in 2015 and 40 semi-structured interviews in 2018 among four culturally different samples, namely: (1) Luxembourgers with Luxembourgish Nationality (Lux.Nat.), (2) foreigners who reside in Luxembourg (Lux.Foreigner), (3) people from Germany, France, and Belgium who commute daily to work in Luxembourg (cross-borderers), and (4) the rest of the world (World). Convenience sampling was used. In 2015 respondents were asked: What is 'responsible leadership' in Luxembourg? In 2018 respondents were asked: A) What is the link between 'responsible leadership' and 'uncertainty avoidance' in Luxembourg? B) Does the high Uncertainty Avoidance affect international cooperation because of the tendency for high-uncertainty avoidance societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions? C) Please give some examples. D) "Is Uncertainty Avoidance the new Taboo Dimension?"

With the current research the author contributes to the existing knowledge by developing the theory of need for change and innovation (Santoro, Ferraris, & Winteler, 2019).

The author combines two existing theories, namely on Culture (Hofstede, Hofstede, & Minkov 2010) and on Responsible Leadership (Maccoby, 2011).

Why Luxembourg? Because it provides the author with a steady cultural environment where other sub-cultures might vary in their behaviour (France, Germany, Belgium, Portugal, Italy, Spain...).

This research is significant and strongly needed as a reinforcement of the claim for change and innovation in the field of responsible leadership theories.

After this introduction, the paper will describe Luxembourg's linguistic and cultural peculiarities. The third paragraph is a brief literature review on Responsible Leadership, fourth on Hofstede's cultural dimension 'Uncertainty Avoidance'. Paragraph 5 is on Responsible Leadership and Uncertainty Avoidance, and the author offers a proposition. Paragraph 6 will describe the applied method: the combination of three different studies with 134 questionnaires in 2011, 51 semi-structured interviews in 2015 and 40 semi-structured interviews in 2018. Paragraph 7 will present the results from the four culturally different samples of respondents, and excerpts of some interviews. Paragraph 8 will show a summary table on responsible leadership and Hofstede's maps of the world with a discussion of the results in these maps. Paragraph 9 contains the conclusions, discussion, and implication, as well as research limitations and further research opportunities. References and Appendix with the original interview will conclude this paper.

2. LUXEMBOURG

Luxembourg is a parliamentary democracy and a constitutional monarchy, and it is the only remaining Grand Duchy in the world. As of 1st of January 2017, Luxembourg's total population consisted of 590,700 inhabitants of whom 309,200 (52.34%) were Luxembourgers and 281,500 (47.66%) were foreigners (statec, 2017a); these included 96,800 Portuguese, 44,300 French, 21,300 Italians, 20,000 Belgians, 13,100 Germans, 6,100 British, 4,300 Dutch, 34,400 other EU countries, 41,200 other (see <http://www.statistiques.public.lu/stat/TableViewer/tableView.aspx>). Cross-borderers are a distinguishing characteristic of Luxembourg's employment situation. Domestic employment was 418,400, comprising 176,600 cross-borders (42.21%): 88,600 from France, 43,800 from Belgium, and 44,200 from Germany.

Depending on the tools and measures taken, the answer to the question: "How is life in Luxembourg?" differs: According to the Better Life Index, Luxembourg ranked 13th among OECD countries and 9th among European countries in 2016 (STATEC, 2017b, p.23). According to the World Bank, Luxembourg had the largest Gross National Income per capita in 2015 evaluated at purchasing power parity among the Organisation for Economic Cooperation and Development (OECD) countries (The World Bank, 2016) (STATEC, 2017b, p. 21).

"Eurobarometer data documents that Luxembourg's residents are mostly satisfied with their homes (93% of satisfied respondents), family lives (94% of satisfied respondents), neighbourhoods (91% of satisfied respondents) and social lives (92% of satisfied respondents), whereas they are less satisfied with the health care system (77% of satisfied respondents), income (85% of satisfied respondents), and personal safety (85% of satisfied respondents). It is worth emphasising, however, that this study refers to 2004. In 2013, Eurofound (2013) reported that Luxembourg's residents are the most satisfied with their life after Danish, Finnish and Swedish people. This is the result from the analysis of life satisfaction trends in Europe, which uses data from the European Quality of Life Surveys conducted in 2003, 2007 and 2012." (STATEC, 2017b, p. 22).

"According to the World Happiness Report, Luxembourg scored 18th out of the 155 countries taken into account world-wide in 2017. The best performers in 2017 are Norway, followed by Denmark, Iceland, and Switzerland. These countries rank consistently on top thanks to their high values in all the key variables used to explain happiness differences among countries and through time, namely income, healthy life expectancy, having someone to count on in times of trouble, generosity, freedom and trust (STATEC, 2017, p. 26).

Luxembourg's motto is: '*Mir wëlle bleiwe, wat mir sinn*' [*We want to remain what we are*]. Luxembourg is one of the smallest countries in Europe with a total size of 2,586 km². It is 82 km long and 57 km wide and has borders with Germany (138 km), with France (73 km), and with Belgium (148 km) (The World

Factbook, n.d.). The language situation is anchored deeply in the country's history (Schinzel, 2013). There are three official administrative languages: French, German, Luxembourgish (statec, 2017a), Luxembourgish (Lëtzebuergesch) being the national language. The public education system is trilingual: the instruction language in Kindergarten is Luxembourgish, being replaced by German as language of instruction in primary school and then gradually replaced by French in secondary school (Kraemer, 1995; Schinzel, 2014a; 2014b; Weber and Horner, 2008). Citizenship is only awarded to those who speak Lëtzebuergesch (Spizzo, 1995).

3. RESPONSIBLE LEADERSHIP

"There is only one irrefutable definition of a leader: someone people follow. Therefore, leadership is a relationship between the leader and the led. Unlike management, the leadership relationship cannot be delegated or automated" (Maccoby, 2011).

Responsible leadership is defined as being "about making business decisions that, next to the interests of the shareholders, also takes into account all the other stakeholders such as workers, clients, suppliers, the environment, the community and future generations" (The Financial Times, n.d.). Stückelberger and Mugambi (2007) split 'Responsible Business Leadership' into 5 aspects: 1) in general, 2) economically, 3) socially, 4) politically and 5) environmentally. Responsible leadership has increasingly been a topic of interest in recent years, looking into topics like 'organizational culture' (Schein 2009, 2010), 'strategic intelligence' (Maccoby, 2015), 'raising performance through uplifting leadership' (Hargreaves et al., 2014), 'stakeholders' (Maak, 2007; Maak & Pless, 2006), strategic leadership (Elenkov, D.S., Judge, W., & Wright, P., 2005), supportive leadership (Banai & Reisel, 2007), different types of leadership approaches (Northouse, 2012), and 'narcissistic leaders: who succeeds and who fails' (Maccoby, 2007). Northouse (2012) addresses the subject through different types of approaches: the trait approach, skills approach, style approach, situational approach, contingency theory, path-goal theory, leader-member exchange theory, transformational leadership, servant leadership, authentic leadership, team leadership, psychodynamic approach, women and leadership, culture and leadership, and leadership ethics. Murray (2010) asks: "What makes a great leader?"

Maak (2007, p. 329) argues that responsible leadership 'contributes to building social capital and ultimately to both a sustainable business and the common good'; this is because business leaders have to build 'enduring and mutually beneficial relationships with all relevant stakeholders' through 'durable relational structures and ultimately stable networks of relationships'. For Maak (2007, p. 339), the responsible leader is a weaver of value networks, contributing with these social ties to a sustainable business, the common good and eventually to a sustainable future. Pless (2007, p. 438)

defines it as follows: “We understand responsible leadership as a values-based and thorough ethical principles-driven relationship between leaders and stakeholders who are connected through a shared sense of meaning and purpose through which they raise one another to higher levels of motivation and commitment for achieving sustainable values creation and social change.” She defines “a responsible leader as a person who reconciles the idea of effectiveness with the idea of corporate responsibility by being an active citizen and promoting active citizenship inside and outside the organization” (Pless, 2007, p. 450). Responsible leaders build sustainable relationships with stakeholders, to achieve shared objectives, the common good. This includes the different streams of leadership: ethical, authentic, servant and transformational. “Sustainability is about building a society in which a proper balance is created between economic, social and ecological aims” (Szekely & Knirsch, 2005, pp. 628, 629), where “companies integrate their economic, social and environmental objectives into their business strategies and optimize the balance among all three. Thus, the flexibility to change and to engage in dialogue and partnerships with different members of society are not given to all leaders. Internal factors (managers, employees, workers, worker health and safety, shareholder value) and external factors (market, government, stakeholders, energy efficiency) determine sustainability within a company. Szekely and Knirsch (2005) name the critical success factors to achieve sustainability as: first, leadership and vision; second, flexibility to change; third, openness, i.e. stakeholder engagement.

The authors would like to cite Voegtlin, Patzer and Scherer (2012, p. 6): “Leaders (and followers alike) are increasingly confronted with heterogeneous cultural contexts, devoid of shared moral orientations or legal frameworks. As moral or ethical conflicts arise in the process of economic activities, business leaders are left without any orientation in regard to morally adequate action. In this situation the idea of value maximization often becomes the sole surrogate for moral principles. This problem is aggravated by the need to transcend the traditional, internally bound focus of leadership theory.” (Maak, 2007; Maak and Pless, 2006b).

Clarke and Liesch (2017, p. 924) define the *wait-and-see* strategy in the Internationalization Process (IP) “as a strategy resulting from a measured decision in the firm to maintain current commitments to its business relationships”, where the responses to pressures from an increasingly globalized international business world are the following behaviors: avoiding uncertainty, showing “institutional inertia”, and/or “locational immobility. The desired outcomes are long-term sustainability, improved competitiveness, and managed risk.

4. GEERT HOFSTEDE'S CULTURAL DIMENSION 'UNCERTAINTY AVOIDANCE'

The author replicated Geert Hofstede's cultural dimensions study in Luxembourg in 2011 as her doctoral thesis and compared the findings with Hofstede's estimates. Luxembourg's specific cultural environment is characterized by low Power Distance (PDI=29), high Uncertainty Avoidance (UAI=95), low Individualism = high Collectivism (IDV=34) (COL=66), medium Masculinity (MAS=54), high Long-Term Orientation (LTO=65), medium Indulgence versus Restraint (IVR=55), and low Monumentalism (MON=24).

In international trade, "companies must adapt their assortment, their collections, and their retail concepts". This is about "cultural distance and local adaptation: The necessity of adapting. Wherever a company comes from, great chances exist to encounter cultural differences...." Feldmann (2016, pp. 14-15).

Table 1 (Schinzel, 2017a) shows Hofstede's (2001) and Hofstede et al.'s (2010) cultural dimensions of Lux.Nat. and Lux.All., Hofstede's estimates for Luxembourg, his data for France, Germany, the UK, Belgium FR, Belgium NL, Italy, the Netherlands, China, the USA and Japan (on a scale from 1-100, 1 being the lowest and 100 the highest score), where the cultural differences become clear.

Table 1 Cultural Comparisons (Schinzel, 2017a): Hofstede's (2001) and Hofstede et al.'s (2010) cultural dimensions of Lux.Nat. and Lux.All., Hofstede's estimates for Luxembourg, his data for France, Germany, the UK, Belgium FR, Belgium NL, Italy, the Netherlands, China, the USA and Japan (on a scale from 1-100, 1 being the lowest and 100 the highest score), where the cultural differences become clear.

	The author's Lux.Nat.	The author's Lux.All.	Hofstede's estimates on Luxbg	Hofstede's France	Hofstede's Germany	UK	Belgium FR	Belgium NL	Italy	NL	China	USA	Japan
PDI	29	36	40	68	35	35	68	61	50	38	80	40	54
UAI	95	97	70	86	65	35	93	97	75	53	30	46	92
IDV	34	51.5	60	71	67	89	71	78	76	80	20	91	46
MAS	54	47	50	43	66	66	60	43	70	14	66	62	95
LTO	65	69	64	63	83	51	82	82	61	67	87	26	88
IVR	55	53.5	56	48	40	69	57	57	30	68	24	68	42
MON	24	10	-	16.5	9.9	35.4	-	-	35.2	11.9	0	57.2	4.0

Venaik and Brewer (2010), in their table 1 'A review of the Uncertainty Avoidance (UA) construct in international business', enumerate the key results from the many studies in the field of UA and their effect on international joint ventures. This current research does not want to enter into competition with existing research but to add to the existing knowledge, as neither Hofstede (2001) nor the GLOBE (House et al., 2004) examine Luxembourg. This is the author's contribution to knowledge.

In the following paragraph we will look at the results from the 2011 study, the author's doctoral thesis. In 2011, the author used Geert Hofstede's VSM2008 - Value Survey Module - as a questionnaire to replicate Hofstede's research in Lindab Luxembourg. The author had initially wanted to replicate Hofstede's study in IBM Luxembourg, but this was unfortunately not possible. Luckily, the company Lindab agreed to participate in this doctoral study.

The questions that Geert Hofstede (2001, p. 148) uses to measure Uncertainty Avoidance are:

"How often do you feel nervous or tense at work? (1. Always....5. never)

How long do you think you will continue working for this company? (1. Always.....5. never)

Company rules should not be broken – even when the employee thinks it is in the company's best interests. (1. Strongly agree....5. Strongly disagree).

One can be a good manager without having a precise answer to every question that a subordinate may raise about his or her work (1. Strongly agree.... 5. Strongly disagree).

Competition between employees usually does more harm than good. (1. Strongly agree... 5. Strongly disagree).

All in all, how would you describe your state of health these days? (1. Very good.... 5. Very poor)."

The author's results are shown in Geert Hofstede's maps of the world.

5. RESPONSIBLE LEADERSHIP AND UNCERTAINTY AVOIDANCE

Hofstede (2008) defines Uncertainty Avoidance as "the extent to which the members of institutions and organizations within a society feel threatened by uncertain, unknown, ambiguous or unstructured situations". Earlier, in 2001, page 148, he provides the following definition: "Uncertainty-avoiding cultures shun ambiguous situations. People in such cultures look for structure in their organizations, institutions and relationships, which makes events clearly interpretable and predictable."

Stability, peace and freedom are key in Luxembourg. Luxembourg's motto is: "Mir wëlle bleiwe wat mir sinn" – "We want to remain what we are". If one does not understand the full extent of this motto, it is difficult to integrate into Luxembourg's culture. Economic, social and political stability are key and allow for security and life predictability in the long term.

Luxembourgers say that when everything unimportant is taken care of, one can concentrate on the real joys of life.

It is worth citing Hofstede himself: "... Luxembourg has a high score on uncertainty avoidance which means that as a nation they are quite reluctant to test unknown territories. Security is a key word in Luxembourg: there is not one activity which is not dependent on some sort of security control from authorities; from banker's money to safety exits in a restaurant. It makes life in Luxembourg very safe,

but some would argue a bit boring. New ideas, new methods, new management techniques must first be proven to work in other countries in order to be accepted in Luxembourg. Historically more “farmers” than “traders”, the inhabitants kept that good old “common sense” made of cautiousness which has proven to be profitable for a country who managed not to be at war since the Napoleonic time! (<http://geert-hofstede.com/luxemburg.html>).

The following proposition is offered:

Luxembourg’s high cultural dimension ‘Uncertainty Avoidance’ influences ‘What is responsible leadership?’ Following Hofstede (2001) and Shenkar (2001) in Venaik and Brewer (2010), the author offers the following proposition: “Luxembourg’s high Uncertainty Avoidance is expected to affect international cooperation because of the tendency for high-UA societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions.

6. METHODOLOGY

For the purpose of this research, the results from three different studies were combined: the 2018 qualitative study with 40 respondents, the 2011 quantitative study with 134 respondents and the 2015 qualitative study with 51 semi-structured interviews.

For the 2011 study, respondents were given Hofstede’s questionnaire VSM08 – Values Survey Module 2008, available at <http://geerthofstede.nl>.

For the 2018 and the 2015 research, respondents were from the four culturally different categories: Lux.Nat. (29), Lux.Foreigners (25), Cross-Borderers (16) and the rest of the World (21). Interviews were carried out in Luxembourgish, English, French, German and Italian. The interviews were fairly heterogeneous, as they were in person, by phone, via skype or email exchange and lasted between 15 minutes and 2 hours. For confidentiality reasons, interviews were not taped, recorded or filmed. In-depth notes were taken during the interviews. After the interviews, the respondents were presented with a summary of the interview and asked for their consent. Interviews in Luxembourgish, French, German, Italian or Spanish were translated into English.

7. RESULTS FROM THE 2018 RESEARCH

The results from the 2018 research are shown in this paragraph. Table 2 summarizes the respondents’ demographics.

Table 2 Respondents' demographics (N=40)

Respondents' profile	Classification	Number of respondents
Gender	Male	18
	Female	22
	Total	40
Age	0-24	0
	25-34	2
	35-49	13
	Over 50	25
Industry sector	Banking and Finance	12
	Education, Human Resources	14
	Tourism, Food, Petrol, Politics, Telecom, Construction	2
	Law, Medicine, Journalism	10
	Civil Servants	2
Education level	A-level and professional education, undergraduates	8
	Masters and Doctorates	32

In total, the 40 respondents come from 15 different countries and speak 16 different languages, four holding double nationality: French + Dutch, German + Dutch, German + Luxembourgish, and German + French.

Native languages are: Luxembourgish (10), French (6), English (6), Italian (5), German (5), Portuguese (2), Dutch (2), Russian (1), Hebrew (1), Bosnian (1), Bulgarian (1), with 2 respondents having 2 mother tongues: French + Dutch (1), French + German (1). 1 respondent speaks seven languages, 2 speak 6 languages, 3 speak 5 languages, 5 speak 4 languages, 2 speak 3 languages, 3 speak 2 languages, and 4 respondents speak one language (1 French and 2 English).

The citations from the 2018 study best show the research results. Therefore the responses from the four different samples are reprinted hereafter.

The main result from the respondents is the fact that language is THE key to success. The Luxembourgish language is used as an identifier, subject to the author's earlier publications (2013, 2014a, 2014b). However, Luxembourgers are a culture apart, on the one hand sticking to their old traditions, avoiding any change, on the other hand forerunners in innovation and advancement, peace and European integration, space, satellite technology. The lack of talent, especially the lack in talent speaking Luxembourgish is one of the biggest issues to be solved in the future. Another dilemma must be eluded here: Lux.Nats work for the State as civil servants. There are hardly any Lux.Nats working for the private sector. Cross-Borderers and Foreigners work for the private sector.

Luxembourg has no such people with a 'migration background', there are either Lux.Nats or Foreigners. However, in Luxembourg, the difference is determined by social class, either you belong to the right social class or you do not.

Please see the citations hereafter from the 4 different categories:

Citations from Lux.Nats.:

"Of course Luxembourgers prefer to hire Luxembourgers, this is because of the language. People all over the world prefer to reduce their efforts, therefore they prefer to speak their mother tongue. This is valid for the French working in Luxembourg who prefer to hire French speakers, and/or Germans hiring German speakers. The language is the identifier."

"We have to clarify what we are looking at. In Luxembourg, the Luxembourg Nationals are a minority, those who are Luxembourgers by birth representing less than 30% of the population. Adding 189.000 cross-border workers to the 71% foreigners living in Luxembourg. The real Lux.Nat has his origins in farming, is traditional and follows the saying: "Was der Bauer nicht kennt, frisst er nicht." Nearly all Lux.Nats work for the State as civil servants. There are hardly any Lux.Nats working in the private , where Foreigners and Cross-Borderers work. This is a dilemma, as Geert Hofstede excluded civil servants from his cultural study; here in Luxembourg, you will hardly find any Lux.Nats in the private sector. What counts in Luxembourg is the social class to which you are born, not whether you are foreigner or not."

"Who wants globalization? Who wants internationalization?"

"I know somebody who is a true Luxembourger, who is a manager. He has a company. He says that he has done his business for 30 years now and that he does his business the way he does and he will continue this way and he will not change.

The young people he hires all leave, because they want change, innovation. But he doesn't want to change anything or innovate. He wants to stick with his procedures and his business connections that he has since the beginning."

"I could say that responsible leadership and uncertainty avoidance are strictly connected in Luxembourg. Minimize risk, ensure financial security, reduce ambiguity: these are typical factors of the Luxembourger social fabric. I can answer that this link exists. In Luxembourg society, where "uncertainty avoidance" is very strong, the characteristic of a responsible leader is to transmit to their employees a certain idea of the future of their company, is a very strong need to establish a lasting relationship and the idea of a large family that by definition is indissoluble. I would also link this to the idea of a power distance, in the sense that, since there is also a very low power distance in Luxembourg, this makes the idea of integration even easier."

“Oh, I remember this very well! When a manager is afraid of me, because I am better than him. Because he is afraid of losing his power, his influence, his might. He will do everything to destroy me, to make all of my work/propositions/ideas look foolish. He will avoid every change, every innovation. He will stick with his old-fashioned methods, because this is all he knows, because of his stupidity. Protectionism to hide his own ignorance.”

“The best management method for Lux.Nats. seems to be the traditional way of doing things: few words, rude, impolite, never greeting anybody, squeezing the best out of people by insulting them, never positive feedback, only negative critique, low salaries. Talking to the manager means talking to him over a distance of a 3 meter long table, standing. Results are: burnout, people leaving, the need to hire new unqualified people with a need for training.”

“In the 1970s, Luxembourgers were a people ruled by security. Consensualism was cherished 100%. But then from time to time they opened up to innovation, i.e. SES, satellites and now space mining. Luxembourg is a founding member and full member of numerous international institutions: NATO, CECA, UN, 1823 Customs Union (Deutscher Zollverein). Nevertheless, the 7th June 2015 Referendum demonstrated the high importance of the UAI on a political and everyday life level. 94% voted against a right to vote for foreigners. In Luxembourg city, Luxembourgers are a minority, representing less than 30% of the population. The Luxembourgish language finds its importance as an identifier here. Luxembourgish is used as an identifier, the language gets its importance as a distinguisher.”

Citation from the Category Foreigners living in Luxembourg:

“It’s uncertainty all over!”

“Luxembourg lacks talent. There are not enough qualified people. There is no ‘Knowledge Community’, as the University only started 15 years ago. There is a top 1% that rules the country, inaccessible for the common citizen. Luxembourg seems to be an open society, but it is not. The language is the key issue. Either you speak it, then you are in the in-group, or you don’t speak it, then you are out. The foreigners work hard, they bring the talent. In my opinion, the typical Luxembourger is dying, not only his language, but also the species.”

“Why do you say they are ‘uncertainty avoidant’? I must say, I have no contact with Luxembourgers. I do not know them. I only live here. For me they are precursors of the new. They conduct space research, with space mining, they are known for their inventions in ICT, information communication technology. They are the forerunners for the European Union.”

“Let me cite Victor Hugo for you, who lived in Vianden. He stated: “There are the good people, there are the bad people, and there are the Luxembourgers”. This is to say that they are a species apart. Nobody can understand them.

Besides, I do not work with Luxembourgers. I am founder and manager of my own business. Not one single Luxembourger wants to work in our business, or in other businesses. It's too hard work. They all want to be employed by the State, which means earning a lot of money for little work. Most Luxembourgers study at a University, they come back with their diplomas and claim a highly paid position, instead of starting in a private business and learning from a boss, like me. They do not want to do that. We employ only French and Belgians. They work well, they are happy with the good work, to learn, to be treated well, and to contribute to a small private business.

Last month we were looking for a new employee. We started a hiring campaign, with ads and interviews. Not one Luxembourger applied for the open position. We had applicants from France and Belgium, but no Luxembourger."

"What is the link between 'responsible leadership' and 'uncertainty avoidance' in Luxembourg?"

In my experience, Luxembourg has a high tolerance for uncertainty and ambiguity, compared to France or Germany, for instance.

This high tolerance is due to Luxembourg's international context. A large proportion of the population comes from a foreign country and has lived in several foreign countries. These persons have been in contact with different cultures.

In companies, one can often note a strong link between foreign experience and mind flexibility + tolerance for uncertainty and ambiguity. And this is the case at all levels of the hierarchy.

This high tolerance is due to multilingualism and to the fact that a large proportion of the population uses 1, 2, 3 (or even more) foreign languages, on a daily basis, in professional and private contexts. This leads easily to communication uncertainty and ambiguity, which they are used to and can easily monitor.

This high tolerance is also due to this Luxembourgish art of making compromises. One will tolerate his/her neighbors more easily than in France or Germany for instance. Even if this neighbor behaves in an annoying way.

If Luxembourg did not exist, cross-border relationships between French, Germans and Belgians would not be as developed as they currently are; without the Grand-Duchy, at a professional level, people from these neighboring countries would not know each other nor work together.

At a personal level, French, Germans and Belgians don't travel much within the other countries of the Greater Region. Luxembourgers and people with international experience do.

On 'responsible leadership': in the small companies I worked for, whatever the culture and the nationality of the management, responsible leadership was very low, at least regarding their employees.

Luxembourgish managers tend to primarily do business with people they know: from school, from the university or from past work experiences.

But when it comes to decision-making and taking the initiative, their approach is very restrictive and does not allow new or non-conventional ideas/suggestions. Even if those could be perfectly monitored when implemented.

In the big organizations and administrations I worked for, Lux. managers and directors were rather cool toward uncertainty and ambiguity, when it came to decision making and taking the initiative.

How can 'uncertainty avoidance' block any attempt at 'responsible leadership'?: I remember some French colleagues, from Lorraine, who did not speak any German. One day, they refused to go to a 2-day training course in Paris, because this was too far and uncertain, in their opinion. Frankfurt would have been the alternative training option, on the condition that they spoke German. They did not attend the requested training. A few months later they lost their jobs as they were not employable anymore. Despite all attempts from their management to find a solution, those colleagues blocked all possible solutions raised by their management.

Does the high Uncertainty Avoidance affect international cooperation because of the tendency for high-uncertainty avoidance societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions?

When it comes to international relationships/co-operation between Luxembourg and other States, those two above-mentioned aspects prevail.

On a business and political basis, organizations and parties – be they competitors or political opponents – gather in order to find the best solutions for the country. Decision-making and initiative-taking then go very fast and are also quickly implemented. Even when it comes to blocking international and European political, economic, fiscal measures that would have a negative impact on Luxembourg.

Please give some examples.

- Digital Lëtzebuerg

- 3rd Industrial Revolution Lëtzebuerg.”

Citations from the Category Cross-Borderers:

One respondent in the Lux.Nat. category put it this way: “The Cross-Borderer’s biggest issue on the whole is the traffic. All day they reflect on how to get back home best, and how to come to work best the next morning. They use either the train, with its uncertainty – speaking about uncertainty avoidance!!! - or the bus, again with its uncertainty, or the car, with the traffic jam for 100% certain! On the way, they are on their iphones, writing emails, writing reports, telephoning, working, writing presentations on their ipads, or they sleep, or they do their make-up, or talk to their neighbour. From

my experience, cross-border workers always arrive late in the mornings, every morning, without a word of excuse they arrive at 10 a.m., by the time they start working it is 10:30, because they are so exhausted from the traffic. In the afternoon, around 3p.m. they get nervous and want to leave before the traffic starts. Others decide to stay later to leave after the traffic. But employees with children have to leave early. They will skip lunch and work through their lunch break.”

Citation from the Category World:

“The Luxembourgers hide their ‘Uncertainty-Avoidance’. Nobody wants to admit that he/she is ‘uncertainty avoidant’. This is a taboo. They have learned from other politicians to hide their weakness.”

“I don’t know.”

In the following, we will be looking at the results from the 2015 study.

8. RESULTS FROM THE 2015 RESEARCH:

The results are shown in this paragraph. Table 3 summarizes the respondents’ demographics.

Table 3 Respondents’ demographics (N=51)

Respondents’ profile	Classification	Number of respondents
Gender	Male	25
	Female	26
	Total	51
Age	0-24	0
	25-34	7
	35-49	19
	Over 50	25
Industry sector	Banking and Finance	12
	Education, Human Resources	14
	Tourism, Food, Petrol, Politics, Telecom, Construction	15
	Law, Medicine, Journalism	10
	Civil Servants	2
Education level	A-level and professional education, undergraduates	8
	Masters and Doctorates	43

In total, the 51 respondents come from 15 different countries and speak 19 different languages, four holding double nationality: French + Dutch, German + Dutch, German + Luxembourgish, and German + Bosnian.

Native languages are: Luxembourgish (18), French (11), English (6), Italian (5), German (5), Portuguese (2), Dutch (2), Russian (1), Hebrew (1), Bosnian (1), Bulgarian (1), Swedish (1), and Polish (1), with 5 respondents having 2 mother tongues: French + English (2), French + Dutch (1), French + German (1), Swedish + Bulgarian (1). 1 respondent speaks seven languages, 2 speak 6 languages, 8 speak 5 languages, 17 speak 4 languages, 14 speak 3 languages, 5 speak 2 languages, and only 4 respondents speak one language (1 French and 3 English).

8.1 Summary results for the 2015 interviews: “What is responsible leadership in Luxembourg?”

In this 2015 study, respondents were asked: ‘What is responsible leadership in Luxembourg?’ (Schinzel, 2017b, p. 15-17). The crosses in the table show that respondents from this category, but not the other categories, mentioned this criterion.

Table 4 Interview summaries

mentioned by:	Lux. Nat.	Lux. Forgn.	Cross- Bord.	World
1) Responsible Leadership is:				
Ecological responsibility	x	x		
Social and human responsibility	x	x		
Economic/business/commercial responsibility	x	x		
Long-term (versus short-term) orientation	x	x		
The Grand Duke and the Grand Ducal Family [mentioned by Italians living in Luxembourg and by Cross-Borderers]			x	
Politicians [mentioned by Italians living in Luxembourg and by Cross-Borderers]			x	
Citizens [mentioned by Italians living in Luxembourg and by Cross-Borderers]			x	
Employing the highest standards of ethical behavior				x
Corporate Social Responsibility (CSR)				x
2) Examples for Responsible Leadership are:	Lux. Nat.	Lux. Forgn.	Cross- Bord.	World
Cactus [mentioned as irresponsible by Lux.Foreigners]	x		x	
Luxair [mentioned as irresponsible by Lux.Foreigners]	x		x	
Luxlait			x	
Goodyear			x	
SES Astra	x	x	x	
CFL Multimodal	X	X	x	

Delphi [by hiring locally but also expatriates, contributing to an ideal mixture and diversity]			x	
The current Government and Prime Minister [mentioned as irresponsible by Lux.Nat.]		x	x	
Me, I hope [mentioned as responsible only, never as irresponsible]	x	x		
My boss [mentioned as both: responsible and irresponsible]	x	x	x	
The trilingual public education system [mentioned also as irresponsible]	x			
My father			x	
Jean-Claude Juncker [mentioned also as irresponsible]			x	
The Grand Duke and the Grand Ducal Family [mentioned by Italians living in Luxembourg and by Cross-Borderers]			x	
Politicians [mentioned by Italians living in Luxembourg and by Cross-Borderers]			x	
Citizens [mentioned by Italians living in Luxembourg and by Cross-Borderers]			x	
5) Typical for Luxembourg is:	Lux. Nat.	Lux. Forgn.	Cross- Bord.	World
Multilingual	x	x	x	
Multicultural	x	x	x	
The Cross-Borderers	x	x	x	
Diversity	x	x	x	
High standard of living	x	x	x	
Rich, high GDP				x
The small size: limitations due to its small size, limited resources and small projects	x	x		
The trilingual public education system				
It's a great place to live and/or work [mentioned only by cross-border workers, not by Lux.Nat., nor by Lux.Foreigners]			x	
There are too many irresponsible leaders in Luxembourg [mentioned by Lux.Nat. as a criticism of the foreign banks and financial institutions?]	x			
Banks, financial institutions, special laws and rules	x	x	x	
Money laundering, banking secrecy (now finished)				
Bullying and harassment at work is frequent	x	x		
(Sports) Clubs, associations, teams	x	x		

Overly expensive housing prices, real estate	x	x		
Tourism, beautiful nature and Luxembourg City	x	x		
Good social and medical system and health care	x	x		
Nepotism				
Everybody knows everybody (and everything)	x	x		
Quick and easy contact	x	x		
Tourism, beautiful nature and Luxembourg City	x	x		
Tolerance of what is different			x	
Integration not separation			x	
The good working conditions in general, where forecasts are met by reality (not the case in my home country).			x	

“Respondents named the following attributes of responsible leadership: the three big categories: ecological, social and human, economical responsibility, followed by long-term and short-term orientation, personal capabilities, getting results, interpersonal skills, trust, ethical behavior, security, respect, fairness, reliability, doing not talking, commitment, compassion, keeping your promises, and finally corporate social responsibility.

Respondents named the following attributes as typical for Luxembourg: multilingual, multicultural, cross-cultural management, cross-border workers, diversity, tolerance of what is different, integration instead of separation, rich and highest GDP, high salaries, low taxes, banks and financial institutions, European institutions, money laundering, banking secrecy (now finished), good working conditions in general, good social and healthcare system, where forecasts meet reality, difference in legislation for the five different samples of people (Lux.Nat., Lux.Foreigners, Cross-Borderers, World, and Civil Servants), limitation due to small size and limited resources, trilingual public education system, a great place to live and/or work, (sports) clubs, associations, teams, expensive housing prices, quick and easy contact, given that everybody knows everybody and everything, therefore nepotism, too many irresponsible leaders, beautiful nature and tourism, social events like Schueberfouer (Schinzel, 2017b, p.22).”

8.1 The author's results in Hofstede's map Masculinity versus Uncertainty Avoidance.

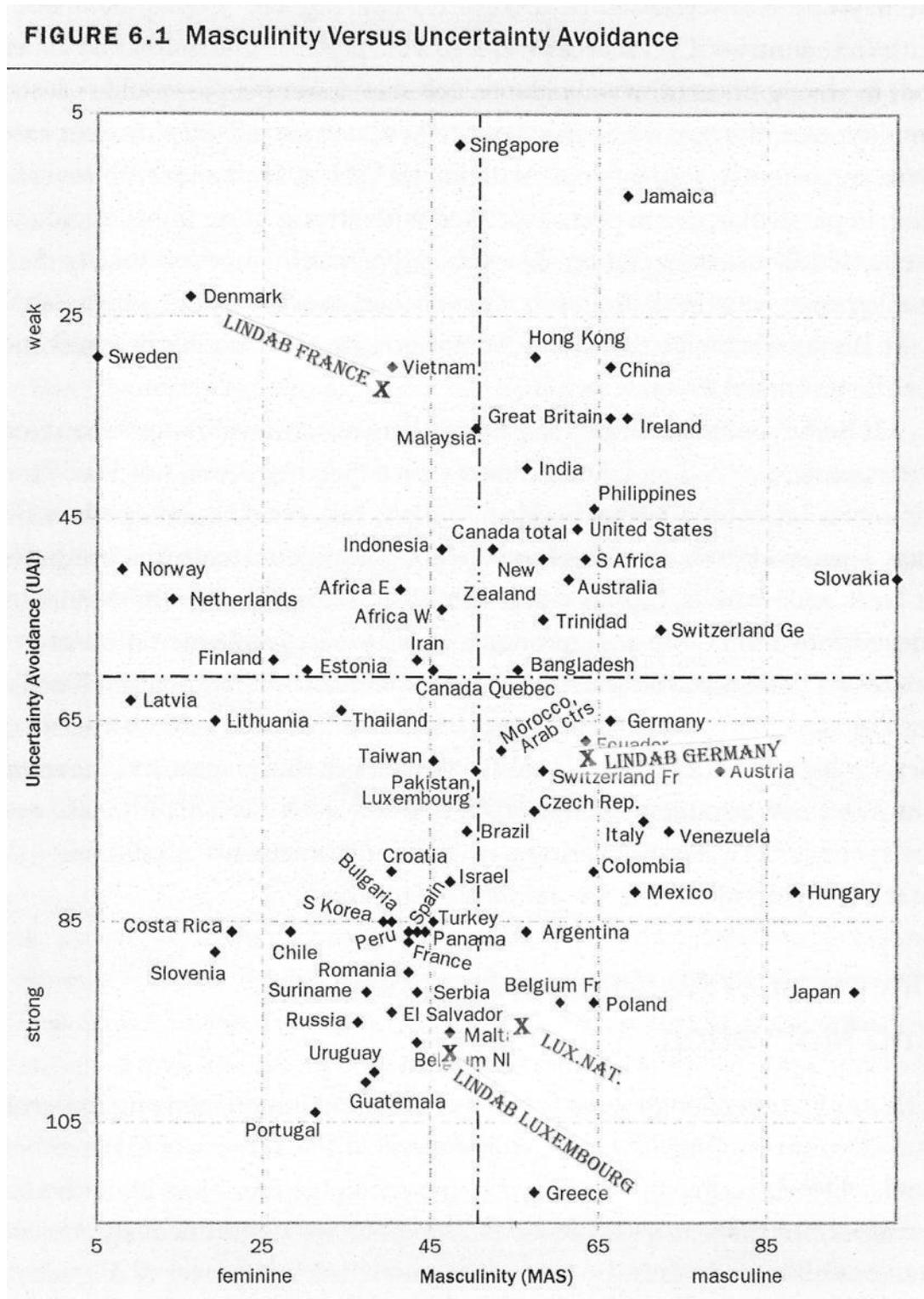


Figure 1 The author's results in Hofstede's maps, in Hofstede's figure 6.1 Masculinity versus Uncertainty Avoidance (Hofstede et al., 2010, p. 214)

Lux. Nat. is found in the lower middle-right quadrant, positioning it next to Hofstede's Belgium FR, Malta, Belgium NL and Lindab Luxembourg, showing the difference from Hofstede's Luxembourg. The difference is that Lux. Nats. are strong Uncertainty Avoidance scorers (UAI=95). Lux. Nats. are afraid of any uncertainty. For Lux. Nats. everything must be planned, organised, regulated, restricted and foreseen. Nothing has been left to chance. Lux. Nats. hate surprises. They prefer that every day is the same and every year brings the same events with always the same people at the same place and the same procedure. They distinguish themselves from their mighty neighbours Germany/France/Belgium, and they have created their own language (Briley, 2005; Hong, 2000), habits (Spizzo, 1995), peculiarities (IPSE, 2010; Haag, 2011), that they hold to strongly as if they were their identity savers (Hermans & Kempen, 1998) or their rescue plan. Concerning Masculinity/Femininity, Lux. Nats. score around the middle on Masculinity (MAS=54), which would be mid-scorer on Feminism (45). Achievement and success are as dominant as caring for others and quality of life. The masculinity/femininity dimension has been analysed by Kanayama and Cooper-Chen (2005), on the occasion of the pregnancy of Princess Masako in Japan, by Hofstede (1998) and Inglehart (2011) and Trompenaars et al. (1998) in particular. The Uncertainty Avoidance dimension has been analysed by Hofstede (2001) and McClelland (1961), Bond (2004), de Mooij (2011), Venaik and Brewer (2010) and Inglehart (2000).

Lindab Luxembourg is found in the lower middle right quadrant, positioning it next to Lux. Nat., showing a high Uncertainty Avoidance Index (UAI=97) and a mid-masculine / mid-feminine culture (MAS=47), standing for 53 Feminism. The analysis for this is the same as for Lux. Nat., see above.

Hofstede's Luxembourg still has a high Uncertainty Avoidance Index (UAI=70), but mid-high Masculinity (MAS=50) standing for a Feminism of 50 ($100-50=50$), and is positioned next to Pakistan and Taiwan.

Lindab France is found in the upper left, middle quadrant, next to Hofstede's Vietnam. Lindab France scores low on Uncertainty Avoidance (UAI=28.8) and lower on Masculinity (MAS=43.5), representing a higher Feminism Index ($100-43.5=56.5$). Lindab France differs from Hofstede's France in Uncertainty Avoidance which has a higher Uncertainty Avoidance Index (UAI=86) and low Masculinity (MAS=43), standing for high Femininity ($100-43=57$). They do not differ in Masculinity/Femininity, but do differ in Uncertainty Avoidance. Hofstede's France is positioned in the lower left quadrant next to Panama, Peru, Spain, Turkey, Korea, Bulgaria, whereas Lindab France is positioned in the upper left quadrant. As mentioned previously, this divergence from Hofstede's France is due to several facts. First, at Lindab France, we are looking at 10 people only, a sample reduced in numbers, which could cause errors. Second, at Lindab France, we are looking at the

company level, and not really at the nation level. Lindab France is influenced culturally by Lindab in general and by the migration background of its employees.

Lindab Germany finds its position right next to Hofstede's Germany. Lindab Germany is high on Uncertainty Avoidance (UAI=67.5) and high on Masculinity (MAS 64.5) standing for low Femininity (100-64.5=35.5). Hofstede's Germany is quite the same with high Uncertainty Avoidance (UAI=65) and high Masculinity (MAS=66) standing for low Femininity (100-66=34). Germany is a country whose people feel threatened by uncertainty and ambiguity and try to avoid these situations and look more for achievement and success. They are less occupied with caring for others and quality of life is not so important.

8.2 The author's results in Hofstede's map Uncertainty Avoidance versus Individualism

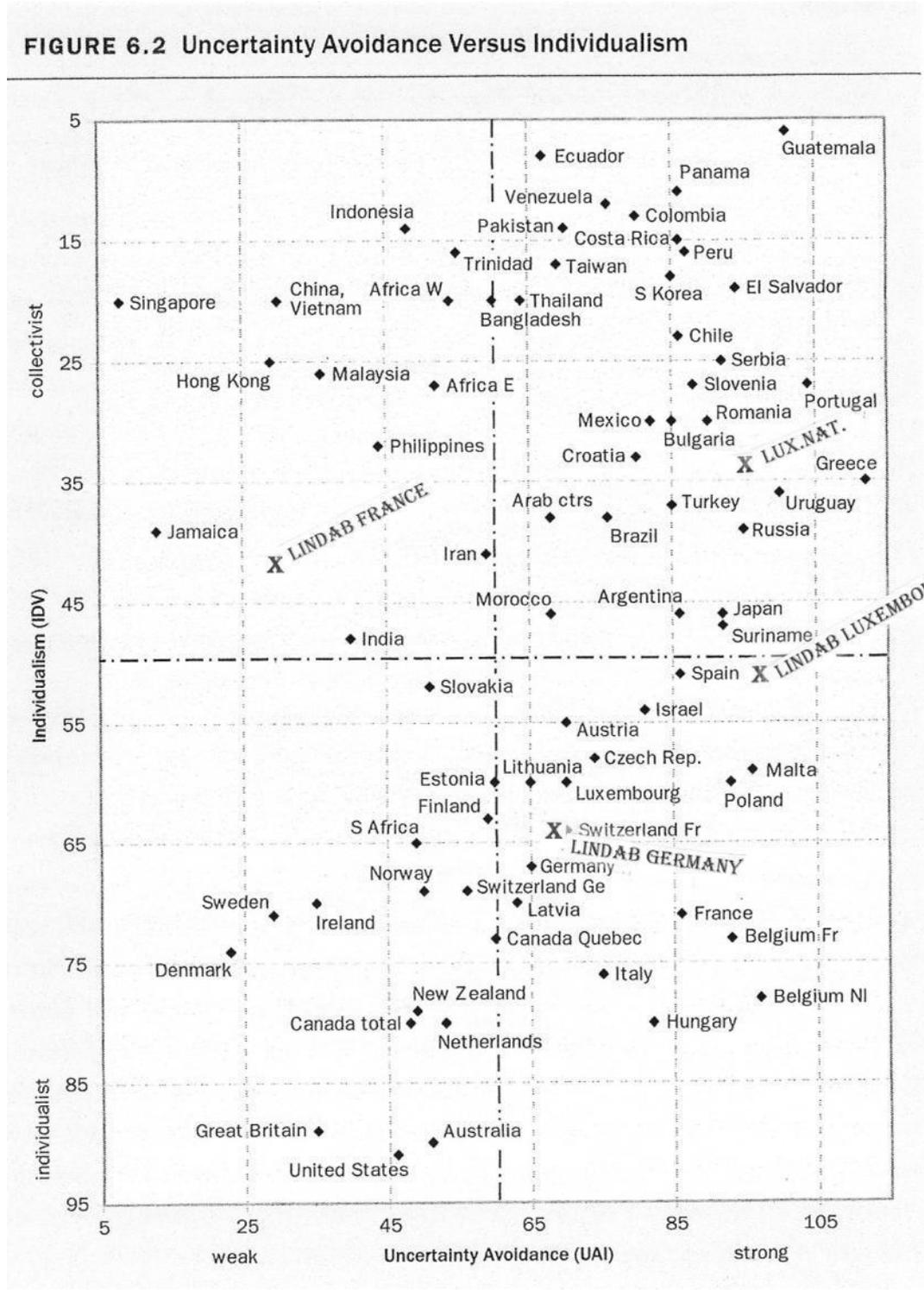


Figure 2 The author's results in Hofstede's maps, in Hofstede's figure 6.2 Uncertainty Avoidance versus Individualism (Hofstede et al., 2010, p. 218)

Lux. Nat. is found in the upper right quadrant, positioning it next to Hofstede's Greece, Turkey, Bulgaria, Portugal, showing the difference from Hofstede's Luxembourg. See explanation in the above figure.

Concerning Individualism/Collectivism, Lux. Nats. score high on Collectivism (100-34=66), scoring low on Individualism (IDV=34). Lux. Nats. are collective people, they have many friends and are active in sports, in clubs, in events, in outings in the evenings, week-ends and on vacation. The Uncertainty Avoidance dimension has been analysed by Hofstede (2001) and McClelland (1961), Bond (2004), de Mooij (2011), Venaik and Brewer (2010) and Inglehart (2000) in particular. The Individualism/Collectivism dimension is Hofstede's most analysed dimension, especially by Triandis (1995), Venaik and Brewer (2011), Schwartz (1990), and Briley (2001).

Lindab Luxembourg is found in the middle and to the right, positioned a bit below Lux. Nat., showing a high Uncertainty Avoidance Index (UAI=97) and a mid-individualist / mid-collectivist culture (IDV=51.5), standing for 48.5 Collectivism. The analysis is the same as for Lux. Nat., and Lindab Luxembourg includes all the foreigners and Lux. Nat.. The high percentage in foreigners changes the score for the pattern.

Hofstede's Luxembourg has a much lower, but still high, Uncertainty Avoidance Index (UAI=70), and mid-high Individualism (IDV=60) standing for a Feminism of 40 (100-60=40), and is positioned next to Lithuania and the Czech Republic. Hofstede included the foreigners in his estimates, and he excluded the civil servants. As 42% of Luxembourgers work as civil servants, further research is needed in this domain. This study has also had to exclude civil servants.

Lindab France is found in the upper left quadrant. Lindab France scores low on Uncertainty Avoidance (UAI=28.8) and lower on Individualism (IDV=41), representing a higher Collectivism Index (100-41=59). Lindab France differs from Hofstede's France in Uncertainty Avoidance which has a higher Uncertainty Avoidance Index (UAI=86) and high Individualism (IDV=71), standing for low Collectivism (100-71=29). They differ in Uncertainty Avoidance and Individualism Indices Hofstede's France is positioned in the lower right quadrant next to Belgium FR, whereas Lindab France is positioned in the upper left quadrant. Lindab France's divergence from Hofstede's France is due to several facts. First, at Lindab France, we are looking at 10 people only, a sample reduced in numbers, which could cause errors. Second, at Lindab France, we are looking at the company level, and not really at the nation level. Lindab France is influenced culturally by Lindab in general and by the migration background of its employees.

Lindab Germany finds its position right next to Hofstede's Germany. Lindab Germany is high on Uncertainty Avoidance (UAI=67.5) and high on Individualism (IDV=65.5) standing for low Collectivism (100-65.5=34.5). Hofstede's Germany is quite the same with high Uncertainty Avoidance

(UAI=65) and high Individualism (IDV=67) standing for low Collectivism (100-67=33). Germany is a country whose people feel threatened by uncertainty and ambiguity and try to avoid these situations, giving greater priority to looking after themselves and their immediate family only, rather than belonging to other in-groups that look after them in exchange for loyalty.

8.3 The author's results in Hofstede's map Power Distance versus Uncertainty Avoidance

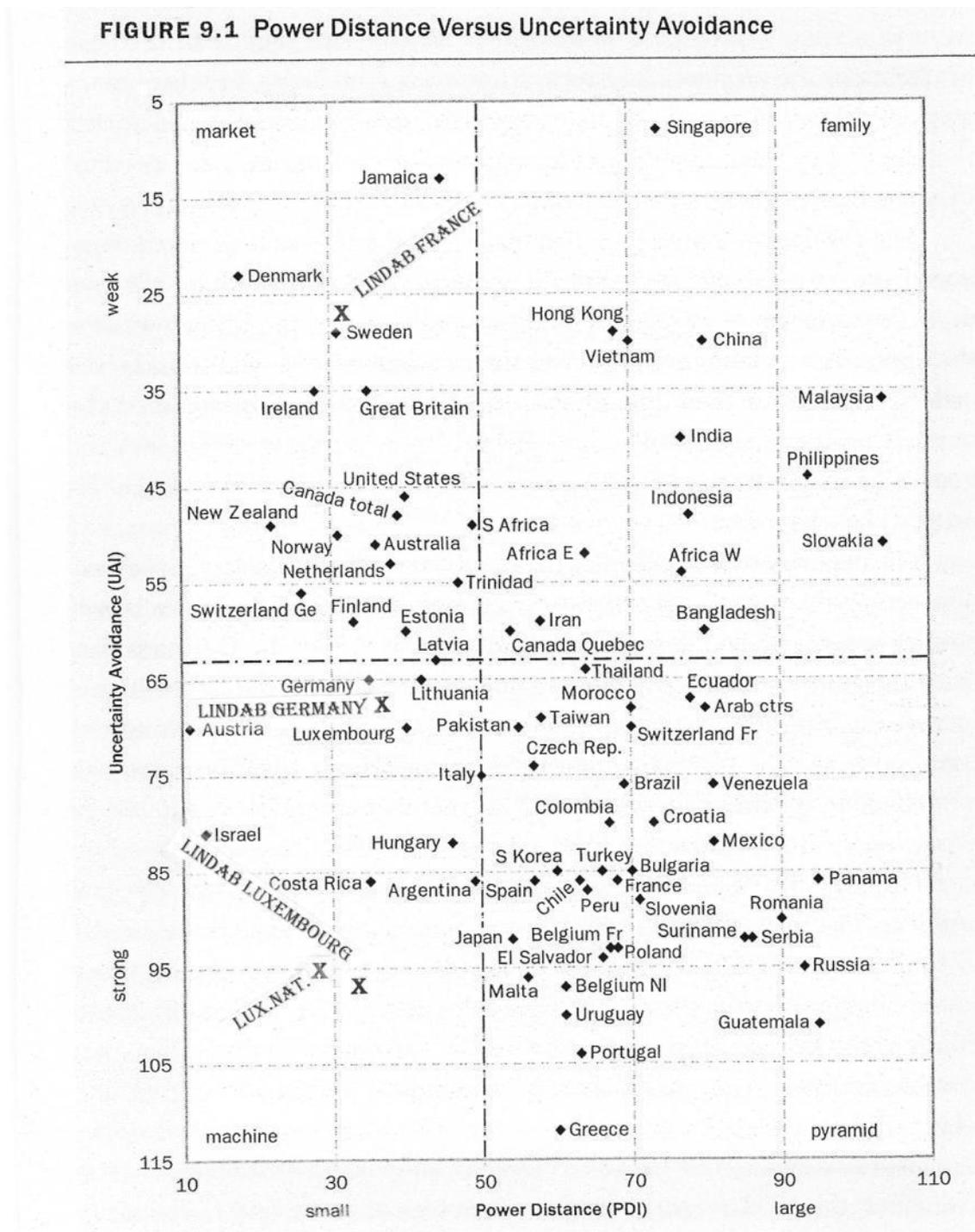


Figure 3 The author's results in Hofstede's maps, in Hofstede's figure 9.1 Power Distance Versus Uncertainty Avoidance (Hofstede et al., 2010, p. 303)

Lux. Nat. is found in the lower left quadrant, near none of the other countries, next to Lindab Luxembourg, showing the difference from Hofstede's Luxembourg. The difference is that Lux. Nats. are strong on Uncertainty Avoidance (UAI=95) and weak on Power Distance (PDI=29), like no other country in the world. See explanation in the above figure.

Concerning Power Distance, Lux. Nats. are low scorers in Power Distance (PDI=29). Considering the collective activities and the small size of the country, they encounter their boss at the same places, shopping centres, events, among the same friends and at the same outings. The Uncertainty Avoidance dimension has been analysed by Hofstede (2001) and McClelland (1961), Bond (2004), de Mooij (2011), Venaik and Brewer (2010), and Inglehart (2000) in particular. The Power Distance dimension has been analysed by Smith (2002, 2006 and 2008), among others.

Lindab Luxembourg is found right next to Lux. Nat. in the lower left quadrant, showing a high Uncertainty Avoidance Index (UAI=97) and a low Power Distance Index (PDI=36). The analysis is the same as for Lux. Nat..

Hofstede's Luxembourg is also in the left quadrant, but above Lux. Nat. and Lindab Luxembourg, showing still high but much lower Uncertainty Avoidance Index score (UAI=70) instead of 97 or 95 and mid-low Power Distance Index score (PDI=40), and is positioned next to Hofstede's Germany. Hofstede included foreigners in his estimates, and he excluded civil servants. As 42% of Luxembourgers work as civil servants, further research is needed in this domain. This study has also had to exclude civil servants.

In this map Hofstede's Germany and Hofstede's Luxembourg are close, a fact that could confirm that Luxembourg and Germany are similar in culture to some extent, here in Power Distance Versus Uncertainty Avoidance.

Lindab France is found in the upper left quadrant next to Sweden and Denmark. Lindab France scores low on Uncertainty Avoidance (UAI=28.8) and low on Power Distance (PDI=32.5). Lindab France differs from Hofstede's France in Uncertainty Avoidance which has a higher Uncertainty Avoidance Index score (UAI=86) and high Power Distance (PDI=68). Hofstede's France is positioned in the lower right quadrant next to Bulgaria, Turkey, Chile, Peru, Slovenia, whereas Lindab France is positioned in the upper left quadrant. Lindab France's divergence from Hofstede's France is due to the low sample of only 10 people, and secondly, at Lindab France, we are looking at the company level, and not really at the nation level. Lindab France is influenced culturally by Lindab in general and by the migration background of its employees.

Lindab Germany finds its position right next to Hofstede's Germany. Lindab Germany is high on Uncertainty Avoidance (UAI=67.5) but not as high as 97 and around the middle on Power Distance (PDI=67.5). Hofstede's Germany is quite the same with mid-high Uncertainty Avoidance (UAI=65)

and high Power Distance (PDI=67). Germany is a country whose people feel threatened by uncertainty and ambiguity and try to avoid these situations, accepting that power is distributed unequally.

8.4 Discussion of the author's results in Hofstede's maps

The previous paragraph has shown the special place that Lux. Nat. and Lindab Luxembourg holds on Hofstede's maps, especially in two of his maps: 'Power Distance versus Individualism' and 'Power Distance versus Uncertainty Avoidance'.

Lux.Nat. and Lindab Luxembourg hold in these two cases a unique position on his maps, being surrounded by no other country in the world. On the map 'Power Distance versus Individualism', Lux. Nat. holds a unique position in the world of having strong Collectivism (100-34=66) standing for weak Individualism (IDV=34) and small Power Distance (PDI=29), like no other country in the world. On the map 'Power Distance versus Uncertainty Avoidance', Lux. Nat. and Lindab Luxembourg hold a unique position in the world of having low Power Distance (PDI=29 respectively 36) and strong Uncertainty Avoidance (UAI=95 respectively 97).

This is where it is made clear that there is no other country in the world like Luxembourg with strong Collectivism (66) (weak Individualism (34)), small Power Distance (29) and strong Uncertainty Avoidance (95). Contrary to the saying that Luxembourg is culturally close to France and linguistically to Germany, Hofstede's cultural dimension maps show the limitations of this. Concerning the cultural dimensions Indulgence versus Long-Term Orientation, Luxembourg is culturally close to France.

The specific position that Luxembourg holds on Hofstede's cultural maps is shown especially in the figures Power Distance versus Individualism and Power Distance versus Uncertainty Avoidance, which show the specific place that Luxembourg holds, being positioned in these figures in a quadrant without any other countries around it. This shows Luxembourg's special cultural dimensions: strong Collectivism - weak Individualism, small Power Distance, strong Uncertainty Avoidance, like no other country in the world. Contrary to the belief that Luxembourg is culturally close to France and linguistically to Germany, Hofstede's cultural dimensions show the specific cultural dimensions in Luxembourg: taking into account only the cultural dimensions Indulgence versus Long-Term Orientation, Luxembourg is culturally close to France.

Why is Luxembourg the way it is? Why are Luxembourgers with Luxembourgish nationality the way they are? In the preceding paragraphs, the focus was on working out the pattern of the Luxembourger. Now it is about trying to explain the way they are. There is very little research in general about Luxembourg. One research, in French, on history and politics in Luxembourg is from Haag (2011) with excellent photographs underlining his detailed historical overview. One recent piece of research is from IPSE (2010), in German, discussed in chapter 2, but it does not apply Hofstede.

Other research, still without using Hofstede, in Luxembourg was done by Spizzo and published in 1995.

For Spizzo (1995), - contrary to Haag (2011) who describes Luxembourg's history in detail - the important question is the following: why is Luxembourg the way it is, i.e., without a defined language, without a common big history, without "people", without a "race", without identifiable characteristics, without cultural traditions, without ancient stories, without any "Huguenots" or "Vikings", a country without any specific particularity.

History shapes the character of a nation. Haag (2011, p. 529) states that Luxembourg developed from a provincial town into a European capital, an international financial centre and a worldwide freight centre. In 2008 the Clausen zone was created for entertainment, in 2005 the Philharmonic Concert Hall was inaugurated, the MUDAM in 2006 and the Congress Centre in 2012 (Haag, 2011, p. 539). The 2010 Mercier report puts Luxembourg in 20th position among 221 towns for its quality of life (Haag, 2011, p. 541), a characteristic counted here as typical of femininity.

People as important for Europe as Robert Schumann, Jean-Claude Juncker and Jacques Santer are from Luxembourg (Haag, 2011). RTL – Radio Television Luxembourg, SES Astra – Société Européenne des Satellites, and EIB – European Investment Bank are important companies from Luxembourg, according to Haag (Haag, 2011, pp. 479-493), who says on page 464: "It is not easy to imagine how history would have evolved without Luxembourg" in Europe.

Luxembourg is squeezed between two mighty countries with a lot of power: France and Germany. There is also another neighbouring country: Belgium, in the north-west.

Luxembourgers speak three languages, sometimes four or five or even more.

Luxembourg was founded by chance 200 years ago and has been a country of immigration ever since (Spizzo, 1995).

Why did Luxembourg become one of the 12 founding members of the European Union, asks Spizzo (1995)? Such a small country is among the other 11 large and powerful countries. What is Luxembourg's special state of mind?

That is where the words "State, Nation, Fatherland" get their importance, along with the native language, the mother tongue. Luxembourg is a small nation with around 700,000 inhabitants in 2,588 square kilometres.

The Luxembourgish dynasty is much loved by Luxembourgers (Spizzo, 1995). The Grand Duke is a much loved person as well as his family. He gives his people a good life. He benefits from the confidence and the consensus of his people. The Luxembourgish citizens benefit from a lot of privileges, such as low direct and indirect taxes, low or non-existent contributions, many activities are

free of charge and many other items are cheap. For a long time unemployment was close to zero, although after the crisis of 2008 it was at a level of 5-6% in 2011.

It is important to point out that the Luxembourgish authorities are an example of long-term orientation; they were able to adapt and react to all the crises, i.e. in steelmaking and in the banking system, always with the objective of guaranteeing stability and wealth for their people. It seems as if there was an invisible line of stability and wealth that has been guaranteed throughout the centuries. Typical words for the national identity are wealth, privileges, stability through conserving the attractiveness of the country compared to neighbouring countries, because of its industry, its labour market, its fiscal benefits, the main key to the country's success.

Being part of this system and the feeling it gives is key to the country, the sense of being part of it (Spizzo, 1995).

Despite all the wars, Luxembourg still survives. Despite all the requests from the European partners for fiscal homogeneity, despite the demands to abolish the borders and the ending of banking secrecy, and the exchange of information on bank accounts, Luxembourg still survives. Luxembourg is a small country, and it is strongly attached to the rock it is built on, like a medieval defensive city (Spizzo, 1995).

Luxembourg has always stayed 'neutral'. This 'neutrality' has often been compared to Switzerland's neutrality. Luxembourg was able to stay neutral between its neighbouring countries France and Germany. Therefore the 'privileges' are seen as a unifying identifier for Luxembourgers.

After World War I the need was to assure the national identity, to make people understand why it was important to be "Luxembourgers", to give value to the concept of "citizenship", to give value and special rights to the fact of being a "Luxembourg citizen".

Only when Nazism engulfed this small country, because to the Germans this small piece of land seemed to be German, did the linguistic aspect attain its importance.

From that time the Luxembourgish language became important (Spizzo, 1995) and became the distinguishing factor between who was able to benefit from Luxembourgish citizenship and who not. Luxembourgish is more a dialect, and has more the characteristics of a dialect, especially because there is no translation of the Bible into Luxembourgish. Luxembourgish does not have a long written tradition, but it is spoken by everybody (Spizzo, 1995). The language defines the in-group (Briley, 2005) and the out-group. Whoever speaks Luxembourgish is part of the in-group, the others are not. Official documents are in French or in German. Mostly, French is for bureaucratic problems and German is for religious ceremonies. Now, this dialect, this language has become the distinguishing factor for citizenship. In order to benefit from all of the advantages of Luxembourgish nationality, one has to be able to speak Luxembourgish. 53% of the working population are foreigners. The distinction

of the “rescue” language is the citizenship that is only given to people who speak Luxembourgish (Spizzo, 1995). The language therefore gives access to the advantages of the rights of citizenship.

A call for change and innovation is heard from the respondents of this research. Despite this call for change, the high Uncertainty Avoidance Index seems to prevent any endeavour for much-needed change. This change and innovation is needed, according to the critical respondents, to implement the missing responsibility and sustainability. Toxic or irresponsible leaders being too often the reality, the authenticity of the leader is not always positive; on the contrary, sometimes it is negative. As a respondent from the category Lux.Nat. said: “There are too many irresponsible leaders in Luxembourg.” There is a call for change, to change irresponsible leaders into responsible leaders, to make them learn responsibility, sustainability, and ethics. The question is: how?

9. CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

The purpose of this research was to explore the link between Responsible Leadership and Hofstede’s cultural dimension Uncertainty Avoidance in Luxembourg. The research questions were: Does the high uncertainty avoidance affect international cooperation because of the tendency for high-uncertainty avoidance societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions? Please give some examples. “Is Uncertainty Avoidance the new Taboo Dimension?”

134 questionnaires were collected in the 2011 research, 51 semi-structured interviews were conducted in 2015 and 4 semi-structured interviews in 2018, among four culturally different samples, namely: (1) Luxembourgers with Luxembourgish nationality (Lux.Nat.), (2) foreigners who reside in Luxembourg (Lux.Foreigner), (3) people from Germany, France, and Belgium who commute daily to work in Luxembourg (cross-borderers), and (4) the rest of the world (World). Convenience sampling was used. The author reviewed the extant literature and reprinted parts of the interviews.

In conclusion, the author’s proposition was confirmed:

Luxembourg’s high cultural dimension ‘Uncertainty Avoidance’ influences ‘What is responsible leadership?’ Following Hofstede (2001) and Shenkar (2001) in Venaik and Brewer (2010), the author offers the following proposition: “Luxembourg’s high Uncertainty Avoidance is expected to affect international cooperation because of the tendency for high-UA societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions.

The main result from the respondents is the fact that language is THE key to success. The Luxembourgish language is used as an identifier, subject to the author’s earlier publications (2013, 2014a, 2014b). However, Luxembourgers are a culture apart, on the one hand sticking to their old

traditions, avoiding any change, on the other hand forerunners in innovation and advancement, peace and European integration, space, satellite technology. The lack of talent, especially the lack in talent speaking Luxembourgish is one of the biggest issues to be solved in the future.

Is it a new taboo, being uncertainty avoidant? With the requirements of globalization and internationalization, uncertainty avoidance seems to be out of place. High Uncertainty Avoidance prevents international transactions, opening up for the global market and taking risks. But precisely these attributes are necessary when talking about innovation and change. It seems as if there is a call for internal change, for change from high to low uncertainty avoidance. One respondent in the category World said that Luxembourgers are hiding their 'uncertainty avoidance' because nobody wants to admit that he/she is 'uncertainty avoidant'. Therefore it is a taboo.

Internal change is needed. Internal changes are essential constituents of the internationalization process itself (Welch & Luostarinen, 1988) and changes are complex and intertwined (Lam & White, 1999; Nummela, Loane & Bell, 2006).

Characteristic for Luxembourg, in terms of Hofstede's cultural dimensions, is high Uncertainty Avoidance (UA), high Long-Term Orientation (LTO), high Collectivism (low Individualism), with a mix of three official languages: Luxembourgish, German and French. The combination of Hofstede's cultural studies – Uncertainty Avoidance (UAI) – with leadership issues is innovative and will pave the way for further research on cultural and linguistic peculiarities in Luxembourg.

Geert Hofstede (1998) wrote about the taboo dimension masculinity and femininity as long ago as in 1998. Many things have changed since then. One of the changes might be that the new taboo dimension is 'Uncertainty Avoidance'. This needs to be investigated. The present research took an initial step in this direction: "Is Uncertainty Avoidance the new Taboo Dimension?"

Future research could look into 'Corporate Social Responsibility' (Salehi, 2018), 'Innovation' (Santoro, Ferraris, & Winteler, 2019), 'International diversification' (Ferraris, Bresciani, & Del Giudice, 2016), 'Environmental Analysis' (Thrassou, 2016), combined with 'Responsible Leadership' and 'Uncertainty Avoidance'. Somehow contradictory, the variables 'Innovation' and 'Uncertainty Avoidance' are intriguing and therefore future research is needed to determine the impact of each of these cultural dimensions on responsible leadership activities and on the attractiveness of Luxembourg for leaders, for example in the choice of the country as a destination for expatriate leaders.

This research has also its limitations. The author concentrated on Geert Hofstede's research, while not looking at the GLOBE. Researching the GLOBE results on Uncertainty Avoidance could indeed enrich the research, looking into Venaik and Brewer (2010)'s differences between Hofstede's

and GLOBE's Uncertainty Avoidance. This being a mix of qualitative research with a quantitative approach, more sophisticated statistical methods could deepen the results. The managers interviewed were exclusively 'responsible leaders' in their eyes. None of the leaders interviewed said: "I am an irresponsible leader' (Schinzel, 2017b).

The outlook for the future calls for change and innovation by overcoming the high UAI in Luxembourg. New ways of thinking and acting are needed. But people in Luxembourg stick to their peculiarities. Therefore the author dares to ask: Is Uncertainty Avoidance the new Taboo dimension? As Uncertainty Avoidance prevents globalization and internationalization, it seems not to have a place in innovative Luxembourg. However, Luxembourgers with Luxembourg Nationality cling to their peculiarities like to dear life. Is this the new taboo? Do they all have to change, to innovate, to globalize, to internationalize? Or should they stick to their characteristics, as peculiar as they might be? What is responsible in one country might not be responsible in another. What is responsible leadership in Luxembourg depends on its cultural dimensions.

Everything begins with observation, and the author did this: the observation of the current situation, followed by an analysis of ideas of change and innovation for the future. In some cases, radical change is needed to comply with responsible leadership theory. Despite high Uncertainty Avoidance, there are time restrictions. Change needs time. Time is an important element. Time runs faster within an entrepreneurial firm than in a large firm or within the State. The level of Uncertainty Avoidance is important when radical change is needed. The level of uncertainty avoidance is so high and the change needed is radical.

On another note: is it internationalization that provoked the need for change, or is it the change that provoked internationalization in Luxembourg?

The social organization of the firm and time are other factors. Sequencing, timing and social factors cannot be separated and the interaction between them cannot be separated. What comes first is difficult to say. We are talking about human beings. The nature of human beings is fundamentally important in this study. Learning is also part of this process of change. Everything changes. The process is of learning, of change, of innovation. There are changes in the way people learn, and the whole process of learning changes. It is not about 'being', but about 'becoming'.

REFERENCES

- Banai, M., & Reisel, W.D. (2007), "The influence of supportive leadership and job characteristics on work alienation: A six-country investigation", *Journal of World Business*, Vol. 42 No. 4, pp. 463-476.
- Bond, M.H., et al. (2004). Culture-level dimensions of social axioms and their correlates across 41 cultures. *Journal of Cross-Cultural Psychology*, 35, 548-570.
- Briley, D.A., Morris, M.W., & Simonson, I. (2005). Cultural Chameleons: Biculturals, Conformity Motives, and Decision Making. *Journal of Consumer Psychology*, Vol. 15 No. 4, pp. 351-362.

- Clarke, J.E., and Liesch, P.W. (2017). Wait-and-see strategy: Risk Management in the internationalization process model. *Journal of International Business Studies*, Vol. 48, pp. 923-940.
- De Mooij, M. (2011). *Consumer Behavior and Culture: Consequences for Global Marketing and Advertising* (2nd ed.). Thousand Oaks, CA: Sage.
- Elenkov, D.S., Judge, W., & Wright, P. (2005), "Strategic leadership and executive innovation influence: an international multi-cluster comparative study", *Strategic Management Journal*, Vol. 26 No. 7, pp. 665-682. doi: 10.1002/smj.469
- Feldmann, F. (2016), "Factors of Success and Failure for International Retailers in Poland", *Journal of Management and Business Administration. Central Europe*, Vol. 24 No. 3, pp. 2-22. Doi: 10.7206/jmba.ce.2450-7814.173
- Ferraris, A., Bresciani, S., Del Giudice, M., (2016), "International diversification and firm performance: a four-stage model", *EuroMed Journal of Business*, Vol. 11 Issue: 3, pp.362-375, <https://doi.org/10.1108/EMJB-10-2015-0048>
- Haag, E. (2011). *Une réussite originale. Le Luxembourg au fil des siècles*. Luxembourg: Editions Guy Binsfeld.
- Hargreaves, A., Boyle, A., & Harris, A. (2014), *Uplifting Leadership. How Organizations, Teams, and Communities Raise Performance*. Jossey-Bass. San Francisco: CA.
- Hermans, H. J. M., & Kempen H. J. G. (1998). Moving Cultures. The perilous problems of cultural dichotomies in a globalizing society. *American Psychologist*, 53(10), 1111-1120.
- Hofstede, G. (1998). *Masculinity and Femininity: The Taboo Dimensions of National Cultures*. Thousand Oaks, CA: Sage.
- Hofstede, G. (2001), *Culture's Consequences: Comparing Values, Behaviours, Institutions and Organizations across Nations* (2nd ed.). Thousand Oaks, CA, USA: Sage.
- Hofstede, G., Hofstede, G.J., & Minkov, M. (2010), *Cultures and Organizations. Software of the mind. Intercultural Cooperation and its Importance for Survival* (3rd ed.). Mc Graw Hill, New York, NY.
- Hong, Y.-Y., Morris, M. W., Chiu, C.-Y., & Benet-Martinez, V. (2000). Multicultural Minds. A Dynamic Constructivist Approach to Culture and Cognition. *American Psychologist*, 55(7), 709-720.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. 2004. *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage.
- Inglehart, R., & Baker, W. E. (2000). Modernization, Cultural Change, and the Persistence of Traditional Values. *American Sociological Review*, 65, 19-51.
- IPSE – Identites, Politiques, Societes, Espaces (Eds.). (2010). *Doing identity in Luxembourg. Subjektive Aneignungen – institutionelle Zuschreibungen – sozio-kulturelle Milieus, Kultur und soziale Praxis*. Bielefeld: Transcript Verlag.
- Kanayama, T., & Cooper-Chen, A. (2005). Hofstede's Masculinity/Femininity Dimension and the Pregnancy of Princess Masako: An Analysis of Japanese and International Newspaper Coverage. *Keio Communication Review*, 27, 23-42.
- Kraemer, J.-P. (1995), "Une école plurilingue dans un pays multiculturel" Dondelinger G., & Wengler A., *Plurilinguisme & identité culturelle. Actes des assises européennes pour une éducation plurilingue* (Luxembourg, 3-6 Novembre 1993). Louvain-la-Neuve: Peeters.
- Lam, L.W., & White, L.P. (1999), "An Adaptive Model of the Internationalization Process: Lessons Drawn From the President Enterprise Corporation", *International Journal of Organizational Analysis*, Vol. 7 No. 2, pp. 105-134.
- Maak, T. (2007), "Responsible Leadership, Stakeholder Engagement, and the Emergence of Social Capital", *Journal of Business Ethics*, Vol. 74 No. 4, pp: 329-343. doi: 10.1007/s10551-007-9510-5
- Maak, T., & Pless N.M. (2006), "What is Responsible Leadership?" Maak, T. and Pless N.M., *Responsible Leadership*. Routledge Publishers, London.
- Maccoby, M. (2007), *Narcissistic Leaders. Who succeeds and who fails*. Harvard Business School Press. Boston: MA.
- Maccoby, M. (2015), *Strategic Intelligence*. Oxford University Press. Oxford, UK.
- Maccoby, M., & Scudder, T. (2011), "Strategic Intelligence: A Conceptual System of Leadership for Change", *Performance Improvement*, March 2011.
- McClelland, D. (1961). *The Achieving Society*. Princeton, NJ: Van Nostrand.
- Murray, A. (2014), *What Makes a Great Leader?* available at: <http://online.wsj.com/news/articles/SB10001424052749704878904575031112276749120> (accessed 24 September 2017).
- Northouse, P. (2012), *Leadership: theory and practice*. (6th ed.) Sage Publications. London, UK.
- Nummela, N., Loane, S., & Bell, J. (2006), "Change in SME Internationalisation: An Irish Perspective", 6th McGill International Entrepreneurship Conference, Londonderry.

- Pless, N.M. (2007), "Understanding responsible leadership: Roles identity and motivational drivers", *Journal of Business Ethics*, Vol. 74 No. 4, pp. 437-456.
- Salehi, M., DashtBayaz, M.L., Khorashadizadeh, S., (2018), "Corporate social responsibility and future financial performance: Evidence from Tehran Stock Exchange", *EuroMed Journal of Business*, Vol. 13 Issue: 3, pp.351-371, <https://doi.org/10.1108/EMJB-11-2017-0044>
- Santoro, G., Ferraris, A., Winteler, D.J. (2019), "Open innovation practices and related internal dynamics: case studies of Italian ICT SMEs", *EuroMed Journal of Business*, Vol. 14 Issue: 1, pp.47-61, <https://doi.org/10.1108/EMJB-05-2018-0031>
- Schein, E.H. (2009), *The Corporate Culture Survival Guide*. John Wiley & Sons, San Francisco, CA.
- Schein, E.H. (2010), *Organizational Culture and Leadership*, 4th edition. John Wiley & Sons, San Francisco, CA.
- Schinzel, U. (2013), "Why are people in Luxembourg happy? An exploratory study of happiness and culture measured by the dimension of a language as identifier in the Grand Duchy", *Journal of Customer Behaviour*, Vol. 12 No. 4, pp. 315-340. doi: 10.1362/147539213X13575568505822
- Schinzel, U. (2014a), "Hofstede in Luxembourg. Intercultural comparison of Luxembourg-France-Germany", *Journal of Strategic and International Studies*, Vol. IX No. 6, pp. 58-65.
- Schinzel, U. (2014b), "Multinational – multicultural - multilingual Luxembourg – a system of integration – or – a system of failure?", *Journal of Strategic and International Studies*, Vol. IX No. 6, pp. 5-13.
- Schinzel, U. (2017a), "How to Educate Multicultural managers? The Example of Luxembourg", Rozkwitalska, M. et al. (eds). *Intercultural Interactions in the Multicultural Workplace, Contributions to Management Science*. Springer International Publishing Switzerland, pp. 251-265. DOI 10.1007/978-3-319-39771-9_16.
- Schinzel, U. (2017b), "What is Responsible – What is Irresponsible Leadership in Luxembourg?", *Journal of Strategic and International Studies*, Vol. XII No.1, pp. 12-23.
- Schwartz, S. H. (1990). Individualism–Collectivism: Critique and Proposed Refinements. *Journal of Cross-Cultural Psychology*, 21, 139-157. doi: 10.1177/0022022190212001
- Shenkar, O. (2001). Cultural distance revisited: Towards a more rigorous conceptualization and measurement of cultural differences. *Journal of International Business Studies*, 23(3), 519-535.
- Smith, P. B. (2002). Culture's Consequences: Something Old and Something New. *Human Relations*, 55(1), 119-135. doi: 10.1177/0018726702551005
- Smith, P. B. (2006). When elephants fight, the grass gets trampled: the GLOBE and Hofstede projects. *Journal of International Business Studies*, 37, 915-921.
- Smith, P. B. (2008). Book Review: Michael Minkov, *What Makes Us Different and Similar: A New Interpretation of the World Values Survey and Other Cross-Cultural Data*. Bulgaria: Klasika y Stil Publishing House 2007. 257 pp. *International Journal of Cross Cultural Management*, 8(1), 110-112. doi: 10.1177/1470595880080010602
- Spizzo, D. (1995), "La nation luxembourgeoise. Genese et structure d'une identite", L'Harmattan, Paris, France.
- stateg Luxembourg (2017a), "Luxembourg in figures", Imprimerie exe s.a., Troisvierges, Luxembourg.
- STATEC Luxembourg (2017b). PIBien-etre. The Report. STATEC. October 2017. Available at: <http://www.statistiques.public.lu/catalogue-publications/PIBien-etre/2017/PIBien-etre.pdf>
- Stuckelberger, C., & Mugambi, J. (Ed.) (2007), "Responsible Leadership. Global and Contextual Ethical Perspectives", available at <http://www.globethics.net> (accessed 24 September 2017).
- Szekely, F. & Knirsch, M. (2005), "Responsible Leadership and Corporate Social Responsibility: Metrics for Sustainable Performance", *European Management Journal*, Vol. 23 No. 6, pp. 628-647. doi: 10.1016/j.emj.2005.10.009
- The Financial Times Lexicon.ft.com. (n.d.), "Responsible Leadership Definition" from Financial Times, available at: <http://lexicon.ft.com/Term?term=responsible-leadership>.
- The World Factbook (n.d.). Available at: <<https://www.cia.gov/library/publications/the-world-factbook/geos/lu.html>>.
- Thrassou, A. (2016), "Real-time analysis of Cyprus' embryonic oil and gas industry", *EuroMed Journal of Business*, Vol. 11 Issue: 3, pp.376-394, <https://doi.org/10.1108/EMJB-11-2015-0055>
- Triandis, H. C. (1995). *Individualism & Collectivism*. Boulder, CO: Westmore.
- Trompenaars, F., & Hampden-Turner, C. (1997). *Riding the Waves of Culture: Understanding Cultural Diversity in Business* (2nd ed.). Boston, MA, London, UK: Nicholas Brealey International.
- Venaik, S., & Brewer, P. (2010). Avoiding uncertainty in Hofstede and GLOBE. *Journal of International Business Studies*, 41, 1294-1315.
- Voegtlin, C., Patzer, M., & Scherer, A.G. (2012), "Responsible Leadership in Global Business: A New Approach to Leadership and Its Multi-Level Outcomes", *Journal of Business Ethics*, Vol. 105 No. 1, pp. 1-15. doi: 10.1007/s10551-011-0952-4

- Weber, J.J., & Horner, K. (2008), "The Language Situation in Luxembourg", *Current Issues in Language Planning*, Vol. 9 No. 1, pp. 69-128. doi: 10.2167/cilp130.0
- Welch, L., & Luostarinen, R. (1988), "Internationalization: Evolution of a Concept", *Journal of General Management*, Vol. 14 No. 2, pp. 155-171. doi: 10.1177/030630708801400203

APPENDIX

Interview

“Is Uncertainty Avoidance the new Taboo Dimension?”

Responsible Leadership and Uncertainty Avoidance Index (UAI) in Luxembourg

The purpose of this research is to explore the link between Responsible Leadership and Hofstede’s cultural dimension Uncertainty Avoidance in Luxembourg.

Hofstede (2008) defines Uncertainty Avoidance as “the extent to which the members of institutions and organizations within a society feel threatened by uncertain, unknown, ambiguous or unstructured situations”. Earlier, in 2001, page 148, he provides the following definition: “Uncertainty-avoiding cultures shun ambiguous situations. People in such cultures look for structure in their organizations, institutions and relationships, which makes events clearly interpretable and predictable.”

Responsible leadership is defined as being “about making business decisions that, next to the interests of the shareholders, also take into account all the other stakeholders such as workers, clients, suppliers, the environment, the community and future generations” (The Financial Times, n.d.).

The research questions are:

- What is the link between ‘responsible leadership’ and ‘uncertainty avoidance’ in Luxembourg?
- Does the high Uncertainty Avoidance affect international cooperation because of the tendency for high-uncertainty avoidance societies to avoid the ambiguity and uncertainty that exist more in international business transactions than in domestic transactions?
- Please give some examples.
- “Is Uncertainty Avoidance the new Taboo Dimension?”

Geert Hofstede (1998) wrote about the taboo dimension masculinity and femininity as long ago as in 1998. Many things have changed since then. One of the changes might be that the new taboo dimension is no longer ‘Masculinity versus femininity’, but ‘Uncertainty Avoidance’. Because of the overall tendency towards globalization, internationalization and international trade, Uncertainty Avoidance tends to be less popular as a cultural dimension as it prevents ambiguity and uncertainty in international business transactions, preferring domestic transactions. Is this correct? Do you know any examples? Or, is it taboo to be Uncertainty Avoidant?

Thank you for your time and your response hereafter:

....

Some examples:

....

THE MODERN APPROACH TO COMPETENCIES MANAGEMENT BASED ON IT SOLUTIONS

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ABSTRACT

This paper is focused on the analysis of the best practices experience of unique technical competence management to prepare the support for proposals on the competence management improvement in modern corporations. Analysis of advanced experience of competence management has shown that currently social technologies are actively used to solve business problems. One of the most important examples of this kind of technology are electronic portals and platforms with different features, which allow to attract a large number of internal and external experts to collaborate.

The paper considers such platforms of competency management as InnoCentive, NineSigma, Yet2.com, InnovationNet (USA), Wazoku (Great Britain), HunchBuzz (New Zealand), Witology (Russia).

Keywords: Competencies; IT-solutions; Crowdsourcing; Platforms; Open innovations; Key competencies management.

INTRODUCTION

The practice of "open innovation" refers to the active collecting and use of both internal and external knowledge, projects and competencies from the market to accelerate internal innovation processes, generating own unique competencies and marketing development. In today's world, knowledge is widely distributed and therefore a company will receive the maximal effect, if it attracts (in form of purchase or licence) the results of external R&D or gathers inventions, while opening for sales or licensing its own technology simultaneously. A more enforced version of this approach encourages the intensive search and attraction of external teams to corporation's needs and the possibility to sell the services and research work of corporation's own teams to external customers. The natural way to improve this activity is to use modern IT tools. The aim of the paper is to analyze some best practices and outline the requirements for an IT platform for competencies management.

MAIN FINDINGS

The "open innovation" ideology implies that in the decision process on new competencies development a company should consider the alternative whether to develop it autonomously, within the corporation, or the competencies would be acquired on the market. Also, a company should possess a wide range of tools to find the missing knowledge on the market in case of its availability, and to sell existing competencies if they are not fully-used or if they can be sold without damage.. McManis (McManis CR, 2009) reported that the important task is to attract external demand for corporate's own developers, if they are underloaded or have the available time.

According to the modern interpretation of the "open innovation" principle, for every corporate planning period (according to its planning cycle) a company should have a clear idea which competencies it should develop internally and which competencies should be planned to be bought or taken from outside (Chesbrough, 2003).

Tikhvinsky (Tikhvinsky and Bochechka, 2013) reported that an advanced and modern way to organize the competencies management in a corporation is to create a software platform for external search and management of competencies, including a list and a classifier of competencies, or to subscribe for an existing one. This platform can also be used as a tool for organizing the collegial work of many individual experts based on the methods of expert analysis and collegial work, and can be designed to perform such tasks that in a traditional offline way, using formal project teamwork and sessions in companies could be ineffective by reason of significant money and time loss. Without a portal the data transfer and mutual connection that could be significantly more difficult and time consuming.

Gawer (Gawer and Cusumano, 2002) reported that advantages of these platforms are:

- the possibility of delivering company's problems and obtaining solutions to them from the employees or involved external specialists, even when tasks may be supplied in the form of a search for the required competencies ("ordering for innovations");
- the systematization of the idea generating process, rapid assessment of generated ideas by experts and other participants of the innovation community, that is built around the company;
- turning the ideas coming from the community into innovative projects and possibility of monitoring for its implementation on the same portal by the same experts;
- monitoring of the performance of all participants in each project through the various stages of the innovation process by the portal-based interface;

- the semi-automatization of identifying the best ideas, the best innovators and experts on the basis of the rating methods.

Software platforms that are aimed to implement "an order for innovation" and creation of new competencies generally consist of three major modules:

- A module for generating ideas that is a tool for setting corporation's goals and problems, which can be delivered to the open innovation community, as well as the tool of idea generation for the non-corporate user's intended purposes (if they are also the registered users of the platform and the corporation allows that).
- A module of the evaluation and selection of the ideas, which provides a selection of the best ideas from the database based on their ratings. The module provides an environment for peer review of the best ideas and the subsequent selection of ideas for implementation on the basis of the expert evaluation.
- Modules for training and project management give the tools to describe the concept of an innovative product or service/solution on the basis of the selected ideas, and to manage the project together with partners. The release of this module contains systematically and continuously updated management information on the progress of the project.

Architecture and technology are often the same on different platforms and belong to a large class of "idea management" tools, which are intended to improve the business results.

Gratton (Gratton, 2014) notes that over the past few years, many companies have launched their own platforms of the same kind for the purpose of making a profit by attracting a large number of external participants for generating the ideas and innovative projects. Some firms use independent multicorporate platforms and the important profit of the latter is the common and large expert base.

The platform InnoCentive is one of the first of this kind, which is focused on crowdsourcing. It is designed to organize the process of generating ideas and complex problem solving for day-to-day needs in business, social, scientific, and technical spheres.

Using a unique methodology of InnoCentive each task with the assistance of specialists is evaluated and then divided into smaller sub-tasks, which are assessed and then addressed through the system's interface to the community that has approximately 300,000 people. Those who are interested in challenge and reward for work (which is announced inside the system by the customer) represent their ideas the customer to evaluate their decisions. The customer chooses the winner who picks up his award and gives in turn the right to use the intellectual property if it is created in the initiated project. InnoCentive supports the widest range of tasks: from the generation of business ideas for marketers that promote a particular product to complex technical or scientific problems. Sometimes, according to

the results of that proposed decision the team of the authors receives invitations to work in the customer's corporation, thus forming the new competencies.

NineSigma is one of the largest innovation partners for companies worldwide, contributing to the promotion of the practice of "open innovation" including competencies management. Thanks to its own social network, Grand Challenge program, the rapid growth of the platform was supported. Due to move to new large markets, NineSigma has reached a serious level of development.

NineSigma platform has a whole range of options for business, the purpose of which is to develop innovative solutions to enhance domestic resources and to attract external. NineSigma platform has offices in the United States, Europe, Asia, and Australia. NineSigma network of solvers is one of the biggest in the world and consists of more than 2 million people.

Another popular resource is Yet2.com. Unlike NineSigma and InnoCentive, Yet2.com deals with the exchange of ready-to-introduce technology between companies, universities and government laboratories, and the basic unit of transfer is a package of intellectual property, although the practical results of the transaction can be hiring teams. Members of the network initially communicate with the customer through Yet2.com. Thereafter, the parties shall cooperate directly.

For example, Yet2.com accumulates the descriptions of all the patents, the authorship of which is owned by units of Proctor&Gamble (P&G) and its key partners, and uses this database as the B2B-market for intellectual property. Given that only 10% of 27 000 company-owned patents are used regularly; the remaining 90% in the absence of such a market would constitute a "dead load". By means of this IT-system those patents are actively transferred to the market, if they do not contain any secret information (Bih-Huang and Chu, 2015).

A good example of an internal portal to search new contacts and networking in technology development is the InnovationNet which is also used in P&G. It is a web-portal of P&G internal network for 18,000 innovators of the company engaged in scientific research, engineering development, carrying out marketing activities, procurement and registration of patents. It looks like the "global cafe" for the ideas exchange.

The Wazoku project, which is a platform for idea and innovation management, helps businesses of all sizes to get the best ideas from employees, partners and customers. Mechanisms of Wazoku allow capturing, creating, evaluating, prioritizing and then choosing best ideas and their sources. The basic module of the Wazoku is called IdeaSpotlight. It applies the crowdsourcing technology to gather information, assess it, and then subsequently sort. One of the disadvantages of its crowdsourcing is considered irregular qualification of project participants. And for example, if we are talking about collecting views on the bone marrow transplant, you need specialists in this area, and not just amateurs.

The New Zealand startup HunchBuzz provides a platform for the cloud-based customer and employee interaction. HunchBuzz allows entrepreneurs and businesses to build strategically and manage innovative internal and external ideas network with powerful research tools for feedback and gamification.

A Russian example is the Witology portal, which creates online community with new principles of interaction and extensive capabilities for large-scale collective intellectual work. To date, the productive work involved hundreds of thousands of participants, more than 30 national-scale projects have been already implemented for clients such as the Moscow City Government, "Azбуka Vkusa", Sberbank, Rosatom, Russian Railways, Agency for strategic initiatives and many others. The most famous project within Witology was in financial sector. Sberbank, the leading bank of Russia, which is creating a wide platform for e-banking so it looked for new ideas in field of customer relations with the help of Witology functional.

The capabilities of the considered platforms of open innovation are presented in the Table 1.

Platform Capability	InnoCentive	NineSigma	Yet2.com	Innovation Net	Wazoku	HunchBuzz	Witology
Ideas generation	+	+		+	+	+	+
Expert evaluation of ideas	+	+		+	+		+
Solving complex technical problems	+	+					+
Marketing solutions	+	+		+		+	+
The presence of social networking		+			+		+
Integration with corporate programs	+	+	+	+	+	+	+
Scientific competitions		+					+

Table 1. *The capability of the open innovation platforms*

Now almost all banks across the globe offer online banking with different capabilities and the competition is intense. Online Banking platforms have existed for more than a decade now and offering online banking is now as good as a commodity (Sakkab, 2006). With more and more customers enrolling for online services, the banks are under constant pressure to provide distinctive and unique features catering to niche segments (Mariotto and Verdier, 2015; Raitani and Vyas, 2014). In Russia one of the most influential companies in the area of e-payment is Qiwi, which is listed in the stock market. It possesses the system of gathering innovations, which are then selected to it fund, Qiwi Ventures.

Another influential financial entity in Russia, Alfa-bank, develops a platform of collecting the innovations in banking sector to search a synergy between startups and its own banking platform. So, the question is, what basic parameters should be implemented in the IT system dealing with new competencies formation and innovation search. The System should include the function of interaction with the external environment to heir the teams capable of new competencies generation and development. On the one hand, it should have an information space, which includes information on a wide variety of professionals, teams and tasks. The information put by participants themselves obviously contains a large amount of information "noise" that must be filtered both by the System (in the case of poorly completed forms) and by the supporting team interface. And, on the other hand, the portal should provide the capable teams (including research) with the information about customers' needs and should have the functionality to arrange close technological and commercial interaction between them. If the System is promoted properly it will soon be filled with the vast array of information that can be used for the efficient operations of the company in the search of the sources of new competencies.

The portal should reflect the following information:

- the ordering forms for work, problems, and services;
- the forms to describe the commands and personal cabinets of leaders and team members;
- the competency description forms;
- the R&D description forms (for completed and unfinished R&D), including the description of the patents, and other IP objects.

The portal should support the involvement of a large number of participants including professionals from the company, universities, research institutes and other structures, as well as from the private sector. The system should provide the ability to professionals, experts, and other interested people and structures to serve as active participants in the development and establishment of various ideas and have functional collaboration to implement the customer's tasks.

The portal introduction shows significant positive practical effects for a company.

- Improving the transparency and openness for new ideas coming from internal and external experts and even customers will increase speed of corporate's development.
- The company's development of small and medium-sized projects, including those of breakthrough nature will increase of investment attractiveness of the whole firm.
- Creating the demand for services and technologies, improving the competitiveness of a company, will become the solution of certain marketing problems.

Within the framework of the portal it is possible to seriously improve the organization of technology transfer, "custom for innovations", purchasing and selling the objects of intellectual property (patents,

licences, etc.). The section of intellectual property trade within the portal should be organized in the online forms through which intellectual property owners (including holdings) will be able to declare on their sites (according to properly made guidelines). Potential buyers should be able to gain access to information that enables them to order specific objects of intellectual property, and even create an application on the portal to the conclusion of a juridical firm agreement.

The portal should have a function to search for specialists and teams from a number of external participants to integrate them in the firm.

To attract talented employees in the company that would become part of a competitive team, a company should follow some best practices carrying out each recruitment procedure.

- Clearly specify in the portal the aims and goals which are required from the new team, what qualities should they possess and what qualities/skills, which the company is ready to teach them.
- Prescribe, what will be the training program, which starts after the staff/team is hired.
- Briefly describe the system of motivation and benefits associated with the result. Gains of the team should be associated with the effective work for the company. The Portal term can be equipped with an automatic system of compensation size depending on the number and impact of implemented projects.
- Reflect on the portal the personal characteristics of the members such that career development, training. Based on these data, the company could improve a cycle of development of the staff and external teams, establish a system of trainings aimed at achieving the corporate goals.

Using the mechanism described above it is important to focus not on the number of involved discussion of interested individuals (business representatives, scientists, students, etc.) but on the quality of the ideas of active participants in the process of generating proposals and hiring personal and outsourcers in the Portal. Due to low physical and financial cost, the mechanisms described above should be considered as efficient and recommended for implementations.

CONCLUSIONS

In modern conditions it is extremely important to actualize in industrial companies the competencies management mechanisms and tools for this task.

In this paper the analysis of the most popular platforms of open innovations is carried out. There is considered the functioning features of such platforms, as InnoCentive, NineSigma, Yet2.com, InnovationNet, Wazoku, HunchBuzz, Witology. Such mechanism of open innovation allows companies

to make a profit and develop the competencies by attracting a large number of external participants which can generate the ideas and innovative projects.

The results of the analysis of the best practices in the field of competencies management can be carried forward in the development of the conceptual bases of the corporate portal creation to manage innovation and competencies with a view to applying the most effective mechanisms to form and control the unique competencies and competitiveness.

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REFERENCES

- Bih-Huang J, Chu ChY (2015) "The Value Creation Model of Patent Market Intermediaries", *Global Journal of Business Research*, No. 9, pp. 75-86.
- Chesbrough, H (2003), *Open Innovation: The New Imperative for Creating and Profiting from Technology*, Harvard Business School Press, pp. 272.
- Gawer, A, Cusumano, MA (2002), *Platform leadership: how Intel, Microsoft, and Cisco drive industry innovation*, Harvard Business Review Press, pp. 336.
- Gratton, L (2014), *The Key: How Corporations Succeed by Solving the World's Toughest Problems*, McGraw Hill Professional, pp. 272.
- Mariotto, C, Verdier, M (2015), "Innovation and Competition in Internet and Mobile Banking: An Industrial Organization Perspective", *Bank of Finland Research Discussion Paper*
- McManis, CR (2009), "Introduction: Open Source and Proprietary Models of Innovation: Beyond Ideology", *Washington University Journal of Law & Policy*.
- Raitani, S, Vyas, V (2014), "An Exploratory Study of Factors Influencing the E- Loyalty of Online Banking Consumers", *The IUP Journal of Bank Management*, No. 13, pp. 34- 47.
- Sakkab, N (2006), *Connect and develop: the Procter & Gamble innovation model*, Harvard Business Review, Russia.
- Tikhvinsky, VO, Bochechka, GS (2013), "The role of open innovation and ratings platforms for innovation management in telecommunications", *T-Comm*, No. 1, pp. 57-61.

THE EFFECT OF TECHNOLOGY IN THE CREATION OF PERSONAL BRANDING AND ITS IMPACT ON PROFESSIONAL PROGRESS

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ABSTRACT

The evolution of technology has influenced the emergence and development of new forms of promotion. Through its influence, technology greatly influenced the spread of online marketing. The great impact of technology was found in the success of creating personal branding. The personal branding phenomenon was considered as the most sophisticated way for self-promotion and for the promotion of products and services offered for profit by individuals and companies.

The purpose of this paper is to verify the link existing between elements: technology - personal branding -professional progress.

The questionnaire was built in four sections, to collect general information on demographic data of study participants, to verify by questioning the individual's and / or entrepreneurial relationship with personal branding, the effect of technology on creating personal branding, and the last section focused on linking personal branding to professional progress. The correlation analysis it is used to verify the validity of hypotheses, the importance of the econometric models and the importance of the coefficients in the model.

Results indicate that technology has a significant effect on creating personal branding as well as in spreading personal branding through online platforms. Using technology equipment and various online platforms are the main source of addiction to individuals. The role of personal branding in the impact of professional progress is as significant as the role of technology in its creation. Combining personal skills with the influence of personal branding is crucial to professional success.

Keywords: personal branding, technology, social media, online platform, professional progress

INTRODUCTION

The effect of technology in creating personal branding is very important, the success of this phenomenon came through the spread in social media. Social media was rated as the most successful way of spreading the personal brand in the era of globalization. The impact of Facebook, Twitter and other online media was so great that these platforms turned into the key form of online marketing.

Though it positively influenced the personal branding success, intensive use of technology did not have the same effect on personal brand users. The dependence on technological devices and social media was associated with the emergence of psycho - social difficulties of individual users. On the other hand, creating personal branding and promoting it in social media was praised by many as a way of success for self-marketing. In social network profiles, many users found the right way to promote themselves as a result of personal brand success.

The personal promotion binomial associated with the success of personal branding had an impact especially on the professional progress of the individual. In this way, technology had a great impact on creating personal branding and the importance of personal branding in professional progress was appreciated.

LITERATURE REVIEW

Personal branding

About the end of the 1990s, a movement based on the transformation of ideas into different fields of the economy was born in the corporations. The massive spread of these movements meant the beginnings of a new phenomenon at that time, which was not concretized with a theoretical denomination until that moment.

In 1997, Tom Peters through an article titled "The brand called you", published in the Fast Company magazine explained that the 1990s movement was the birth of a new phenomenon which he named as personal branding.

Personal branding is a combination of personal skills, personal interaction with others, lifestyle and personal achievements. The guarantee of individual success and personal reputation are a derivative of personal branding success. Given personal views about the personal branding phenomenon and referring to the research conducted, different scholars determine different ways to build personal branding patterns. The original model conceived by Peters (1999) emphasized that successful professional presentation had the basis in personal assessment. The next model of McNally and Speak (2003) focused on the sustainable development of personal branding resulting from differentiation and authenticity that together form the brand's dimensions.

Among the most sophisticated models built for personal branding was Ortega's model (2008) based on three essential factors: "A - analysis, attributes, authenticity; D - differentiation; F - Fame "defined as the ADF model. Contributions provided by various authors from the beginning to the present have brought the continuous progress of personal branding.

Personal branding from different authors was described as: managing an extended self (Belk 2013); planned process in which people make efforts to market themselves (Khedher 2014); the deployment of individuals' identity narratives for career and employment purposes (Brooks and Anumudu 2016).

The impact of technology in the creation of personal branding.

The technology revolution extends into two important periods, where the first period marks the birth of the beginnings of the technological revolution and the birth of Web 2.0. While the second period was named by the term "social media online" that marked the revolution of technology. During this period, was identified the emergence of some personal and interpersonal phenomena in social media, among them was the creation of personal branding.

The first step: Web 2.0.-is a revolution in the field of social communication (Cobo and Pardo, 2007, Kaplan and Haenlein, 2010,) which was widely promoted and spread thanks to various applications. Web 2.0 influenced the way users communicate technology and facilitating collaboration between different groups. In this way, Web 2.0 was not just a technological evolution but also an evolution of social relationships. Schau, H. J. & Gilly, M.C. (2003) in their research find that the reasons consumers self-present in personal Web space are similar to the reasons that they self-present off-line in many respects.

The second step: Social media-are the most sophisticated way of communication channels. With their help, any individual who has access to the Internet interacts, collaborates and distributes content in order to create social, personal or business relationships. The effect of social media on personal creation is extremely important.

Social media provide opportunities not only in creation but also in the confirmation, progress and continuity of personal branding success. There are a number of ways that guarantee the successful performance of personal branding in various social media platforms. Ways that necessarily relate in a conditional form with the creator and / or the personality of personal branding. Personal branding created in social media is related to the personal and professional attributes of his creator. According to Aaker (1997) the personality of personal branding is intertwined with the human personality. Unlike Aaker's (1997) assertion, Keller (2006) found that personal branding personality is an expression of the brand's own personality rather than the creator, and meant that a brand could be branded without affecting the creator's personality. One of the latest researches based on the identity of personal branding in social media emphasizes the extended identity of personal branding. Favorable impression in the online platform among the target audience can fulfill self-esteem need of individual both in online and offline environment, which consequence is a successful personal branding (Shaker, F. & Hafiz, R. (2014).

The extended identity of personal branding is viewed as complementing the initial identity features. The act of personal branding seems to be best performed in a subtle and authentic way (Brems, C. at al 2016). The brand's fate is more dependent on its extended identity (Bendisch at al. 2007). Developing friendly relations with other related specific brands achieves a leveraging effect to promote the branded-selves (Liu, R. & Suh, A. (2017). There is a widespread consensus that the key driver for personal branding is the ease of access to technology, especially the Web 2.0 tools, such as social media and blogs (Harris and Rae, 2011; Holton and Molyneux, 2017). Regarding the impact of technology on the life of the individual and mainly in his daily life and also the effect of technology on creating personal branding will be verified by the main hypothesis and the alternative hypothesis which are:

H1: Technology has impact in the life of the individual/user and

H2: Technology has a huge impact in the creation of personal branding

The impact of personal branding in professional progress

The creator of personal branding can benefit in different ways from the success of his achievement. One of the most efficient forms is to utilize the success of personal branding in favor of professional progress. According to Goffman (1959), every individual can influence the perception that others create around us. Auto-presentation on different platforms of social media is one of the most essential ways in the continuation of professional progress. The concept of personal branding is self-presentation (Goffman, 1959).

Another influential element is self-expression. Expressing an individual to online audiences about personal and professional abilities influences the creation of online identity and perception of others. Consequence of self - expression is another personal activity: self - promotion. Through self-promotion, the creator of personal branding introduces itself to entrepreneurs successfully. Personal branding in social media is the process of taking control of the impressions one is making in the virtual world (Schau & Gilly, 2003). Building one's personal brand is a continual process (Johnson, M. K. 2017).

But why is it so important to use personal branding in professional progress? Brand teaches an individual how to be more strategic by staying connected with the market (Kaputa, 2005). In this way, personal branding realizes the link between the individual and the enterprise operating under the broad market. According to Schawbel (2019a), when the customer associates the branded product with the mark, then positive thinking goes to entrepreneurship. The success of personal branding can thus be oriented from the success of entrepreneurship. Today people who do not develop themselves are left behind and have significantly smaller chances for professional success (Figurska. I 2016).

As a result, successful personal branding can be influential in any venture to realize professional collaboration with its creator. The personal brand is not about our job title, it is about the difference we bring through what we do about the power to convince that we do it well, sustained by the received feedbacks (Petruca. I 2016). To verify the link between personal branding created on online platforms and its impact on professional development, the main hypothesis is:

H3: Personal branding is very important in professional progress

METHODOLOGY

To prove the link between technology - personal branding and professional progress, the first stage of the process was the selection of the type of investigation. After analyzing the types of investigations, it was determined that would be applied, the descriptive and correlational type of investigation. By means of descriptive examination, the characteristics, links and profiles of the individuals participating in the process will be specified. Through correlative analyses, it is required to establish the correlation between variables of different situations.

The questionnaire was used as a methodological tool for conducting the investigation, the form of which was based and interlocked on open, closed questions. The questionnaire was built in four sections where the first section of the questionnaire sought to collect general information on demographic data of study participants. Other sections sought to verify by questioning the individual's and / or entrepreneurial relationship with personal branding, the effect of technology on creating personal branding, and the last section focused on linking personal branding to professional progress. The questionnaire was built in a survey type.

The third stage consisted in determining the population and the sample. More specifically, ventures were selected as part of the population, while the staff of marketing departments and human resources of entrepreneurs was identified as a sample.

It was consistently carried out in a finite number of individuals selected as part of the pilot study sample. The purpose of his application was to verify uncertainties about questions and final fix before functionality.

The last phase of the methodological process consisted of data collection which in this case referred to the responses expressed by the individuals participating in the questionnaire.

Analyses that will serve to produce the results and the final conclusion are descriptive and correlative analysis. Descriptive analysis or data analysis refers to the aggregate of information accumulated by questionnaires on demographic data, personal online branding, the link between personal branding and technology, and personal branding with career development. While through the correlation

analysis it is required to verify the validity of the formulated hypotheses and the importance of the econometric models together with the importance of the coefficients participating in the model.

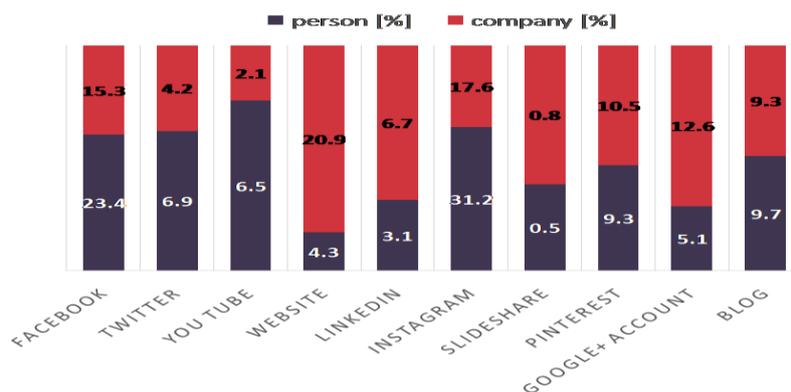
DATA ANALYSIS

At this stage, the descriptive analysis of each section of the questionnaire was conducted. Referring to the descriptive analysis of the section "Demographic Data" it was ascertained that:

- 56.7% women and 43.3% males
- The largest part of respondents belonged to the age group of 25-35 with a share of 51.3% followed by 30.9% from the group age of 36-45. The 46-55 group age occupies a 15.7% share of respondents, followed by 1.3% of the 56-65 group age. The smallest percentage of respondents belongs to the age group over 66 who is only 0.8%;
- 30.3 % of participants was graduated in university and 69.7% had finished undergraduate studies.

The second section of the questionnaire addresses the "Personal Branding Phenomenon" where closed questions were asked for participants to declare whether or not they were creative to a personal branding. From the data analysis it was found that 34.6% of the respondents stated that they own a personal brand and 65.4% of them claimed that they are not creators / users of any brand. Participants who declared themselves creative / personal brand users claimed that the most widely used online platforms include: Instagram 31.2%, Facebook 23.4% and Personal Blog 9.7%. At lower values were ranked platforms like You Tube, Website, LinkedIn, Pinterest, and Google+ account.

Graph 1: Promoting personal branding on online platforms



Source: Author's original finding from research

The impact of technology is very present in each individual's life. In this session of the questionnaire in two subdivisions are addressed the effects that the use of technology has in individuals and the effects of technology in creating & the success of personal branding.

The effect of technology on the individual. Through selected situations, it is required to assess the degree of impact of technology on individuals' lives and the effects of the use / non-use of technology. Participants in the questionnaire were asked to evaluate the frequency of repetition for each of the situations according to the assessment grades 1 – not at all, 2 - little, 3 - on average, 4 – very much, 5 - extremely very much.

From the final results it is ascertained that:

- The use of mobile phone during everyday life is very frequent at 40.2%;
- About 30.7 % of respondents claim that they often check the mobile phone;
- Regarding to other technological equipments, about 22.4 % claim that their use during the day is low;
- While the use of Internet is large to respondents to an extent of approximately 39.5%;

Referring to the time spent, the appearance of anxiety and nervousness by the non-use of these devices and the feeling of being dependent on the use of technological equipment, the respondents state that they are not at all affected by these phenomena, respectively 35.4%, 36.9%, 44.7%.

Table 1: The effect of technology on individuals

	1	2	3	4	5
1. Use of mobile phone	0.5	9	27.3	40.2	22.7
2. Addapt to technological innovations	20.6	24.3	26.9	18	10.2
3. Checking the mobile phone	5.9	18.2	25.7	30.7	19.5
4. The use of technological equipments	22.4	21.7	19.4	17.9	17.6
5. Surfing the Internet	0.6	11	25.4	39.5	23.5
6. Online problem solving	20.7	21.9	24.7	17.2	15.5
7. Online chating with friends or others	3.9	15.6	19.4	35.7	25.4
8. Spend very much time on internet	35.4	29.5	26.1	5.5	3.5
9. I'm nervous when I don't use the phone/Internet	36.9	33.5	19.4	9.3	0.9
10. I'm very addicted in using these devices	44.7	38.1	16.2	0.8	0.2

Source: Author's original finding from research

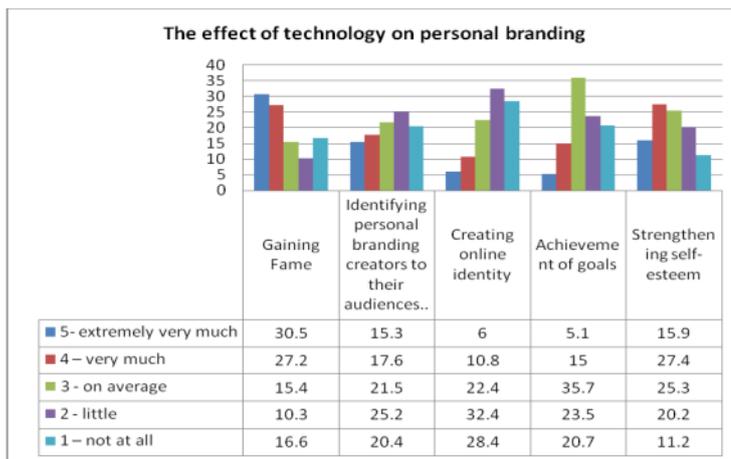
The impact of technology in the personal branding creation.

According to Schau, H. J. & Gilly, M.C. (2003), the reasons consumers self-present in personal Web space are similar to the reasons that they self-present off-line in many respects. The same results was find in our study. Participants were asked to evaluate the impact that technology has on:

- Gaining Fame - 30.5% of respondents say that technology has a tremendous impact on gaining the fame of the personal branding creator and only 16.6% say it has no impact at all.
- Identifying personal branding creators to their audiences as the only solution to personal problems - 25.2% of participants (the majority) said that technology has little impact while the minority around 15.3% think it has an extraordinary effect;

- Creating online identity - 32.4% of respondents think that technology has little impact on personal identity creation versus 6% of participants, which is the smallest measure that approve for this fact.
- Achievement of goals - Much of the participants estimates mean that technology has an average impact on achieving the creator's goals of personal branding, namely 35.7%.
- Strengthening self-esteem at the personal branding creator - 27.4% estimate that technology has a lot of impact on strengthening self-esteem of the personal brand creator.

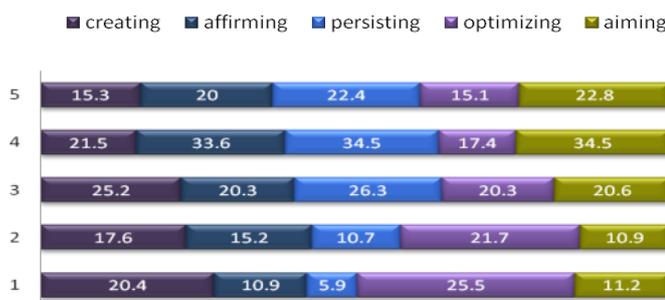
Graph 2: The effect of technology on personal branding



Source: Author's original finding from research

Another question that was posed to participants in the questionnaire was related to the direct impact that technology has on creating, affirming, persisting, optimizing and aiming for personal branding. It was found that around 25.2% of participants thought that technology has an average impact on creating personal branding, while in affirming personal branding its effect/impact is enormous. Concretely this opinion is 33.6% of the participants. Regarding the technology's impact on continuity and achieving the goal of personal branding, most of the participants around 34.5% are of the opinion that its effect is enormous. The opinion is opposite about the impact of technology on optimizing personal branding.

Graph 3: The effect of technology on personal branding



Source: Author's original finding from research

Referring to the impact of social media on the spread of personal branding about 36.5% of participants in the questionnaire are of the opinion that online platforms have a tremendous impact on the proliferation of personal branding. While the blog, the self-satisfied community (Instagram and YouTube users) and multiplayer online games greatly affect the spread of personal branding. Specifically, the impact of the blog is 23.7%, of the complacent community about 30.7% and of online multiplayer games by approximately 28%.

Online microblogging platforms (Twitter's main representative) according to respondents have an impact on the spread of technology on average.

About 25.9% and 27.5% think that wikis and interpersonal and / or chats have little impact on personal branding, while podcasts and hybrid applications do not affect the penetration of personal branding by 30.7% and 29.9% of respondents.

Table 2: Impact of online platforms on the spread of personal branding

	1-not at all	2 –little	3 –on average	4 –very much	5 - extremely very much
Blogs	17.2	18	21.5	23.7	19.6
The self-satisfied community	9.4	10.3	20.2	30.7	29.4
Micro-blog	19.9	15.9	24.7	20.2	17.3
Wiki	23.7	25.9	20.4	19.2	11
Interpersonal	20.3	27.5	19.7	16.3	16.2
Podcast	30.7	29.4	20.2	10.3	9.4
Hybrid applications	29.9	22.3	19.9	15.3	12.6
Multiplayer online games	12.7	14.7	25.3	27.6	19.7

Source: Author's original finding from research

Participants in the questionnaire were asked to evaluate the impact that personal branding has on them. Personal branding creators expressed their opinion on the impact that personal branding has on brand transformation, ongoing exposure to online platforms, online addiction, increased personal engagement and professional progress.

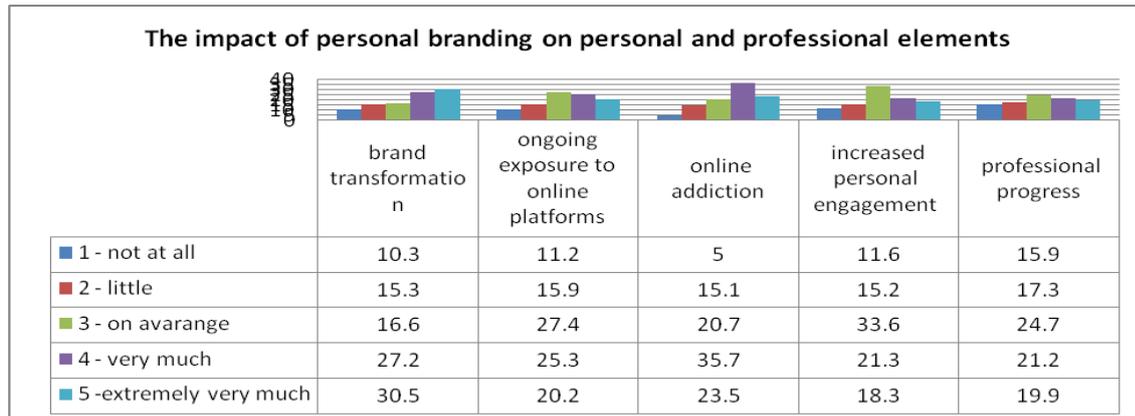
According to about 30.5% of participants, the impact that personal branding has in brand transformation is extremely large. While, according to them, having a personal brand has on average an impact on the owner's continued exposure to online platforms. This opinion is 27.4% of participants.

Constant exposure to online platforms can become a cause for creating addiction to them. Of this opinion, are about 35.7% of respondents who say that the dependence on online platforms comes from constant network exposure.

According to Figurska. I 2016, people who do not develop themselves are left behind and have significantly smaller chances for professional success.

In our study, about the impact of personal branding on increasing professional engagement and professional progress, approximately 34% and 25% of respondents say that the impact of personal branding on these elements is moderate.

Graph 4: The impact of personal branding on personal and professional elements



Source: Author's original finding from research

Participants in the questionnaire expressed their opinion on the impact of various elements on personal branding. They appreciated elements such as creativity, variety of component elements, audience fidelity, image and positioning on platforma.

The people asked say that the elements that have an enormous impact on the success of personal branding are the image and loyalty of the audience. This opinion is respectively 35.7% and 38.2% of participants corresponding to the majority of opinions.

Regarding the impact of creativity and networking on the success of personal branding, the individuals asked are of the opinion that these factors have a great impact on the success of personal branding. 30.7% of respondents are of the opinion that creativity has a great impact on the success of personal branding and 25.5% are pro-rated in the correct positioning of networks. According to them, the variety of branded components is the factor that has less impact on the success of personal branding.

For the construction of the econometric model, the features included in the model are considered personal branding features, technology features, professional development features, technology effect, and personal branding. These features have served as variables depending on the regression model that is built.

To verify the accuracy of the built models, the process of their evaluation and the process of verification of importance will be realized. Once the hypotheses are formulated about the importance of the model, the F - statistic value in relation to the F - criterion value will be analyzed. Based on the

results it is ascertained that for each model, the value of F - statistic is greater than the value of F - critical meaning that the model or patterns are important.

Another test that is carried out in the econometric analysis is the verification of the importance of the coefficients. For the concrete study it is taken into consideration that their testing is carried out with the help of the T - statistic test. Even in this case, to verify the importance of the coefficients, the value of the T - statistic should be greater than the critical value of the T - statistic test. Once the hypotheses are formulated on the importance of the coefficients, the respective T - statistic values are analyzed. The values result to be greater than the T - critics that would imply the importance of the coefficients.

Model built for the effect of technology on individuals. The regression model created for assessing the effect of technology on individuals corresponds to the third part of the questionnaire. In this case, therefore, the construction of the regression model from the effect of technology on individuals was taken as variable X: the characteristics of individuals (which are explained in the descriptive analysis) and as Y: the effect of the technology. The model that expresses the link between technology and individuals is:

$$Y = - 37.9 + 14.8 * X$$

Where, if we consider the influence of the X variable that expresses the use of technology by the individual as negligible, then the effect of the technology would be (37.9). But despite the coefficient interpretations, we must emphasize that the use of technology is associated with multiple effects on individuals. Such a fact can be justified by the uncertainty R2 coefficient which in this case is very close to 1 which indicates that this regression best explains the data.

The regression model built for the effect of technology on personal branding. The regression model built for the effect of technology on personal branding corresponds to part C2 of the questionnaire. Through the data processed by the questionnaires, more specifically of this part will be built regression model for the effect of technology in the creation of personal branding. For constructing the model of this part of the questionnaire will be used as variable X: personal branding features and Y: the effect of technology in creating personal branding. The model for this case is:

$$Y = 4.4 + 0.01 * X$$

Reasoning in the same way as in the regression built for the above case, we can easily appreciate the effect that technology has on creating personal branding.

The regression model built for the effect of personal branding in professional progress. The regression model built for the effect of personal branding on professional progress refers to the last part of the questionnaire, specifically to point D. The regression model built for the personal branding effect on professional progress has as the X variable: the personal branding characteristics evaluated by

participants in the questionnaire through the assessment scales and as Y: career progression. The regression model for this case is:

$$Y = - 37.6 + 4.18 * X$$

With the help of econometric analysis and in this case, we can confirm the relationship that exists between the personal branding variables and its effect on the professional progress. Through the values of the uncertainty coefficient we can point out that this regression best describes the data.

Realizing the testing of the significance of the models and coefficients through the F - Statistic and T - Statistic tests results that both the formatted models and the coefficients are important.

CONCLUSIONS AND RECOMMENDATIONS

This study was focused on realizing a detailed theoretical analysis of the importance and impact of technology in creating personal branding. Also, through theoretical analysis, the impact of personal branding on professional progress was assessed. At a second stage, empirical analysis was applied on the importance of technology in creating personal branding as well as on the role of personal branding in professional progress.

From the realization of the econometric analysis some of the conclusions that we conclude are:

- Technology has a significant effect on creating personal branding as well as in spreading personal branding through online platforms. The success of mass spread depends on online audiences. Such a conclusion was reached through a detailed econometric analysis that established the link between technology and personal branding.
- The continued use of technology equipment and various online platforms are the main source of addiction to individuals. This conclusion was mainly formulated through descriptive analysis carried out in the first part of the study.
- The role of personal branding in the impact of professional progress is as significant as the role of technology in its creation. Combining personal skills with the influence of personal branding is crucial to professional success.

Based on the conclusions reached, we can say that the alleged connection presented in the introduction of the work is verified. So, there is the link between the effects of technology on creating personal branding which through success can affect the professional progress of its creator.

Referring to the conclusions reached from the implementation of the descriptive and econometric analysis we can recommend that:

- The use of technology, mainly of technological equipment and the Internet, is turning into the main cause of addiction. Reducing residence time and their limited use would necessarily influence the prevention of personal addiction.

- Great promotion with the help of personal profiles on various online platforms can negatively impact the emergence of psycho-social difficulties. Even in this case, it is considered reasonable to avoid the massive use of online platforms and their use in favor of achieving personal and professional goals.
- As proven with the help of econometric analysis, the effect of technology is too great in creating personal branding. It is therefore more than reasonable to recommend the use of technology in the spread, promotion and success of personal branding.
- Finally, the role of personal branding in professional influence can be assessed. A success of your brand would undoubtedly affect your professional progress. It is therefore recommended to create a special link between these components that will later result in a double success for you.

Personal branding is a new and complex concept. The study is only a basis for further considerations. The limitations of this study resulting from the relatively small number of respondents and not existing of one model for personal brand study. Although, the results are important information about the effect of technology in creating personal branding and its impact of professional progress that can indicate the future researches.

REFERENCES

- Aaker, J., (1997) Dimensions of brand personality, *Journal of Marketing Research*; 34, 3; ABI/INFORM Global
- Belk, R. W. (2013). Extended self in a digital world. *Journal of Consumer Research*, 40, 477–500. doi:10.1086/671052.
- Bendisch, F. F., Larsen, G and Trueman, M (2007). *Branding People: Towards A Conceptual Framework*. Bradford University School of Management, UK. Working Paper, No 07/22, accessed May 28, 2014
- Brooks, A. K., & Anumudu, C. (2016). Identity development in personal branding instruction social narratives and online brand management in a global economy. *Adult Learning*, 27, 23–29. <http://dx.doi.org/10.1177/1045159515616968>
- Brems, C., Temmerman, M., Graham, T., & Broersma, M. (2017). Personal Branding on Twitter: How employed and freelance journalists stage themselves on social media. *Digital Journalism*, 5(4), 443-459
- Figurska, I. (2016). Personal branding as an element of employees' professional development. *Human Resources Management & Ergonomics*, X (2), 33 - 47.
- Goffman, E. (1959). *The presentation of self in everyday life*. New York, NY: Penguin book
- Harris L., Rae A. (2011). Building a personal brand through social networking. *J. Bus. Strat.* 32, 14–21. 10.1108/02756661111165435
- Holton A. E., Molyneux L. (2017). Identity lost? The personal impact of brand journalism. *Journalism* 18, 195–210. 10.1177/1464884915608816
- Johnson, M. K. (2017). The Importance of Personal Branding in Social Media: Educating Students to Create and Manage their Personal Brand. *International Journal of Education and Social Science*, 4(1), 21 -27.
- Kaplan, A.M & Haenlein, M (2010,) *Users of the World, Unite! The Challenges and Opportunities of Social Media*. *Business Horizons*, 53(1), pp. 59-68
- Kaputa, C. (2005). *U R a brand! How smart people brand themselves for business success*. Mountain View, CA: Davis-Black Publishing
- Keller, K. L. (2006). Branding and Brand Equity. *Handbook of Marketing*. B. Weitz and R. Wensley. London, Sage: 151-178

- Khedher, M. (2014). Personal branding phenomenon. *International Journal of Information, Business and Management*, 6, 29–40.
- Liu, R. & Suh, A. (2017). Self – branding on Social Media: An Analysis of Style Bloggers on Instagram. 4th Information Systems International Conference 2017, Bali, Indonesia.
- McNally, D., & Speak, K. D. (2003). *Sea su propia marca destacando entre la multitud*. Barcelona: Gestión 2000
- Pérez Ortega, A. (2008). *Marca personal. Cómo convertirse en la opción preferente*. Madrid: ESIC Editorial.
- Peters, T. (1997). *The Brand Called You*. (Online). (Cit. 2016-03-12). Available at: <http://www.fastcompany.com/28905/brand-called-you>.
- Petruca, I. (2016). Personal branding through social media. *International Journal of Communication Research*, 6 (4), 389 – 392.
- Schwabel, D. (2009a, April). How to build your personal brand on Facebook. Mashable. Retrieved from <http://mashable.com/2009/04/02/facebook-personal-brand/>
- Shaker, F. & Hafiz, R. (2014). Personal branding in online platform. *Global Disclosure of Economics and Business*, Volume 3, No 3/2014 ISSN 2305-9168(p); 2307-9592(e)
- Schau, H. J. & Gilly, M.C. (2003, December). We are what we post? Self-presentation in personal web space. *Journal of Consumer Research*, 30(3) 385-404.

GENDER DIFFERENCES IN EXPERIENTIAL VALUES COMPONENTS IN AN ONLINE BOOKING CONDITION: INSIGHTS FROM GENERATION

Z

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ABSTRACT

Today experiential value in purchasing conditions is considered a prerequisite for customer satisfaction and patronage, especially in the services sector. This paper presents a research study whose aim is to investigate whether gender differences exist as concerns with respect to experiential values from online accommodation booking. For the aim of this study, a field research (N=970) was carried out with individuals belonging to the Generation Z cohort. Factor analysis confirmed the four components of experiential values, and through t-tests we examined the existence of gender differences, revealing differences in two out of four components of experiential values. Marketing suggestions regarding online booking platforms are offered based on the results of the study.

Keywords: Experiential Values, Generation Z Cohort, Gender Differences, Tourism, Online Booking, Marketing

INTRODUCTION

Previous research (see Li *et al.*, 2017; Papathanassis, 2017; Buhalis, 2003; Buhalis, 1998) attests the impact of technology on the tourism industry, with Hallikainen *et al.* (2018) supporting that every facet of economic business operation has been affected by technological advances due to digital channel adoption in the retail environment.

The intense competition observed in the tourism sector and its focus in an attempt to ultimately decrease costs deriving from services (Vasko & Abraham, 2015) has led the travel and tourism field to have been greatly influenced by technology itself (Kyriakou *et al.*, 2015). Another factor that has played a crucial role in technology adoption by businesses is the diffusion and consumer adoption of new technologies for purchasing purposes (Vendrell-Herrero *et al.*, 2017; Vaško and Abrhám, 2015).

The changes that the digital era and its advanced tools put forward have tremendously impacted the tourism sector, augmenting competition among its key players, and offering new opportunities and

incentives. To be more precise, within the contemporary tourism setting, it is mainly information and resources found online that guide and assist travel planners (Zins, 2007) through web-based booking platforms. These, web-based booking platforms have proved to be particularly popular for prospective tourists (Turban et al., 2008), providing them with a user-friendly and unobstructed medium in making their travel arrangements (Ristova and Maglovski, 2018).

Digital transformation is regarded as the fourth industrial revolution (Lee *et al.*, 2014), comprising of two key dimensions: the digital technologies and the user/consumer experience (Henriette *et al.*, 2016). The last-mentioned construct entails multiple number of dimensions that also consist of experiential components; this concept emerges fundamentally from the interrelation that holds between the consumer and the “object” under examination (Gentile *et al.*, 2007), generating customer added value (Holbrook, 2006). Customer value has been defined by scholars in various ways, with Holbrook (1994) presenting it as “an interactive relativistic preference experience” (p. 27); within this process, where “interactive relativistic” desires mold the core aspects of a given consumption experience (Holbrook, 2006).

In general, individuals’ behavior and tourism- related issues have been already studied extensively, with a great deal of studies concerning the embodiment of technology in the tourism industry (e.g. Pierdicca *et al.*, 2019; Martínez-Ros and Orfila-Sintes, 2009; Buhalis, 1998). While studying the relevant literature, one may encounter a considerable number of past studies emphasizing the interrelation of tourism industry and costumers’ behavior; yet, it is very rare to come across scholarly work that combine the parameters: consumer experiential values and web-based booking in a highly digital era. A critical literature examination of these two aspects yields only a limited number of papers devoted to this combination of factors (see, for instance, Abdullah *et al.*, 2016; Choi, 2015).

As regards gender differences in terms of experiential values during online purchasing, very few studies exist (Hasan, 2010; Andrews *et al.*, 2007); similarly, no prior published article has been identified by the authors of the current research regarding gender differences from experiential values.

It is within this framework that the current work aspires to address gender differences as these are reflected in experiential values related to online accommodation search and booking via web-based platforms, with the focus being placed on the practices and consumer behavior of adults aged 18-23 years old (namely, the Gen Z members). Having been raised in a fully digitalized setting, always having internet and laptops or tablets at their disposal, these individuals are extremely well familiarized with technology and its outcomes (Turner, 2015). As a result, the authors’ fundamental aim in the present study is to satisfactorily address the gaps in the literature presented below, which they have been previously identified:

1. Following Williams and Page (2011), the population sample to be studied in this research comprises consumers who are members of the Greek Gen Z cohort that is people born between 1995–2009. As already highlighted, this generational cohort has been neglected from a tourism-sector perspective and as such, it allows considerable room for future investigation.
2. It focuses on gender differences from an experiential values' approach while conducting online accommodation booking, which has not been studied as to the authors' knowledge.

LITERATURE REVIEW

Value has been considered by scholars for a long time a key element in their examination of consumers' evaluation of services, especially in the area of tourism (Kavoura and Stavrianea, 2016; Tsai and Wang, 2016). Consumers regard value as an outcome from the provision of the service (Hollbrook, 1986; Tsai and Wang, 2016). Without any doubt, service providers who can create value for their consumers can successfully survive in a competitive market.

More recently, the gravity of consumer experience and experiential value has attracted increasing attention in the tourism sector (Pine and Gilmore, 1999; Wu and Liang, 2009; Kim, 2014; Tsai and Wang, 2016). Experiential value is primarily associated with the pleasurable experiences that consumers get through the consumption of a product or service which has additional experiential benefits (Shobeiri *et al.*, 2018). Therefore, brands can better serve the modern consumer needs by offering superior value and experiences (Brakus *et al.*, 2009; Kavoura and Stavrianea, 2016; Shobeiri *et al.*, 2018).

Hollbrook (1994) proposed two dimensions of experiential values. The first dimension consists of the intrinsic versus the extrinsic values of the experience, while the second dimension relates to the active versus reactive sources of a value. The intrinsic value of the experience is based on the feelings that originate from the consumption experience. On the other hand, the extrinsic value of the experience is clearly associated with the utility of the transaction (Mano and Oliver, 1993; Hollbrook, 1994; Tsai and Wang, 2016). The second dimension that Hollbrook initiated is the activity dimension (Hollbrook, 1994; Hanif *et al.*, 2017) where active value refers to the consumer's participation and collaboration with the provider, whereas reactive value is linked to the comprehension and appreciation of the consumption experience (Hollbrook, 1994; Hanif *et al.*, 2017).

Aligned with Hollbrook's two axes, Mathwick *et al.* (2001), proposed four dimensions of experiential value (Tsai and Wang, 2016). According to Mathwick *et al.* (2001), the four dimensions of experiential value include aesthetics, playfulness, service excellence and consumer return on investment. Aesthetics refers to the visual and entertainment appeal of the service performance, such as the design and format, as well as graphics, photography, color, and physical attraction (Mathwick *et al.*, 2001;

Tsai and Wang, 2016). Playfulness is related to the intrinsic joy the consumer receives from the engagement with experiences that may act as a getaway from the everyday obligations and routine (Mathwick *et al.*, 2001). Service excellence relates stems from consumer's evaluation of the quality and expertise that was provided (Mathwick *et al.*, 2001) and encompasses both extrinsic and intrinsic value elements (Mathwick *et al.*, 2001; Tsai and Wang, 2016).

Finally, customer return on investment is associated with the utility, the return that the consumer receives from any given experience, with the encounter being related to the consumer's financial, behavioral, temporal and psychological investment (Mathwick *et al.*, 2001; Tsai and Wang, 2016).

Previous research has proven that experiential values could positively affect customer satisfaction (Lee and Overby, 2004), involvement (Shobeiri *et al.*, 2014), and loyalty intentions (Mathwick *et al.*, 2001; Jeong *et al.*, 2009; Brakus *et al.*, 2009; Choi, 2015; Shobeiri, 2018). However, as mentioned above, limited scholarly work has studied experiential values and web-based booking (Abdullah *et al.*, 2016; Choi, 2015).

Gender differences

Experiential value positively impacts consumers' perceived benefits and behaviors (Schmitt, 1999; Shobeiri, 2018). Female and male consumers, though, perceive in distinct manners the stimuli in this benefit cognition process (Liang *et al.*, 2013). Males and females handle information in a different way when facing cognitive problems which can lead to different purchasing behaviors (Chang, 2007; Liang *et al.*, 2013) due to the different behavior objectives (Elliot, 1993; Liang *et al.*, 2013). For example, men may seem to focus more on establishing a more powerful image whereas females are more sensitive towards the 'sensory stimuli' and experience (Liang *et al.*, 2013).

Prior research on gender differences among users of the Internet supports that females and males hold different perceptions, attitudes and behaviors (Chen and Macredie, 2010). Weiser (2000) argued that there are differences between genders with respect to Internet users as, more specifically, males use it more for entertainment while females use it mostly for communicating with others and looking for information. Veltri *et al.* (2012) supported that there are similarities as well as differences between female and male online gaming users, while Zhou *et al.* (2011) supported that there are gender differences between users of virtual word sites, as females tend to use them more for purchasing and researching, contrary to men who care more about using them for profit making. Similarly, Choi *et al.* (2012) found that females seek more than males for information in virtual environments; on the other hand, Hassouneh and Brengman (2014) supported that females are more motivated by escapism. Nevertheless, Islam and Rahman (2017) found that no differences can be attested across genders in terms of online brand communities' characteristics. The findings mentioned above lead to the indication that genders may perceive differently experiential value dimensions.

As far as gender differences in terms of experiential values during online purchasing are concerned, very few studies exist (Hasan, 2010; Andrews *et al.*, 2007). It is along these lines that this paper suggests that there are gender differences in terms of experiential values dimensions towards the e-booking, with our research hypotheses being cited below:

H1: There are differences between genders in terms of the aesthetics dimension of experiential value of the e-booking platform.

H2: There are differences between genders as far as the playfulness dimension of experiential value of the e-booking platform is concerned.

H3: There are differences between genders in the service excellence dimension of experiential value of the e-booking platform.

H4: There are differences between genders with respect to the return on investment dimension of experiential value of the e-booking platform.

METHODOLOGY

The current study was performed on three stages. In the first axon an in-depth literature review on experiential values, online booking and the Generation Z (Gen Z) cohort took place, together with the formulation of the survey questionnaire. The questionnaire for this study was adopted from a study conducted by Shobeiri *et al.* (2018) on experiential values (components of aesthetics, playfulness, customer return on investment, and service excellence) and online shopping (where items were rated on a 7-point Likert scale). On the second axon, a pilot-test of the questionnaire was conducted to guarantee functionality and face validity (Kent, 1993) via 135 university students who provided real-time feedback following their participation. Lastly, in the third stage, the field research was implemented with the internet as its distribution channel. A non-probability sampling method that combined criteria, convenience, and snowball sampling was utilized. The criterion for subjects' participating was that respondents should belong to the Greek Gen Z cohort. Researchers invited their students and friends to visit the Facebook page (i.e. the account opened specifically for this purpose), and to answer the questionnaire provided through the corresponding link; participants were also encouraged to forward the link to people they know that were also members of the Greek Gen Z cohort. By this manner, a total of 970 questionnaires appropriate for analysis were collected. The subsequent analysis included: descriptive statistics, reliability, factor analysis and t-tests.

RESULTS

Test of Reliability and Confirmatory Factor Analysis

A second-order confirmatory factor analysis (CFA) was performed at first, demonstrating a good fit for the experiential values scale and all items exhibited acceptable loadings ($\chi^2 = 32.848$; $p < .001$; AGFI = .919; TLI = .951; CFI = .983). The components of the experiential scale were also tested for internal consistency (reliability, convergent and discriminant validity). Cronbach's alpha in all cases was $> .80$ (Aesthetics: $\alpha = 0.90$; Playfulness: $\alpha = 0.92$; Customer Return on Investment: $\alpha = 0.90$; and Service Excellence: $\alpha = 0.82$), indicating adequate internal consistency reliability (Nunnally, 1978). Additionally, convergent validity was tested by calculating the Average Variance Extracted (AVE) for every factor (Table 1), which should be above the threshold of 0.5. The results of the analysis indicated that AVE for all factors is above .70 (AVE $> .70$), thus, confirming established convergent validity (Fornell and Larcker, 1981). Discriminant validity was examined by comparing the square root of AVE of each factor (Table 1) with the correlations of the factor with all other factors (Fornell and Larcker, 1981). In Table 1, the Square root of AVE is on diagonal (Bold), and the correlations among factors are off-diagonal.

Parameter	AVE	Aesthetics	Playfulness	Customer Return of Investment	Service Excellence
Aesthetics	0.72	0.85			
Playfulness	0.71	0.61	0.84		
Customer Return of Investment	0.76	0.59	0.54	0.87	
Service Excellence	0.85	0.63	0.65	0.69	0.92

Table 1; *Convergent and discriminant validity tests*

Components of experiential values

Table 2 presents percentages and mean scores (MS) from the components of experiential values as regards the Gen Z cohort. The results reveal that the Gen Z cohort is more favourable towards the *Aesthetics* of the online booking platform that they use, compared to any other component consisting of experiential values. As to the *Aesthetics* component of experiential values, three out of five items have MS > 5.00 , revealing that the Gen Z cohort agrees to some extent to these statements. As regards the components *Playfulness* and *Service excellence*, no item was rated with a MS > 5.00 , while in terms of the component *Customers Return on Investment*, one item was rated with MS > 5.00 . Lastly, it should be pointed out that the items with the lowest MS are linked to the *Playfulness* component of experiential value.

Components/ statements	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	6 (%)	7 (%)	MS
Aesthetics								
The way the online booking platform displays its products is attractive	4.0	5.1	4.2	13.2	18.7	35.6	19.3	5.21
The online booking platform's Internet site is aesthetically appealing	3.9	4.9	5.8	13.9	24.5	32.2	14.7	5.06
I like the way the online booking platform's Internet site looks	3.3	5.1	7.2	15.4	22.9	29.0	17.2	5.05
I think the online booking platform's Internet site is very entertaining	5.4	9.2	9.9	26.2	23.8	15.3	10.3	4.41
The enthusiasm of the online booking platform's Internet site is catching, it picks me up	10.2	11.1	16.2	22.8	19.9	12.4	7.4	3.98
Playfulness								
Shopping from the online booking platform's Internet site "gets me away from it all".	11.8	11.0	12.6	20.3	18.0	15.6	10.7	4.11
Shopping from the online booking platform makes me feel like I am in another world.	12.8	13.2	14.8	21.0	17.8	12.2	8.1	3.87
I get so involved when i shop from the online booking platform that I forget everything	20.8	14.2	13.8	19.8	15.4	10.2	5.8	3.48
I enjoy shopping from the online booking platform's internet site for its own sake, not just for the items I may have purchased.	18.5	14.0	13.3	18.8	17.4	10.1	7.9	3.65
I shop from the online booking platform's internet site for the pure enjoyment of it	20.5	13.3	15.1	16.9	15.5	11.5	7.2	3.57
Customers return on investment (CROI)								
Shopping from the online booking platform is an efficient way to manage my time	8.1	8.8	9.3	15.4	20.8	20.3	17.3	4.62
Shopping from the online booking platform's Internet site makes my life	4.8	6.9	6.9	14.5	20.1	24.2	22.5	5.01

easier								
Shopping from the online booking platform's Internet site fits with my schedule	5.1	7.2	10.1	19.1	20.0	23.1	15.5	4.73
Service excellence								
When I think of the online booking platform, I think of excellence	7.3	9.7	11.6	21.1	21.8	19.2	9.3	4.35
I think of the online booking platform as an expert in the merchandise it offers.	6.1	8.1	11.1	19.5	24.3	19.7	11.1	4.51

Table 2: Percentages and Mean Scores of the component ratings of experiential value

Gender differences

Gender differences of experiential values were explored using t-tests for independent samples (SPSS ver. 25) with regards the constructs comprising it, i.e., aesthetics (A), playfulness (PL), customer return on investment (CROI) and service excellence- SE (Table 3 and Table 4).

Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean
MFS_A	Man	406	4.6438	1.41077	.07002
	Woman	564	4.8124	1.28825	.05425
MFS_PL	Man	406	3.6808	1.68114	.08343
	Woman	564	3.7777	1.57236	.06621
MFS_CROI	Man	406	4.6174	1.63225	.08101
	Woman	564	4.9072	1.56103	.06573
MFS_SE	Man	406	4.2919	1.59912	.07936
	Woman	564	4.5328	1.49727	.06305

Table 3: Group statistics of gender of the components of experiential values

The t-tests unveiled that for two out of four constructs of experiential values gender differences do exist, while one more can be marginally considered too. Specifically, as regards the aesthetics component (A) of experiential values, the t-test showed that the results may be considered as statistically different on a marginal level ($F=3.818$; $p=0.051$), thus women experience higher value from the aesthetic components as compared to men.

Referring to the playfulness (PL) component, results indicate that gender differences do exist ($F=3.983$; $p=0.046$), with women experiencing higher value from the playfulness component in comparison to men.

In relation to the customer return on investment (CROI) component, results demonstrate that the null hypothesis is accepted revealing no statistical differences between genders ($F=1.689$; $p=0.194$).

Lastly, with respect to the service excellence (SE) component of experiential values, results reveal that the null hypothesis is rejected and that the two genders differ in experiential values ($F=4.342$; $p=0.037$).

Dimensions of experiential value		t-test for Equality of Means						
		t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
MFS_A	Equal variances assumed	-1.932	968	.054	-.16857	.08727	-.33983	.00269
	Equal variances not assumed	-1.903	823.650	.057	-.16857	.08857	-.34242	.00528
MFS_PL	Equal variances assumed	-.919	968	.358	-.09687	.10536	-.30363	.10988
	Equal variances not assumed	-.909	836.928	.363	-.09687	.10651	-.30593	.11219
MFS_CROI	Equal variances assumed	-2.798	968	.005	-.28980	.10356	-.49304	-.08657
	Equal variances not assumed	-2.778	849.094	.006	-.28980	.10432	-.49456	-.08505
MFS_SE	Equal variances assumed	-2.403	968	.016	-.24093	.10028	-.43772	-.04414
	Equal variances not assumed	-2.377	837.525	.018	-.24093	.10136	-.43987	-.04198

Table 4: *Independent Samples Test*

DISCUSSION

The current study offers significant findings that can help researchers develop a better understanding of gender differences on the experiential values of the Gen-Z cohort towards e-booking travel platforms. First of all, it becomes apparent that the Gen Z cohort tourists hold in high regard the acquisition of experiential values from the use of the platform. Results made evident that, though, that young men and women show distinct in regard to three out of four dimensions of the experiential values construct. These findings are aligned with previous studies (e.g. Choi *et al.*, 2012; Hassuneh and Bergman, 2014) that reported gender differences between Internet users and users of online gaming environments. As anticipated, women appreciate more the aesthetics dimension of experiential value, since they are more sensitive to sensory stimuli (Liang *et al.*, 2013). In alignment to previous research, women also tend to appreciate higher than men the escapism element (Hassuneh and Bergman, 2014) which can be associated with the playfulness dimension of the experiential value. Furthermore, service excellence from the online booking platform constitutes a key element that adds value to female consumers. Contrary to our expectations, both genders highly regard the customer return on investment parameter of experiential values, since no gender differences were found in relation to this aspect.

In addition to its contribution to the academic research, this study also offers valuable information and managerial suggestions for online travel businesses and tourism organizations. Today's marketers' function in a more targeted manner and need in-depth information about generation Z, namely the youngest adult generation. Elements such as aesthetics, playfulness, service excellence and return on investment offer value to this generational cohort and, therefore, businesses and organizations' online marketing channels should sharpen their strategies and tactics taking into consideration gender preferences as well.

Online travel services could benefit from the findings of the present study accommodating the information provided on how to ameliorate the experience of these young tourist-customers in their strategy and, consequently, reinforce consumers' visits to their e-booking platforms. The latter is of utmost importance, especially for Gen Z an understudied generational cohort which comprises the main stream of the youngest adult customers of today and the near future.

LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The study presented here has certain limitations that could be used as drivers of future research, with three of these limitations being the most dominant. The first one is that it encompasses an online data collection method, thus it incorporates a non-probability sampling method. Consequently, the results of this research cannot be generalized onto the total Greek Gen Z cohort, and a future research that would be employing a probability sampling method could lead to generalization of current results. The second limitation of this study is that it is limited to one generational cohort and, thus, it does not incorporate a wide range of age-spans and cohorts. And last, this study is based on Shobeiri *et al.*'s (2018) questionnaire measuring experiential values, implying that more constructs may be that measure experiential values from online booking platforms, which are not examined here. Therefore, a research with probable new or additional constructs would be of interest adding enriched knowledge to this cohort's consumer behaviour.

Despite the limitations mentioned above, its contribution is essential in providing information on tourism behaviour as it engages the Gen Z cohort, which continues to be an understudied cohort.

REFERENCES

- Abdullah, D., Jayaraman, K. and Kamal, S.B.M. (2016), "A Conceptual Model of Interactive Hotel Website: The Role of Perceived Website Interactivity and Customer Perceived Value Toward Website Revisit Intention", *Procedia Economics and Finance*, Vol. 37, pp. 170–175.
- Andrews, L., Kiel, G., Drennan, J., Boyle, M.V. and Weerawardena, J. (2007), "Gendered perceptions of experiential value in using web-based retail channels", *European Journal of Marketing*, Vol. 41 No. 5, pp. 640–658.
- Brakus, J.J., Schmitt, B.H. and Zarantonello, L. (2009), "Brand Experience: What is It? How is it Measured? Does it Affect Loyalty?", *Journal of Marketing*, Vol. 73 No. 3, pp. 52–68.

- Buhalis, D. (1998), "Strategic use of information technologies in the tourism industry", *Tourism Management*, Vol. 19 No. 5, pp. 409–421.
- Buhalis, D. and Amaranggana, A. (2013), "Smart Tourism Destinations", in Xiang, Z. and Tussyadiah, I. (Ed.), *Information and Communication Technologies in Tourism 2014*, Springer International Publishing, pp. 553–564.
- Buhalis, D. and Law, R. (2008), "Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research", *Tourism Management*, Vol. 29 No. 4, pp. 609–623.
- Chang, C. (2007), "The Relative Effectiveness of Comparative and Noncomparative Advertising: Evidence for Gender Differences in Information-Processing Strategies", *Journal of Advertising*, Vol. 36 No. 1, pp. 21–35.
- Chen, S.Y. and Macredie, R. (2010), "Web-based interaction: A review of three important human factors", *International Journal of Information Management*, Vol. 30 No. 5, pp. 379–387.
- Choi, G., Chung, H. and Kim, Y. (2012), "Are Stereotypes Relative to Gender Usage Applicable to Virtual Worlds?", *International Journal of Human-Computer Interaction*, Vol. 28 No. 6, pp. 399–405.
- Choi, S. (2015), *Understanding roles of experiential value and perceived switching drivers on travelers' loyalty: an empirical study of third-party travel websites*, Unpublished Doctoral Dissertation. Kansas: Kansas State University. Available at: <https://krex.k-state.edu/dspace/bitstream/handle/2097/20412/SooyoungChoi2015.pdf?sequence=3&isAllowed=y> (Accessed: 12 January 2019).
- Elliot, S. (1993), "Gender and the psychological meaning of brands", in Costa, J. A. (Ed.) *Gender and Consumer Behavior*, University of Utah Press, Salt Lake City, Utah, pp. 156–168.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error", *Journal of Marketing Research*, Vol. 18 No. 1, pp. 39–50.
- Gentile, C., Spiller, N. and Noci, G. (2007), "How to Sustain the Customer Experience:", *European Management Journal*, Vol. 25 No. 5, pp. 395–410.
- Hallikainen, H., Alamäki, A. and Laukkanen, T. (2018), "Individual preferences of digital touchpoints: A latent class analysis", *Journal of Retailing and Consumer Services* Available at: [10.1016/j.jretconser.2018.07.014](https://doi.org/10.1016/j.jretconser.2018.07.014) (Accessed: 3 May 2019).
- Hanif, H., Wan Khairuzzaman, W. and Norshidah, M. (2017), *Acceptance of Hedonic Technology: The Case of Mobile-Game Application Towards Industry Excellence: The Application of Technology and Innovation*, Universiti Teknologi Malaysia, Skudai, Malaysia.
- Hasan, B. (2010), "Exploring gender differences in online shopping attitude", *Computers in Human Behavior*, Vol. 26 No. 4, pp. 597–601.
- Hassouneh, D. and Brengman, M. (2014), "A motivation-based typology of social virtual world users", *Computers in Human Behavior*, Vol. 33, pp. 330–338.
- Henriette, E., Feki, M. and Boughzala, I. (2016), "Digital transformation challenges", in *Proceedings of the Mediterranean Conference on Information Systems (MCIS)*, pp. 33. Available at: <https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1033&context=mcis2016> (Accessed: 17 January 2019).
- Holbrook, M.B. (1994), "The nature of customer value: an axiology of services in the consumption experience", *Service quality: New directions in theory and practice*, Vol. 21, pp. 21–71.
- Holbrook, M.B. (2006), "Consumption experience, customer value, and subjective personal introspection: An illustrative photographic essay", *Journal of Business Research*, Vol. 59 No. 6, pp. 714–725.
- Islam, J.U. and Rahman, Z. (2017), "The impact of online brand community characteristics on customer engagement: An application of Stimulus-Organism-Response paradigm", *Telematics and Informatics*, Vol. 34 No. 4, pp. 96–109.
- Kamenidou, I.C., Mamalis, S.A. and Dimitriadis, E. (2018), "Generation Z Perceptions of Quality Certification: A Cross-National Study", *International Journal of Food and Beverage Manufacturing and Business Models*, Vol. 3 No. 1, pp. 23–41.
- Kamenidou, I.C., Mamalis, S.A., Pavlidis, S. and Bara, E.Z. (2019), "Segmenting the Generation Z Cohort University Students Based on Sustainable Food Consumption Behavior: A Preliminary Study", *Sustainability*, Vol. 11 No. 3, p. 837.
- Kavoura, A. and Stavrianea, A. (2016), "A brand experiences" conceptual model for visitors" attitudinal loyalty", *Tourismos*, Vol. 11 No. 4, pp. 1–21.
- Kent, R. (1993), *Marketing Research in Action*, Routledge, London, UK.
- Kyriakou, D., Mpregkou, M., Grigoriou, I., Blanas, N., Belias, D. and Koustelios, A. (2015), "Rethinking of experiential tourism through Social Media: Could Greece keep up the pace?", in *Proceedings of the 10th MIBES Conference*, Larisa, Greece, pp. 281–293. Available at: <http://mibes.teilar.gr/proceedings/2015/19.%20Kyriakou%20D,%20Mpregkou%20M,%20Blanas%20N,%20Belias%20D,%20Koustelios%20A.pdf> (Accessed: 15 January 2019).

- Lee, E.J. and Overby, J.W. (2004), "Creating value for online shoppers: Implications for satisfaction and loyalty", *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, Vol. 17, pp. 54–67.
- Lee, H., Chen, K.L. and Yang, J. (2014), "The implications of big data for the enterprise system for small businesses", in *Proceedings of DYNAA*, Vol. 5 No. 1, pp. 38–42. Available at: <http://clcloud.com/dynaa2014/papers/P001DYNAA2014.pdf> (Accessed: 1 October 2019).
- Li, L., Peng, M., Jiang, N. and Law, R. (2017), "An empirical study on the influence of economy hotel website quality on online booking intentions", *International Journal of Hospitality Management*, Vol. 63, pp. 1–10.
- Liang, J.-L., Chen, Y.-Y., Duan, Y.-S. and Ni, J.-J. (2013), "Gender differences in the relationship between experiential marketing and purchase intention", *Journal of International Management Studies*, Vol. 8 No. 1, pp. 10–19.
- Mano, H. and Oliver, R.L. (1993), "Assessing the Dimensionality and Structure of the Consumption Experience: Evaluation, Feeling, and Satisfaction", *Journal of Consumer Research*, Vol. 20 No. 3, p. 451.
- Martínez-Ros, E., and Orfila-Sintes, F. (2009), "Innovation activity in the hotel industry". *Technovation*, Vol. 29, No. 9, pp. 632–641.
- Mathwick, C., Malhotra, N. and Rigdon, E. (2001), "Experiential value: conceptualization, measurement and application in the catalog and Internet shopping environment", *Journal of Retailing*, Vol. 77 No. 1, pp. 39–56.
- Mohseni, S., Jayashree, S., Rezaei, S., Kasim, A. and Okumus, F. (2018), "Attracting tourists to travel companies" websites: the structural relationship between website brand, personal value, shopping experience, perceived risk and purchase intention", *Current Issues in Tourism*, Vol. 21 No. 6, pp. 616–645.
- Nunnally, J. (1978), *Psychometric theory*. 2nd edn, McGraw-Hill, Hillsdale, New Jersey.
- Papathanassis, A. (2017), "R-Tourism: Introducing the Potential Impact of Robotics and Service Automation in Tourism.", *Ovidius University Annals, Series Economic Sciences*, Vol. 17 No. 1, pp. 211–216.
- Pierdicca, R., Paolanti, M. and Frontoni, E. (2019), "eTourism: ICT and its role for tourism management", *Journal of Hospitality and Tourism Technology*, Vol. 10 No. 1, pp. 90–106.
- Pine, B.J. and Gilmore, J.H. (1999), *The experience economy: work is theatre & every business a stage*, Harvard Business Press, Boston.
- Priporas, C.-V., Stylos, N. and Fotiadis, A.K. (2017), "Generation Z consumers' expectations of interactions in smart retailing: A future agenda", *Computers in Human Behavior*, Vol. 77, pp. 374–381.
- Ristova, C. and Maglovski, A. (2018), "Transforming hospitality in the digital era, factor for competitiveness in the tourist destination", in *Proceedings of the 7th International Congress HOTELPLAN, Belgrade, Serbia*, pp. 693–700. Available at: <http://eprints.ugd.edu.mk/21478/1/Transforming%20hospitality%20in%20the%20digital%20era%2C%20factor%20for%20competitiveness%20in%20the%20tourist%20destination.pdf> (Accessed: 1 October 2019).
- Shobeiri, S., Laroche, M. and Mazaheri, E. (2013), "Shaping e-retailer's website personality: The importance of experiential marketing", *Journal of Retailing and Consumer Services*, Vol. 20 No. 1, pp. 102–110.
- Shobeiri, S., Mazaheri, E. and Laroche, M. (2014), "Improving customer website involvement through experiential marketing", *The Service Industries Journal*, Vol. 34 No. 11, pp. 885–900.
- Shobeiri, S., Mazaheri, E. and Laroche, M. (2018), "Creating the right customer experience online: The influence of culture", *Journal of Marketing Communications*, Vol. 24 No. 3, pp. 270–290.
- Singh, S.N., Dalal, N. and Spears, N. (2005), "Understanding Web home page perception", *European Journal of Information Systems*, Vol. 14 No. 3, pp. 288–302.
- Tsai, C.-T. (Simon) and Wang, Y.-C. (2017), "Experiential value in branding food tourism", *Journal of Destination Marketing & Management*, Vol. 6 No. 1, pp. 56–65.
- Turban, E., King, D., McKay, J., Marshall, P., Lee, J. and Viehland, D. (2008), *Electronic commerce 2008: A managerial perspective*, 5th edn, Pearson Prentice Hall, Upper Saddle River, New Jersey.
- Turner, A. (2015), "Generation Z: Technology and Social Interest", *The Journal of Individual Psychology*, Vol. 71 No. 2, pp. 103–113.
- Vaško, M. and Abrahám, J. (2015), "Issues of secure and sustainable e-tourism: Case of the Czech Republic", *Journal of Security & Sustainability Issues*, Vol. 5 No. 2, pp. 137–148.
- Veltri, N., Krasnova, H., Baumann, A. and Kalayamthanam, N. (2014), "Gender differences in online gaming: a literature review", in *Proceedings of Twentieth Americas Conference on Information Systems, Savannah*.
- Vendrell-Herrero, F., Bustinza, O.F., Parry, G. and Georgantzis, N. (2017), "Servitization, digitization and supply chain interdependency", *Industrial Marketing Management*, Vol. 60, pp. 69–81.
- Visser, W. (2007), "Corporate social responsibility in developing countries", in Crane, A., McWilliams, A. and Matten, D. (Ed.) *The Oxford handbook of corporate social responsibility*, Oxford University Press, Oxford, pp. 473–499.

- Williams, K. and Page, R. (2011), "Marketing to the Generations", *Journal of Behavioral Studies in Business*, Vol. 3, pp. 1–17.
- Wu, C.H.-J. and Liang, R.-D. (2009), "Effect of experiential value on customer satisfaction with service encounters in luxury-hotel restaurants", *International Journal of Hospitality Management*, Vol. 28 No. 4, pp. 586–593.
- Xiang, Z., Magnini, V.P. and Fesenmaier, D.R. (2015) "Information technology and consumer behavior in travel and tourism: Insights from travel planning using the internet", *Journal of Retailing and Consumer Services*, Vol. 22, pp. 244–249.
- Zhou, Z., Jin, X.-L., Vogel, D.R., Fang, Y. and Chen, X. (2011) "Individual motivations and demographic differences in social virtual world uses: An exploratory investigation in Second Life", *International Journal of Information Management*, Vol. 31 No. 3, pp. 261–271.

SCHOOL MEDICINE–THE PREVENTION KERNEL FOR FUTURE GENERATIONS' HEALTH

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ABSTRACT

Health is both a complex concept and a state, partially understood, lately recognized, and underestimated in the life cycle of the human being. The adaptation to reality of modern society is often done by ignoring the basic of knowledge and value – the grounds of education gathered in family, school or church. The lack of self-interest in own person, caused by low education, lack of well-being and limited incomes inside the family, is a harmful attitude finding its deep roots in frustration, unhappiness, low self-esteem, lack of access to correct and valuable health information, in illness or specific consequences of it. This general attitude is granted today as a national security issue linked to dramatic consequences requiring economic, social, demographic strategies in any country. To increase life expectancy and possibility of work, a preventative educational-sanitary management is needed, based on a sustainable development and supported by actions meant to: reconsider the types of care in favor of the primary one, implement preventative school health education under long-lasting monitoring and durable evaluation, outpatient treatment, reduction of hospitalization expenses, development of healthcare, education and nutrition.

The medical act needs radicalization by raising awareness on individual and societal supreme values, by targeting realistically the needs, monitoring activities and developing the coordinates of true diagnosis, investigation and treatment.

The present research brings up the realistic situation together with potential future dramatic consequences if immediate measures, such those indicated here, will not be considered and taken at once.

Keywords: scholar medicine; governance; nutrition; management; health establishments.

FORWARD INTO GENERAL CONCEPTS OF HEALTH

Health continues to be considered the most valuable gift received by man from nature, the foundation of a harmonious life and full of opportunities. Its loss is perceived as a major damage to both the individual and society [Clark *et al*, 1997]. Unfortunatley, people appreciate more the material values

and the accumulation of richness and less the value of their own health, until its deterioration becomes material, financial, physical, and emotional. Most of them become too late aware of the real situation when are obliged to face the consequences of serious diagnoses limiting their body and mind good functionality. The drama is even greater when adults ignore the consequences of losing their children's health by failing to observe the basic living conditions, behavior, work, attitude towards the others inside the community. The paradox has general roots – despite the science progress, the dissemination of good knowledge in the health field is rather sporadic, lacunar and especially without scientific basis. The lack of health education is always tightly linked to poor education or school drop out because school and healthcare are the pillars that mark the durable development of any individual and society.

People hardly know that there are diseases related to no prior symptoms. Thus, many young mothers do not realize the consequences of a disordered life – over-eating, smoking, over drinking coffee and alcohol, work exhaustion - determine their future children's health and contribute decisively to their body balance and mind consonance for the rest of their lives. It is more and more common to give birth to or grow up children with chronic illnesses, cardiac malformations or other rare diseases because human bodies usually adapt bivectorally to the socio-environmental realities. Cardiac abnormalities arise from heart or blood vessels normal development associated with: • possible contracting infections in the third trimester of pregnancy, • consumption of exciting products - drugs, coffee, cigarettes and alcohol throughout the pregnancy. Once diseases appeared, they require expensive treatments and long-life monitoring and expensive operations. The path of life is often shortened by diseases caused by negligence in eating.

Increasing school dropout deprives young people of the knowledge of food management. The development of fast and junk food technologies and innovations shows that people are already prisoners of the copy-paste behavior because they do not know how, what and how to eat. More and more live to eat and not eat to live. The cases of obesity increase in number and complications and, worryingly, they catch more children, adolescents and students than seniors. The golden age of consumerism completely altered the young people's behaviours. The youth get accustomed to eating more tasty stuff than healthy. They prefer fast food restaurants, cafes and bars to classical places with physical entertainment, proactive education and outdoor sports. They give up the fruits and vegetables for technological products - the first enemies of obesity. Few know that obesity can lead to the dramatic conditions of health: abdominal hernia, varicose veins, flat foot, bronchitis, hypertension, diabetes, hypercholesterolemia, heart disease.

Today it is known that most chronic diseases are due to sedentariness and a passive lifestyle: too much food, drink, smoking and too little movement followed by an inappropriate approach of social

and working relationships are the pillars of a bad time management, inadequate professional activity and deficient institutional relationships.

In the absence of the job security, the effort to increase family income is directly proportional to the rise of the negative effects of non-observance of sleep hours, neglect of a scientific nutrition, which ultimately leads to losses.

When strategic management is drifting away, it is no longer built by clinical, community-based corporate participation. In this situation, performance is calculated in net profit and dollars or euros that only enter a few pockets; the consequences - at the individual, institutional and societal level [Tarlov *et al*, 1989] take over the illusory curve of the moment gain that departs from the fundamental values characteristic of the human being. Also, at the societal level funds for education and health are decreasing, consumption of cheap and unhealthy products exponentially increases in parallel with the number of diseases and patients. The general health status of individuals, built on societal hate and envy degrades if inhabitants do not decide to leave the country and go to places where the supervietuere effort can be even higher than in the country but the effects of high self-esteem and recognition compensate it.

In order to increase life expectancy and the possibility to work, the curve of sustainable development must take a completely different aspect built on: preventive monitoring, outpatient treatment, reduction of hospitalization's costs in establishments, switch on care function through healthcare, education, nutrition. In other words, the medical act should be radicalized by focusing on real needs, through permanent monitoring and development of true diagnosis, investigation and treatment coordinates [Watson *et al*, 2013].

The complete definition of concept of health is an integrated part of health policies, executive strategy designed to contribute to improving the health of the population, and of all management programs. The national state of health manifests itself under the influence of the health determinants - which can be modified to improve the scores of a good life together with those factors cross-sectorally controlled by sectoral policies. Intersectorial action on health is considered essential to achieving equity in health keeping in mind that progress depends on aggregated decisions and correlated actions.

THE EDIFICE OF SUSTAINABLE HEALTH

DECISION- MAKING
POLITICAL POLICY-MAKING
SCHOOL AND MEDICAL POLICY INTEGRATIVE IMPLEMENTATION

Medical Authorities
Medical & Non-Medical Staffs, Operational Evaluation, Assessment, Logistics
Patients, Potential Patients
Family, Social Groups, Church
Town Hall, NGOs, Voluntaries
Nursery, Kindergardens, Primary, Secondary Schools, Lycees, Universities, Professional Schools, Companies, Centers of Professional

Source: Larisa Mihoreanu PhD Thesis on Health Management

The determinants of health [Crespo *et al*, 1996] refer to factors proven to have a good or bad influence on health. Health determinants include the social, economic and physical environment, as well as the particular characteristics of the individual and the behaviors [Crespo *et al*, 1996]. Social and economic conditions - such as poverty, social exclusion and unemployment - are strongly correlated with health. These contribute to health inequalities, explaining why people living in poverty die earlier and get sicker than people living in good living conditions [McQueen *et al*, 2012]. Socially privileged health factors can be understood as better social conditions in which people live and work. These determinants indicate the specific characteristics of the social context that affect health and the ways in which social conditions translate into impact on health. According to the WHO official definition, "health is a state of physical, mental and social well-being, not just the absence of disease or infirmity."

DIRECTIONS OF ACTIONS TO STRENGTHENING HEALTH REPUTATION WITHIN SCHOOL CARE PARTNERING

In the context of its promotion, health is seen as a resource for everyday life. [Cox *et al*, 1987] It is a positive concept highlighting social and personal resources as well as physical capabilities.

Promoting health is the process of enabling individuals and communities to increase control over the determinants of health and therefore improve their health [Cox *et al*, 1987]. This is a strategy in the field of mental, physical and social health, which can be seen on the one hand as a political strategy and, on the other hand, as an approach that makes it possible to straighten the lifestyle for the benefit of health. The health sector includes ministries and departments, health and safety social security systems, volunteer organizations and individuals, as well as groups that provide health services.

Health, by itself, is also a national resource of strategic value because the future of any country is based on the health of its future generations. By joining the European Union, it becomes a strategic

area of regional importance, part of the security and health strategy that our country has joined. As strategic progress, health needs good governance.

The concept was imposed in the economy at the beginning of the 19th century. Nowadays it has also existed in the area of medical business and sanitary management (clinical governance). With him he identified the need for the management decision to be combined with the medical decision so that the bank exploits the risk mitigation effect and social, institutional and human profit by meeting all the specific operational and sectoral requirements and ensuring social cohesion, coherence economic and financial, harmonization of requirements with the rehabilitation and possibilities of local sanitary logistics.

The adoption of the European Union's strategy on health and safety at work has as strategic objectives:

- the global approach to well-being at work by taking into account changes in the world of work and the emergence of new risks, with the aim of increasing the quality of work, reducing the number of accidents at work and preventing occupational diseases;
- taking account of demographic change in terms of risks, changes in employment patterns and contractual arrangements, work organization and working time; analysis of new risks;
- Strengthening a culture of risk prevention by combining a variety of political-legislative instruments, social dialogue, measures and good practices, social responsibility and economic incentives based on building partnerships between health and safety stakeholders:
- education, awareness, anticipation, accentuation of risk awareness and more effective enforcement of existing legislation;
- the existence of an adequate social policy that is a factor in the competitiveness equation, knowing that "non-policy" generates risks.

European countries have made significant gains in population health, but there are still great inequalities in health, both between and within countries.

The Health 2020 concept is based on the values enshrined in the WHO Constitution, which seeks to ensure "the highest standard of health" as the fundamental right of modern man.

As European social states are restructured, there will persist the need for constant vigilance and the active promotion of a policy of true values based on civic rights and attitudes. The idea of assessing the state of health in Romania and identifying ways to re-establish the health policies is an integral part of the central objective of my doctoral research. In this context, the purpose of my research will ultimately be to identify those indicators that reflect the medical and budgetary reality, on the one hand, and the reality of Romanian society on the other.

THE LINK BETWEEN SCHOOL, DIET AND HEALTH

Hippocrates outlined the first the primacy of health food: "give your diet your first medicine". As already stated, the accelerated rhythms of today directed the people to consume more fast-food than traditionally cooked food, use the microwave to heat processed and ready for use products.

Fats, sugars, auxiliaries and dyes, pesticides highly present than ever in processed food are also sources of multiply pathologies: obesity, diabetes, anorexia, bulimia, cancer, depression, Alzheimer's and Parkinson's, cardiovascular disorders, gastric disorders. If people do not become aware of the evil they make themselves, nobody can convince them to take action for their own health. Only true reflection can make transition to a diet that fits our desires, our ethics, our organization and our way of life. The first choice is, above all, to give one time to get information and get advice from professionals. And this can happen in the best way in the nursery, at kindergarden or school, in any place where teachers, mentors, medical assistants and general practitioners are present and ready to share their knowledge with all pupils, students, family and friends.

Frustration and the feeling of having to get rid of what one likes are the greatest obstacles to being healthy. But tastes and flavors are infinite, and a change in habits - reducing fats, salt and sugars - can also lead to upper pleasures to eat, to new and unsuspected physical sensations of well-being. The change comes along with a better quality of sleep, mental and physical balance, and energy found in good nutrition will be valuable allies in this change. Changing diet and food can help discover new cereals and legumes, new flavors, new smells, and new compositions of better quality food. By reducing the amount of meat and dairy products whose consumption is dangerous budget, health and environment, the balance of a better life can be found together with better results in school, study, work and research, with optimistic feelings for life, work, good entertainment and nature because of the emotional roots that one can discover in the high quality food. Foods are closely linked to our emotions. Compulsive disorders Anorexia and bulimia reflect the anxiety and stress of modern society, habits and modes of behavior inappropriate for the needs of individuals; young people are even more fragile.

Diet change is often considered synonymous with frustration, lack, loss of time, excessive cost.

Help and assistance from associate professionals (naturopath, homeopath, acupuncturist) are often needed to crossover the transition period and speed up the finding out the personality of each person in need.

METHODOLOGICAL ANALYSIS OF HORIZON 2020 FRAMEWORK IN COMPARISON WITH THE ROMANIAN STRATEGY

By comparative analysis, the National Health Strategy 2014-2020 is more clearly defined by objectives, mission, vision, goal and basic principles. It represents the commitment of public health decision makers to ensure and promote health as a key determinant of a sustainable development of Romanian society, including socially, territorially and economically, as the engine of progress and prosperity of the nation. The strategy provides the overall framework for intervention to eliminate the identified weaknesses in the health sector by: reducing important health inequalities, optimizing the use of resources in health services in increased cost-effectiveness with evidence-based medicine and, last but not least, to improve administrative capacity and management quality at all levels.

As a European country, Romania has the obligation to align national legislation in the field of health and safety at work; this alignment has begun since 2007 but it has not yet been completed. The data from the extended research refers to the case law developed in the family medicine cabinet, in correlation with the public statistical data.

Interventions have been done in different sectors: • Legislation: Public Health Act (1972, Tobacco control, Changes to some foods, eg blending vegetable oil and butter; • Regulations: public places have been declared tobacco-free areas, the Health Promo Lunch Board was introduced; • Industry: healthy food products have been developed and promoted in collaboration with local authorities, civic organizations, shops, supermarkets and the food industry, low-fat saturation dairy products have been developed and marketed in collaboration with local and national producers, low-salt products have been developed in collaboration with local bakeries and other parties of the food industry, a new type of oil processing plant has been developed that has been effective in lowering cholesterol, a wide-ranging collaboration to promote farms supplying forest fruit products; • Media: raising public awareness of health risks of smoking has been done through media, health services and community organizations, television smoking cessation courses, reduction of serum cholesterol levels, education campaigns for health care has been done using a wide variety of channels including TV, newspapers, care system, schools and volunteer organizations, cholesterol measurements have also been widely used for education purposes, the goal was that everyone should know their cholesterol levels; • Education: home schooling has been done through active collaboration with schools and educational institutions in relation to nutrition education, special emphasis has been put on reducing salt and changing fat content in menus at work, stop smoking has been sustained by organizing smoking cessation courses in local health centers and workplaces, non-smoking prevention programs were organized in schools, wide-scale education activities were conducted on reducing the non-

pharmacological base of blood pressure and reducing cholesterol in the blood by changing diet and physical activity.

CONCLUSION

The medical world today is, beyond its complexity, a complicated puzzle of needs and desires, limited resources and unprivileged laws, structured logistics, and governance in chaos. Today, health clinics are compelled to adhere to the strictest rules of governance, while central administration institutions advocate priorities related to personal or group interests.

Clinical Governance is the tool that stops very professional doctors from deviating from moral rules, from those required by the Code of Ethics and Conduct. Its rules ensure decision-making collegiality that keeps the executives from sin breaking them, with or without their direct will. Well, in Romanian health there is no Clinical Governance. Decisions are taken by those who direct the activity and are not challenged by anyone. It is more expensive to apply rules, it is more expensive to hire councils of independent people, but it is more expensive if we do not. The only difference is related to the costs of establishing rules that are visible, while the damage caused by their non-existence is invisible. Our State Hospitals are owned by the County Councils or by the Mayors. How much would be the effort to create Trust Boards in which members of local communities, business people, members of civil society, teachers, artists, and anyone else could oversee the conduct of a fair and objective activity?

There is, of course, the variant established by the other state companies in which the members of the councils are party members, made to cover what is happening below them. But the key question is how could we set up rules to avoid conflicts of interest as we want to legalize a "threshold" below which they can not be legally investigated? Could the supervisory councils sanction such practices before the courts? Quite unlikely, but it would be a solution. However, such a solution seems to be the first logical step towards a restructuring of the health care system, and a decongestion is absolutely necessary in the onset of a general efficiency of the system. Until then, any good measure will be crushed by local donkeys as long as there are no rules accepted by everyone.

Cultivating health education through changing lifestyles has not only medical but also social, economic and institutional-societal implications that need to be known and deeply implemented [WHO, 2013].

REFERENCES

Clark, F., Azen S.P., Zemke, R., Jackson, J., Carlson, M., Mandel, D., Hay, J., Josephson, K., Cherry, B., Hessel, C., Palmer, J. & Lipson, L., (1997), MD Occupational Therapy for Independent-Living Older Adults A Randomized Controlled Trial, *The Journal of the American Medical Association*, Vol.278(16), pp:1321-1326.

- Crespo, Carlos J., Keteyian, Steven J., Heath, Gregory W. & Sempos, Christopher T., (1996), Leisure-Time Physical Activity Among Us Adults Results From The Third National Health and Nutrition Examination Survey, *Arch Intern Med*, 156(1), pp: 93-98.
- Cox, B.D., Blaxter, M, Buckle, A.L.J., Fenner, N.P., Golding, J.F., Gore, M., Huppert, F.A., Roth, J., Nickson, Sir M.J. Stark, Wadsworth, M.E.J. & Whichelow, M., (1987), *The Health and Lifestyle Survey. Preliminary Report of a Nationwide Survey of the Physical and Mental Health, Attitudes and Lifestyle of a Random Sample of 9,003 British Adults*, Health Promotion Research Trust, London, ISBN: 0951227203.
- Contoyannis, Paul & Jones, Andrew M., (2004), Socio-Economic Status, Health and Lifestyle, *Journal of Health Economics*, Vol. 23, Issue 5, Sept, pp: 965-995.
- de Campbell, T. Colin, (2008), *Le Rapport Campbell*, Ariane Editions, June, ISBN: 978-2896260386.
- Ford, Earl S., Bergmann, Manuela M., Kröger, Janine, Schienkiewitz, Anja, Weikert, Cornelia & Boeing, Heiner, (2009), Healthy Living Is The Best Revenge: Findings From The European Prospective Investigation Into Cancer and Nutrition-Potsdam Study, *Arch Intern Med*, Vol. 169(15), pp: 1355-1362.
- De Groot, L.C., Verheijden, M.W., de Henauw, S., Schroll, M., van Staveren, W.A. & SENECA Investigators, (2004), Lifestyle, Nutritional Status, Health, and Mortality in Elderly People Across Europe: A Review of the Longitudinal Results of the SENECA Study *Oxford Journals Medicine, The Journals of Gerontology: Series A*, Vol. 59, Issue 12, pp: 1277-1284.
- McQueen, David, Matthias Wismar, Vivian Lin, Catherine M. Jones and Maggie Davies, (2012), Intersectoral governance for health in all policies: Structures, actions and experiences, https://www.academia.edu/2114430/Intersectoral_governance_for_health_in_all_policies_Structures_actions_and_experiences
- Pakhlok, O., (2013), The Idea of Healthy Lifestyle and its transformation into Health-Oriented Lifestyle in Contemporary Society, DOI: 10.1177/2158244013500281 SAGE Open.
- Signalet, Jean, dr. (2004), *L'Alimentation ou la 3-eme médecine*, Editions de l'Oeil, collection Ecologie Humaine, 5th eds. ISBN 978-2868398871.
- Tarlov, Alvin R., Ware Jr., John E., Greenfield, Sheldon, Nelson, Eugene C., Perrin, Edward & Zubkoff, Michael, (1989), The Medical Outcomes Study an Application of Methods for Monitoring The Results of Medical Care, *AMA Journal*, Vol. 262(7), pp: 925-930.
- Watson, Lea C., Garrett, Joanne M., Sloane, Philip D., Gruber-Baldini, Ann L. & Zimmerman, Sheryl (2013), Depression In Assisted Living: Results From A Four-State Study, *The American Journal of Geriatric Psychiatry*, Vol. 11, Issue 5, Sept.-Oct., pp: 534-542.
- World Health Organization, (2013), *Research for Universal Health Coverage: World Health Report 2013*, ISBN: 9789241564595.

DYNAMIC CAPABILITIES AS BALANCING: THE INTERPLAY OF ORDINARY CAPABILITIES, SIGNATURE PROCESSES, AND ORGANIZATIONAL IDENTITY

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ABSTRACT

Purpose - In this study, we investigate the still overlooked interplay between the functioning of dynamic capabilities and changes in organizational identity values. Dynamic capabilities' action of orchestrating resources and competences, and consequently organizational routines, can challenge how people define themselves as members of an organization.

Design/methodology/approach – Data on two in-depth qualitative case studies on cooperative companies in the retail and food sectors were collected using interviews and secondary sources (e.g. blogs, presentations).

Findings - Our grounded model shows how dynamic capabilities' action resides in keeping a balance between changes in ordinary capabilities, organizational identity values, and signature processes. These latter represent the idiosyncratic processes of a company that are based on its heritage and past choices.

Originality/value - We contribute to the literature on dynamic capabilities by explaining how they maintain ordinary capabilities, identity values and signature process in a state of dynamic balance to tackle opportunities and threats.

Keywords: dynamic capabilities, organizational identity, signature processes, organizational change, case studies.

DYNAMIC CAPABILITIES ACTION AND ORGANIZATIONAL IDENTITY CONSTRUCTION

Organizations that aim to sustain a capabilities-based advantage in the wake of environmental change (Helfat and Peteraf, 2009) should pursue an evolutionary fit with their environment by continuously morphing resources and competences (e.g., Helfat et al., 2007; Helfat and Peteraf, 2009; Zahra and George, 2002). It is specifically dynamic capabilities that enable firms to sense opportunities and threats in their environment (sensing), seize them with convenient actions (seizing), and transform and reconfigure assets, organizational structures, and routines (Teece and Pisano, 1994; Teece, 2007; Teece et

al., 1997).

A vibrant debate has flourished about their nature and functioning, which has pointed out that they can span from structured routines (Teece et al., 1997; Winter, 2003; Zollo and Winter, 2002), to simpler, experiential sets of action, plain rules, and even rational heuristics (Bingham and Eisenhardt, 2011; Eisenhardt and Martin, 2000). One of the major issues still undergirding the comprehension of dynamic capabilities is related to how they work and how they differ from ordinary capabilities (Arend and Bromiley, 2009). Zollo and Winter (2002) and Winter (2003) theorized that dynamic capabilities act at a high level by altering 'zero-level' set of routines, labelled as ordinary capabilities. In this perspective, however, grasping how dynamic capabilities work and how they act upon ordinary capabilities risks ending up like a set of Chinese boxes in which multiple higher levels can be disclosed, thus rendering the overall framework less and less intelligible (Arend and Bromiley, 2009). Along this line of reasoning, Helfat and Winter (2011) argued that the boundaries between the ordinary and dynamic domains continue being blurred also because the same capability could be categorized as ordinary or dynamic according to its use: it is ordinary if it focuses on preserving the status quo, while it can be dynamic if it alters the firm's ordinary capabilities, resources, or external environment.

More recently, in an attempt to advance the comprehension of how dynamic capabilities work, Teece (2014a, 2014b) proposed a different logic. He suggested that ordinary capabilities be inspired by best practices, whereas dynamic capabilities be rooted in signature processes. These latter are based on a company's heritage, which is made of its past history, managerial decisions, context specific learning, and irreversible investments (Teece, 2014a). For instance, at the Royal Bank of Scotland, the morning meeting between executives to discuss main events and important choices became the manifestation that decision making processes were inspired by the values of respect and accountability that distinguished the bank from its competitors and contributed to its competitive advantage (Gratton and Ghoshal, 2005). Specifically, signature processes 'embody a company's character and signify their idiosyncratic nature' and 'arise from passions and interests *within* the company' (Gratton and Ghoshal, 2005, p. 49). Since signature processes are idiosyncratic, they can make possible to defend the distinctiveness of dynamic capabilities (Teece, 2014b). Consequently, Teece (2014a) suggested that dynamic capabilities grow and change over time under the influence of some core characteristics inherited from the past that are embedded in the organization's history and in its central values, whereas ordinary capabilities are inspired by best practices that can be imported from the outside and are transient in nature. The values underlying signature processes shape dynamic capabilities, which in turn drive the resources and competences that are the building blocks of ordinary capabilities.

The link between dynamic capabilities and the values marked by signature processes calls into question the definition of what the core values of an organization are, and how they are constructed and agreed

upon over time. A fruitful view on the process that leads an organization to define and share core values to be enacted in its signature processes is offered by organizational identity. In a social construction perspective, organizational identity is insiders' common cognitive representation of who they are as an organization, and inspires individual and collective behaviour in the workplace (Gioia et al., 2013, 2014). A few recent studies have alluded or made more explicit reference to the possible relevance of organizational identity in the development of dynamic capabilities. In studying the long and demanding change process that enabled IBM to turn from a hardware to a service provider, Harreld et al. (2007) linked dynamic capabilities to organizational values. The articulate process of strategy insight and strategy execution introduced at IBM, which resonates with the sensing, seizing, and transforming model of dynamic capabilities (Teece (2007), is driven by IBM's values. On a related note, when examining the likelihood of ambidexterity interpreted as a dynamic capability, O'Reilly and Tushman (2008) posited that common vision and values foster both the exploration of emerging markets and the exploitation of mature markets. The above pieces of research, in spite of the different settings investigated and the heterogeneous methods employed, are based on a common assumption: organizational identity may hamper the adaptation of organizations to new environmental conditions and the modification of dynamic capabilities.. Eggers and Kaplan (2013) share this view when they describe the role played by cognitive schemas in interpreting environmental changes and taking strategic decisions. Organizational identity emerges as one of the possible lenses through which managers make comparisons between existing capabilities and environmental needs, mostly preventing them from taking novel actions challenging extant resources and competencies.

This view stands in marked contrast, however, to the perspective on organizational identity emerging from organization studies. Moving from the original definition of organizational identity as the central, distinctive, and enduring values, beliefs, and assumptions of an organization formulated by Albert and Whetten (1985), recent studies have downplayed the feature of enduringness to underline the potential for change of organizational identity over time (Gioia et al., 2013; Nag et al., 2007; Ravasi and Schultz, 2006), up to the point that Gioia et al. (2014) refer to it as 'adaptive instability'. Organizational identity changes can originate externally from environmental changes like competitive pressures, customers' needs, and institutional requirements (Ravasi and Schultz, 2006) as well as internally from discrepancies between current organizational identity and current or future desired image, i.e., how insiders think that outsiders see or would like to see their organization (e.g., Corley and Gioia, 2004; Gioia et al., 2014). When facing changes, in fact, organizational members question the basic features of their organization and engage in a vivid discussion about how and what labels and/or meanings of these features should change over time (Dutton and Dukerich, 1991; Gioia et al., 2013; Nag et al., 2007). The interest that insiders feel for organizational identity changes resonates with the essence of

organizational identity as a guidepost for organizational actions and decisions.

Since organizational identity concerns the core features and values of an organization that inspire individual and collective actions, and dynamic capabilities influence an organization's success, understanding the interplay between changes in organizational identity and the functioning of dynamic capabilities can help us grasp how basic decisions concerning the organization as a whole are intertwined and coevolve. Organizational identity does not necessarily crystallize dynamic capabilities and changes in both can occur in the wake of mutable external conditions, but how changes in organizational identity are connected to changes in dynamic capabilities is not yet well understood. A noteworthy link lies in the signature processes recently highlighted by Teece (2014a): the values deeply characterizing an organization are enacted and reflected in the signature processes that represent the framework for dynamic capabilities functioning. However, in line with the prevailing view on core values in strategic management studies, signature processes are currently deemed as being mostly stable over time and we are not aware of the way any modifications of values may influence how dynamic capabilities work.

As a consequence, tapping into the relationship between changes in organizational identity and dynamic capabilities is an opportunity to enrich our comprehension of how organizations interweave the definition of who they are, their daily actions, and their strategic decisions. Based on these premises, our research aims to provide an answer to the following question: How does organizational identity influence dynamic capabilities, and is in turn influenced?

DATA AND METHODS

Given the exploratory nature of our research question, we conducted a qualitative study based on an exploratory case study and developed a grounded model. Based upon suggestions from the literature and our research question, we looked for an organization that satisfied the following criterion: having coped with some environmental changes, since they are likely to act as threats or opportunities for dynamic capabilities and organizational identity. We first identified the retail industry as a relevant industry: due to the larger economic crisis and the consequent reduction in gross margins, the Italian retail industry had handled a fierce competition with international chains and their aggressive price policies. Second, we selected a top performer in this industry, which we gave the fictitious name of Good Stores. Founded at the end of World War II, Good Stores is one of the biggest cooperative companies operating in the retail distribution in three Italian regions with 111 stores (38 mini-markets, 64 supermarkets, and 9 superstores), and about 6,000 employees. The selection of a cooperative was also inspired by possibility to observe particularly evident and substantial processes related to identity typical of this type of 'non-conventional' and less studied organization (Jussila et al., 2012).

In order to develop our two case studies and follow the interplay between dynamic capabilities and identity over time, we collected and triangulated data from multiple sources (Jick, 1979; Miles and Huberman, 1994): interviews, documents, and online blogs.

As reported in Table 1, we interviewed 20 top and middle managers, employees, and external consultants that had been involved to tackle the decline in performance. Interviewees were asked to comment upon specific topics and questions related to: competitive and organizational situation, threats and opportunities handled, actions undertaken to confront threats and opportunities, new capabilities developed, the core features of their company and if and how they had varied over time, and if and how the routines they participated in had changed over time. We collected also slides and other internal and external documents (e.g. minutes of meetings, reports). Finally, Good Stores' employees run an online blog where they discuss organizational responses to opportunities and threats addressed by their organization. Likewise, a workers' union runs another blog with similar objectives. We collected all the posts and comments from these two blogs. Altogether, documents allowed us to follow longitudinally the main changes that the company faced, how the company communicated its main values internally and externally, and the set of routines that it adopted. Overall, our data collection covered a time span of eight years.

In analysing interviews, documents, and blogs, we adopted the framework described by Strauss and Corbin (1998) for grounded theory and followed a two-step coding process inspired by Bertolotti and Tagliaventi (2007) that allowed us to grasp recursiveness among categories (Clark, Gioia, and Ketchem, 2010). Due to paper length limit, we will reduce quotes to the minimum in the following section.

Category	Use in the analysis	Case A – Good Stores	Case B – Food Express
Interviews with managers, employees, and consultants involved in the change projects	Capture managers and employees' interpretation of organizational changes, new capabilities developed, change in ordinary capabilities and signature processes. Collect interpretations on identity-related issues, and grasp changes to identity attributes.	11 interviews: Visits to two stores during the interviews Follow-up interview with the Head of the Organization Office	20 interviews: Visits to five kitchens during the interviews Follow-up interview with a middle-manager from the Operations Unit
Blogs	Collect anonymous opinions and feedbacks from employees and clients on the changes in the two co-ops,	Employees' blog (1224 posts and 267 comments) Union blog (84 posts, 51 comments)	Employees' and associates' blog (438 posts and 372 comments)

	triangulating information from interviews with longitudinal data.		
Slides and other internal documents	Capture detailed information about organizational changes and new routines introduced into the companies. Triangulate information from interviews.	11 presentations (1473 pages)	9 presentations (294 pages)
Corporate biographies	Gain familiarity with the historical, organizational and strategic context of the two organizations. Collect detailed information on organizational events, decisions, and actions.	Co-op identity and change during years (3 accounts, 173 pp.) Account of company events from an insider top-manager (492 pp.)	Co-op identity and history (2 documents, 773 pp.) Analysis of corporate brand positioning since its constitution in 1945 (188 pp.)
Annual reports, financial statements, social responsibility statements	Track financial data and performance over years. Collect information about initiatives and events involving the company.	Annual reports Notes to the accounts (262 pp.) Social responsibility statements (1159 pp.) Chart of Values (27 pp.) Statute (96 pp.)	Annual reports Notes to the accounts (42 pp.) Social responsibility statements (1592 pp.)
Internal reviews, magazines, newspapers, and other archival data	Gain familiarity with the specific context of each case (company history, products, and services, main events). Triangulate information from interviews. Monitor identity claims made by managers.	Company magazine and communications on the company website (18 pages) Newspapers, local press, and financial or industry-related publications (29 pp.).	Company quarterly magazine (942 pp.) Local newspapers and industry-related publications (29 pp.)

^a Age: 42 years (average); Organizational tenure: 14 years (average)

^b Age: 39 years (average); Organizational tenure: 11 years (average)

Table 1. *Data sources and their use in the analysis*

FINDINGS

1. Identification of threats. Due to the large economic crisis and the consequent reduction in gross margins, the Italian retail industry was characterized by a fierce competition with international chains and their aggressive price policies. This revealed the inadequacy of extant organizational routines and the need to update the existing ordinary capabilities. Human resources and operations management current capabilities of Good Stores were not perceived as suitable to cope with the new challenges posed by the increased competition.

Our informants recognized also that the company could not tackle change internally and had to look for external benchmarks to improve its human resources management capabilities.

2. *Change in ordinary capabilities.* Good Stores top management took the decision to turn to external consultants with the objective of introducing new 'best-in-class' processes that would make internal human resources and operations management aligned with those of competitors and reduce operative and personnel costs. The new best practices introduced were inspired by specific methodologies for handling human resources in manufacturing companies and were complemented by approaches to address organizational change and empower cross-functional collaboration. By redesigning several organizational processes, the company renewed its human resources management capabilities introducing a flat organizational design, in which employees were dynamically assigned to the activities (e.g., warehouse logistics, replenishment of store shelves) required by the store departments. Consequently, every employee could serve in any departments based on daily necessities.

A more accurate planning of activities ensued from the changes introduced to operations management capabilities. Other best practices introduced in the organization regarded work methodologies facilitating business process analysis and reengineering, and lean management. For instance, management consultants involved in the change project provided guidance on how to interview employees to obtain operational information to reduce wastes and share it with the rest of the store chain.

3. *Change in organizational identity values.* At the time best practices were introduced, Good Stores' organizational identity was characterized by two common attributes: the centrality of employees and the focus on employees' skills. For instance, our informants mentioned the very nature of the organization, i.e., the fact that it is a co-op and therefore differs from most private and public companies, because it is '*centred on its employees*'. Being central to their organization means, in employees' interpretation, that the company fosters their growth through a continuous investment in their skills.

The fine reengineering of core processes in the stores, the introduction of formalized and structured ways of working based on human resources management best practices, and the use of new

performance indicators, gradually paved the way for the inclusion of a new value, i.e., efficiency, into the organization's identity. Organizational members started embracing the relevance of efficiency—whose meaning could be traced back to sensitiveness to streamlining and eliminating all that is unessential in everyday activities—as a core attribute of Good Stores.

4. *Change in ordinary capabilities.* Inspired by the newly internalized value of efficiency, Good Stores management prompted further changes in the ordinary capabilities related to human resources and operations management without the help of consultants: they introduced a new routine for making staff assignments to tasks more efficient. Consequently, the human resources pooling procedures proposed by consultants were internally redesigned to be more flexible, allowing to change employees' assignments during the day, hire temporary workers to handle rush hours, and relocate some of the employees working in the warehouse logistics and distribution centres to external co-ops with adaptable outsourcing contracts.

Moreover, with the aim of reducing costs and ruling out unnecessary activities, management attempted to improve stock management capabilities to lower levels and perform a more accurate control on expiration dates through a new sophisticated stock management. This reduced the necessity of a workforce dedicated to stock planning in each superstore, as planning was centralized at the headquarters site.

5. *Change in organizational identity values.* These further changes in human resources and operations management ordinary capabilities prompted a perception of ambiguity in organizational identity values. Insiders stated that they were '*puzzled*' about who they were becoming as an organization, as many informants declared. The feeling of confusion about the key attributes of their organization lied in the perception that organizational members were no longer confident about the meaning of employee centrality, which was a value deeply rooted in Good Stores identity as a co-op. They argued about a contrast between employee centrality and efficiency. The resort to extreme resource pooling practices and the outsourcing of employees to external co-ops undermined the interpretation of employee centrality. Some informants underlined how they believed that efficiency would '*cannibalize*' the centrality of employees.

6. *Change in signature processes.* The crisis of organizational identity turned out to impair what we identified as the signature process that had long characterized Good Stores. Its signature process used to consist of meetings open to managers, employees, and clients twice a year: on these occasions, participants of the local area of a store would talk about Good Stores' core features, mission, and future steps to be taken to improve the services. Meetings used to be largely attended and considered '*an integral part of Good Stores' way of being*' (post on a blog). People would intervene and voice their opinions, discuss recurrent issues, and provide advice, and were convinced that '*the sharing of our points*

of view makes the difference', as acknowledged in interviews. Once bafflement about the centrality of employees spread across the organization, meetings lost their sense and were gradually deserted by employees. Organizational members started referring to these meetings as a *'mere role playing devoid of any substance'* (comment on a blog).

7. *Identification of opportunities and threats.* The loss of meaningfulness of the signature process led to a diminished commitment towards Good Stores that culminated in a wave of strikes that hit the company in almost all of its stores. In parallel, sales and customer satisfaction decreased: an inquiry into customers' claims disclosed that they complained about the lack of skills of the personnel serving store departments, who were not able to respond to specific requests and often seemed to have no knowledge at all of specific products. Clients' engagement in company meetings decreased because of their perception of the loss of familiarity with the employees serving in their local store. This critical situation was recognized as a threat by the headquarters management, as our informants recounted. Heated discussions on how to solve the problem led to a rethinking of ordinary capabilities.

8. *Change in ordinary capabilities.* Stakeholders' negative reactions turned into an opportunity to revise ordinary capabilities. First, management engaged in the revision of human resources management capabilities to meet customers' expectations about a higher level of competencies and service in the stores and the connection with the company's heritage. Top management proposed to revamp the strong ties between employees and clients by providing the local communities with specific services. To do so, store and middle managers were asked to hold various meetings to discuss with the workforce how to offer more fine-grained services locally through new initiatives. Additionally, resource pooling practices were redesigned introducing specialization of human resources based on differentiated roles and career paths, while preserving a process orientation.

9. *Change in organizational identity values.* Changes in ordinary capabilities helped overcome ambiguity in the meaning of employee centrality and its relationship with efficiency as core features of Good Stores. The growing room left to employees' opinions and initiatives, alongside the new framing of outsourcing efforts as an opportunity for employees to *'test new pathways and advance competencies'* (from a blog), imbued organizational members with a new awareness of their relevance to the organization. Insiders came to see themselves as *'entrepreneurs'*, as recurrently stated by our informants, and, consequently, employee centrality became associated to proactivity both within and outside organizational boundaries. In the wake of their ability to grasp the expectations and requirements of different actors, such as institutions and local population, employees interpreted this value as *'giving voice to organizational members and expanding our outreach in the community'* and would refer to it as *'having a territorial vocation'* (store manager).

In this perspective, employee centrality and efficiency were no longer interpreted as potentially

conflicting values. Employees believed that bringing up new ideas about how to preserve the environment was in line with the true meaning of the efficiency value, since reducing environmental wastes implied *'a careful exam of which activities are to be sponsored and which are just costly and unproductive'* (Good Stores internal magazine).

10. *Change in signature processes.* The new meaning attributed to employee centrality revamped the traditional signature process characterizing Good Stores. Since employee centrality was interpreted as being entrepreneurs with a territorial vocation and was correlated to being an efficient company, top management gave impetus to meetings in a different way. The co-op members at large as well as local institutions' representatives were invited to participate in the meetings alongside managers and employees. Held thrice a year in theatres, cinemas or convention centres, meetings became the chance to invite the local communities to bring up new ideas and desires.

11. *Identification of opportunities and threats.* The impulse given by top management to signature processes and the wide participation of employees led shortly to stakeholders' positive appraisals. About five hundred employees were interviewed every year through an internal survey, and the social responsibility report that we read at the end of our case study timeline described *'a diffused good organizational climate, with some demands for specific training programs to improve personnel specialisation'*. Both employees and customers were involved in the renovation of some stores and the setup of specific spaces dedicated to social events and community initiatives.

DISCUSSIONS AND CONCLUSION

The grounded model that we present in Figure 1 advances our understanding of dynamic capabilities by claiming that they work through the identification of threats and opportunities and a continuous search for consistency between ordinary capabilities, organizational identity values, and signature processes. Specifically, the company under study recognize threats and opportunities in its environment. The perception of an internal lack of competences suitable to handle environmental pressures leads to the introduction of new best practices and the development of new ordinary capabilities. This change triggers the search for consistency between organizational identity values, ordinary capabilities, and signature processes, in an interplay with the elaboration of the feedbacks received by relevant internal and external stakeholders; these latter act, in turn, as further threats or opportunities. When feedbacks signal that insiders and outsiders' reactions are negative, organizations modify ordinary capabilities, thus giving a new impetus to the balancing cycle. Dynamic capabilities therefore work by keeping ordinary capabilities, organizational identity values, and signature processes in a continuous balance under variable conditions. The arrows in our model display the possible directions of the longitudinal influence of each variable on the others. They show that a change

in one of the four core variables (threats and opportunities, organizational identity, ordinary capabilities, and signature processes) can trigger a change in another one, in the pursuit of a continuous balancing action sustained by internal and external stakeholders.

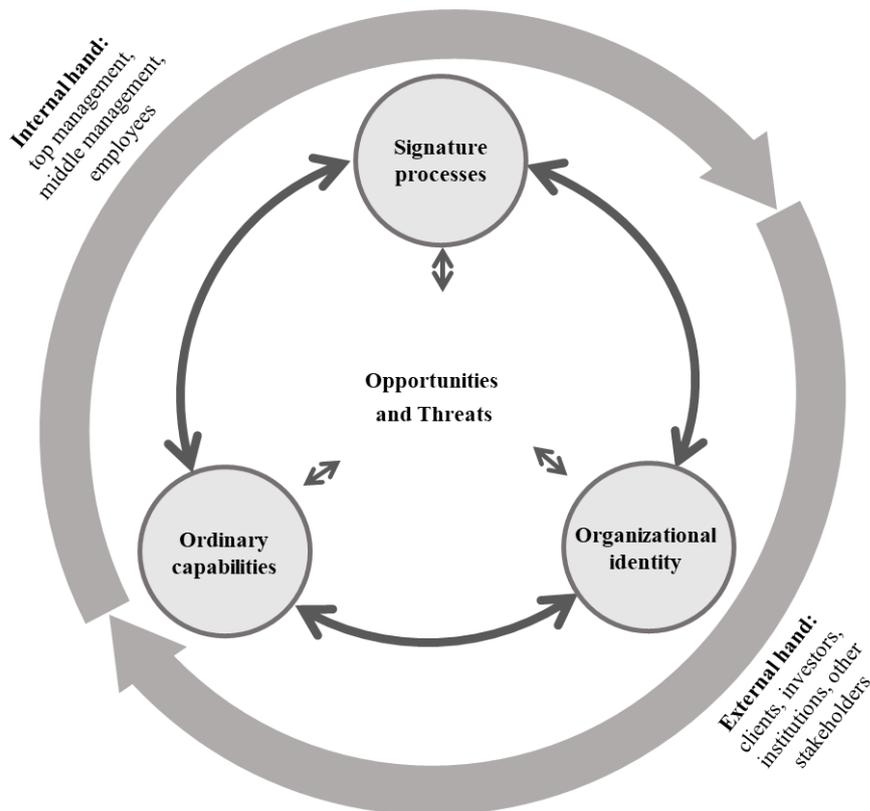


Figure 1. *A grounded theory on dynamic capabilities*

Our grounded model responds to the question of how the functioning of dynamic capabilities influences, and is influenced by, changes in organizational identity values. Organizational identity emerges as a relevant factor in the enactment of dynamic capabilities that has been surprisingly overlooked so far. When taking organizational identity values into account in fact, one can get a new insight on the adaptive nature of dynamic capabilities. Our findings show that dynamic capabilities imply the continuous effort to attain consistency between who the organization is (organizational identity), its distinctive processes (signature processes), and the basic routines that embody its resources and competencies (ordinary capabilities). Unlike punctuated equilibrium models (e.g., Romanelli and Tushman, 1994), consistency is not an intermittent or transitory phase of equilibrium alternated with dramatic disruptions, but is the ongoing state of a system maintained in continuous evolution by dynamic capabilities.

When we claim that the action of dynamic capabilities involves organizational identity and signature processes, we advance Teece's conceptualization of signature processes by highlighting its relationship with identity (2014b, 2014a). Scant previous literature linking dynamic capabilities and organizational

identity was rooted in the assumption that organizational identity values are essentially stable over time (e.g., Teece, 2007): consequently, signature processes were interpreted as fixed, too. Conversely, we disclose that organizational identity values can change—new values can be added, long-held values fade, and the meanings of some values be altered. In this sense, our work testifies to late studies on organizational identity that underline the likelihood that identity may change over time (Gioia et al., 2000, 2014; Kreiner et al., 2015). From the perspective of dynamic capabilities as a balancing act, modifications in the core values of an organization engender modifications in how its resources and competencies are arranged (ordinary capabilities) and in its deeply characterizing processes (signature processes) so as to attain an overall consistency. In raising the issue of the relevance of signature processes in the comprehension of dynamic capabilities, Teece (2014a, p. 334) posed emphasis on organizational heritage and previous management decisions. In contrast, we argue that dynamic capabilities can extend their action towards a revision of the values and beliefs of the organization. If signature processes are an emergent construct that can further our comprehension of the functioning of dynamic capabilities, the awareness that signature processes cannot be taken for granted, but are subject to change, fleshes out their effect for organizations. Signature processes can change during time, provided that the overall system be kept in a continuous balance. They emerge from our field study as shared models of practice that embody a clear representation of core organizational values, and are influenced by various stakeholders' expectations, suggestions, and appraisals. This interpretation of signature processes resonates with Gratton and Ghoshal' conceptualization (2005): they argue that signature processes ensue from the company values and are developed through a championing action exerted by executives, inspired by the CEOs, or based on a shared education of the senior management team. Conversely, our findings show that employees play a central role in shaping what would later become a signature process, or in adapting existing signature processes, thus testifying to the still overlooked agency of employees in sponsoring signature processes.

Our findings allow us to offer another contribution to the dynamic capabilities literature that throws into sharp relief the role of stakeholders, both external and internal. Although reflection on dynamic capabilities has posed emphasis on the relationship between firms and their environment (Helfat and Winter, 2011), the process of interplay between environment and asset orchestration has been depicted as substantially internal and relying on dynamic managerial capabilities mostly (e.g., Helfat and Martin, 2015; Martin, 2011). Our work brings to the fore that opinions and preferences ensuing from the environment can be influential in directing dynamic capabilities functioning. Specifically, we unravel how interactions with various stakeholders that express expectations and evaluations about the organization accompanies and sustain dynamic capabilities, and, if taken into account timely by management, can help maintain the system in a fruitful balance. Stakeholders in fact provide impetus

for changes in ordinary capabilities that ignite subsequent alignment with signature processes and organizational identity. Being able to collect and analyse inputs from stakeholders and to turn them into hints for change acts as a corrective force able to keep balanced the core elements of the dynamic capabilities functioning: We may deem it as a dynamic managerial capability that top management should pursue for the sake of their organizations.

Our study raises managers' awareness on the identification and development of signature processes. If managers acknowledge the existence of a signature process in their company, they can evaluate its coherence with ordinary capabilities and identity values, and leverage the signature process to renew the ordinary capabilities. Alternatively, managers could notice that the signature process of their company is no more coherent with the values and the ordinary capabilities of their organization.

In conclusion, the action of dynamic capabilities implies keeping a continuous balance among the core elements of an organization: who we are as a company (organizational identity), how we deploy our assets (ordinary capabilities), and how we set our distinctive processes (signature processes). Hopefully, this research informs our understanding of how the capacity to maintain a mutable equilibrium among core elements is conducive to success.

REFERENCES

- Albert, S. and Whetten, D.A. (1985), "Organizational identity", L.L. Cummings and B.M. Staw (Eds) *Research in Organizational Behavior*, Vol. 7, Elsevier, Oxford, UK, pp. 263–295.
- Arend, R.J. and Bromiley, P. (2009), "Assessing the dynamic capabilities view: spare change, everyone?", *Strategic Organization*, Vol. 7 No. 1, pp. 75–90.
- Bertolotti, F. and Tagliaventi, M.R. (2007), "Discovering complex interdependencies in organizational settings: the role of social network analysis in qualitative research", *Qualitative Research in Organizations and Management: An International Journal*, Vol. 2 No. 1, pp. 43–61.
- Bingham, C.B. and Eisenhardt, K.M. (2011), "Rational heuristics: the 'simple rules' that strategists learn from process experience", *Strategic Management Journal*, Vol. 32 No. 13, pp. 1437–1464.
- Corley, K.G. and Gioia, D.A. (2004), "Identity Ambiguity and Change in the Wake of a Corporate Spin-off", *Administrative Science Quarterly*, Vol. 49 No. 2, pp. 173–208.
- Dutton, J.E. and Dukerich, J.M. (1991), "Keeping an Eye on the Mirror: Image and Identity in Organizational Adaptation", *Academy of Management Journal*, Vol. 34 No. 3, pp. 517–554.
- Eggers, J.P. and Kaplan, S. (2013), "Cognition and Capabilities: A Multi-Level Perspective", *The Academy of Management Annals*, Vol. 7 No. 1, pp. 295–340.
- Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, pp. 1105–1121.
- Gioia, D.A., Hamilton, A.L. and Patvardhan, S.D. (2014), "Image is everything", *Research in Organizational Behavior*, Vol. 34, pp. 129–154.
- Gioia, D.A., Patvardhan, S.D., Hamilton, A.L. and Corley, K.G. (2013), "Organizational Identity Formation and Change", *Academy of Management Annals*, Vol. 7 No. 1, pp. 123–193.
- Gioia, D.A., Schultz, M. and Corley, K.G. (2000), "Organizational Identity, Image, and Adaptive Instability", *Academy of Management Review*, Vol. 25 No. 1, pp. 63–81.
- Gratton, L. and Ghoshal, S. (2005), "Beyond best practice", *MIT Sloan Management Review*, Vol. 46 No. 3, pp. 49–57.
- Harrell, J.B., O'Reilly, C.A. and Tushman, M.L. (2007), "Dynamic capabilities at IBM: Driving strategy into action", *California Management Review*, Vol. 49 No. 4, p. 21.

- Helfat, C.E., Finkelstein, S. and Mitchell, W. (2007), *Dynamic Capabilities: Understanding Strategic Change in Organizations*, Wiley-Blackwell, Oxford, UK.
- Helfat, C.E. and Martin, J.A. (2015), "Dynamic Managerial Capabilities Review and Assessment of Managerial Impact on Strategic Change", *Journal of Management*, Vol. 41 No. 5, pp. 1281–1312.
- Helfat, C.E. and Peteraf, M.A. (2009), "Understanding dynamic capabilities: progress along a developmental path", *Strategic Organization*, Vol. 7 No. 1, pp. 91–102.
- Helfat, C.E. and Winter. (2011), "Untangling Dynamic and Operational Capabilities: Strategy for the (N)ever?Changing World", *Strategic Management Journal*, Vol. 32 No. 11, pp. 1243–1250.
- Jick, T.D. (1979), "Mixing Qualitative and Quantitative Methods: Triangulation in Action", *Administrative Science Quarterly*, Vol. 24 No. 4, pp. 602–611.
- Jussila, I., Goel, S. and Tuominen, P. (2012), "Governance of Co-operative Organizations: A Social Exchange Perspective", *Business and Management Research*, Vol. 1 No. 2, pp. 14–25.
- Kreiner, G.E., Hollensbe, E., Sheep, M.L., Smith, B.R. and Kataria, N. (2015), "Elasticity and the Dialectic Tensions of Organizational Identity: How Can We Hold Together While We Are Pulling Apart?", *Academy of Management Journal*, Vol. 58 No. 4, pp. 981–1011.
- Martin, J.A. (2011), "Dynamic Managerial Capabilities and the Multibusiness Team: The Role of Episodic Teams in Executive Leadership Groups", *Organization Science*, Vol. 22 No. 1, pp. 118–140.
- Miles, M.B. and Huberman, A.M. (1994), *Qualitative Data Analysis: An Expanded Sourcebook*, SAGE Publications, Thousand Oaks, CA.
- Nag, R., Corley, K.G. and Gioia, D.A. (2007), "The Intersection of Organizational Identity, Knowledge, and Practice: Attempting Strategic Change via Knowledge Grafting", *Academy of Management Journal*, Vol. 50 No. 4, pp. 821–847.
- O'Reilly, C.A. and Tushman, M.L. (2008), "Ambidexterity as a dynamic capability: Resolving the innovator's dilemma", *Research in Organizational Behavior*, Vol. 28, pp. 185–206.
- Ravasi, D. and Schultz, M. (2006), "Responding to Organizational Identity Threats: Exploring the Role of Organizational Culture", *Academy of Management Journal*, Vol. 49 No. 3, pp. 433–458.
- Romanelli, E. and Tushman, M.L. (1994), "Organizational Transformation as Punctuated Equilibrium: An Empirical Test", *Academy of Management Journal*, Vol. 37 No. 5, pp. 1141–1166.
- Strauss, A.L. and Corbin, J.M. (1998), *Basics of Qualitative Research*, SAGE, Thousand Oaks, CA.
- Teece, D. and Pisano, G. (1994), "The dynamic capabilities of firms: an introduction", *Industrial and Corporate Change*, Vol. 3 No. 3, p. 537.
- Teece, D.J. (2007), "Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance", *Strategic Management Journal*, Vol. 28 No. 13, pp. 1319–1350.
- Teece, D.J. (2014a), "The Foundations of Enterprise Performance: Dynamic and Ordinary Capabilities in an (Economic) Theory of Firms", *The Academy of Management Perspectives*, Vol. 28 No. 4, pp. 328–352.
- Teece, D.J. (2014b), "A dynamic capabilities-based entrepreneurial theory of the multinational enterprise", *Journal of International Business Studies*, Vol. 45 No. 1, pp. 8–37.
- Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18 No. 7, pp. 509–533.
- Winter, S.G. (2003), "Understanding dynamic capabilities", *Strategic Management Journal*, Vol. 24 No. 10, pp. 991–995.
- Zahra, S.A. and George, G. (2002), "Absorptive capacity: A review, reconceptualization, and extension", *Academy of Management Review*, Vol. 27 No. 2, pp. 185–203.
- Zollo, M. and Winter, S.G. (2002), "Deliberate learning and the evolution of dynamic capabilities", *Organization Science*, Vol. 13 No. 3, pp. 339–351.

THE INFLUENCE OF LIMINALITY ON ORGANIZATIONAL IDENTITY CHANGE

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ABSTRACT

Purpose – This paper intends to analyse the relationship between organizational identity and liminality, bringing to the fore the role that individuals who are only temporarily involved in organizational decision processes can exert in elaborating visions about who organization can become and inspire changes in its core and distinctive values and beliefs.

Design/methodology/approach – This paper is a qualitative research based on three exploratory case studies conducted in three Italian companies.

Findings – The empirical evidence shows the interplay between organizational identity, practices, and liminality. The emergence of a perception of liminality in consultants as well as in clients' managers and employees is intertwined with the elaboration, dismissal, and reconstruction of practices, and with sensemaking about organizational identity.

Originality/value – This paper informs our understanding of the agency of organizational identity change that can involve a wider range of actors than organizational members and stakeholders, who have a well-grounded interest for the fate and success of the organization. The transitional participation of other actors like consultants, which can be likened to liminal experiences, can prompt a debate on how an organization can evolve, triggering a change process. Unravelling the influence of liminality on organizational identity expands also on the comprehension of the creativity offered by liminal experiences, which can touch upon the essence of host organizations. Finally, the possibility of liminal experiences to morph over time and to spur additional liminal experiences, thus introducing dynamism in the theoretical perspective on liminality, is highlighted by this study and discussed.

Keywords: liminality, consulting, organizational identity, organizational change

INTRODUCTION

Research on organizational identity has, over the past few years, emphasized the process through which it is discussed, constructed and reconstructed, thus enriching studies exploring its content, i.e., its core and distinguishing features (He and Brown, 2013; Kreiner et al., 2015). Attention to how the

response to the question 'Who are we as an organization?' may vary over time marks a substantial revision of the concept of organizational identity as the central, distinctive and enduring characteristics of an organization (Albert and Whetten, 1985). While organizational identity is still acknowledged to be about the central features of an organization, numerous studies have testified to its changing nature (e.g., Corley and Gioia, 2004; Kreiner et al., 2015), to the point that Gioia et al. (2014) refer to it as 'adaptive instability'.

Although the construction and reconstruction of organizational identity is considered to be mostly a sensemaking process managed by organizational members (Maitlis and Christianson, 2014), external actors can be influential. Organizational identity changes can in fact originate from environmental changes such as competitive pressures and institutional requirements (Ravasi and Schultz, 2006) as well as from discrepancies between current organizational identity and construed external image, i.e. how insiders think outsiders see their organization, or between construed and desired external image, i.e. how insiders would like outsiders to see their organization in the future (Corley and Gioia, 2004; Gioia et al., 2014). Outsiders' current or prospective expectations therefore are an influential trigger of identity change processes.

The understanding of how outsiders affect organizational identity change is rooted in the assumption that there are clear boundaries separating insiders from outsiders. Speculation on image has, in fact, indirectly stressed the boundaries between insiders, involved in sensemaking about organizational identity, and outsiders, receiving and elaborating information on the one hand, and conveying expectations and preferences on the other, about who the organization is or should be (Gioia et al., 2014). Subjects external to the organization therefore spark processes of identity change, but do not actively participate in them (Kjærgaard et al., 2011).

This view stands in sharp contrast with the acquiescence that the boundaries across organizations are becoming increasingly blurred (Sturdy et al., 2006) to the point that Sturdy et al. (2009, p. 631) state that 'the boundaries of organizations become so busy with border-traffic that it is difficult to judge where they begin and end.' The literature has accounted for many instances of ambiguity in setting organizational boundaries. Temporary workers are linked to their employing organizations by arrangements that are continuously negotiated and situate them in a 'transitory position, open to definition' (Garsten, 1999, p. 602); a similar perception of 'placelessness' is declared by mobile project workers (Borg and Soderlund, 2015). Transitions across organizations are also reported in the case of a financial director and a festival manager of two different companies collaborating to set up an arts event: during the cooperation, they gain in proximity to the partner's company while remaining affiliated to their employing organization (Ryan, 2019). From yet a different perspective, project managers experience a double kind of belongingness both to their firm and to the international

professional community of project managers, intentionally bringing practices and suggestions for change from one to the other (Hodgson and Paton, 2016). But the most acknowledged case of permeable and fluid boundaries concerns management consultants. Their formal affiliation with the consulting company, but at the same time their protracted involvement in the client company's activities, pose a serious question to their personal identity as well as to the nature of the relationship and the commitment that they feel towards the two organizations (Czarniawska and Mazza, 2003).

All the above situations can be traced back to the overarching concept of liminality. Originally developed in anthropological studies (Van Gennep, 1960), liminality refers to the passage from one state, e.g. adolescence, to another, e.g. adulthood (Bamber, Allen-Collinson, and McCormack, 2017; Soderlund and Borg, 2018). As a condition of change between something known (the 'before') and something still unknown (the 'after'), it is meant to represent a temporary stage in which ambiguity, indeterminateness, a loss of previously held meanings, and a precarious sense of self reign (Daskalaki and Simosi, 2018). Liminality has subsequently been embraced by organizational studies, which have delved into its being 'betwixt and between' (Turner, 1967), or, seen from a different viewpoint, neither inside nor outside a given organization (Ellis and Ybema, 2010). When used as a lens to investigate organizational phenomena, however, unlike its anthropological sense, liminality is often considered as a permanent state that is not preceded by any separation from something old nor followed by an incorporation into something new. Being a temporary worker or a consultant has not been regarded as a transient situation moving towards an end, then, but as 'social limbo' (Johnsen and Sørensen, 2015) in which rules and hierarchies are suspended and individuals strive to understand who they are, whom to interact with, and what actions to undertake (Beech, 2010). If liminality has been mostly explored as being positioned across different organizations, a recent study highlighted how the perception of liminality can emerge from within an organization as well (Swan et al., 2016): department or functional managers who also act as coordinators of knowledge-sharing communities can feel liminal between senior management and community members.

The benefits and drawbacks of liminality have been long discussed. The suspension of established rules and routines ensuing from liminality as anti-structure (Turner, 1974) fosters playfulness and creativity able to contrast the status quo (Garcia-Lorenzo, Donnelly, Sell-Trujillo, and Imas, 2018). Liminal actors in fact can be highly valued for their creative agency, as they are able to suggest new opportunities within elements of existing practice (Sturdy et al., 2009; Swan et al., 2016). At the same time, liminars enjoy freedom from organizational constraints and greater opportunities for learning across different work experiences (Garsten, 1999; Tempest and Starkey, 2004). On the other hand, downsides are experienced mostly at an individual level: consultants and freelancers can be uncertain about how to manage their work and personal life, feeling stress and anxiety (Beech, 2010; Sturdy et al., 2009).

The growing diffusion and relevance of liminality call into question our understanding of who may participate in organizational identity change processes, and how. If it is increasingly hard to distinguish between insiders and outsiders, and different types of liminality can pervade an organization at the same time—e.g. a company availing itself of both consultants and temporary workers to face a mutable market demand—then time is ripe to rethink the idea that outsiders inspire organizational images and insiders revisit and redefine organizational identity in light of outsiders' images. Liminal actors, who are 'oscillating between "in" and "out", "same" and "other", and between an inclusive and exclusive "us"' (Ellis and Ybema, 2010, p. 299), are likely to affect organizational fate and choices by 'dialoguing about dreams, plans, hopes and fears' (Hatch and Schultz, 2010, p. 592). We still do not know, however, how they exert influence on core organizational change processes. Our study has as its very goal to explore how identity change processes may be affected by liminality. Specifically, we pose the following research question: how does liminality influence organizational identity change processes?

DATA AND METHODS

Given the lack of studies on the influence exerted by liminality on organizational identity change, we opted for exploratory case studies (Yin, 2008). Following indications provided in the literature, we focused on consulting projects as likely contexts for liminality (Czarniawska and Mazza, 2003).

We adopted a theoretical sampling approach (Bell, Bryman, and Harley, 2018). We started with a first company, the coffee-maker ExpressCoffee which is the leader in the market of coffee machines for commercial usage, and gathered data through interviews and documents. In coding the data through a constant comparison procedure, a significant trigger of the emergent model linking liminality, practices, and organizational identity was the economic crisis that had begun in 2008 (Fusco and Migliaccio, 2018) and that had required the intervention of external consultants due to the lack of internal competencies suitable to handle it. We asked the consultants involved in ExpressCoffee to help us single out another company that had resorted to them as a consequence of the economic crisis that it was facing: a car design company that we labelled as CarDesign. We repeated this passage twice, selecting a third organization, a financial services provider that we called NearBank. The three companies that we studied, while sharing some characteristics—they are Italian, privately owned, mature, large enterprises in their own industry—differed in terms of the industry to which they belonged (financial services, coffee-makers and car design). Similarly, client companies' management also selected some internal managers and employees to support consultants throughout the project life span, giving priority to it over their ordinary tasks.

Employing a snowball sampling procedure (Bell, Bryman, and Harley, 2018) originating from the sales manager at ExpressCoffee and the consulting company's team lead for the ExpressCoffee project, we

ran 33 open in-depth interviews with organizational members and consultants (27 interviews and 6 follow-up interviews). These interviews lasted 1½ hour on average, were tape-recorded and transcribed in their entirety. We employed two different protocols in addressing organizational members and consultants. We asked organizational members to tell us what the rationale for the consulting project had been, what the consulting project was about, what insights it had conveyed, and if and how the changes that it might have engendered had inspired subsequent actions and decisions. In addition, we asked members to report what the central and distinctive attributes of their organization were, whether and how they had changed over time and what role the projects had played. When interviewing consultants, we asked them to describe the projects, how they had handle them, what changes the projects had prompted in the client companies, and how they had experienced them. We also used a wide range of documents, varying from consultants' documents to internal memos and meeting excerpts, for a total of about 1,800 pages, to complement the interviews.

In analyzing both interviews and documents, we followed a three-step coding process (Mattarelli and Tagliaventi, 2015) to build a grounded model (Strauss and Corbin, 1998) in which recursive relationships among categories are depicted (Clark et al., 2010).

FINDINGS

In this section, we present the evidence emerging from the three case studies according to the grounded model depicted in Figure 1.

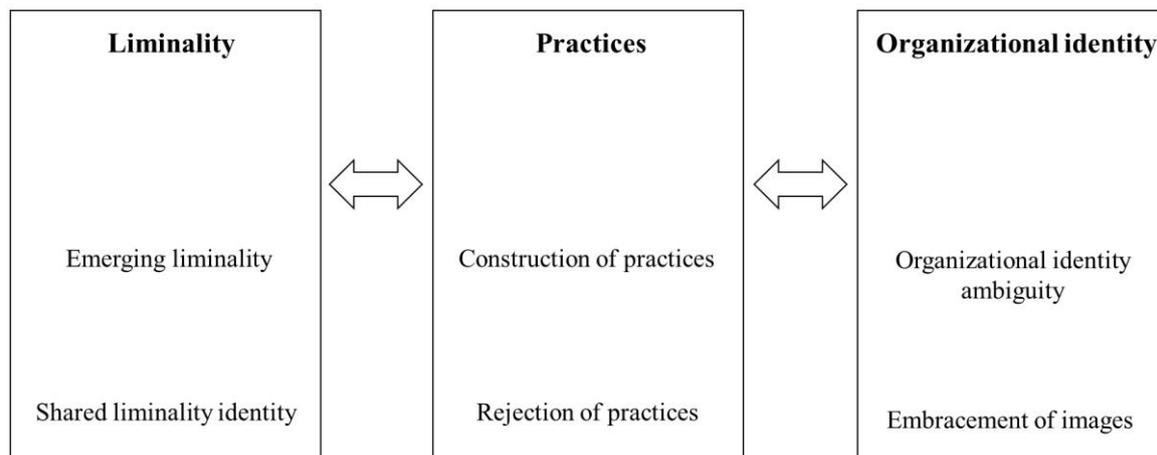


Figure 1. *Grounded model of the interaction of liminality, practices and organizational identity*

Construction of practices. Consultants initiated projects with a view of themselves and of their role as 'firefighters', as many informants quoted, i.e. as experts summoned to solve specific problems through the application of established practices. During the initial meetings of the three projects, consultants in fact proposed a set of practices functional to the projects and aimed at improving collaboration across

individuals working at the projects. Practices were coupled with a rhetoric inspired to the Age of Exploration to remark the innovativeness of the project and evoking separation ceremonies (Czarniawska and Mazza, 2003).

The initial stance of being *'The experts'* helped legitimize the practices related to process analysis and business modelling that were the bulk of the consulting projects and aimed at making employees and managers *'able to get inside things'*.

The suspension of the regular hierarchical relationships and the definition of new work practices defined by consultants to promote the project engendered an increasing detachment from well-established routines, as an employee from a branch of NearBank told us:

Consultants asked me to bring my experience as branch manager and work with other colleagues from the headquarters, without lingering on power relationships and on what was going on in the rest of the bank. It was a different moment for our bank when we were free to think creatively and create through thinking.

Emerging liminality. The involvement in project activities, the sharing of the same workspaces, and the practices introduced by consultants gradually loosened the ties managers and employees involved in the projects had with their colleagues, and entailed a perception of liminality. Participation in the projects in fact required them to spend time in common working areas and meeting rooms with consultants. Moreover, they had to critically analyze and even redesign the routines of their organization, nourishing a feeling of dwelling in a different time and space within their own organization (Atkinson and Robson, 2012; Kornberger et al., 2011): *'We felt literally spaced out'*, a NearBank employee stated. Project members' growing psychological distance was noticed by their colleagues, who would refer to them as *'The chosen'* at NearBank, *'The special forces'* at ExpressCoffee, or *'The foreign legion'* at CarDesign. Their lingering in a 'grey zone' was even fostered by top management in ExpressCoffee: *'They had to start watching the company from a distance, while preserving their nature as our members'* (CEO).

Organizational identity ambiguity. The joint work with consultants also stimulated managers and employees to reflect on whether the practices introduced by consultants contrasted or sustained the *'essence of our company'*, as CarDesign COO declared. Since organizations tend towards an alignment between identity and practices (Canato et al., 2013), employees and managers started wondering whether analyzing their own company from a distance—*'looking through a glass'* was the metaphor that many informants used in describing their situation—and acting as strict reviewers of their colleagues' actions and interactions was consistent with the core values of their organizations. At NearBank, employees doubted whether their bank was still a *'big family'* or it was changing into *'a cold organization where nobody looks into your eyes, but only performance matters'* (HR manager). A consultant confirmed

that the new practices frightened many employees, because they perceived the risk of losing *'the sense of familiarity and trust that had characterized the bank'*.

Rejection of practices. Exposed to the indeterminateness of organizational identity, managers and employees started considering the practices concerning the project work proposed by consultants as just *'a mere exercise in style'* (an employee of NearBank). The careful set-up of meetings, the preparation of well-structured documents, and the assignment of detailed agendas were no longer interpreted as a means to better structure the project work, as it had been at the beginning, but as a distraction from addressing the core question of who the companies were becoming. For instance, at ExpressCoffee, while consultants based their evaluation of the offshoring of a product line on cost analysis only, managers noted that it would be unreasonable to even fill in the documents required by consultants without converging on what it means for ExpressCoffee to be an Italian company. The difficulties faced by consultants in the three projects revealed that some of their practices and repertoire of knowledge—methods, tools, cases, and experience—were perceived as not addressing the indeterminateness of the organizational values and therefore rejected

Emerging liminality. Experiencing the refusal of practices from their clients, consultants started feeling unable to guide them. Consultants' emerging condition as liminars is well expressed by the metaphor that CarDesign consultants mentioned: they described themselves as driving one of CarDesign's sports cars in the midst of a foggy day without lights on and feeling that *'you do not know where you are headed for'* (ExpressCoffee consultant). Consultants' initial self-definitions as *'first aid'*, *'coaches'* or even *'generals'*, were substituted with the expression *'team mates'* in their accounts. The perception of fuzziness shared by consultants as well as by the clients' employees and managers who worked with them put at stake the project completion. Liminars could not avail themselves of an organizational reference to look at nor of shared practices to enact: *'impasse'*, *'stalemate'*, and *'dead end'* were the expressions used by our informants to voice the feeling of not being able to achieve the project objectives.

Construction of practices. To overcome the impasse, consultants, managers, and employees developed dual practices to work with their counterparts. On one side, consultants decided to involve managers and employees in consulting-like activities, organized at their headquarters. They were asked to *'think out of the box'*, implying that they had to work on cases specifically designed for learning. For instance, at NearBank a hackathon was organized with different teams trying to solve a business case in 24 hours. As explained by a consultant below, the purpose of this initiative was to attenuate the emotions connected to working on their own settings and become able to look at stakeholders' requests. Similarly, clients' managers and employees resorted to some practices to make consultants aware of their company histories, with the aim of making them *'guardians of our heritage'* (CarDesign CEO).

Consultants were invited to take part in activities necessary to grasp the meaning of work in the three companies. For instance, at ExpressCoffee, they participated in the study of the sound of a new coffee machine in the futuristic sound chamber.

Shared liminality identity. Thanks to the dual practices that brought consultants and clients' members closer within a space that was felt as *'neither our usual workplace nor theirs'* (NearBank employee), consultants and their clients' collaborators could build a shared identity that helped them conceptualize their liminality experience. In all cases, dual practices were acknowledged as having *'filled a void by getting to know each other better and laying the premises for a joint pathway'* (NearBank employee). Consultants and client employees referred to each other as being *'filters', 'mediators' and 'interpreters'*. Being liminal meant looking at the world outside, taking up the challenges that it offered, but also introducing changes coherent with the organizations' history.

Construction of practices. Convergence on the liminal identity of being filters advanced collaboration between consultants and clients' members towards the creation of further practices. A straightforward enactment of the emergent liminality identity was the effort, acknowledged by CarDesign CEO, to *'cast a glance outside, without overlooking what we have inside'* through the elaboration of images (Gioia et al., 2014). Consultants, owing to their expertise, started with collecting information from different sources, such as clients, local communities, unions and institutions. Managers and employees then collaborated with consultants to frame the information into hints for organizational identity attributes. Since images were often scattered, i.e. discrepant and somewhat contrasting across stakeholders (Rindova, 1999), liminars would reflect on which stakeholders' expectations and desires had to be taken into account, which would better be dismissed and which should be left ambiguous, thus paving the way for later discussion by wider organizational audiences. For instance, at ExpressCoffee, attributes of solidity and reliability had been always coupled with the Italian mindset of the company. Nevertheless, images showed that clients expected the organization to be a prestigious worldwide Italian coffee-machine maker, while, for local institutions, having an Italian mindset implied *'being an actor rooted in the Italian economic system, with the main engineering and production facilities located in the historical plant'* (from a local newspaper). Scattered images helped liminars envision the opportunity to make ExpressCoffee more flexible and dynamic by retaining an ambiguous meaning for the expression 'Italian mindset': *'Who they could become is a company with an Italian mindset in the sense of innovation and design, but spread across the globe. Let's say, an Italian mind, but not necessarily an Italian body'* (project manager).

Embracement of images. Liminars triggered and stimulated a debate on who the organizations could become based on the images that they had built and the direction that they had traced. A series of formal meetings with top managers were first organized to present the images elaborated for the companies, and then reflection on possible organizational identity changes extended to a wider

audience, mostly informally at this time. In doing so, liminars provided cues to convey the message that they were acting cohesively and that, being neither internal nor external, but 'something else', their suggestions should not be 'associated with a party or another, but discussed without prejudices' (CarDesign consultant). CarDesign and ExpressCoffee CEOs recognized that liminars' proposals based on images were perceived at this stage as '*stimulating*' and '*engaging*', and that they raised '*a lot of interest, few conflicts*'. Communication was carefully gauged to sustain a constructive debate on organizational identity, as NearBank Organization Office manager recalls below:

We would signal who we are by opening any meetings with the projection of a slide: we thought that a standardized clipart would not fit us, so we created a picture featuring a tangle of bright strings crossing a dark space to convey the message that our ideas could be like flashes enlightening organizations.

Images from different stakeholders addressed attributes of organizational identity that had become confused after the introduction of routines. For instance, at ExpressCoffee, the internal discussion focused on the attribute of 'Italian mindset', which had conflicting meanings for clients and local institutions. Whether ExpressCoffee should be a 'herald of Italianness in the world' (as a client had put it), but not necessarily handling its activities in Italy, or a truly Italian manufacturing company, remained to be clarified. ExpressCoffee informants, recalling the 'ceaseless discussions' at that time, emphasized that they preferred to revamp the idea that being solid and reliable be linked to running their range of activities in Italy. This latter feature resonates with the choice to keep the headquarters located in the town where the company has its roots, instead of reducing costs by moving abroad. As a consultant told us: '*It might sound unreasonable and economically irrational to many, but it's the only thing to do once you realize what ExpressCoffee really wants to be.*'

Images allowed consultants, managers and employees to become aware of new features desired by stakeholders, ultimately leading to the assimilation of some attributes into the organizational identity.

DISCUSSIONS AND CONCLUSION

Our grounded model accounts for the process of organizational identity change when liminality is present. The emergence of a perception of liminality in consultants as well as in clients' managers and employees is intertwined with the construction, denial, and reconstruction of practices, and with sensemaking about organizational identity. Practices can hardly be confined to a defined time and space: more likely, they call into question and induce puzzlement about the core and distinctive characteristics of an organization and about who individuals (consultants, client companies' managers and employees) are in the workplace. The practices introduced by consultants are in our cases perceived as destabilizing the client organizations' identities and entail a feeling of liminality in clients' members. These practices are then questioned and refused, thus triggering a loss of meaningfulness on

consultants' side. At the same time, practices enable a redefinition of the organization and of the self-definition. To overcome an impasse in organizational action, liminars in fact resort to practices that bring them close to each other and trigger a shared reflection on what being liminal is about. Internalizing a common belief on liminality as being on the verge of organizations leads liminars to stimulate a process of organizational identity change. To do so, they harness the practice of image elaboration: they grasp the heterogeneous preferences and expectations of various stakeholders.

This study informs our understanding of how liminality promotes reflection on organizational identity. We believe that the comprehension of this relationship expands on our knowledge of the agency of organizational identity change as well as of the nature of liminality.

Research on organizational identity change processes has privileged a distinction between insiders and outsiders. Organizational identity construction and reconstruction are usually prompted and driven by top management, and only later do they involve lower-level employees to build a shared consensus and make changes more effective (Gioia et al., 2014; Hatch et al., 2015). The main agents of organizational identity change processes are therefore insiders who are formally in charge of organizational changes (Abdel Aziz and Rizkallah, 2015). Outsiders can indirectly affect organizational identity through their preferences and expectations, which insiders elaborate into images (Gioia et al., 2014). Alternatively, outsiders like consultants can provide input for change that is subsequently developed by insiders (Howard-Grenville et al., 2011).

In contrast with this view, we argue that liminal actors, who have 'one foot in, one foot out', are able to drive organizational identity change beyond any initial design or intention. The process that leads liminal actors to influence organizational identity change processes is demanding, though, and resonates with identity loss and restoration paths (Conroy and O'Leary-Kelly, 2014) that see liminal and organizational identities intertwined through practices. New or revised practices may spark organizational identity ambiguity, i.e. 'a sense of unformulated or nebulous identity' (Corley and Gioia, 2004, p. 200) and stimulate a perception of liminality in different actors. Faced with the inability to proceed with their tasks in the wake of a nebulous organizational identity, liminars need to clarify who they are. Restoring identity requires that an answer be provided to the question 'Who are we as liminars?' first. In line with our knowledge about nested identities in fact, individuals feel the urge to clarify their proximal identities (liminal identity in this case) before dealing with more distal targets like organizational identity (Ashforth et al., 2008). Converging on the meaning of being liminal across different experiences and perspectives of liminality—those of organizational members and of their provisional partners—however, is not devoid of difficulties: it still requires an interplay between definitions and practices. Practices represent therefore the common thread linking identity to liminality (Concannon and Nordberg, 2018): through what we have identified as separation and dual practices,

individuals first experience a sense of detachment from who they used to be and a puzzlement about who they are, and later embrace a sense of liminality as 'being filters. The metaphor of the filter as 'something else' replaces the sensation of being 'between and betwixt' (Turner, 1967).

Additionally, a shared liminality identity appears to be necessary to ensure concerted action by liminars of different nature like consultants and client company's managers and employees. In an age in which multiple opportunities for liminality, such as temporary workers, consultants, interim managers, customers, and trainees, are likely to develop simultaneously within the same organization (e.g., Borg and Soderlund, 2015), grasping how a common liminality identity can be built and be interconnected with processes of organizational change through practice promotes a new vision of liminality in organization studies in which also group dynamics are taken into account (Ryan, 2019). Converging on a shared identity as liminars in fact represents a guidepost to see who the organization could become through another practice, that of the elaboration of images (Gioia et al., 2014), and ultimately inspire organizational identity change. The capability of imaging pathways for organizational identity change embodies the creativity to which liminality has been traditionally associated (e.g., Howard-Grenville et al., 2011).

Finally, and remarkably, we claim that our study contrasts the prevailing perspective on liminality in management studies that deems it as being structural in nature. Extant research has in fact ascribed liminality to specific work conditions, e.g., being a temporary worker (Garsten, 1999). Consultants and client companies' regular workers construct and negotiate a shared identity as liminars. A developmental stance on liminality thus overcomes a static view of the activities and patterns of interaction of liminars, who do not interpret their work the same way across different engagements, as argued by Soderlund and Borg (2018), but can change their perspective and related behaviors within the same engagement as practices are introduced, rejected, modified, and reconstructed. The evolution of liminality promotes the idea that it can be a dynamic process through which the perception of the core characteristics of this experience, such as the *communitas* that is formed among individuals who handle a similar situation and the identity work that they engage in, are subject to a transformation without a clear endpoint to tend to (Brown, Huszar, and Chapman, 2017).

Overall, our work shows how liminal actors can contribute to inspire changes in the core features of organizations that have been largely neglected so far. The blurring of organizational boundaries that liminality increasingly entails appears therefore to open a stimulating perspective to our understanding of how organizational change processes unfold.

REFERENCES

- Albert, S. and Whetten, D.A. (1985), "Organizational identity", L.L. Cummings and B.M. Staw (Eds) *Research in Organizational Behavior*, Vol. 7, Elsevier, Oxford, UK, pp. 263–295.
- Ashforth, B.E., Kulik, C.T. and Tomiuk, M.A. (2008), "How Service Agents Manage the Person Role Interface", *Group & Organization Management*, Vol. 33 No. 1, pp. 5–45.
- Atkinson, S. and Robson, M. (2012), "Arts and health as a practice of liminality: Managing the spaces of transformation for social and emotional wellbeing with primary school children", *Health & Place*, Vol. 18 No. 6, pp. 1348–1355.
- Abdel Aziz, H.H. and Rizkallah, A. (2015), "Effect of organizational factors on employees' generation of innovative ideas: Empirical study on the Egyptian software development industry", *EuroMed Journal of Business*, Vol. 10 No. 2, pp.134-146.
- Bamber, M., Allen-Collinson, J. and McCormack, J. (2017), "Occupational limbo, transitional liminality and permanent liminality: New conceptual distinctions", *Human Relations*, Vol. 70 No. 12, pp. 1514-1537.
- Beech, N. (2010), "Liminality and the practices of identity reconstruction", *Human Relations*, Vol. 64 No. 2, pp. 285–302.
- Bell, E., Bryman, A. and Harley, B. (2018), *Business research methods*, Oxford university press, Oxford, UK.
- Borg, E. and Soderlund, J. (2015), "Liminality competence: An interpretative study of mobile project workers' conception of liminality at work", *Management Learning*, Vol. 46 No. 3, pp. 260–279.
- Canato, A., Ravasi, D. and Phillips, N. (2013), "Coerced Practice Implementation in Cases of Low Cultural Fit: Cultural Change and Practice Adaptation During the Implementation of Six Sigma at 3M", *Academy of Management Journal*, Vol. 56 No. 6, pp. 1724–1753.
- Clark, S.M., Gioia, D.A., Ketchen, D.J. and Thomas, J.B. (2010), "Transitional Identity as a Facilitator of Organizational Identity Change during a Merger", *Administrative Science Quarterly*, Vol. 55 No. 3, pp. 397–438.
- Concannon, M. and Nordberg, D. (2018), Boards strategizing in liminal spaces: Process and practice, formal and informal, *European Management Journal*, Vol. 36 No. 1, pp. 71-82.
- Conroy, S.A. and O'Leary-Kelly, A.M. (2014), "Letting Go and Moving On: Work-Related Identity Loss and Recovery", *Academy of Management Review*, Vol. 39 No. 1, pp. 67–87.
- Corley, K.G. and Gioia, D.A. (2004), "Identity Ambiguity and Change in the Wake of a Corporate Spin-off", *Administrative Science Quarterly*, Vol. 49 No. 2, pp. 173–208.
- Czarniawska, B. and Mazza, C. (2003), "Consulting as a liminal space", *Human Relations*, Vol. 56 No. 3, pp. 267–290.
- Daskalaki, M. and Simosi, M. (2018), "Unemployment as a liminoid phenomenon: Identity trajectories in times of crisis", *Human Relations*, Vol. 71 No. 9, pp. 1153-1178.
- Ellis, N. and Ybema, S. (2010), "Marketing Identities: Shifting Circles of Identification in Inter-organizational Relationships", *Organization Studies*, Vol. 31 No. 3, pp. 279–305.
- Fusco, F. and Migliaccio, G. (2018), "Crisis, sectoral and geographical factors: financial dynamics of Italian cooperatives", *EuroMed Journal of Business*, Vol. 13 No. 2, pp.130-148.
- Garcia-Lorenzo, L., Donnelly, P., Sell-Trujillo, L. and Imas, J. M. (2018), "Liminal entrepreneuring: the creative practices of nascent necessity entrepreneurs", *Organization Studies*, Vol. 39 No. 2-3, pp. 373-395.
- Garsten, C. (1999), "Betwixt and between: Temporary Employees as Liminal Subjects in Flexible Organizations", *Organization Studies*, Vol. 20 No. 4, pp. 601–617.
- Gioia, D.A., Hamilton, A.L. and Patvardhan, S.D. (2014), "Image is everything", *Research in Organizational Behavior*, Vol. 34, pp. 129–154.
- Hatch, M.J. and Schultz, M. (2010), "Toward a theory of brand co-creation with implications for brand governance", *Journal of Brand Management*, Vol. 17 No. 8, pp. 590–604.
- Hatch, M.J., Schultz, M. and Skov, A.-M. (2015), "Organizational Identity and Culture in the Context of Managed Change: Transformation in the Carlsberg Group, 2009–2013", *Academy of Management Discoveries*, Vol. 1 No. 1, pp. 56–87.
- He, H. and Brown, A.D. (2013), "Organizational identity and organizational identification: A review of the literature and suggestions for future research", *Group & Organization Management*, Vol. 38 No. 1, pp. 3–35.
- Hodgson, D. E., and Paton, S. (2016), "Understanding the professional project manager: Cosmopolitans, locals and identity work", *International Journal of Project Management*, Vol. 34 No. 2, pp. 352-364.
- Howard-Grenville, J., Golden-Biddle, K., Irwin, J. and Mao, J. (2011), "Liminality as Cultural Process for Cultural Change", *Organization Science*, Vol. 22 No. 2, pp. 522–539.
- Johnsen, C.G. and Sorensen, B.M. (2015), "'It's capitalism on coke!': From temporary to permanent liminality in organization studies", *Culture and Organization*, Vol. 21 No. 4, pp. 321–337.

- Kj?rgaard, A., Morsing, M. and Ravasi, D. (2011), "Mediating Identity: A Study of Media Influence on Organizational Identity Construction in a Celebrity Firm", *Journal of Management Studies*, Vol. 48 No. 3, pp. 514–543.
- Kornberger, M., Justesen, L. and Mouritsen, J. (2011), "'When you make manager, we put a big mountain in front of you': An ethnography of managers in a Big 4 Accounting Firm", *Accounting, Organizations and Society*, Vol. 36 No. 8, pp. 514–533.
- Kreiner, G.E., Hollensbe, E., Sheep, M.L., Smith, B.R. and Kataria, N. (2015), "Elasticity and the Dialectic Tensions of Organizational Identity: How Can We Hold Together While We Are Pulling Apart?", *Academy of Management Journal*, Vol. 58 No. 4, pp. 981–1011.
- Maitlis, S. and Christianson, M. (2014), "Sensemaking in Organizations: Taking Stock and Moving Forward", *The Academy of Management Annals*, Vol. 8 No. 1, pp. 57–125.
- Mattarelli, E. and Tagliaventi, M.R. (2015), "How Offshore Professionals' Job Dissatisfaction Can Promote Further Offshoring: Organizational Outcomes of Job Crafting", *Journal of Management Studies*, Vol. 52 No. 5, pp. 585–620.
- Ravasi, D. and Schultz, M. (2006), "Responding to Organizational Identity Threats: Exploring the Role of Organizational Culture", *Academy of Management Journal*, Vol. 49 No. 3, pp. 433–458.
- Rindova, V.P. (1999), "What Corporate Boards have to do with Strategy: A Cognitive Perspective", *Journal of Management Studies*, Vol. 36 No. 7, pp. 953–975.
- Ryan, A. (2019), "Guiding and enabling liminal experiences between business and arts organizations operating in a sponsorship relationship", *Human Relations*, Vol. 72 No. 2, pp. 344–369.
- Soderlund, J. and Borg, E. (2018), "Liminality in Management and Organization Studies: Process, Position and Place: Liminality in Management and Organization Studies", *International Journal of Management Reviews*, Vol. 20 No. 4, pp. 880–902.
- Strauss, A.L. and Corbin, J.M. (1998), *Basics of Qualitative Research*, SAGE, Thousand Oaks, CA.
- Sturdy, A., Clark, T., Fincham, R. and Handley, K. (2009), "Between Innovation and Legitimation-- Boundaries and Knowledge Flow in Management Consultancy", *Organization*, Vol. 16 No. 5, pp. 627–653.
- Sturdy, A., Schwarz, M. and Spicer, A. (2006), "Guess who's coming to dinner? Structures and uses of liminality in strategic management consultancy", *Human Relations*, Vol. 59 No. 7, pp. 929–960.
- Swan, J., Scarborough, H. and Ziebro, M. (2016), "Liminal roles as a source of creative agency in management: The case of knowledge-sharing communities", *Human Relations*, Vol. 69 No. 3, pp. 781–811.
- Tempest, S. and Starkey, K. (2004), "The effects of liminality on individual and organizational learning", *Organization Studies*, Vol. 25 No. 4, pp. 507–527.
- Turner, V.W. (1967), *The Forest of Symbols: Aspects of Ndembu Ritual*, Cornell University Press, Ithaca, NY.
- Turner, V.W. (1974), "Liminal to Liminoid, in Play, Flow, and Ritual: An Essay in Comparative Symbology", *Rice Institute Pamphlet-Rice University Studies*, Vol. 60 No. 3, available at: <https://scholarship.rice.edu/handle/1911/63159> (accessed 30 December 2016).
- Van Gennep, A. (1960), *The Rites of Passage*, University of Chicago Press, Chicago.
- Yin, R.K. (2008), *Case Study Research: Design and Methods*, 4th ed., SAGE Publications, Thousand Oaks, CA.

KNOWLEDGE FROM CUSTOMERS: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Knowledge from customer is an important source of value because firms use such knowledge to make marketing decisions and maintain dialogue with customers. The literature has not sufficiently investigated the role of knowledge from customer in customer relationship management theory, which has resulted in its limited analysis and understanding. This study provides a comprehensive definition classifying this knowledge into *I know*, *I can*, and *I create*, which reflects customers' passive knowledge, active knowledge, and creative potential. Furthermore, it analyses this knowledge as subjective and objective (*I know*, *I can*) or ideation, design, development, testing, manufacturing, marketing or sales part (*I create*). The findings allow theoreticians to start working on knowledge from customers' measures and examine relationships with other customer metrics to identify the contribution of this knowledge to customer value practitioners can use to cluster their customers and better address their marketing effort.

Keywords: customer knowledge, knowledge from customers, customer engagement value, systematic literature review, customer relationship management

1. INTRODUCTION

Customers provide different types of value to a firm. They pay for products or services, they recommend, they share their experiences with friends, and they provide knowledge. The total value a customer brings to a firm is Customer Engagement Value (CEV). Elements of CEV are Customer Lifetime Value (CLV), when customers pay; Customer Referral Value (CRV), when a customer recommends; and Customer Influence Value (CIV), when a customer shares his/her experiences (Kumar et al., 2010). While these three components have been examined extensively in the literature in recent years, there is also a fourth one, Customer Knowledge Value (CKV), which interestingly, has received no such attention. Understanding of, and insight into, customer knowledge is essential in the process of identifying and analyzing CKV. This study provides that insight and starts with an analysis of the data-information-knowledge hierarchy.

Data are symbols that represent the properties of objects and events (Ackoff, 1999). They are raw material in the process of creating information. Information consists of processed data, which is contextually understood. Like data, information also represents the properties of objects and events, but does so more compactly and usefully than data (Ackoff, 1999).

Based on Davenport and Prusak¹, *knowledge is a fluid mix of framed experience, value, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information*. Knowledge exists within people and is a mixture of various elements (Davenport & Prusak, 1998).

Customer knowledge is an ambiguous term. It consists of knowledge *about, for and from* customers. Knowledge *about* customer (CK(about)) is knowledge a firm holds and can use for its marketing purposes. Knowledge *for* customers (CK(for)) is the knowledge a firm holds and can transfer to its customers, who treat such knowledge as a value. Knowledge *from* customers (CK(from)) is understood as the knowledge residing in customers, which can be valuable for a firm's marketing purposes (Gebert, Geib, Kolbe, & Brenner, 2003). When discussing customer knowledge or CKV, the study understands knowledge from customers as an actual or potential resource which a customer contributes to a firm. A variety of concepts describe different aspects of the CK(from) phenomenon from different angles (Gibbert, Leibold, & Probst, 2002) but none concentrate on CK(from) more than putting this into the context of knowledge *for* and *about* ones. The authors of the articles implicitly assume CK(from) is well known and do not define it in detail.

However, in order to properly assess CKV an in-depth study of CK(from) is first required. To meet this requirement, this paper proposes to 1) define CK(from), 2) classify CK(from) and provide directions for future CK(from) research. Furthermore, the paper provides benefits both for theoreticians and practitioners.

There are significant benefits for theoreticians arising from this study. Defining and classifying CK(from), the study provides a foundation on which to start working on CK(from), which is relevant and unestimated as a source of CEV. Different customer valuation models include this, but don't operationalize it (H. H. ; Bauer & Hammerschmidt, n.d.; H. H. Bauer & Hammerschmidt, 2003; Tomczyk, 2015; Tomczyk, Doligalski, & Zaborek, 2016). Operationalization allows to measure and study CK(from) in a way that is similar to monetary or referral value (CLV or CRV), which can pave the way for a wide research trend similar to that of CLV in the early 2000s. Firms don't usually gather CK(from) data, so they might be interested in helping researchers gather this data. The above could help researchers find research partners, whom they can help and who can help them complete their studies.

CK(from) research could contribute significantly to CRM practitioners. Based on the results of CK(from) research, CRM managers and specialists will be able to measure and manage CK(from), which will allow them to evaluate and segment customers in a way they have not done before. Measuring and managing CK(from) value (CKV) will enable them to propose different marketing strategies. Moreover, identifying the link between CK(from) or CKV and other CRM metrics such as CLV, CRV, CIV, customer profitability, NPS etc., will let them allocate marketing resources to maximize customers' return rate. If CK(from) does affect CLV or NPS, this will shed light on how to manage customers to maximize CLV in a new way by supporting CK(from).

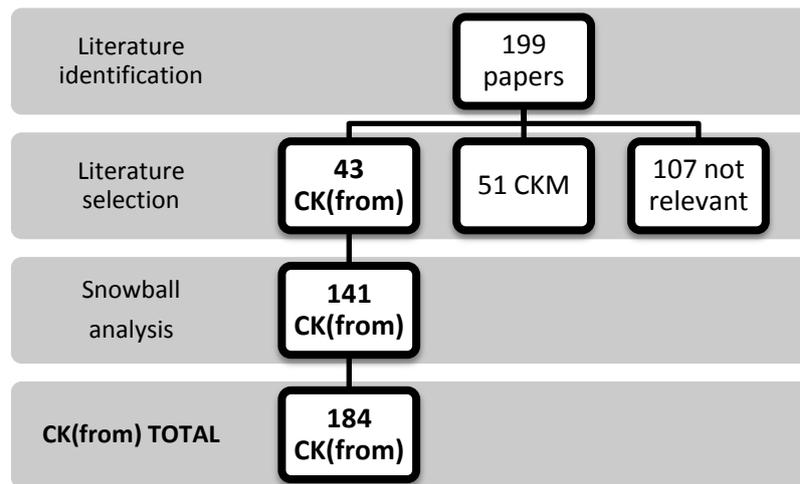
2. METHOD

To achieve its goals, this study used the Systematic Literature Review (SLR) methodology in the theoretical scheme version of Tranfield, Denyer, and Smart (2003), and its practical implementation by Crossan and Apaydin (2010). This allowed the author to provide highly reliable and comprehensive evidence based on the topic. The paper concentrates on CK(from) aspects independently from the theoretical concepts that are behind the particular analyzed article. This is to avoid the risk of ambiguity regarding these concepts. Concentrating on the CK(from) idea without its different conceptual connotations allows for the extraction of the essence of the phenomenon.

Applying Tranfield et al.'s SLR model in the implemented version of Crossan and Apaydin allowed this study to include a three-stage procedure: planning, execution, and reporting. The **planning stage** defined the objectives of the research and the source of the data. The goal identified at the **planning stage** is twofold – to to define CK(from), and to classify it. To achieve that goal, the paper focused on an analysis of English publications included in the EBSCO, Proquest, Emerald, ScienceDirect, and JSTOR databases. The study was up to date as of March 2017, so the papers included were published until that date.

The **execution stage** identified the base literature with the keywords, and the second layer of the group of papers using the snowball method based on references analysis. The execution stage started with papers from the literature identification, literature selection and snowball analysis to identify the number of relevant papers. Figure 1 presents the results of the process.

Figure 1: Identification of number of CK(from) papers



First, the article conducted literature identification. The collection includes data using peer-reviewed academic journal full papers, driven by the following keywords: *customer knowledge*, *customer knowledge management*, and *customer knowledge value* in the title, abstract, or keywords². The research resulted in an initial sample of 199 articles. The sample set was then fixed as the basis for all future analysis.

Secondly, the literature selection phase resulted in three groups of articles. The detailed analysis of the set showed that 107 of them referred to other topics only, with small parts devoted to broadly understood customer knowledge, so they were considered irrelevant. Fifty-one of the articles are general customer knowledge ones or refer to knowledge *for* or *about* customers. Forty-three papers were concerned strictly with the CK(from) area.

Third, the research conducted a snowball analysis to complete the set. CK(from)'s articles references analysis identified a further 141 papers relevant to the topic, so finally the research discovered 184 papers which concentrate on CK(from).

At the **reporting stage**, the paper went through content analysis to propose CK(from)'s definition and classification, which allowed for the achievement of the first and second goals of the study.

3. RESULTS

At the **reporting stage**, the content analysis shows the results of in-depth studies to find the definition and classification of CK(from). Firstly, the study proposes a CK(from) definition and general segmentation based on all the papers' analysis (184 CK(from) + 51 general CKM ones).

Subsequently, the study classifies different types of CK(from), based on the criterion of CK(from) characteristics, which is suitable for all possible knowledge manifestations. To achieve this goal, the paper selected 136 empirical articles out of 184 initially identified, and excluded 24 that did

not have appropriate content (i.e., not regarding the creation of value for a firm; e.g., user entrepreneurship). Consequently, the paper moved forward with 112 empirical articles.

The literature suggests that all CK(from) manifestations can be perceived in three ways: First, customers get to know the offer, brand, or product category from a variety of knowledge sources, e.g., customers know about different smartphone models to buy the most appropriate one. The current study calls this the *I know* type of knowledge, which is **passive**. Secondly, customers can use the offer, e.g., withdraw money from an ATM. The study calls this the *I can* type, which is **active**, since customers have skills in how to do something. Thirdly, customers participate in offer creation/modification based on their preferences and participate in the new offer creation/modification process. The study calls this the *I create* type, which is **creative**, since customers create or participate in the creation/modification process. The first two elements are positive, while the third is normative, because it expresses preferences for what the offer should look like.

Regarding the CK(from) the manifestations above, the paper proposes the designing definition of CK(from) *sensu largo*:

Knowledge from the customer is what the customer knows (*I know*), can do (*I can*), and what the customer can create (*I create*), what a firm can identify, and how this can apply to an organization's purposes.

Widely understood, CK(from) conceptually implies a comprehensive foundations to capture all the knowledge from customers value which is possible to identify, with no limitations to one or two its types, like customer feedback or suggestions. From a logical point of view, this definition is synthetic and nominal, which means it is a second-level statement in which CK(from) is defined by its types and attributes (Fetzer, Shatz, & Schlesinger 2012) where each can be extended and described. All the CK(from) types (*I know*, *I can*, *I create*) can be managed according to the knowledge management model, i.e., this knowledge can be created, stored, shared and applied (Leidner, 2000) and it is the knowledge the firm can get or already has.

While customers possess all these three CK(from) types, firms can manage the first two as knowledge about the customer and the third as knowledge from the customer. In the first case, the firm's resource is to know what customers know or can do, and in the second – the customer's knowledge, skills, and opinions/suggestions, which are the firm's resources that reside in the customers' minds. This clearly distinguishes CK(from) types in terms of the way they can be managed.

The definition is of a designing character, because it changes the classic meaning of CK(from) based on the *I know* type (Gebert et al., 2003), and expands it by the *I can* and *I create* components. The classification behind the proposed definition is based on customers' attitude to the offer. *I know*

implies passive knowledge, considering what the customer knows about the offer (e.g., the customer knows the price, knows where to buy, knows the competitors, knows the industry jargon, etc.). Both the next elements are active, where *I can* implies customers' skills of using the offer (e.g., can drive a car, can handle a smartphone, etc.) and *I create* – the ability to create or modify it (e.g., to propose a new ice cream taste, designing and testing it, etc.).

The content analysis of the articles that fall into the three above-mentioned categories shows that the three CK(from) types can be subdivided into specified subcategories, presented in Table 1.

Table 1: CK(from) subdivision criteria

CK(from)	CK(from) Categories	CK(from) Subcategories	Theoretical Justification
Knowledge from Customer (CK(from))	I know	objective	Customers' knowledge is verified by external means
		subjective	Customers' knowledge is not verified by external means
	I can	objective	Customers' knowledge is verified by external means
		subjective	Customers' knowledge is not verified by external means
	I create based on New Product Development process (Lagrosen, 2005)	ideation	Customers give ideas for new product/service
		design	Customers participate in designing new product/service
		develop	Customers participate in modifying product/service
		test	Customers test new product/service
		manufacturing	Customers participate in producing product/service
		marketing	Customers participate in product/service marketing
sales	Customers participate in product/service selling		

Objective and subjective knowledge division is the most intuitive and clear means of identifying one of the attributes among the papers on *I know* and *I can* knowledge. Subjective means what people think they know (*I know*) or are able to do (*I can*), which is the opposite of whether they really know or are able to do. Consequently, objective knowledge is verified while subjective knowledge is not (Brucks, 1985).

Regarding the *I create* field, New Product/Service Development (NPD/NSD) theory states that customers can participate in product or service creation at different stages. In looking for operationalization, it was sufficient to find an extended classification to cover all possible forms of collaboration. The paper uses Lagrosen's stages of the New Product Development process, which consist of the idea stage, the development stage, and the launch stage (Lagrosen, 2005). Expanding these three general stages with detailed activities such as strategic planning, idea generation, idea screening, business analysis, forming cross-functional teams, designing, personal training, service

testing, pilot running, test marketing, and commercialization (Alam, 2002), the paper comes up with the seven listed in Table 3. These are of linear logic but could be independent from each other, i.e., the customer can test a product/service without ideating or designing it. The subdivision criteria reflect features that are common for all knowledge manifestations among the identified papers, and general enough to cover most of the papers. This means that CK(from) described in the articles analysed falls into at least one of these subcategories. Only eight out of 112 empirical papers were removed because they cannot be subdivided since they don't contain sufficient information to make this subdivision. Finally, the study moved forward with 104 empirical papers for the subdivision. Table 4 presents the number of papers concerning each category.

Table 2: Number of papers in each category

Criteria	CK(from) Type	No of Papers	Fraction of Papers
No of CK(from) types in a paper	single CK(from)	83	79.81%
	double CK(from)	20	19.23%
	triple CK(from)	1	.96%
No of papers for particular CK(from) type	I know	13	12.50%
	I can	25	24.04%
	I create	88	84.62%

Notes: e.g., *Single CK(from) 83* and *double CK(from) 20* means there are 83 papers with one CK(from) category used and 20 with two categories used.

The number of all the articles covering at least one type of CK(from) equals 104, where 83 articles include only one type of knowledge, 20 include 2, and 1 includes 3. Single CK(from) articles explicitly dominate, representing 79.81% of the relevant category.

84.62% of the articles relate to *I create* knowledge. This means that the most often analysed CK(from) aspect is the *I create* one. This accords with the well-grounded NPD/NSD theory, which allows for customer participation research studies to be conducted in a formalized way. *I know* and *I can* have been recently identified with no such grounded theory. The results don't add up to 100%, because one article may cover more than one CK(from) type.

The study provided the insight into particular CK(from) subcategories. The analysis entails two assumptions. First, knowledge from each type of CK(from) types presented below can be transferred as information from the customer to the firm, so the knowledge is explicit. The information is therefore the content of the transmission of knowledge, which allows firms to know what others know and, based on this, to build their own knowledge. Second, the analysis requires the offer definition. Offer is the whole value composition and comprises the value of the product, price, communication, distribution, people, physical evidence, and process. It is important since the study

interprets the whole NPD/NSD process broadly, like all marketing-mix elements. This allows us to treat marketing communication customers' contribution, for example, as *I create* knowledge.

3.1. "I Know" Objective

Objective knowledge refers to what an individual actually knows (Brucks, 1985). This knowledge is understood as an individual's actual knowledge about reality, especially the offer, market, or industry. It refers to accurate stored information and depends on ability or expertise. Objective knowledge can be assessed with the reference point stating whether it's true or not. Objective knowledge considers that someone actually knows (Lee, 2015) and can be measured by some sort of test (Vigar-Ellis, Pitt, & Berthon, 2015), tasks to do (Brucks, 1985), or questionnaires (Lee, 2015).

This type fits the industries in which knowledge allows customers to consume the offer, e.g., if a customer is not a wine connoisseur, he won't appreciate the complexity of the wine's flavors; when a female customer does not know the expected make-up effects, she won't be able to make a good choice – that the product is objectively good (or not) for her skin. The important thing is that such judgments require advanced and specific knowledge, which is not a part purchases that require less engagement, such as ice-creams, where the customer does not have to know how to buy an appropriate ice-cream and appreciate its taste.

3.2. "I Know" Subjective

Subjective knowledge is an individual perception of, or confidence in, how much a person knows about the reality, especially the offer, the market, or the industry. Subjective knowledge refers to how much people think they know (Vigar-Ellis et al., 2015). Subjective knowledge differs from objective knowledge since people are over- or under-confident about their actual knowledge level (Brucks, 1985). Subjective knowledge is based on expertise, experience, and other factors. It has typically been measured by subjects' self-reports of their knowledge of a product category or domain or questionnaires (Lee, 2015). Subjective knowledge is based on customers' conviction (Basu & Vitharana, 2009). When purchasing any product, customers often rely on personal memory/knowledge to make their decision (Shafiq, Raza, & Zia-ur-Rehman, 2011).

Subjective knowledge allows customers to make decisions that might not always be right, but are usually perceived as right. This applies to industries in which customers are relatively free to create the aesthetics of the environment and where knowledge does not need to be verified by external means.

3.3. "I Can" Objective

Objective knowledge is an individual's actual level of skills of how to use an offer or how to do things related to the industry, verified by external means. Customers can verify their knowledge on how to use via technical forums and chats, where they can talk with other potential or current

customers (Sawhney, Verona, & Prandelli, 2005) or product users in mutual discussions of user-related issues (Jeppesen & Molin, 2003) or meetings with customers to evaluate progress and confirm direction (Abrell, Pihlajamaa, Kanto, vom Brocke, & Uebernickel, 2015). Some customers are expert buyers, who can sort through the offered product-attribute space easily are more capable of analyzing information (Alba & Hutchinson, 1987) and can more easily choose product configurations that best meet their needs (Ghosh, Dutta, & Stremersch, 2006).

Customer-engaged and co-creation forms need customer skills. The car industry, electronics, or home facilities industries require customer skills on how to use particular appliances. This allows them to use the appliances correctly and helps to avoid the risk of damaging the items, being hurt, or using them inappropriately.

3.4. "I Can" Subjective

In this case, the ability to use a product/service is not verified by external means. It concerns the subjective level of the ability to use a product or service or related industry skills (e.g., skills to follow and understand stock quotes). The conviction that customers can do something, appears especially when they are passive and use the product alone without communicating with others about the product (Jeppesen & Molin, 2003). When purchasing any product, customers often rely on personal memory/knowledge to make the decision (Shafiq et al., 2011). Customer self-consciousness, even if it is untrue, can result in a modification of the customer's or other customers' attitude. By decorating and combining furniture properly, showing the furniture to guests, and using the furniture, the customer is also creating value (value-in-use) (Andreu, Sanchez, & Mele, 2010).

Even if the knowledge has not been verified, customers can inform the company and other customers about their problems with products, services, and service delivery in a customer community forum, which companies can use to look specifically for problems to which customers cannot find a solution (Blazevic & Lievens, 2008). Even not well educated but highly convincing people help others by promptly answering their product-related problems (Nambisan & Baron, 2009).

Customers tend to be convinced that they can do something, when actually they cannot. The above states that this results in higher willingness to modify the offer or share knowledge. So, negative knowledge verification may result in a lower tendency to purchase.

3.5. "I Create"

I know is passive and is related to knowledge about the offer, competition, industry, and related phenomena (such as trends and lifestyles). *I can* is active and relates to skills of how to use the offer or how to do things related to the industry. This means customers use the product or service, but do not modify the offer. *I create* means customers participate in the process of new/modified offer creation, so

what they know, how they can use, and what they think about it can be utilized to create/modify a new offer.

Customers' reflections lead to ideas relating to new offer creation or modification. Customers can integrate with different product/service development stages, starting from idea generation, concept, and prototype development, marketing, and launch, up to the modification and improvement of existing products (Füller, Faullant, & Matzler, 2010) or idea generation, concept refinement, product development, and product testing (Troy, Szymanski, & Varadarajan, 2001). Some authors define creation engagement as customer involvement (CI) and define it as the customer's direct participation in the design and development stages of NPD, in which the customer engages in problem-solving activities and co-develops the final forms of the product with the manufacturers (Feng, Sun, & Zhang, 2010; Brown & Eisenhardt, 1995). This involves joint product design, process engineering, and production operations with key customers. Other authors define it as customer knowledge development (CKD), which is an iterative process of developing an understanding of customer preferences via stages such as idea generation, concept refinement, product development, and product testing (Joshi & Sharma, 2004; Troy, Szymanski & Varadarian 2001).

Customers' opinions, likes, and dislikes help to improve the business's offerings to attract and retain customers (Kumar, 2013). Customers express their ideas in the form of different activities, from less engaged activities (ideation and feedback), through designing, offer development, testing, manufacturing, marketing, and sales. The seven steps mentioned above are NPD/NSD process components and are used in the paper as a framework for *I create* knowledge characteristics. They are disjunctive, which means a customer can be a designer but not necessarily an ideator. This results in the customer's participation level, which depends on how many stages the customer participates in.

3.5.1. *Ideation*

Ideation is about generating ideas for the firm. Some customers prefer to generate new ideas, while others like to evaluate and further modify existing ones (Füller, 2010). Customers can bring ideas to modify a current offer or to create a new one; however, the difference between them is not always clear-cut.

People have ideas and want to share them when they can describe needs, problems, and possible solutions; suggest desired features, benefits, and preferences for products and services; identify financial problems not solved by existing services; evaluate existing services by suggesting likes and dislikes; identify gaps in the market; provide a new service wish list (Alam, 2006). People want to introduce ideas to producers (Fuller, 2006) to help them come up with new versions of products or genuinely new products (Jeppesen & Molin, 2003). The scope of forms is wide.

Ideation applies to most industries and concerns most of the marketing mix elements. Customers suggest products or product modifications, distribution modifications, or promotion suggestions. Pricing policy is strictly connected with financial results so such policies are proposed by the firms. In some situations product suggestions are not appropriate either (e.g., the medical industry), since people do not have sufficient knowledge (*I know*) to propose suggestions.

3.5.2. *Design*

Product design is a further step in the *I create* process. It's about visualizing the idea in the form of a visual or conceptual prototype of the product or service. At this stage, customers often provide ideas on how the product or service should look (Eslami & Lakemond 2016). For example, the method of user design allows users to design their own products according to their wants and needs (Fuller & Matzler, 2007). Sometimes, this merely involves modifications of existing products regarding such elements as color, form, and size (Lagrosen, 2005).

Designing requires specific skills and is far rarer than ideation. Actually, this is the first step of physically preparing a new product/service and is performed mostly in house. It is used especially in the case of simple products or services, such as beverages or aesthetic products, either of which is customized.

3.5.3. *Development*

Development refers to the conversion of a new idea and the design concept into a new, physical product or service. The development phase concerns work on the prototype, which leads to the establishment of a pre-test product/service by discussing and improving optional solution details, selecting or individualizing the preferred virtual (Fuller, 2006) or real (Shaw, 1985) prototype. This is done in order to develop new products and services that better meet consumers' wants and needs and to decrease the high failure rates of new product introductions, especially prevalent in the consumer goods sectors (Füller, 2010). Collaboration with customers requires them to play active roles, so passive users or active informers cannot contribute to development. However, bidirectional creators help the development team in various ways, such as validating product architectural choices (Blazevic & Lievens, 2008). Customers also engage as codevelopers in hands-on development and trials through development (Coviello & Joseph, 2012). Developing, disseminating and implementing a unique concept is an essential step in product development (Kohlbacher, 2008). Customers participate in round-table discussions, application labs, and user groups (Gordon, Kaminski, Calantone, & di Benedetto, 1993), and the whole process has an iteration character (Joshi & Sharma, 2004). If a highly innovative product is developed, it involves new engineering and manufacturing knowledge that is inherently ambiguous to the manufacturer, who has no prior experience of it (Lau, 2011).

Development needs highly specialized knowledge and is applied in highly specialized industries. Interestingly, the literature provides examples of customer development, where the product or service is complex. This means there are highly engaged leading customers with highly advanced knowledge. Sometimes they do prototypes for themselves, not for sale, where they overcome the whole creation process (Hyysalo & Usenyuk, 2015).

3.5.4 *Test*

The product/service is tested during or after the development test (see Joshi and Sharma 2004). Based on the nature of development, it is sometimes difficult to distinguish between these two phases. The phase covers testing and experiencing the new product features by running simulations, getting information about the new product, or just consuming it (J. Fuller, 2006). Customers are expert testers, who are typically able to spot errors and mistakes in prototypes during testing (Jeppesen, 2005). Lead users are a group that provides special information and feedback during product testing (Jin & Chih-Yu, 2011). Customers suggest improvements by identifying points of failure in service delivery (Alam, 2006). Together, firms address some problems during system tests. As one of the respondents says, "It was very important for both parties to understand what the issues were. For instance, when we saw the breaking of some of the standard components, we told them, 'Ok let's take out the system and analyze it together. Together with the customer, we examined each of its components and performed in-depth investigations. We chose this approach, as we believed it would help us change their minds regarding our solution'" (Eslami & Lakemond, 2016). The workshops are a form of testing and are usually organized after users have been visited for purposes such as testing new products with them (Abrell et al., 2015). At this stage, the customers are contacted again and asked to give their viewpoints of the prototype (Lagrosen, 2005). Toolkits, as well as workshops, enable a user-only service development and testing process carried out by users in their own user environments at no cost to the service developers (Oliveira & Von Hippel, 2011). The internal, laboratory trials and tests are based on a system of testing versions of the entire product and testing the pre-release versions of the product by end users/customers often at their sites (Callahan & Lasry, 2004). Using that mold, creators-customers built 40 kayaks for their own testing purposes (Hienerth, 2006).

Testing is a phase in which no specific knowledge is required, and sometimes is even undesirable. Software beta testers or clothes testers are ordinary people who represent the target group that consists of usual customers. This allows a company to avoid the effect of customer professionalization, because most of them are not professionals.

3.5.5. *Manufacturing*

Manufacturing is a phase during which a customer participates in the production process. This can be a pilot (Campbell & Cooper, 1999) or regular (Lau, 2011) production. This phase occurs rarely.

Producers manufacture without consumers (think of a firm producing cars), whereas services (such as a haircut or repairing a car) are more popular ...it is often useful to think of services as either intermediation activities, such as transport, that arise because consumers want to separate production and consumption, or contact services, such as haircuts or medical services, where production involves the consumer directly and where the output of the activity is embodied in the consumer. An important aspect of a service is the jointness of production and consumption – i.e., that goods can be produced (Oliveira & Von Hippel, 2011).

Manufacturing requires that the highest competent customers are treated like employees. There is relatively low space for customer interference in different industries. The whole manufacturing process is ordered by a firm's goals with the minimal involvement of the customer's role.

3.5.6. Marketing

Marketing is a phase during which a customer participates in a marketing process, and such participation is understood as being involved in marketing activities (Bonner, Walker, and Jr. 2004) connected with launching a product or service in the market (Carbonell et al. 2009; Füller et al. 2010). This includes the release of the product into the market and the promotion and commencement of sales to customers (Callahan & Lasry, 2004).

Even though there are only a few examples in the literature, it is easy to imagine significant customer engagement in this field. Customers can promote an offer and participate in distribution channels like promoters or ambassadors in different industries, especially when they participate in the whole NPD/NSD process, which authenticates their marketing participation.

3.5.7. Sales

Sales is a phase in which a customer participates in sales activities (Bonner et al., 2004), initially by suggesting rough sales and market size (Alam, 2002; Alam, 2006) and subsequently leading to the commencement of sales to customers (Callahan & Lasry, 2004). This stage analysis resulted in no examples, which means this is very rare in the NPD/NSD process.

Sales allow customers to participate as selling ambassadors in trades and open days. One can imagine that innovative customers can be engaged as sales representatives for a specific period in different industries; however, it seems this is a phase the firm can accomplish itself or it doesn't see the opportunities resulting from this phase. Summing up, the customer's role in this phase is highly limited.

4. CONCLUSIONS

In spite of many marketing and knowledge publications, there is still no clear definition and classification of CK(from), and the current state of CK(from) research is unknown. This is important, since CK(from) can be a source of value for a firm (the same as purchases, recommendations, or social

influence), but actually it is not. Based on the above, the article aimed to 1) to define CK(from), and 2) to classify it.

Based on the literature analysis, the study found that the CK(from) definition covers passive knowledge manifestations, even when the analysis proves the occurrence of active forms, including skills and creative abilities. This leads to the designing definition of CK(from), which covers all the customer knowledge manifestations: passive, active, and creative (*I know, I can, I create*).

The definition leads to a classification from passive knowledge (*I know*) through active, which covers customer skills of how to use the offer (*I can*), to the creative one, regarding new offer proposition and creative process participation (*I create*). More than 84% of papers relate to *I create* knowledge, which reflects the popularity of the NPD/NSD concept in the first decade of the 21st century, where only 24,04% of papers have been related to *I can* and 12,50% to *I know*. This means the research on CK(from) went in the direction of how to use the knowledge rather than what it actually is. The above resulted in no CK(from) definition and classification.

CK(from) needs operationalization. Both *I know* and *I can* may be subjective and objective, which means customers can tell what they think they know or what they think they can do (subjective) or show what they really know or can do (objective). *I create* operationalization is based on the NPD/NSD process, which covers all the possible customer engagement forms from ideation to sales.

Customers could use their knowledge to make better decisions, which would help firms indirectly or collaborate with firms, which would help them directly. The first is *I know* and *I can*, the second is *I create*. Proposing the extended CK(from) definition, the study expands the paradigm of traditional CK(from) understanding. It goes beyond the knowledge *sensu stricto*, which is passive. Including skills and creation ability, the classification allows us to grasp all of the knowledge manifestations together and examine them comprehensively. Moreover, it is possible there are relationships between them. Research studies suggest customers generate useful insights (Smith & Shah, 2013), and information usage improves a firm's performance in business-to-business markets (Rollins, Bellenger, & Johnston, 2012). Customers also design customized products (Randall, Terwiesch, & Ulrich, 2007) and support the innovation process (Lüthje, Herstatt, & Von Hippel, 2005). The above means CK(from) brings value in different forms, but the monetary and relationship value is still ambiguous.

The strength of this paper is that it is the first attempt at SLR in the field of CK(from), proposing a definition and classification based on the wide range of articles across a wide span of time. It helps understand CK(from), and can be a starting point for further research.

The research defines CK(from) and classifies it. This allows academic marketers to start working on the role of CK(from) as a value creator for a firm. This may lead to customer knowledge valuation and complement CEV model hypothesized by V. Kumar in 2010⁹. The model consists of customer lifetime value, customer referral value, customer influence value, and customer knowledge value, where the last element is not examined sufficiently. Treating customer knowledge value as a CEV component may allow us to estimate CEV more accurately than ever and is an opportunity to start a new research trend, as in the case of CLV in the 1990s and early 2000s. If we say customer knowledge value is important, we cannot say, CK(from) is not important.

CK(from) analysis may help for firms to estimate CKV in future and, consequently, to estimate the CEV of their customers correctly. It can protect them against customer undervaluation and lead to more accurate customer segmentation and marketing resource allocation. Furthermore, this may allow for the shaping of individual relationships, not only with the most intellectual contributive customers, who co-create the firm's offer, but also with non-creators, who just know or can do something. The research results may allow us to find CK(from) as a value and customer behavior determinant, answering questions such as: Do customers who know more than others buy more frequently? Do they pay more? Do they pay earlier? Are they more loyal?

A limitation comes from the fact that CK(from) is often regarded in scientific articles as being of secondary importance, and might be difficult to identify. This leads to the risk of avoiding papers that are potentially significant. However, the number of 184 seems to be critical for SLR.

Treating the paper as a basis for further research, the article proposes its procedure. First, CK(from) needs to be operationalized. The most effective way seems to measure subjective knowledge by proposing and verifying scales. Second, the CRM hypotheses allow us to propose the research, which can verify the relationships between CK(from) and CRM metrics such as customer loyalty, satisfaction, and purchase frequency. Third, when the relationships are known, the research can identify CK(from)'s antecedents. Finally, CK(from) should be evaluated, which would allow scholars to identify CKV as the missing element of CEV, as mentioned in the introduction of the paper.

REFERENCES

- Ackoff, Russell Lincoln (1999), *Ackoff's Best*. New York: John Wiley and Sons
- Abrell, T., Pihlajamaa, M., Kanto, L., vom Brocke, J., & Uebernickel, F. (2015). The role of users and customers in digital innovation: Insights from B2B manufacturing firms. *Information and Management*, pp. 324–335. <https://doi.org/10.1016/j.im.2015.12.005>
- Alam, I. (2002). An exploratory investigation of user involvement in new service development. *Journal of the Academy of Marketing Science*.
- Alam, I. (2006). Removing the fuzziness from the fuzzy front-end of service innovations through customer interactions. *Industrial Marketing Management*, 35(4), 468–480. <https://doi.org/10.1016/j.indmarman.2005.04.004>
- Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of Consumer Expertise. *Journal of Consumer Research*, 13(March), 411. <https://doi.org/10.1086/209080>

- Andreu, L., Sanchez, I., & Mele, C. (2010). Value co-creation among retailers and consumers: New insights into the furniture market. *Journal of Retailing and Consumer Services*, 17(4), 241–250. <https://doi.org/10.1016/j.jretconser.2010.02.001>
- Basu, a., & Vitharana, P. (2009). Research Note--Impact of Customer Knowledge Heterogeneity on Bundling Strategy. *Marketing Science*, 28(4), 792–801. <https://doi.org/10.1287/mksc.1080.0445>
- Bauer, H. H. ; & Hammerschmidt. (n.d.). *www.ssoar.info Customer-based corporate valuation: integrating the concepts of customer equity and shareholder value*. Retrieved from https://www.ssoar.info/ssoar/bitstream/handle/document/581/ssoar-managdec-2005-3-bauer_et_al-customer-based_corporate_valuation.pdf?sequence=1
- Bauer, H. H., & Hammerschmidt, M. (2003). The Customer Lifetime Value Concept and its Contribution to Corporate Valuation. *Yearbook of Marketing and Consumer Research*, 48(4), 47–67. <https://doi.org/10.1108/00251740510589733>
- Blazevic, V., & Lievens, A. (2008). Managing innovation through customer coproduced knowledge in electronic services: An exploratory study. *Journal of the Academy of Marketing Science*, 36(1), 138–151. <https://doi.org/10.1007/s11747-007-0064-y>
- Bonner, J. M., Walker, O. C., & Jr. (2004). Selecting Influential Business-to-Business Customers in New Product Development: Relational Embeddedness and Knowledge Heterogeneity Considerations. *Journal of Product Innovation Management*, 155–169.
- Brown, S. L., & Eisenhardt, K. M. (1995). Product development: Past research, present findings, and future directions. *Academy of management review*, 20(2), 343–378.
- Brucks, M. (1985). The Effects of Product Class Knowledge on Information Search Behavior. *Journal of Consumer Research*, 12(1), 1. <https://doi.org/10.1086/209031>
- Callahan, J., & Lasry, E. (2004). The importance of customer input in the development of very new products. *R&D Management*, 34(2), 107–120. <https://doi.org/10.1111/j.1467-9310.2004.00327.x>
- Campbell, A. J., & Cooper, R. G. (1999). Do Customer Partnerships Improve New Product Success Rates? *Industrial Marketing Management*, 28, 507–519. [https://doi.org/10.1016/S0019-8501\(99\)00058-9](https://doi.org/10.1016/S0019-8501(99)00058-9)
- Carbonell, P., Rodriguez-Escudero, A. I., & Pujari, D. (2009). Customer involvement in new service development: An examination of antecedents and outcomes. *Journal of Product Innovation Management*, 26(5), 536–550. <https://doi.org/10.1111/j.1540-5885.2009.00679.x>
- Coviello, N. E., & Joseph, R. M. (2012). Creating major innovations with customers: Insights from Small and young technology firms. *Journal of Marketing*, 76(6), 87–104. <https://doi.org/10.1509/jm.10.0418>
- Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of Management Studies*, 47(6), 1154–1191. <https://doi.org/10.1111/j.1467-6486.2009.00880.x>
- Davenport, T., & Prusak, L. (1998). *Working Knowledge How Organization Manage What They Know*. Harvard Business School Press, (January 1998), 1–15. <https://doi.org/10.1145/348772.348775>
- Eslami, M. H., & Lakemond, N. (2016). Knowledge integration with customers in collaborative product development projects. *Journal of Business & Industrial Marketing*, 31(7), 889–900. <https://doi.org/10.1108/JBIM-05-2014-0099>
- Feng, T., Sun, L., & Zhang, Y. (2010). The effects of customer and supplier involvement on competitive advantage: An empirical study in China. *Industrial Marketing Management*, 39(8), 1384–1394. <https://doi.org/10.1016/j.indmarman.2010.04.006>
- Fuller, J. (2006). Why Consumers Engage in Virtual New Product Developments Initiated By Producers. *Advances in Consumer Research*, 33, 212–217. <https://doi.org/43008804>
- Füller, J. (2010). Refining Virtual Co-Creation from a Consumer Perspective. *California Management Review*, 52(2), 98–122. <https://doi.org/10.1525/cm.2010.52.2.98>
- Füller, J., Faullant, R., & Matzler, K. (2010). Triggers for virtual customer integration in the development of medical equipment - From a manufacturer and a user's perspective. *Industrial Marketing Management*, 39(8), 1376–1383. <https://doi.org/10.1016/j.indmarman.2010.04.003>
- Fuller, J., & Matzler, K. (2007). Virtual product experience and customer participation-A chance for customer-centred, really new products. *Technovation*, 27(6–7), 378–387. <https://doi.org/10.1016/j.technovation.2006.09.005> [gamasutra.com/features/20010831/survey_01.html/](https://www.gamasutra.com/features/20010831/survey_01.html/) Accessed 12 August 2018
- Gebert, H., Geib, M., Kolbe, L., & Brenner, W. (2003). Knowledge-enabled customer relationship management: integrating customer relationship management and knowledge management concepts. *Journal of Knowledge Management*, 7(5), 107–123. <https://doi.org/10.1108/13673270310505421>
- Ghosh, M., Dutta, S., & Stremersch, S. (2006). Customizing Complex Products: When Should the Vendor Take Control? *Journal of Marketing Research*, 43(4), 664–679. Retrieved from <http://www.jstor.org/stable/30162439>

- Gibbert, M., Leibold, M., & Probst, G. (2002). Report Five styles of Customer Knowledge Management , and how smart companies put them into action Reference Five styles of Customer Knowledge Management , And how smart companies put them into action, 1–16.
- Gordon, G. L., Kaminski, P. F., Calantone, R. J., & di Benedetto, C. A. (1993). Linking customer knowledge with successful service innovation. *Journal of Applied Business Research*, 9(2), 129. Retrieved from <http://search.proquest.com/docview/227587036?accountid=48005>
- Hienerth, C. (2006). The commercialization of user innovations: The development of the rodeo kayak industry. *R&D Management*, 36(3), 273–294. <https://doi.org/10.1111/j.1467-9310.2006.00430.x>
- Hyysalo, S., & Usenyuk, S. (2015). The user dominated technology era: Dynamics of dispersed peer-innovation. *Research Policy*, 44(3), 560–576. <https://doi.org/10.1016/j.respol.2015.01.002>
- Jeppesen, L. B. (2005). User toolkits for innovation: Consumers support each other. *Journal of Product Innovation Management*, 22(4), 347–362. <https://doi.org/10.1111/j.0737-6782.2005.00131.x>
- Jeppesen, L. B., & Molin, M. J. (2003). Consumers as co-developers: learning and innovation outside the firm. *Technology Analysis & Strategic Management*, 15(January 2014), 363–383. <https://doi.org/10.1080/09537320310001601531>
- Jin, C. T., & Chih-Yu, W. (2011). New product development team practices, market orientation and customer knowledge development. *African Journal of Business Management*, 5(18), 7702–7715. Retrieved from <http://search.proquest.com/docview/1663944704?accountid=48005>
- Joshi, A. W., & Sharma, S. (2004). Customer knowledge development: Antecedents and impact on new product performance. *Journal of Marketing*. <https://doi.org/10.1509/jmkg.68.4.47.42722>
- Kohlbacher, F. (2008). Knowledge-based New Product Development: fostering innovation through knowledge co-creation. *International Journal of Technology Intelligence and Planning*, 4(3), 326. <https://doi.org/10.1504/IJTIP.2008.020100>
- Kumar, V. (2013). Profitable customer engagement: concept, metrics and strategies. SAGE Publications India.
- Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T., & Tillmanns, S. (2010). Undervalued or Overvalued Customers: Capturing Total Customer Engagement Value. *Journal of Service Research*, 13(3), 297–310. <https://doi.org/10.1177/1094670510375602>
- Lagrosen, S. (2005). Customer involvement in new product development. *European Journal of Innovation Management*, 8(4), 424–436. <https://doi.org/10.1108/14601060510627803>
- Lau, A. K. W. (2011). Supplier and Customer Involvement on New Product Performance: Contextual Factors and an Empirical Test from Manufacturer Perspective. *Industrial Management & Data Systems* (Vol. 111). <https://doi.org/10.1108/02635571111144973>
- Lee, H.-S. (2015). the Effects of Avatar on Trust and Purchase Intention of Female Online Consumer: Consumer Knowledge As a Moderator. *International Journal of Electronic Commerce Studies*, 6(1), 99–118. <https://doi.org/10.7903/ijecs.1395>
- Leidner, D. (2000). Knowledge management and knowledge management systems. *Journal of Strategic Information Systems*, 9(2–3), 101–105. <https://doi.org/10.1007/978-3-540-71408-8>
- Lüthje, C., Herstatt, C., & Von Hippel, E. (2005). User-innovators and “local” information: The case of mountain biking. *Research Policy*, 34(6), 951–965. <https://doi.org/10.1016/j.respol.2005.05.005>
- Nambisan, S., & Baron, R. A. (2009). Virtual Customer Environments: Testing a Model of Voluntary Participation in Value Co-creation Activities. *Journal of Product Innovation Management*, (518), 388–406.
- Oliveira, P., & Von Hippel, E. (2011). Users as service innovators: The case of banking services. *Research Policy*, 40(6), 806–818. <https://doi.org/10.1016/j.respol.2011.03.009>
- Randall, T., Terwiesch, C., & Ulrich, K. T. (2007). User Design of Customized Products. *Marketing Science*, 26(2), 268–280. <https://doi.org/10.1287/mksc.1050.0116>
- Rollins, M., Bellenger, D. N., & Johnston, W. J. (2012). Does customer information usage improve a firm’s performance in business-to-business markets? *Industrial Marketing Management*, 41(6), 984–994. <https://doi.org/10.1016/j.indmarman.2012.01.004>
- Sawhney, M., Verona, G., & Prandelli, E. (2005). Collaborating to create: The internet as a platform for customer engagement in product innovation. *Journal of Interactive Marketing*, 19(4), 4–34. <https://doi.org/10.1002/dir.20046>
- Shafiq, R., Raza, I., & Zia-ur-Rehman, M. (2011). Analysis of the factors affecting customers’ purchase intention: The mediating role of perceived value. *African Journal of Business Management*, 5(26), 10577–10585. <https://doi.org/http://dx.doi.org/10.5897/AJBM10.1088>
- Shaw, B. (1985). The Role of the Interaction between the User and the Manufacturer in Medical Equipment Innovation. *R&D Management*, 15(4), 283–292. <https://doi.org/10.1111/j.1467-9310.1985.tb00039.x>

- Smith, S. W., & Shah, S. K. (2013). Do innovative users generate more useful insights? An analysis of corporate venture capital investments in the medical device industry. *Strategic Entrepreneurship Journal*, 7(2), 151–167. <https://doi.org/10.1002/sej.1152>
- The Internet Big Picture. World Internet Users and 2018 Population Stats (2017). <https://www.internetworldstats.com/stats.htm/> Accessed 12 August 2018
- The knowledge-based economy. (1996). <https://www.oecd.org/sti/sci-tech/1913021.pdf/> Accessed 12 August 2018
- Tomczyk, P. (2015). Multi-Method Analysis. In *Market Research Methodologies: Multi-Method and Qualitative Approaches* (pp. 184-198). IGI Global.
- Tomczyk, P., Doligalski, T., & Zaborek, P. (2016). Does customer analysis affect firm performance? Quantitative evidence from the Polish insurance market. *Journal of Business Research*, 69(9). <https://doi.org/10.1016/j.jbusres.2016.03.026>
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review *. *British Journal of Management*, 14, 207–222. <https://doi.org/10.1111/1467-8551.00375>
- Troy, L. C., Szymanski, D. M., & Varadarajan, P. R. (2001). Generating new product ideas: An initial investigation of the role of market information and organizational characteristics. *Journal of the Academy of Marketing Science*, 29(1), 89.
- Vigar-Ellis, D., Pitt, L., & Berthon, P. (2015). Knowing what they know: A managerial perspective on consumer knowledge. *Business Horizons*. <https://doi.org/10.1016/j.bushor.2015.07.005>

1 According to Google Scholar, Davenport and Prusak's book, *Knowledge management: an organization capabilities perspective*, is the most cited knowledge-management book with a citation number of 21.923 [access: 28.03.2018].

2 Except JSTORE, where we use the option title, abstract, and caption and ProQuest, where the option keywords was disabled.

3 Von Hippel, Eric (1977). A customer-active paradigm for industrial product idea generation. *Research Policy*, 7(3), 240-266.

4 2017 is excluded since the analysis covers only its first quarter.

5 <https://www.oecd.org/sti/sci-tech/1913021.pdf> [access: 30.03.2018]

6 The less important are marketing (41,7% out of 36 papers), manufacturing (36,1% out of 36 papers), and sales (only 16,7% out of 36 papers).

7 www.gamasutra.com/features/20010831/survey_01.html [access 02.04.2018]

8 <https://www.internetworldstats.com/stats.htm> [access: 21.05.2018]

9 Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T., and Tillmanns, S. (2010). Undervalued or Overvalued Customers: Capturing Total Customer Engagement Value. *Journal of Service Research*, 13(3), 297–310

CIRCULAR ECONOMY. THE WAY THE GREEK INDUSTRY LEADERS DO IT.**Trigkas, M^{1.}; Mpyrou K^{1.}; Karagouni, G^{2.}; Papadopoulos, I^{2.}**

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ABSTRACT

The promotion and transition to a circular economy model presupposes the consideration of the activities that support the enterprise's value chain. The organization's internal operations must adopt the circular economy at every step of the value chain, from product development to consumption, repair and reconstruction, disposal potential and secondary raw materials re-entering into the economic cycle. The present-study is a prototype research for the Greek business environment under the context of the Circular Economy model, since the literature on relative empirical studies is rather limited for the country. The main purpose is to map the main procedures, business strategies and measures of the Greek industries for adopting and implementing the circular economy model during the complete life cycle of products. The study is based on primary data from the Greek industry leaders, about the knowledge of the circular economy model, the assessment of the circular economy in the business sector and the practical applications and procedures of the enterprises for the adoption of the model. Results show that there is a lack of an integrated and well-planned approach to fully adopt the model, in relation to the procedures proposed by several researchers in the field. Although the Greek industries of the study recognize the importance of adopting such methods to theory operational framework for entering in new markets, boosting their innovativeness and competitiveness contributing to sustainability, however they mainly remain to recycling procedures of products and materials for reuse purposes.

Keywords: circular economy, product life cycle, innovation, resource efficiency, economic model, Greek industries, sustainable development

1. INTRODUCTION

The current economic model is characterized as linear, where natural resources are originally extracted and used to production process, then products are consumed and finally disposed. After use, the products end up in waste but are still valuable resources. A linear production model reaches rapidly the limits of natural resources availability due to the increased global population and consumption, as well as the finite character of earth's natural resources, (Technopolis group, 2016).

Environmental impacts usually reach quite significant numbers. In the 2013 report, Ellen MacArthur Foundation estimates that in 2010, 65 billion tons of raw materials were imported into the productive economic cycle. This figure is expected to increase to 82 billion tons by 2020. At the end of products' life cycle, the majority (60%) either ends up as waste or is incinerated. Only 40% of the materials are used for recycling or in reuse processes (Ellen MacArthur Foundation, 2015). According to contemporary innovative concepts shaping the present but especially the future of economies, we must consider the transformational shift from an established linear economic model into a circular one as rather obligatory. This transition will only be possible with gradual change over time and an adjustment of the general institutional framework. This implies that all possible conditions in the existing economic models and institutional frameworks are reviewed and adapted to follow the model of a circular economy. These conditions include government actions such as taxation, incentives, procurement, education (awareness raising and skills acquisition), legal framework, finance and funding opportunities, technologies and standards (Technopolis group, 2016). Certifications and labels will also help consumers and business to establish information proposals and related choices for products that are in line with the circular economy model (Technopolis group, 2016). In short, the transition to a circular economy entails a massive change requiring action by all parts of the triangle: institutions, industry and civil society (Ellen MacArthur Foundation, 2013a).

The purpose of the present research is to map the main procedures, business strategies and measures of the Greek industries for adopting and implementing the circular economy model during the whole life cycle of products, under the context of the adoption of a strategic shift and the transition towards the abandonment of linear production model for a more effective, efficient and viable one.

2. BASIC THEORIES AS FOUNDATIONS OF THE CIRCULAR ECONOMY MODEL

The beginning of the concept of circular economy cannot be traced back to a single date or to a single author, but it is derived from different scientific fields and schools of thought. Many researchers believe that the circular economy model was mainly introduced by the environmental economists such as Pearce and Turner, who built their theoretical framework based on previous studies by the economist Kenneth Boulding (Andersen, 2006; Heshmati, 2015; Murray, et al., 2017; Wautelet, 2018). However, those are not the founders of the concept. According to Murray, et al. (2017), the extensive literature review of the last two decades has shown that, the circular economy derives mainly from ecological and environmental economy as well as from industrial ecology.

According to Ellen MacArthur Foundation (2012, 2013a, 2013b), there are recent theories that improves and develops the circular economy concept. These theories pertain to (Ellen MacArthur

Foundation, 2012):

- *Industrial Ecology*: The concept of circular economy origins in industrial ecology (Preston, 2012; Murray, et al. 2017).
- *Cradle to Cradle*: The "cradle to cradle" notion, which focuses on a new way of products designing, goes beyond the concept of eco-efficiency and minimizes the negative impact of businesses on the environment (McDonough & Braungart, 2002).
- *Performance economy*: a Swiss architect and industrial analyst, Walter Stahel, developed a "closed loop" model that aims at the waste prevention during the production process and at closing the open linear flows. A closed loop economy is often used as a synonym for a performance economy. Stahel (2010), refers to the circular economy by using the term "lake economy", through which reprocessing of goods and materials generates multiple benefits (Comment, 2016; Clift & Druckman, 2016).
- *Biomimicry*: studies nature, trying to identify the best techniques and then imitates her designs and processes for adapting them in provision of innovative and sustainable solutions for the society. Using this methodology, it can help companies to create innovative technologies, industrial processes and systems, which are more energy and material efficient, while they are saving money and helping them being more resilient and competitive.

3. DEFINITIONS OF CIRCULAR ECONOMY

Several authors (Andersen, 2006; Su, et al., 2013; Geissdoerfer, et al., 2016; Trigkas, et al., 2018) attribute the concept of circular economy to Pearce and Turner (1989), while this concept gained momentum in the late 1970s (MacArthur Foundation, 2013b). In recent years, there has been increased interest on academic research, with a marked increase in publishing in the sector in 2015 (Lieder & Rashid, 2016). The origin of the concept comes from Germany and Japan, where there was pressure to form a more closed loop society (Lieder & Rashid, 2016). The country that has fully adopted the implement and development of the concepts of the cyclical economy is China (Zhou, et al., 2014; Ghisellini, et al., 2016).

With increasing pressures on natural resources, the notion of more efficient use of materials and resources has become an overriding issue around the world through the transition to a more beneficial economy where the value of products, materials and resources is maintained in the economy as much as possible and the generation of waste is minimized. This is an essential contribution to the development of a sustainable, competitive economy (Trigkas, et al., 2018).

The most well-defined definition has been formulated by the Ellen MacArthur Foundation (2012), defining the circular economy as "*an economy that promotes systemic change and creates continuous circles*

of materials: resources are only a temporary part of a product and at the end of life or end of use of the product, resources will be available again for reuse in new products". The principles of the circular economy, as suggested by Ellen MacArthur Foundation (2013), include that the circular economy is a global economic model that decouples economy growth from consumption of finite resources. It distinguishes and separates the materials of technical and biological origin, seeks to preserve at the highest possible value throughout their life. It focuses on the efficient design of processes and the resources efficiency to optimize flows and to maintain the physical and technical reserve resources. It provides new possibilities for innovative solutions in fields such as product design, services and business models, food production, crops, etc. Finally, it creates a framework and builds the foundation for a durable system capable of functioning in perpetuity.

In the circular economy, redesigning of products increases the value of used resources to decouple economic growth from resource use. As a result, opportunities have been created to extend the life cycle of the product (Mavroudis, 2018). Circular economy is briefly described as a "4R" approach: reduction, reuse, recycle and recover. Through this process the amount of waste minimized and managed more efficiently. As a result, solving multiple environmental problems whilst preserving natural resources. However, problems are also encountered in this process, such as financing, consumer behavior, business models, government etc. (Tukker, 2015; Ghisellini, et al., 2016; Trigkas, et al., 2018).

4. IMPLEMENTATION OF CIRCULAR ECONOMY IN THE PRODUCT LIFE CYCLE

According to the European Commission (2015, 2017), for the promotion and transition to a circular economy, we need to consider all the activities that support the enterprise's value chain. An organization's internal operations must adopt the circular economy at every step of the chain, from generation of product to consumption, repair and reconstruction, waste management and secondary raw materials re-entering into the economic cycle (Karagouni, 2018).

The supply of raw materials, resource consumption and waste production throughout the life of the product are influenced by both design and production methods. With proper product design, their quality can be improved, facilitated, repaired, refurbished and rebuilt. They can also help save valuable resources through recycling, while protecting the single market and competition and fostering innovation. The first European Commission action proposed in the Member States was eco-design for safer dismantling, reuse and recycling of products.

The production method is an important stage in the circular economy. Even if the necessary design processes are done properly, without the efficient exploitation of natural resources in production

methods, we can end up with negative results, such as lost business opportunities and the production of a significant amount of waste. It is also important to promote innovative industrial processes on waste and by-products utilization to facilitate industrial co-existence across the EU, known as industrial symbiosis.

Consumers as well, play an important role in the circular economy, either with a positive or negative impact. These options are shaped by the information that consumers have access to, the variety and prices of available products, and the regulatory framework. Consumers are often confronted with a multitude of brands and environmental claims, making it difficult to distinguish differences between products. Actions on clear and reliable labeling, improved recovery, product upgrading, and durability are an important part. The life cycle extension of a product can be accomplished through reuse and repair. Innovative forms of consumption, such as product or infrastructure sharing (cooperative or sharing economy), may be an area where new business opportunities will emerge during the transition to the circular economy.

Waste management in the circular economy determines how waste is following a specific hierarchy in a priority order, starting from avoidance, preparing for reuse, recycling and recovering, energy production and ending up with rejection. This process brings enormous environmental benefits to our planet. Through waste collection and management, one part ends up in recycling and returns to valuable materials in the economy and most of the recyclable waste ends up in landfills, causing harmful effects on the economy and the environment. To achieve high levels of material recovery, appropriate legislative proposals need to be made to form a long-term vision for increasing recycling and reducing landfill of municipal waste. A circular economy focuses on the processing of secondary raw materials that are re-used, introducing them into the economy in the form of new raw materials, thus increasing security of supply. So far, secondary raw materials still represent a small percentage of materials used in the European Union (European Environment Agency, 2016).

5. MATERIALS AND METHODS

To gather the data for this survey, a specially structured questionnaire specifically designed for the research purposes was used as the basic tool. The questionnaire was distributed via e-mail ~~sent~~ to the 500 largest firms in Greece, listed in the annual business publication "THE STRONGEST OF THE GREEK ECONOMY" with the leading companies that are the pillars of Greek business (Direction Business Network, 2014).

The questions were chosen in such a way as to be brief and understandable for the maximum possible facilitation of the respondents. They were grouped into research-oriented categories to be homogeneous in the responses. The questionnaire included closed-format questions with quantitative

and qualitative features, grouped into 4 different groups and a total of 18 questions. The first group included 2 questions about the knowledge of the circular economy model. The second group consists of 2 questions related to the assessment of the circular economy in the business sector. The third group composed of 6 questions related to the practical applications of the enterprise in the circular economy model and finally the fourth group includes 8 questions related to the firms' profile. The questionnaire was created in the Google Forms application located at the link below <https://docs.google.com/forms/d/1sxpENrcvp7M5e7mZL4gWd1Rf60sKt6pXb8qjdoKC1E/edit>

Prior to initiating and conducting a survey, a content validity test of the questionnaire was applied. This audit included discussions with specialists dealing with the subjects of the circular economy. The reliability of the questionnaire content was based on a thorough review of the literature on the circular economy model. Before launching the survey, we pre-tested the questionnaire with three companies and a few adjustments were made to improve quality, flow and ease of completion. (Dillman, 2000).

The survey was conducted within 6 months (May - October 2018). After the first questionnaire, two reminders were also sent, to collect more answers. Altogether 30 questionnaires were collected with a response rate of 6%, which is quite low. However, searches in international literature have highlighted other cases of business-to-business surveys and have attracted a relative corresponding response rate (Koellner et al., 2010). Because of the great importance of the issue and the major interest of the Greek industry and policy makers on the issue, the research remains open as an ongoing research for the gathering of a bigger sample of industries.

The data were imported, processed and analyzed with the IBM SPSS Statistics 25 special statistical program, and related Frequencies, Descriptive and Correlations tests were made (Howitt & Cramer, 2003; Siomkos & Vasilikopoulou, 2005; Norusis, 2007), focusing on business practices for adopting the circular economy model over the different life cycle phases of their products and the resources they use.

6. RESULTS

6.1 Profile of the enterprises

The major business activity is mainly in manufacturing and other service activities (30%). Furthermore, the wholesale and retail trade with 26.7% and the construction sector (10%), electricity, gas, water and power generation are following with 3.3%. Most of the surveyed enterprises were established before 1990 (70%), and from 1990 to 2000 (26.7%). Then, there is a sharp downturn (3.3%) from 2000-2010, and no company in the sample has been established since 2010, indicative of the declining course of start-ups due to the recent economic crisis in the country. Regarding the average annual turnover of enterprises of the previous fiscal year, the majority of the sample (86.7%) stated

that it was over € 10 million. 6.7% of the respondents said their annual turnover was below € 3 million, while at a lower rate of 3.3% from € 3 million to € 10 million. 76.7% have over 250 employees, 13.3% have 10-49 employees and 10% have 50-249 employees.

The χ^2 analysis showed that there is a strong correlation between the legal form of business and the knowledge of the circular economy model (Pearson Chi-square=13,038, App. Sig.=0,001 for level of materiality $\alpha=0,05$) (Table 1). The analysis did not reveal any other significant correlation of the knowledge of the circular economy model with the profile of the participating enterprises.

Table 1. Crosstabulation of the legal form to the knowledge of the Circular Economy

		Legal Form			Total	
		Ltd	SA	Other		
Knowledge of the circular economy model	Yes	Count	0	24	2	26
		Expected Count	0,9	21,7	3,5	26,0
	No	Count	1	1	2	4
		Expected Count	0,1	3,3	0,5	4,0
Total	Count	1	25	4	30	
	Expected Count	1,0	25,0	4,0	30,0	
		Value	df	Asymptotic Significance (2-sided)		
Pearson Chi-Square		13,038a	2	0,001		
Likelihood Ratio		9,618	2	0,008		
Linear-by-Linear Association		3,637	1	0,057		
N of Valid Cases		30				

a. 5 cells (83,3%) have expected count less than 5. The minimum expected count is ,13.

The percentage of respondent's enterprises which responded positively to the knowledge of the circular economy model is 86.7%, while the percentage that did not know the term is up to 13.3%. Percentages indicate the familiarity and visibility of the term in the entrepreneurial world. Most of the companies (43.3%) were aware of the model of Circular Economy; 26.7% stated to be well-informed while 16.7% of the companies were not informed. At a lower rate, 10% claimed to be fully informed, with the poorly informed to stand for the 3.3% of the surveyed companies.

6.2 Evaluation of Circular Economy approaches, procedures and policies

According to the replies of the respondents, (Table 2), product recycling is the major priority (4,37/5) with minimization of the environmental impact of the product's life cycle (4,27/5) and reusability of the product (4,20/5) to follow. According to the above, the possibility of recycling the product was considered by the sample as a determining factor in the circular model.

Table 2. Evaluation of procedures and products attributes for the transition to circular economy (1 not significant, 5 totally significant)

	N	Mean	Std. Deviation
Recyclability of products	30	4,37	0,765
Minimize the environmental impact of the life cycle product	30	4,27	0,740
Reusability of products	30	4,20	0,925
Increased product content in renewable materials	30	4,10	0,712
Biodegradation or composting of the product	30	4,03	0,999
Technological and environmental impacts in the production process	30	4,03	0,718
Repair of available spare parts	30	3,93	0,868
Impact on production costs through resource efficiency	30	3,90	0,607
Product durability in use	30	3,73	0,980
Product price	30	3,70	0,952
Strengthening consumer model for product sharing	30	3,50	0,777
Valid N (listwise)	30		

As mentioned, political cohesion is an integral factor in the circular economy. Businesses evaluated the policies that promote this model. More specifically, the major supporting policies are the funding of innovation through programs such as Horizon 2020, co-funded projects, banks, etc. (4,27/5), support for the development of circular economy projects such as the technical assistance and change of technical know-how (4,13/5), public incentives (eg financial guarantees) for private investors to finance projects favoring the circular economy (4,10/5), the promotion of innovative business models (3,93/5), the specific measures to encourage the adoption of the circular economy among small and medium-sized enterprises (3,83/5), the promotion and development of skills, qualifications and competences (3,83/5) and the promotion of innovative system approaches and cross-sectoral cooperation (3,80/5). In conclusion, projects supported by European funding are a key tool for promoting the circular model in enterprises and incentives for new businesses to turn to it.

The above ranking reveals the imperative need of the Greek industries to be supported by several policies that promote the Circular Economy model into their business transformation for a more sustainable and competitive manufacturing and other industry processes. Since Circular Economy, very often requires the development of product, process or organizational innovations, the supporting of the Greek industries by funding programs for innovation and acquisition of knowledge and know-how on the technology, processes, business models etc. for Circular Economy is highlighted as fundamental.

6.3 Implementation of Circular Economy by the Greek industries

According to Table 3, there are various practices followed by firms to adopt the circular economy model. In particular, the recycling of materials, products and energy seems to be the most used by the enterprises of the sample (3,77/5). Less important appears to be the rest of the practices presented in Table 3, which however constitute fundamental approaches and processes by a firm in adopting the Circular Economy model for creating close loops by extending products' life cycle or by developing

procedures for efficient use of resources. Thus, practices such as product life cycle analysis, material flow analysis, eco and modular design, industrial symbiosis and sharing consuming, are standing rather low in the relative ranking by the surveyed industries. In conclusion, there is a lack of use of certain business practices that are necessary for the proper operation of the model. However, with appropriate policies and extensive business information, the stimulation of the model will get another dimension. This is supported by the results shown above, regarding the need for supporting policies and funding programs for the industries to develop certain innovations under the model's context.

Table 4. Procedures for the implementation of Circular Economy by the Greek industries (*1 not significant, 5 totally significant*)

	N	Mean	Std. Deviation
Recycling of materials/ products / energy	30	3,77	1,305
Disposal of solidwaste in special concentration areas for transfer to sanitarylandfill	30	2,73	1,363
Purchase of products and raw materials with ecological certifications	30	2,50	1,383
Use of highly efficient mechanical equipment for optimal resource utilization	30	2,50	1,480
Disposal of raw material to other enterprise and industries	30	2,47	1,502
Recovery of valuable materials and reuse	30	2,33	1,422
Wastes utilization for energy production	30	2,30	1,489
Remanufacturing or repairing useful products	30	2,30	1,291
Product life-cycle analysis	30	2,23	1,382
Eco-friendly design of products	30	2,20	1,375
Material flow analysis in the production process	30	2,13	1,456
Sharing assets operations	30	1,90	1,029
Composting	30	1,80	1,186
Development of product design with subsystems	30	1,80	1,186
Biofuel production	30	1,73	1,285
Sharing consuming	30	1,57	0,898
Valid N (listwise)	30		

An analysis of the correlation with the use of Pearson coefficient has been applied to identify complementary practices for the implementation of the model by enterprises and their focus on adjusting their productive and business processes. According to the practices followed by enterprises for adopting the model of the circular economy, a correlation was found between (Table 4):

- Waste utilization for energy production and disposal of raw material to other enterprise and industries.
- Biofuel production and disposal of raw material to other enterprise and industries.
- Purchase of products and raw materials with ecological certifications and product life-cycle analysis.
- Product life-cycle analysis and development of product design with subsystems.

- Waste utilization for energy production and use of highly efficient mechanical equipment for optimal resource utilization.
- Waste utilization for energy production and material flow analysis in the production process.
- Disposal of raw material to other enterprise and industries and material flow analysis in the production process.
- Use of highly efficient mechanical equipment for optimal resource utilization and material flow analysis in the production process.
- Recovery of valuable materials and reuse and eco-friendly design of products.
- Product life-cycle analysis and reuse and eco-friendly design of products.
- Material flow analysis in the production process and eco-friendly design of products.
- Product life-cycle analysis and sharing assets operations.
- Development of product design with subsystems and sharing assets operations.

Table 4. Correlation of procedures for the implementation of Circular Economy by the Greek industries

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Wastes utilization for energy production	1															
Composting	0,269	1														
Disposal of solid waste in special concentration areas for transfer to sanitary landfill	0,466**	0,158	1													
Biofuel production	0,458*	0,371*	0,214	1												
Recovery of valuable materials and reuse	0,374*	0,388*	0,047	0,182	1											
Remanufacturing or repairing useful products	-0,048	0,063	-0,031	0,320	0,319	1										
Purchase of products and raw materials with ecological certifications	0,561**	-0,063	0,402*	0,291	0,473**	0,280	1									
Disposal of raw material to other enterprise and industries	0,613**	0,306	0,265	0,638**	0,393*	0,068	0,282	1								
Recycling of materials/ products / energy	0,339	0,214	0,255	-0,038	0,396*	0,268	0,449*	0,022	1							
Productlife-cycleanalysis	0,568**	0,029	0,419*	0,386*	0,538**	0,288	0,785**	0,278	0,452*	1						
Development of product design with subsystems	0,562**	-0,029	0,350	0,416*	0,388*	0,198	0,546**	0,519**	0,013	0,619**	1					
Use of highly efficient mechanical equipment for optimal resource utilization	0,822**	0,196	0,393*	0,272	0,475**	-0,027	0,564**	0,558**	0,420*	0,498**	0,354	1				
Material flow analysis in the production process	0,776**	0,216	0,192	0,591**	0,577**	0,180	0,497**	0,727**	0,253	0,550**	0,575**	0,800**	1			
Eco-friendly design of products	0,526**	0,004	0,232	0,441*	0,617**	0,509**	0,725**	0,404*	0,354	0,755**	0,575**	0,542**	0,658**	1		
Sharing assets operations	0,560**	0,040	0,398*	0,214	0,448*	0,101	0,400*	0,410*	0,136	0,599**	0,689**	0,419*	0,470**	0,527**	1	
Sharing consuming	0,126	0,143	0,184	0,136	0,387*	0,324	0,292	0,053	0,176	0,418*	0,110	0,039	-0,033	0,268	0,362*	1

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

The survey rates of this sample examined that the higher priority actions that promote solutions to the circular economy in the production process are access to finance (4,40/5) and support for the development of innovation in business models (4,07/5).

The following measures during the consumption phase were then assessed according to the survey sample (Figure 1). Businesses considered it essential and very important to provide additional information to consumers about the circular economy, such as the expected product lifetime (4,33/5), ensuring clarity and reliability by informing consumers (4,30/5), motivate users returning products after usage (4,27/5), encourage financial incentives for costumers, such as different taxation based on resource and product efficiency (4,27/5). Major measures continue to be the minimization of waste (4,20/5), the public awareness campaigns to support the transition (4,13/5), the design of environmentally friendly packaging (4,13/5), promote the development of repair and maintenance services (4,00/5) and finally clarifying the rules and practices that affect consumers protection, for example guarantees (3,9/5).

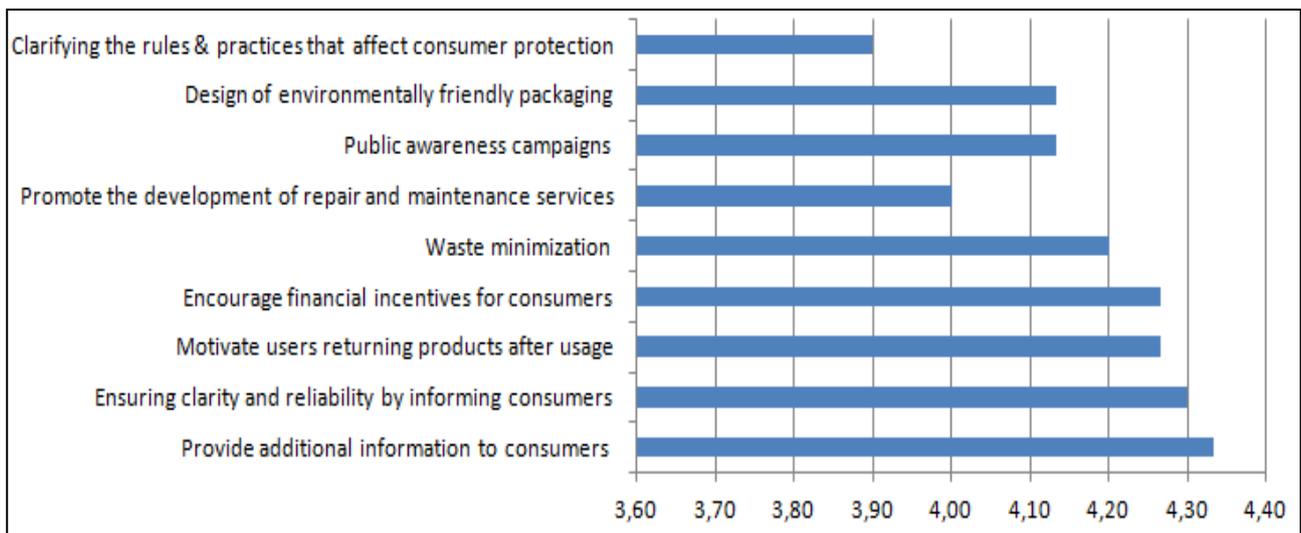


Figure 1. Evaluation of measures for promoting Circular Economy during the consumption face.

Then, the degree of benefits for enterprises of the circular model was examined (Table 6). A very significant benefit in relation to the majority of the sample were considered these of enhancing environmental sensitivity and corporate social responsibility (4,20/5), the promotion of economic growth without degrading the environment (4,17/5), the reduce of annual greenhouse gas emissions (3,90/5), the mobilization of local resources such as human resources, knowledge, funds, natural resources, culture etc. with the rest of the factors to follow.

Table 6. Evaluation of benefits for the Greek industries by adopting a Circular Economy model

	N	Mean	Std. Deviation
Enhancing environmental sensitivity and corporate social responsibility	30	4,20	0,925
Promote economic growth without degrading the environment	30	4,17	0,747
Reduce of annual greenhouse gas emissions	30	3,90	1,062
Mobilize local resources	30	3,70	0,877
Introducing new skills and knowledge into the labor market	30	3,60	0,770
Opening up new markets	30	3,57	1,251
Accretion of company market share	30	3,53	1,306
Creating innovative products and processes	30	3,47	0,973
Handling the economic crisis	30	3,47	1,008
Increase in annual turnovers	30	3,37	1,159
Valid N (listwise)	30		

Finally, 83.3% of the enterprises stated that they intend to integrate the circular economy model within the next five years, as opposed to 16.7% of the juxtaposed sample.

7. DISCUSSION AND POLICY IMPLICATIONS

The present research is a prototype one for the Greek business environment under the context of the Circular Economy model, since the literature on relative empirical studies is rather limited for the country. Thus, it gives the opportunity to highlight the proposed procedures, strategy orientation and products' attributes of the leaders of the Greek industry to adopt and implement this new economic model for development, enhancement of competitiveness and environmental protection under the lens of sustainable development. The research comes to a quite targeted time since, just a couple of months ago, on December of 2018, the Greek National Circular Economy Strategy, formed by the Greek Ministry of Environment and Energy, was approved by the European Commission. Based on the results of the study, the imperative need for policy measures is underlined to support several following major sectors such as the common use of resources, the promotion of industrial symbiosis, the sharing consumption and eco-design of products, life cycle analysis of products regarding required inputs and outputs for their production, consumption and environmental impacts, materials flow analysis etc. which are rather low in ranking regarding the adoption of the Greek enterprises. Only recycling and disposal at specific places for further collection of wastes seems till now to be ranked in a medium adoption rate. This is in line with the priorities of the National Strategy which sets as basic contents of the public policy on circular economy the industrial symbiosis, modular design and open innovation models for development of environmentally friendly products (Ministry of Environment and Energy, 2018).

Furthermore, the National Strategy sets several other priorities for action such as smart financing

tools with aids and tax-reliefs, utilization of public investments, development of concrete communicative strategies by the enterprises and institutions to raise citizens' awareness along with the provision of incentives, which are also in line with the findings of the present study. As highlighted, the Greek firms needs to be supported by initiatives for funding of circular economy by EU's innovation projects' public incentives to the consumers, better labeling and certification of products for consumers, information and establishment of a production and consumption culture based on the principles of circular economy such as cascading, closing loops and responsibility.

Regarding the main purpose of the research—to map the main procedures, business strategies and measures of the Greek industries for adopting and implementing the circular economy model during the whole life cycle of products, results indicate a rather low and mediocre response to the proposed approaches and a rather superficial adoption of the model (Trigkas et al. 2018; European Environment Agency, 2017; Geissdoerfer et al. 2016; Ghisellini et al. 2016; Lieder and Rashid, 2016; Tukker, 2015; Heshmati, 2015). Although the Greek firms of the study recognize the importance of adopting such methods contributing to sustainability, however they mainly remain to recycling procedures of products and materials for reuse purposes, which corresponds mainly to the phase before the final disposal of the remaining waste (European Commission, 2014). Thus, specific initiatives should be developed for the procurement of materials, modular and eco-design of products for achieving cascading use, life cycle and material flow analysis along with promoting a sharing consumption culture. The above mentioned could be visualized under the context of new entrepreneurial models such as social entrepreneurship, which is directly related to the fulfilment of the circular economy model and sustainable development (Trigkas et al. 2017; Geissdoerfer et al. 2016; Ellen MacArthur Foundation, 2015b).

However, several limitations of the study should be acknowledged. First, the sample is too small to allow for generalizations. A bigger number of participating firms is required to acquire more representative results. As stated in the beginning, the research is still ongoing, and we believe that in the future we will be able to extract results from a wider field of industries and a larger sample of companies in Greece. Furthermore, similar research should be applied to Greek SME's as well, in order to investigate the transition towards the circular economy model by the majority of the Greek business activity, a fact that is crucial for the full adoption of the model by the enterprises and the shift towards a new economic and development model.

REFERENCES

- Andersen, M. S., 2006. An Introductory Note on the Environmental Economics of the Circular Economy. *Sustainability Science and Springer*, pp. 133-140.
- Atasu, A., Sarvary, M. & Van Wassenhove, L., 2008. Remanufacturing as a Marketing Strategy. *Manag.Sci*, pp. 1731-1746.
- Clift, R. & Druckman, A., 2016. Taking Stock of Industrial Ecology. In: *Stocks and Flows in the Performance Economy*. ISBN 978-3-319-20571-7 ed. Guildford, UK: s.n., p. 373.
- Comment, 2016. Circular Economy. A New Relationship With our Goods and Materials Would Save Resources and Energy and Create Local Jobs by Explains Walter R. Stahel. *Nature*, Issue 531.
- Dillman, D., 2000. *Mail and Internet Surveys: The Tailored Design Method*. New York: John Wiley & Sons.
- Direction Business Network, 2014. *ΟΙΣΧΥΡΟΙΤΗΣ ΕΛΛΗΝΙΚΗΣ ΟΙΚΟΝΟΜΙΑΣ*. Αθήνα: Direction Business Network.
- Ellen MacArthur Foundation and Granta Design, 2015a. *Circularity Indicators. An Approach to Measuring Circularity*. Methology, s.l.: Ellen MacArthur Foundation.
- Ellen MacArthur Foundation, 2012. *Towards the Circular Economy: Economic Business Rationale for an Accelerated Transition*.
- Ellen MacArthur Foundation, 2013a. *Towards the Circular Economy. Issue vol.2*.
- Ellen MacArthur Foundation, 2013b. *Towards the Circular Economy. Issue vol.1*.
- Ellen MacArthur Foundation, 2014. *Towards the Circular Economy: Accelerating the Scale-up Across Global Supply Chains*, s.l.: s.n.
- Ellen MacArthur Foundation, 2015. *McKinsey Center for Business and Environment*, s.l.: s.n.
- Ellen MacArthur Foundation, 2015b. *Growth Within: A Circular Economy Vision for a Competitive Europe*, s.l.: McKinsey Center for Business and Environment.
- EU, 2013. Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on General Union Environment Action Programme to 2020 Living well, within the limits of our planet. pp. 171-200.
- European Commission, 2015. *Closing the loop - An EU action plan for the Circular Economy*, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2015) 614 final.
- European Commission, 2017. *Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on the implementation of the Circular Economy Action Plan*, COM (2017) 33 final.
- European Environment Agency, 2016. *Circular economy in Europe. Developing the Knowledge Base*. Denmark: s.n.
- European Environment Agency, 2017. *Circular by Design. Products in the Circular Economy*, Luxembourg: EEA Report.
- Geissdoerfer, M., Savaget, P., Bocken, N. & Jan Hultink, E., 2016. The Circular Economy - A New Sustainability Paradigm?. *Journal of Cleaner Production*, p. 12.
- Ghisellini, P., Cialani, C. & Ulgiati, S., 2016. A Review on Circular Economy: the Expected Transition to a Balanced Interplay of Environmental and Economic System. *Journal of Cleaner Production*, pp. 11-32.
- Hellenic Republic, Ministry of Environment & Energy, 2018. *National Circular Economy Strategy*
- Heshmati, A., 2015. *A Review of the Circular Economy and its Implementation*. IZA Discussion.
- Howitt, D. & Cramer, D., 2003. *Statistics with SPSS 11 for WINDOWS*. Athens: Kleidarithmos Eds.
- Janine, B., 1997. *Biomimicry: Innovation Inspired by Nature*. s.l.: William Morrow Paperbacks.
- Karagouni, G., 2018, *Circular bioeconomy: do we really need another Concept?*, 11th Annual Conference of the EuroMed Academy of Business, ISBN: 978-9963-711-67-3, Valeta, Malta
- Koellner, T., Joachim, S. & Guillermo, N., 2010. Why and how much are firms willing to invest in ecosystem services from tropical forests? A comparison of international and Costa Rican firms', *Ecological Economics*. Elsevier B.V., 69(11), pp. 2127-2139. doi: 10.1016/j.ecolecon.2010.05.010.
- Lieder, M. & Rashid, A., 2016. *Towards Circular Economy Implementation: a Comprehensive Review in Context of Manufacturing Industry*. *Journal of Cleaner Production*, pp. 36-51.
- Mavroudis, A., 2018. *Circular Economy and Tourism*. Aristotle University of Thessaloniki, Thessaloniki.
- McDonough, W. & Braungart, M., 2002. *Cradle to Cradle: Remaking the Way We Make Things*. first ed. North Point ed. New York: s.n.
- Meyer, B., 2011. *Macroeconomic Modelling of Sustainable Development and the Links Between the Economy and the Environment - Final Report*.
- Murray, A., Skene, K. & Haynes, K., 2017. *The Circular Economy: An Interdisciplinary Exploration of the Concept and Application on a Global Context*. *Journal of Business Ethics*, pp. 369-380.

- Norusis, M., 2007. A guide of data analysis with SPSS 12.0. Athens: Kleidarithmos Eds. p. 64
- Pearce, D. & Turner, R., 1989. Economics of Natural Resources and the Environment. Baltimore: Johns Hopkins University Press.
- Preston, F., 2012. A Global Redesign? Shaping the Circular Economy. Chatham House - The.
- Siomkos, G., Vasilikopoulou, A., 2005. Implementation of Analysis Methods in Market Research. Stamoulis, Athens.
- Stahel, W. R., 2010. The Performance Economy. 2nd edn ed. Basingstoke: Palgrave Macmillan.
- Stahel, W. R., 2016. The Circular Economy. Nature vo. 531.
- Su, B., Heshmati, A., Geng, Y. & Yu, X., 2013. A Review of the Circular Economy in China: Moving from Rhetoric to Implementation. J. Clean. Prod., pp. 215-227.
- Technopolis group, 2016. Regulatory Barriers for the Circular Economy. Lessons from Ten Case Studies, Netherlands: s.n.
- Trigkas M., Papadopoulos I., Karagouni, G., Lazaridou D. 2017. Social Entrepreneurship in Selected Areas the "AITHIKOS" Project in Greece, Australian Academy of Accounting and Finance Review, Volume 3, Issue 1, pp. 28-36.
- Trigkas, M., Itsos, G. & Lazaridou, D., 2018. Investigation of Factors Affecting Consumers' Awareness on Circular Economy: Preliminary Evidence from Greece. Journal of Regional & Socio-Economic Issues, pp. 47-57.
- Tukker, A., 2015. Product Services for a Resource-Efficient and Circular Economy - a Review. Journal of Cleaner Production, pp. 76-91.
- Wautelet, T., 2018. The Concept of Circular Economy: its Origins and its Evolution. ResearchGate, pp. 2-19.
- WCED, 1987. Our Common Future., s.l.: Oxford University Press.
- Zhou, K. et al., 2014. A Study on Circular Economy Implementation in China. WorkingPapers.

FARMERS' WILLINGNESS TO PAY FOR BRAND DEVELOPMENT

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ABSTRACT

This study explores farmers' willingness to pay for collective brand development schemes and identifies the factors that impact this. By assuming the utility maximization behavior of farmers who adopt a marketing innovation, based on data collected from 539 fruit and vegetable producers, we estimate a willingness to pay (WTP) model. Eight out of the 22 factors that have been examined it is found to impact farmers' WTP for collective brand development. More specifically, farmers who own larger fruit- and vegetable-producing farms have greater WTP as well as farmers who sell their products via cooperatives and those who have positive attitudes toward the local/regional associations of product brands. Farmers who perceive that consumers are interested in branded products are also more willing to pay for brand development schemes. Young farmers, those who perceive that they need financial credit, those committed to responding to brand quality requirements and those who intend to use the collective brands individually are more willing to pay, while those who prefer to participate in individual brand schemes are less willing to pay for collective brand development. Propositions for practitioners and for future research are given.

Keywords: WTP; brand schemes; farmers' characteristics; innovation; agricultural marketing, producers' brands

INTRODUCTION

The use of brands in agricultural products marketing is important for consumers' welfare and for farm businesses, encouraging them to adopt innovations, make improvements and provide better quality (Saak, 2012; Moschini *et al.*, 2008; Hayes *et al.*, 2004). The indicative benefits for farmers when they sell agricultural products under their own brands include product differentiation and a stronger market position for the products, as well as enabling effective product promotion efforts to be developed in domestic and foreign markets (Grashuis, 2018; Rhodes *et al.*, 2007; Kohls and Uhl, 2002; Beverland and Lindgreen, 2002; Beverland, 2001).

The brand development schemes for agricultural products can be individual or collective, the latter including local, regional and product-specific brands (Masuda and Kushiro, 2017; Rickard *et al.*, 2013; Ilbery *et al.*, 2005). In regard to geographic indications, it has been found that they can support a competitive provision of quality, benefiting consumers and producers if the production of the high-quality products draws on scarce factors that they own (Moschini *et al.*, 2008). The European and Euro-Mediterranean and Balkan regions are characterized by a large variety of ecosystems, which, interacting with the human factors, lead to the generation of a variety of local production conditions and subsequently a plethora of geographic indications. Thus, a large number of collective brands can be created that are based on local or regional names (Tieskens *et al.*, 2017; Ilbery *et al.*, 2005), and farm businesses have a wide variety of opportunities to use local or regional brand names in their marketing activities.

Given the small number of registered designations of origin against the large number of local/regional names that exist, a presupposition for such collective brand names to be exploited effectively is that the farmers must be engaged in brand development processes, as well as undertaking a part of the related costs, *ex ante* or *ex post*. Although farmers' willingness to undertake some of the related costs is crucial for collective brands' proliferation, to our knowledge, no publication has yet focused on this issue. The main goal of the present study is to explore farmers' willingness to pay (WTP) for such collective brand development.

This information is useful to farm businesses and to marketing cooperatives and producer organizations to plan effective collective brand development projects. It is also useful to food marketers searching for the exploitation of local or regional brands to formulate their marketing and purchasing strategies properly. The results can also help public authorities to schedule effective policy measures that help farmers to participate in brand development schemes in order to strength their market positions.

RESEARCH QUESTIONS

The brand development by producers can be viewed as an organizational and marketing innovation. We draw upon the literature that focuses on farmers' decisions or intentions to adopt innovations (Asfaw *et al.*, 2010; Karipidis and Tselempis, 2014; Kersting and Wollni, 2012; Teklewold *et al.*, 2013; Muriithi *et al.*, 2011; Veldstra *et al.*, 2014; Wollni *et al.*, 2010) to identify the factors that can impact farmers' willingness to engage in collective brand development schemes.

Summarizing the previous studies, it can be assumed that factors related to farm business characteristics, psychological constructions and behavioral factors can impact farmers' willingness to

pay for collective brand development schemes. Thus, this study aims to address the following three research questions:

RQ1: Do farm business characteristics shift farmers' willingness to pay for collective brand development?

RQ2: Do farmers' psychological factors impact their willingness to pay for collective brand development?

RQ3: Which behavioral factors impact farmers' willingness to pay for collective brand development?

METHODOLOGY

This methodology section describes the theoretical framework, the research questions and hypotheses, the proposed model specification and data collection.

Theoretical framework

Utility theory has been extensively used to study farmers' intentions and decisions to adopt innovations, such as innovations related to agricultural productivity/yields, environmentally friendly practices, quality certification systems and agricultural marketing (Asfaw *et al.*, 2010; Bandon *et al.*, 2009; Karipidis and Tselempis, 2014; Kersting and Wollni, 2012; Teklewold *et al.*, 2013; Muriithi *et al.*, 2011; Veldstra *et al.*, 2014; Wollni *et al.*, 2010). Farmers adopt an innovation if the expected utility of adopting it (U_i^m) exceeds the expected utility of not adopting it or retaining the traditional management practice (U_i^0).

We assume the utility maximization behavior of a typical farmer who intends (or not) to adopt an organizational and/or marketing innovation (such as product branding) and who decides to engage (or not) in a collective brand development project. Such a decision can be analyzed based on the farmer's willingness to undertake some of the costs of the brand development – that is, their WTP in order to participate. Based on the previously presented studies exploring farmers' decisions, it is expected that certain economic and social characteristics of farm businesses can impact farmers' WTP.

Farmers' decisions can also depend on their expectations regarding the benefits of participating in a brand development scheme; they also depend on their marketing experiences, leading to different levels of satisfaction regarding product selling and product buyers' behavior, as well as on the external support (services) the farmers perceive will be needed to participate. Lassoued and Hobbs (2015) indicated the importance of some other factors, such as brand trust, which is positively associated with consumers' confidence in a brand via trust in the food system, while Minten *et al.* (2013) highlighted the danger of the provision of incomplete or misleading information by a brand to consumers because, in some cases, the quality of products contained in branded bags may be low. In addition, Rickard *et al.* (2013) noted the possibility for a brand name to be based on product-specific aspects, besides local/regional aspects. Thus, we assume that a farmer's WTP can depend on the

farmer's commitment to responding adequately to brand quality requirements, on their attitudes toward the product and/or local aspects of the brand, and on their perceptions of consumers' interest regarding branded products.

It is apparent that the WTP can also depend on the farmer's behavioral dimensions, such as the marketing channel they use (Bandon *et al.*, 2009) and the individual actions or strategies of the farmer, such as the individual use of a collective brand and the preference to participate in an individual versus a collective brand development scheme. Figure 1 illustrates the conceptual framework, showing the relationships between these factors with the farmer's intention to participate and WTP in a collective brand development scheme.

While the expected utility cannot be observed, the adoption decision can be. In this case, we can derive the unobserved utility from the observed variable – that is, the farmer's WTP an individual cost for collective brand development. More specifically, the farmer evaluates the expected utility (outcomes) of participating in a brand development scheme by comparing it with the expected utility of the present situation – that is, without participating in a brand development scheme. They will choose to undertake a cost that is smaller than (or at least equal to) the expected utility (outcomes) to be derived, which can be measured by measuring the farmer's WTP.

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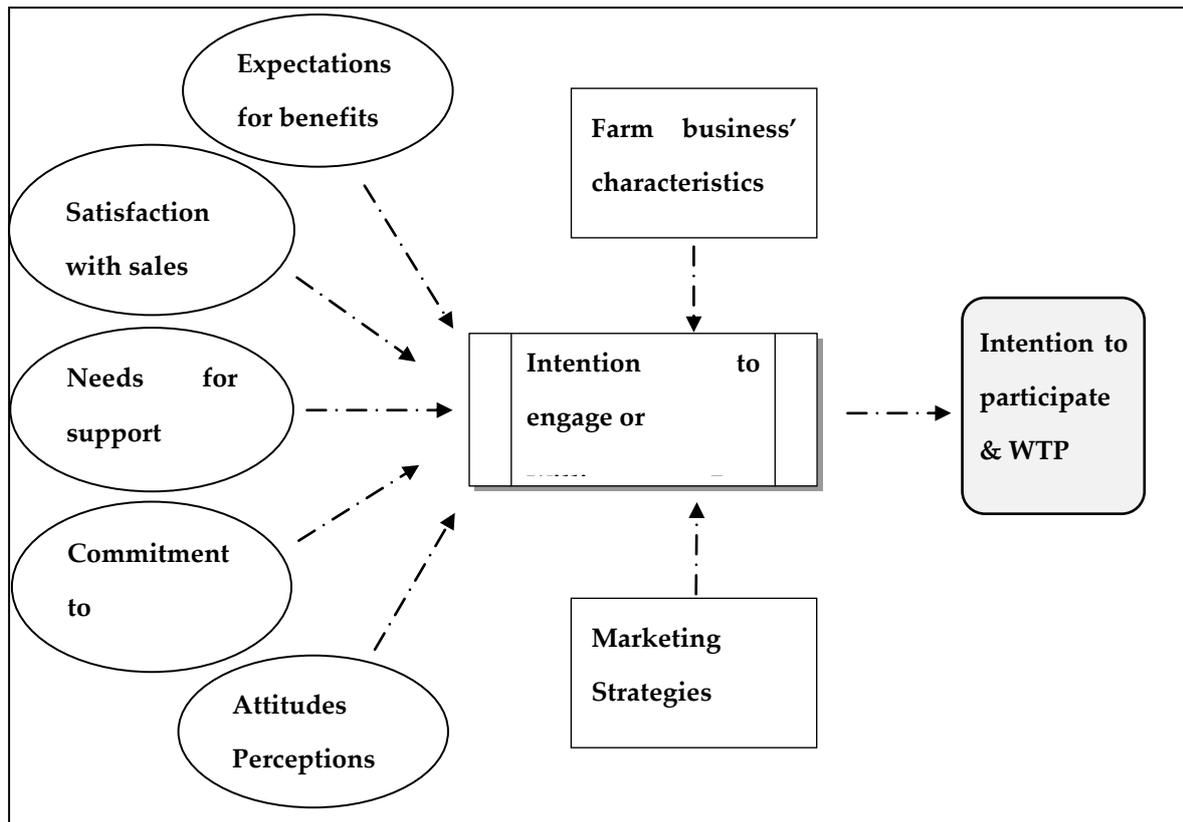


Figure 1. *The conceptual framework of the farmer's intention to participate and WTP*

Research hypotheses

In continuation of the above, 12 hypotheses are formulated, which are presented below under a summary of each research question.

RQ1 – importance of farm business characteristics

H1: A farmer's WTP depends on the farmer's age.

H2: A farmer's WTP depends on the farm business size – hectareage with crops in production stage.

H3: A farmer's WTP depends on quality certification attainment.

RQ2 – importance of psychological factors

H4: A farmer's WTP depends on their expectations regarding the benefits of participating in the brand development scheme.

H5: A farmer's intention to participate and WTP depend on the level of satisfaction regarding their experience with product selling and product buyers.

H6: A farmer's WTP depends on the external support they perceive they will need to participate.

H7: A farmer's WTP depends on their commitment to responding adequately to collective brand quality requirements.

H8: A farmer's WTP depends on their attitudes toward brand aspects regarding local/geographic indications or a product-specific brand character.

H9: A farmer's WTP depends on their perceptions regarding consumers' interest in branded products.

RQ3 – importance of behavioral factors

H10: A farmer's WTP depends on the marketing channel they use.

H11: A farmer's WTP depends on their individual use of the collective brand.

H12: A farmer's WTP depends on their preference to participate in an individual or collective brand development scheme.

Discrete choice model

Two theoretical models were formulated, with the dependent variable being the WTP for a brand development scheme. The independent variables were those factors that could impact the WTP a high or low amount for the brand development scheme, respectively. The common form of the two models is presented below (1):

(1)

In the WTP model, v represents the farmer's choice among three alternatives ($v=1, 2, 3$): pay a low amount (≤ 30 euros per hectare), a moderate amount ($>30 \leq 60$ euros per hectare) or a high amount (>60 euros per hectare) to participate in a brand development scheme.

X_m^{Cha} represents factors such as the economic and social characteristics of the farm business that can shift the farmer's intention to participate and WTP. X_j^{Exp} represents the expectations regarding the benefits of participating in the brand development scheme, while X_k^{Sat} represents the farmer's satisfaction regarding product selling and product buyers, X_l^{Sup} represents the farmer's perception regarding the need for external support due to participating, X_r^{Qua} represents the farmer's commitment to responding adequately to brand quality requirements, X_t^{Ref} represents the farmer's attitudes regarding the local/regional or product-specific aspects of the brand name, X_w^{Cons} represents the farmer's perception regarding consumers' interest in branded products, X_n^{MaC} represents the marketing channel that the farmer uses, and X_s^{PrC} represents the farmer's intention regarding private/individual use of the brand, as well as their preference to participate in an

individual brand versus a collective brand. The values are unknown parameters impacting the intention to participate and WTP.

Data collection

A survey was initially developed using the findings of previous studies, and a pre-test with some in-depth interviews was conducted in March 2016. Modifications were made until July 2017, as it was necessary to take into account the comments and suggestions received, which primarily concerned difficulties in answering the questionnaire (including its length) and the clarity and order of the questions. The questions were answered in personal interviews conducted with 600 fruit and vegetable producers dispersed all over the region of northern Greece, including the regions of Central, West and East Macedonia and Thrace, as well as Epirus. The data collection was completed in March 2018. These farmers were randomly selected from the fruit and vegetable production zones.

RESULTS AND DISCUSSION

After discarding a number of problematic questionnaires, we were able to use a total of 539 in our analysis. An independence test (Pearson's chi-square) of the WTP with each of the 40 initially selected factors was conducted by using SPSS. Table 1 presents the 22 factors that were found in association with the WTP after examining the consistency between them. In the same table, the measurement of each factor/variable is also presented.

Group of factors	Factor	Measurement
Farm business Characteristics	Farmer's age	1≤25, 2=26-35, 3=36-45, 4=46-55, 5=56-65, 6>65
	Hectarage with fruit trees in production stage	1≤20, 40≥2>20 40<3≤60 60<4
	Certification attainment	1=No, 2=Yes
Farmers' Expectations	Product differentiation	0=No, 1=Yes
	Guaranty for product quality	0=No, 1=Yes
	Recognition by consumers	0=No, 1=Yes
	Easy product sales	0=No, 1=Yes
	Higher producer's prices	0=No, 1=Yes
Farmers' Satisfaction	Satisfaction with producers' prices	1=Very &Extremely satisfied, 2=Moderately satisfied, 3=Not at all & Slightly satisfied
	Satisfaction with product sales	1=Very &Extremely satisfied, 2=Moderately satisfied, 3=Not at all & Slightly satisfied
	Satisfaction with product buyers	1=Very &Extremely satisfied, 2=Moderately satisfied, 3=Not at all & Slightly satisfied
Needs for support	Need support by cooperatives	0=No, 1=Yes
	Need support by subsidies	0=No, 1=Yes
	Need support by financial credit	0=No, 1=Yes
Commitment	Product quality related commitment	1=No & May be, 2=Yes
Attitudes toward brand reflections	Focus on locality character reflections	1=No & May be, 2=Yes
	Focus on product related reflections	1=No & May be, 2=Yes

Perceptions	for		
Consumers' interest		Consumers' interest for branded products	1=No & May be, 2=Yes
Marketing Channel		Share of sales in Exporter or Processor	1= \leq 30%, 2=31-60%, 3= \geq 60%
		Share of sales in Cooperative or Farmers' group	1= \leq 30%, 2=31-60%, 3= \geq 60%
Individual preference	action	Individual use of the brand	1=No & May be, 2=Yes
		Preference to participate in individual brand scheme	1=No & May be, 2=Yes

Table 1. *Factors impacting Farmers' Willingness to Pay*

As a second step, we used the same data to estimate the model following the (1) form. The analysis was conducted using Eviews software, based on the ordered logit form; we used the Huber/White option to compute robust (quasi-maximum likelihood) estimators, in the sense that consistent estimates of parameters are produced even if the distribution is incorrectly specified. The results, which are presented in Table 2, reveal a WTP a high amount (mean=1.665).

Group of factors		Factor	WTP model		
			Coefficient	z-Statistic	Probab.
Farm	business	Farmer's age	-0.299262	-3.052861	0.0023*
Characteristics		Hectarage with fruit trees in production stage	0.375112	3.483295	0.0005*
		Certification attainment	-0.388798	-1.494945	0.1349
Farmers' Expectations		Product differentiation	-0.028627	-0.119035	0.9052
		Guaranty for product quality	-0.007789	-0.034384	0.9726
		Recognition by consumers	0.304777	1.316309	0.1881
		Easy product sales	-0.176529	-0.724462	0.4688
Farmers' Satisfaction		Higher producer's prices	0.036267	0.145025	0.8847
		Satisfaction with producers' prices	-0.088412	-0.367197	0.7135
		Satisfaction with product sales	0.078014	0.343184	0.7315
		Satisfaction with product buyers	0.068378	0.352265	0.7246
Needs for support		Need support by cooperatives	-0.002652	-0.011627	0.9907
		Need support by subsidies	-0.269330	-1.058073	0.2900
		Need support by financial credit	0.713544	2.937657	0.0033*
Commitment		Product quality related commitment	0.576607	1.994998	0.0460*
Attitudes toward brand reflections		Focus on locality character reflections	0.446057	1.631042	0.1000*
		Focus on product related reflections	0.222292	0.949714	0.3423
Perceptions for					
Consumers' interest		Consumers' interest for branded products	0.046117	0.174997	0.8611
Marketing Channel		Share of sales in Exporter or Processor	-0.185759	-1.243408	0.2137
		Share of sales in Cooperative or Farmers' group	0.364417	2.349528	0.0188*
Individual preference	action	Individual use of the brand	0.486830	1.987860	0.0468*
		Preference to participate in individual brand scheme	-0.392280	-1.722038	0.0851*
			Pseudo R-squared	0.117632	
			Akaike info criterion	1.738843	
			Prob(LR statistic)	0.000000	
			Mean of Dependent V	1.665	

Table 2. *Results of Ordered Logit Model Estimation*

It was observed that eight out of the 22 factors examined contributed (significance level 0.10) to the formation of the dependent variable's variability at the 0.000 significance level. More specifically, regarding the farmers' and farm business characteristics examined, it was found that the farmer's age negatively impacted their WTP, implying that the young farmers were more willing to pay a higher amount for brand development. This could be attributed to the fact that they have a long-term horizon

in their thoughts, operations and actions. The acreage with fruit trees in the production stage positively impacted the WTP, while, as reported above, it was found to impact negatively the intention to participate. Because there are no studies exploring farmers' decisions related with brand development we compare our results with those of analogous studies examining farmers' decisions. Thus, taking into consideration analogous findings regarding the link between cultivated farmland and certification decisions (Karipidis & Tselempis, 2014), this implies that the owners of larger farm businesses are less willing to participate in brand development schemes (as explained above) but are more willing to pay if they are engaged in brand development schemes. Thus, this validates H1 and H2.

In accordance with the findings regarding the intention to participate, it was not confirmed that the expectations of farmers regarding the benefits of participation or their levels of satisfaction with their marketing experiences impacted their WTP. These findings imply that farmers count the expected benefits as important outcomes of participation, while the level of satisfaction with previous sales experiences does not encourage nor discourage them to become more willing to pay. Taking into consideration the importance of special education for farmers' choices (Asfaw *et al.*, 2010; Karipidis and Tselempis, 2014), this could be attributed to insufficient marketing-related knowledge among farmers. Regarding the perceived need for external support to participate in brand development schemes, it was found that financial credit positively impacted the farmers' WTP. Taking into consideration the importance of financial factors for some farmers' decisions (Muriithi *et al.*, 2011), this could be explained by the fact that the farmers perceived that the financial costs of participating in brand development schemes could not be covered by their own financial sources, implying that farmers' willingness to invest borrowed finance in a brand development scheme is linked with a higher WTP. This supports the validation of H6.

The quality-related commitment determined the farmers' WTP, implying that a farmer who commits to responding to brand quality requirements has greater WTP. It confirms and extends the findings of previous studies reporting that geographic indications support a competitive provision of quality (Moschini *et al.*, 2008) and highlighting the importance of geographical indications for incentivizing better quality (Saak, 2012). Taking into consideration the importance of farmers' managerial skills in marketing innovation adoption, this could be attributed to the fact that quality-related capabilities allow them to reap the benefits of the brand and give them greater WTP. Regarding the brand aspects that are based on locality-/regionality-related associations or on product-related associations, it was found that the WTP depended on the farmers' positive attitudes toward locality-/regionality-related aspects. This implies that farmers' positive attitudes toward brands that reflect a local or regional character are linked with a higher WTP. Thus, this validates H7 and H8.

Regarding the marketing channel that the farmer chooses, it was found that the share of products that the farmers sold via the cooperative or farmers' group positively impacted their WTP, implying that a farmer perceives such a choice to be more beneficial in the case that their products are marketed by a cooperative or farmers' group. The farmers' intentions to use the brands individually were found to positively impact their WTP. Opposite to this, it was found that the preference to participate in an individual brand development scheme negatively impacted the WTP, implying that a farmer who is willing to proceed with individual brand development is less willing to pay for collective brand development. These findings are in accordance with the logic and practice of the use of protected designations of origin and geographic indications by producers and markers who are certified by a third party (a certification body) (Hayes *et al.*, 2004; Ilbery *et al.*, 2005). These results offer the basis for H10, H11 and H12 to be supported.

CONCLUSION

To sum up, the present study goes beyond the registered protected designations of origin and geographic indications. It explored farmers' willingness to pay for a collective brand development, instead of being limited to registered brand names. This is its main contribution. By assuming the utility maximization behavior of farmers, based on data collected from 539 fruit and vegetable producers, we estimated an ordered logit model. The results indicate a high level of WTP. Eight out of the 22 factors it is found to impact it.

More specifically, farmers who own larger fruit- and vegetable-producing farms have greater WTP for collective brand development. Farmers who sell their products via cooperatives and those who have positive attitudes toward the local/regional associations of brands have also a greater WTP. Farmers who have negative attitudes toward cooperative support and those who perceive that consumers are interested in branded products are more willing to pay for brand development schemes. Young farmers, those who perceive that they need financial credit, those committed to responding to brand quality requirements and those who intend to use the collective brands individually are more willing to pay, while those who prefer to participate in individual brand schemes are less willing to pay for collective brand development. These findings, which concern organizational and marketing innovation factors, extend those of previous studies exploring farmers' intentions to adopt innovations and their WTP for them. This is the second contribution of the study.

Because the proliferation of collective brands generates benefits for farmers, consumers and local economies, the farm businesses, marketing cooperatives and producers' organizations should undertake initiatives to develop collective brands effectively, taking into consideration the factors that make farmers more willing to undertake some of the costs of brand development schemes. This is

especially important for small and medium farm businesses. Food marketing firms that could benefit from local or regional brand development should properly encourage farmers to participate in brand development schemes by creating efficient marketing and purchasing strategies that are based on locality or regionality aspects. Public authorities should properly schedule a policy mix that enhances farmers' knowledge related to marketing issues, reduces the financial burden on farmers and encourages farmers to create more value and strengthen their positions in the marketplace. Thus, the quality of life and welfare of consumers and farm households can be enhanced, a stronger market position for farm business products can be achieved, and the development of local economies can be promoted.

A limitation of the study is that though the findings reflect fruit and vegetable producers' intentions toward brand development, they do not offer a wide basis for generalization to other farm enterprises. This issue should be further explored in the future.

REFERENCES

- Asfaw, S., Mithöfer, D. and Waibel, H. (2010), "Agrifood supply chain, private-sector standards, and farmers' health: evidence from Kenya", *Agricultural Economics*, Vol. 41, pp. 251-263.
- Beverland, M. (2001), "Creating value through brands: the ZESPRITM kiwi fruit case". *British Food Journal*, Vol. 103 No 6. , pp. 383-399.
- Beverland, M. and Lindgreen, A. (2002), "Using country of origin in strategy: The importance of context and strategic action", *Journal of Brand Management*, Vol. 10 No. 2, pp. 147-167.
- Blandon, J., Henson, S. and Islam, T. (2009), "Marketing preferences of small-scale farmers in the context of new agrifood systems: a stated choice model", *Agribusiness*, Vol. 25 No. 2, pp. 251-267.
- Grashuis, J. (2018), "The impact of brand equity on the financial performance of marketing cooperatives", *Agribusiness*, pp. 1-15.
- Hayes, D., Lence, S.H. and Stoppa, A. (2004), "Farmer-Owned Brands? ", *Agribusiness*, Vol. 20 No. 3, pp. 269-285.
- Ilbery, B., Morris, C., Buller, H., Maye, D. and Kneafsey, M. (2005), "Product, process and place: an examination of food marketing and labeling schemes in Europe and north America", *European Urban Regional Studies*, Vol. 12, pp. 116-132.
- Karipidis P. and Tselempis D. (2014), "Farmers' Intention to Maintain the Quality Certification. *EuroMed Journal of Business*, Vol. 9 No. 1, pp. 93-110.
- Kersting, S. and Wollni, M. (2012), "New institutional arrangements and standard adoption: Evidence from small-scale fruit and vegetable farmers in Thailand", *Food Policy*, Vol. 37, pp. 452-462.
- Kohls, R.L. and Uhl, J.N. (2002), *Marketing of Agricultural Products* (9th ed.), Pearson education /Prentice Hall, New York.
- Lassoued, R. and Hobbs, J. E. (2015), "Consumer confidence in credence attributes: The role of brand trust", *Food Policy*, Vol. 52, pp. 99-107.
- Masuda, K. and Kushiro, S. (2017), "Influence of brand equity on the price premium for private labels in fresh produce: A contingent valuation survey", *Agribusiness*, Vol. 34 No. 2, pp. 338-350.
- Minten, B., Singh, K.M. and Sutradhar, R. (2013), "Branding and agricultural value chains in developing countries: Insights from Bihar (India) ", *Food Policy*, Vol. 38, pp. 23-34.
- Moschini, G., Menapace, L. and Pick, D. (2008), "Geographical Indications and the Competitive Provision of Quality in Agricultural Markets", *American Journal of Agricultural Economics*, Vol. 90 No. 3, pp. 794-812.
- Muriithi, B.W., Mburu, J. and Ngigi, M. (2011), "Constraints and determinants of compliance with EurepGap standards: A case of smallholder French bean exporters in Kirinyaga district", *Kenya. Agribusiness*, Vol. 27 No. 2, pp. 193-204.
- Rhodes, J.V., Dauve, J.L. and Parcell, J.L. (2007), *The Agricultural Marketing System* (6th ed.), Holcomb Hathaway publications, Arizona.

- Rickard, B.J., Schmit, T.M., Gómez, M.I. and Lu, H. (2013), "Developing Brands for Patented Fruit Varieties: Does the Name Matter? ", *Agribusiness*, Vol. 29 No. 3, pp. 259-272.
- Saak, A. (2012), "Collective reputation, social norms, and participation", *American Journal of Agricultural Economics*, Vol. 94, pp. 763-785.
- Teklewold, H., Kassie, M. and Shiferaw, B. (2013), "Adoption of multiple sustainable agricultural practices in rural Ethiopia", *Journal of Agricultural Economics*, Vol. 64 No. 3, pp. 597-623.
- Tieskens, K.F., Schulp, C.J.E., Levers, C., Lieskovský, J., Kuemmerle, T., Plieninger, T. and Verburg, P.H. (2017), "Characterizing European cultural landscapes: accounting for structure, management intensity and value of agricultural and forest landscapes", *Land Use Policy*, Vol. 62, pp. 29-39.
- Veldstra, M.D., Alexander, C.A. and Marshall, M.I. (2014), "To certify or not to certify? Separating the organic production and certification decisions", *Food Policy*, Vol. 49 No. 2, pp. 429-436.
- Wollni, M., Lee, D.R. and Thies, J.E. (2010), "Conservation agriculture, organic marketing, and collective action in the Honduran hillsides", *Agricultural Economics*, Vol. 41, pp. 373-384.

INVESTMENTS THROUGH THE ENHANCEMENT OF THE ROLE OF THE MODEL FOREST

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ABSTRACT

The aim of the present paper is to investigate the exploitation of the role of the Model Forest in local development, investment attraction and creation of new jobs. According to the International Model Forest Network (IMFN), in a Model Forest people representing various interests and views establish a partnership with the aim of achieving the following objective: to manage natural resources rationally while considering the history, economic situation and political identity in a way that does not jeopardize the future generations. Hence, stakeholders' and residents' opinion on the role of the Model Forest were examined. Specifically, the structured questionnaire was used to investigate the views of the residents in the Regional Unit of Grevena, while the semi-structured questionnaire and personal interviews were applied to examine the views of 13 relevant stakeholders. Results show that most stakeholders and residents acknowledged the benefits arising from the creation of a Model Forest and perceived that an enhanced exploitation of natural resources (forests, herbs, recreation, etc.) could improve the economic situation. Moreover, to achieve a more flexible management of natural resources, they recommended bureaucracy reduction and changes in the existing legislation. However, despite respondents' increased interest in the environment and natural resources management, a certain degree of hesitation to participate in a Model Forest was observed. The creation and worldwide projection of a Model Forest could attract numerous visitors through organizing meetings and conferences, contribute to the promotion of local products (either forest or non-forest products) and create new job positions supporting thus the country's local and regional development.

Keywords: Model Forest; local development; stakeholders; natural resources; Grevena

INTRODUCTION

After Rio Declaration in 1992, there is more debate on forest planning including the sustainability of ecosystems, multiple-use planning as well as ecological and financial values (Çakir et al., 2013). Effective communication consists the critical component for every effective partnership or cooperation

and oftentimes co-operations are established to facilitate interactions between two or more stakeholders benefiting all members and at the same time participation can benefit participants, the state and other stakeholders (Tolley, 2003). As for the motives for participating in partnerships and co-operations, these involve the investigation of creative solutions, the improvement of differences, the investigation of holistic approaches and the increase or improvement of business. A cooperation can be defined as a relationship where two or more parties with compatible objectives enter into an agreement for the implementation of something. Meanwhile, partnerships concern people working together in a mutually beneficially relationship and in many cases they do together things which they would not be able to accomplish on their own (Frank and Smith, 2000).

The identification of stakeholders' and residents' views who participate in a partnership can be viewed as the identification of factors affecting the participation of individuals or groups in a voluntary partnership for the benefit of the local society. From this perspective, the exploration of stakeholders' and residents' views assumes a greater importance as this knowledge can be used to create conditions which would attract greater participation in partnerships such as the Model Forest. Hence, the aim of the present paper is to investigate the views of the relevant stakeholders who are directly or indirectly related to the local development as well as of the residents on the role of the Model Forest and on a variety of topics related to the participation in the Model Forest in the regional unit of Grevena. The entire process focuses on reaching significant conclusions which can be used in an integrated effort to improve the exploitation of local natural resources, but also to address relevant environmental and local development-related issues. Moreover, the findings could be used by Model Forests in other countries to enhance the participation of stakeholders and residents in the creation and successful operation of Model Forests. Finally, similar studies examining the same topics should also be conducted in other Model Forests to compare how residents and stakeholders respond to such partnerships and indicate the factors that affect the participation degree in each case. Based on findings from various Model Forests, strategies aiming at enhancing the role of the Model Forest in local communities and economies but also increasing the participation of residents and stakeholders in Model Forests could be developed.

THEORETICAL FRAMEWORK FOR MODEL FOREST

The notion of Model Forest (MF) was first introduced in Canada in 1991. Once more countries participated, the Model Forest turned into the International Model Forest Network (IMFN). The International Model Forest Network is an international association, whose members cooperate for the sustainable development of natural resources and forest areas. Every Model Forest was established under different environmental and economic conditions, while different issues had to be faced (IMFN,

2011). The vision of the International Model Forest Network is to support the sustainable management of natural resources through a participatory process, so that environmental and socio-economic issues are reflected.

The principal mission of the Model Forest is to create an international network representing the majority of the world's largest forest ecosystems and to promote the participatory sustainable management of local resources. Moreover, the International Model Forest Network attempts to ensure that all partners, despite their political or financial situation, can contribute to and share the benefits of the Network. The main objectives are:

1. The promotion of the international exchange of ideas and solutions for the sustainable management of natural resources in forest areas.
2. The support for cooperation in crucial matters regarding solutions for the sustainable landscape and natural resources management.
3. The support for current international political conversations on criteria and principles of sustainable development and management of natural resources.

Model Forests are based on an approach which combines the social, cultural and economic needs of a local society with the sustainability of big landscapes, where forests consist a major part. In a conscious manner, a Model Forest is a process of voluntary partnership which is contingent on initiatives associated with silviculture, research, agriculture, mining, recreation and other values and interests in the context of a landscape (IMFN, 2011). The relevant stakeholders of a Forest Model work to define a common, local vision for the sustainable management of forest landscapes and cooperate to achieve this vision which will benefit all interested parties, who do not necessarily live within the physical boundaries of their own Model Forest. In fact, many Model Forests include organizations outside their territories. Additionally, while certain relevant stakeholders remain stable through the life of a Model Forest, others change the topics and programming over time. Notably, a variety of tools are used by Model Forests to create an image so that they are recognized not only within the Model Forest, but also throughout their vicinity. These tools are designed to provide a coherent picture of the Model Forest to the beholder and the most notable is the development of logos, namely the development of a brand, so that the Model Forest is presented in local, regional and national events and a picture of the Model Forest is projected in the media and local societies (Sawatzky, 2006).

Some of the benefits of Model Forests involve the effective management of natural resources, the support for education and learning in local communities, the promotion of local products, the support for information dissemination among the members of the partnership, exchange of know-how with other Model Forests, participation in European programs, the creation of new job positions, the

improvement of the financial situation, increased awareness among forest populations and the attraction of visitors.

The resulting benefits can be seen in Model Forests around the world which participate in the International Model Forest Network. An appropriate example would be the African Model Forest Network which since 2013 facilitated the distribution of organic fertilizers to the interested parties in Campo-Ma'an (southern region) and Dja et Mpomo (eastern region) in Cameroon. To secure the long-term access to organic fertilizers, the African Model Forest Network helped establish the Bio-fertilizer Production Center in Abong-Mbang which contributed to youth employment, increased demand and production of organic fertilizers, as well as development of marketing strategies. At the same time, the Sustainability Center aims at meeting the needs of the largest number of potential producers of agricultural producers, while providing high-quality products with low cost and accessible to rural communities. The Bio-fertilizer Production Center of the African Model Forest Network signifies the transition from one project to an ecological social enterprise which is viable, cost-efficient and sustainable in the long term. It is a reflection not only of a Model Forest strategy, but also of the development of a social enterprises network which can shortly bring wealth to the rural sector (PFBC, 2016).

Another noteworthy example is the Kyoto Model Forest which is extended in the entire Prefecture of Kyoto and presents a unique administration structure. The Kyoto Model Forest comprising approximately 13.000 private forest areas and 26 local governments is in essence a collection of small cut-off forests, where each forest has its own administration approach and all of them are united under the Model Forest flag. Since 2007, Coca-Cola has made donations to help the conservation of 106 hectares promoting thus the conservation of forests of the water catchment area and facilitating opportunities for volunteering for employers through the Model Forest. Another worthwhile contribution is the one made by the soft drinks company Suntory. The company has been offering both the required funding and volunteers for the conservation of 8000 forest hectares which surround 18 water refuges throughout Japan. Unquestionably, it only makes sense that soft drinks companies try to secure the viability of their water supply (IMFN, 2011).

At this point, it is of interest to mention the Initiative 20x20, which refers to the efforts to guide a country towards changing the dynamic of land degradation in Latin America and the Caribbean, through the restoration of 20 million hectares by 2020. Nine countries and two regional programs, including the Ibero-American Model Forest Network, took part in this initiative with private investors providing 365 million dollars. The Initiative 20x20 is supported by the Tropical Agricultural Research and Higher Education Center, the World Resources Institute (WRI), the International Center for

Tropical Agriculture (CIAT) and the International Union for Conservation of Nature (IUCN) (RIABM, (2016).

METHODOLOGY – STUDY AREA

The present study was conducted in 2016 in the Regional Unit of Grevena which is located in the southwest part of Western Macedonia. According to the census of 2011, the region of Grevena has a population of 31.757 inhabitants. Moreover, it is largely covered by forests (34.07%) and forest areas (22.38%) which are characterized by rare flora and fauna. In Grevena, there are many mountains and consequently 70% of the region has an altitude of more than 1000 m. Due to this altitude, the region presents optimal conditions for the development of livestock farming and the exploitation of forest-based products.

The data on the views of the stakeholders who are related to the management and development of natural resources were collected through personal interviews and with the help of semi-structured questionnaires. Personal interviews but with the help of structured questionnaires were used to gather the data concerning the views of the residents.

The views of 13 stakeholders and of the residents were investigated and all residents at the regional unit of Grevena were the “population” under study. To determine the size of the sample, simple random sampling without replacement was used. Following the application of this method, it was revealed that the sample had to be 223 residents.

As for the stakeholders who participated in the study, these involved the municipality of Grevena, the Chamber of Commerce and Industry, the woodworking industry ALPHA WOOD, the Hunter Association of Grevena, the Northern Pindos National Park, the forest cooperatives in the region of Grevena, the non-governmental organization “Valia Calda”, the Hellenic Rescue Team, the Directorate of Forestry in Grevena, the Mushroom Society of Western Macedonia, Secondary Education, the former chairperson of the Grevena Model Forest and Grevena Development Agency.

Regarding the questionnaires, some questions were common in both the semi-structured and structured questionnaires while the semi-structured questionnaire enabled the interviewer to ask additional questions to clarify the interviewee’s views. The questionnaire addressed to stakeholders involved questions concerning the management of natural resources and the Model Forest. In the first part, they were asked whether they perceived positive the utilization of the natural resources in Grevena and whether they were satisfied with the current cooperation among stakeholders in terms of natural resources management. The following questions explored the reasons the stakeholders participated in the creation of the Model Forest, the ways they would prefer to be informed about the Model Forest, the type of information they would be interested to exchange with other stakeholders,

the difficulties in creating a Model Forest and the advantages resulting from its creation. Additionally, respondents' opinion on the topics that the Model Forest should be engaged in was investigated. Finally, they were asked whether they considered that a novel effort to establish a Model Forest would be successful and whether they wished to take part in the process and if so in which areas. With regard to the questionnaire completed by residents, this included questions on their social and demographic characteristics as well as questions examining their perceptions of and interest in the environment and the management of natural resources in their region. First, participants were required to answer what is a Model Forest and to state how important they perceived the exchange of know-how through the International Model Forest Network. Moreover, they assessed the difficulties and advantages arising from the creation of a Model Forest as well as its objectives. As with the stakeholders, residents were also asked whether they were interested in participating in a Model Forest and if so in which areas. The most important step of a study design is the conduct of a pilot study prior to the actual study. Hence, the questionnaire was administered to a small number of individuals (15) and this helped improve certain imperfections that concerned the clarity of the questions, the syntax, the order of questions and the aesthetic quality of the questionnaire.

RESULTS

Thirteen relevant stakeholders from the Regional Unit of Grevena participated in the first part of the research which investigated the views of relevant stakeholders. Of these, eleven took part in the process of creating the Grevena Model Forest and were experienced in matters concerning natural resources management and the notion of Model Forest. Then, in the second part of the research the views of the residents were examined.

Views of the relevant stakeholders

Eleven out of the thirteen surveyed stakeholders participated in the creation of a Model Forest in the regional unit of Grevena. The reasons for participating in the process were many and varied. Specifically, a participating stakeholder was driven by beliefs in volunteering and giving, while another stakeholder regarded the participation as "self-evident" and another valued the reputation the local products would earn due to the creation of a Model Forest. Moreover, three stakeholders took part in the creation because they perceived that the resulting network would facilitate a more effective communication among relevant stakeholders regarding the protection and management of natural resources. Meanwhile, two participants regarded the idea of creating a Model Forest as innovative, whereas another respondent participated to acquire more information on the notion of Model Forest and three stakeholders because they wished to contribute to the sustainable

management of natural resources. In addition, two stakeholders did not participate because they were inadequately informed about the specific effort.

Eleven in thirteen stakeholders regarded the exploitation of the local natural resources as positive. Conversely, two stakeholders did not consider it to be positive on the ground that the exploitation of wood and forest residues is not managed correctly and does not reach the desired level. Finally, another participant looked favorably on it but considered that more efforts should be exerted to achieve the objective. Regarding the changes that could be made to make better use of the natural resources, there have been various proposals. Six stakeholders expressed the wish to change the existing legislation so that specific intervention operations, which are today prohibited, would be allowed as well as to manage the exploitation of natural resources at different levels. At the same time, two respondents recommended the exploitation of residues and the establishment of biomass plants which would create new jobs, whereas three participants suggested a better coordination among stakeholders and one the removal of bureaucracy. Finally, one stakeholder proposed that the state should demonstrate more willingness and provide residents with financial assistance for the exploitation of the local natural resources.

In terms of cooperation among stakeholders, five in thirteen stakeholders were dissatisfied with the existing cooperation with local stakeholders on the management of natural resources. However, seven respondents stated they were moderately satisfied, acknowledging the efforts despite the issues arising from the economic crisis and legislation. Notably, only one participant was totally satisfied with the cooperation with stakeholders.

Respondents were also asked about the difficulties in the creation of a Model Forest. Four participants regarded financial issues as the main difficulty, while other four the problem of volunteering in Greece and two the lack of cooperation. It also noteworthy that one participating stakeholder perceived that the Greek state does not place particular importance on the sustainable development of natural resources and another respondent viewed the lack of information as the main difficulty and finally one stakeholder mentioned the lack of public trust in the enterprise.

In evaluating the difficulties in the creation of a Model Forest, seven stakeholders identified the lack of interest in voluntary participation as an important and very important difficulty, whereas two as moderately important, three as slightly important and only one stakeholder perceived that there was no difficulty in voluntary participation. Meanwhile, the lack of funding was perceived by six stakeholders as a very big issue, by two as a big issue and by five as a moderate issue.

Respondents also assessed the difficulty of communication and trust among interested parties. Two participating stakeholders regarded it as a very big issue, one as big and the majority (eight

respondents) as a moderate issue. On the other side, two participants considered there was no such problem.

In addition, the lack of cooperation was not perceived as an issue by two respondents, while three participants viewed it as a slight difficulty, five as moderate and two as a big difficulty. Interestingly, only one stakeholder considered it a very big issue.

The perception that stakeholders and the general public do not benefit from the partnership was seen as a big problem by two stakeholders, whereas four respondents identified it as a moderate, five as a minor and only one as an insignificant problem.

All interviewed stakeholders agreed that the creation of a Model Forest will benefit their region. More specifically, for four participants the enhanced exploitation of forests and natural resources consisted a notable advantage, whereas four participants valued the promotion of the area and its local products, the employment and environmental protection.

Stakeholders were also asked to what degree the creation of a Model Forest will contribute to a more effective natural resources management. Results showed that most stakeholders recognized the contribution a Model Forest could make in this direction. Moreover, seven participants stated that the creation will help greatly in supporting education and learning in local communities, whereas five stakeholders perceived it would have a significant and one stakeholder a moderate contribution. The promotion of local products was regarded as a greatly important benefit by most participants (nine), as very important by two and as a moderately important also by two. The exchange of know-how was considered as a very significant consequence by seven stakeholders and as moderately significant only by one stakeholder. Meanwhile, the participation in European programs was evaluated as a very significant benefit by the majority of respondents (nine). As for the creation of new job positions, five stakeholders perceived that a Model Forest would make a very big contribution. In addition, nine stakeholders considered that the enterprise would inhibit inward and outward migration and only four viewed that it would not alleviate the issue of migration. Another interesting result was that most participants expressed a positive view on Model Forest's ability to raise environmental awareness among forest populations. In particular, most respondents regarded that it would have a very big influence on raising awareness, whereas only one stakeholder perceived it would not make a difference. It is also worthwhile to note that the vast majority of participants (eleven) viewed that the Model Forest could attract visitors to the area.

Stakeholders' views on the topics the Model Forest should be engaged in were varied. Most of them (eight) considered that the body should be occupied with topics regarding the management of forests and natural resources. Of the remaining respondents, two perceived it should deal with local products, three with tourism, two with product certification, two with hunting and two with

European programs. Furthermore, eleven participants considered that the effort to create a Model Forest would be successful, while two perceived that it would succeed only if the current conditions changed. However, all stakeholders were willing to participate in this effort.

Finally, respondents were asked about the fields in which they wished to participate. These involved Education-research, Local products, Tourism-recreation, European programs. Finally, it was indicated that four stakeholders were interested in all fields, while the remaining participants showed interest in fields which corresponded to their expertise.

Views of the residents

The primary collected data presented in this survey concerned the socio-demographic characteristics of the respondents, the assessment of significance, the participation interest, the obstacles, the benefits and the sectors that local residents would be interested in getting involved in case a Model Forest was created. As for the respondents' socio-demographic characteristics, there were slightly more male (55.2%) than female respondents in the sample. In terms of age, almost six out of 10 participants were aged between 31 and 50 years. In addition, the vast majority of respondents (79.8%) resided in Grevena and Deskati. Regarding their educational level, almost one out of three residents were high school graduates and approximately half of the respondents were university and technological educational institute graduates. A considerable share (48.0%) of respondents were employed by the public sector, whereas about one in seven participants were freelancers and one in ten were employed in the private sector.

Participants' views on whether the exploitation of local natural resources is positive were divided. That is, 14.3% of respondents regarded the exploitation as a very positive, whereas only 6.3% as an insignificant development. Additionally, a large proportion (30%) of stakeholders viewed it as minor, while 27.8% as moderate and 21.5% as very important.

Next, residents' level of satisfaction with the activities affecting the management of local natural resources was investigated. Results in Table 1 show that more than half respondents were dissatisfied with activities regarding cleaning and removal of combustible materials, wood quality certification schemes and protection from illegal logging which affect the natural resources management.

Activities	Not at all satisfied	Slightly satisfied	Moderately satisfied	Very satisfied	Extremely satisfied	Neither satisfied or dissatisfied
Logging	8.1	26	43.5	13	2.2	7.2
Timber transportation	5.8	29.6	40.4	12.6	2.2	9.4
Cleaning and removal of combustible materials	13	39	29.6	8.5	0.9	8.1
Firewood disposal (individual needs)	6.7	25.6	37.2	17.9	5.8	6.7
Application of forest legislation	6.7	22.4	36.8	20.6	4	9.4
Coordination among private sector– forest cooperatives– forest service	5.4	30.5	32.7	12.6	5.4	13.5
Wood quality certification schemes	19.3	30.5	20.6	10.3	3.6	15.7
Fire protection	4.5	28.7	38.1	13.9	5.3	8.5
Protection from illegal logging	17.5	32.7	23.3	12.6	5.4	8.1
Protection from poaching	18.8	26.5	26	17.5	3.6	7.6

Table 1. Table 1. Residents' level of satisfaction with activities influencing the management of local natural resources

Then, it was indicated that about seven in ten respondents (72.6%) considered that the exploitation of natural resources (such as forests, herbs, recreation, etc.) will bring financial benefits. On the other side, 22% of residents perceived that no change would emerge and 5.4% took a pessimistic stand as they considered that the economy would decline (Figure 1).

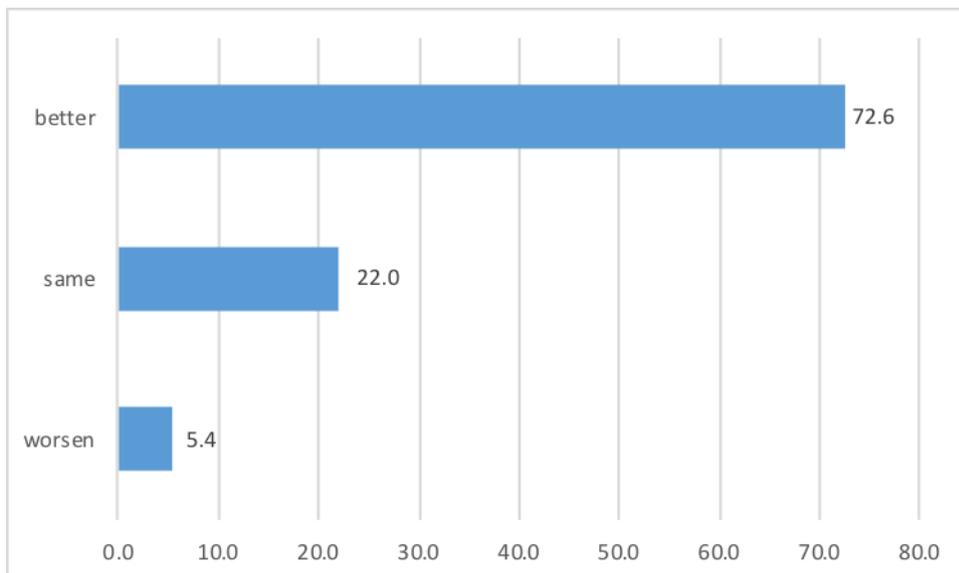


Figure 1. Evaluation of the economic situation due to exploitation of natural resources

Afterwards, participants were asked which information sources they would prefer for their information on the creation of a Model Forest. As it appears in Table 2, Internet was the most

preferred information source, followed by events and information days. In addition, a significant share expressed their preference for meetings with members of a Model Forest.

Information sources	Not at all	Slightly	Moderately	Very	Very much
Meetings with the members of the partnership	1.8	18.4	37.2	29.6	13.0
Internet – websites providing information about partnerships of this kind	1.3	14.8	28.3	39.9	15.7
Events-information days	2.7	14.3	32.7	32.3	17.9

Table 2. Residents' evaluation of different information sources regarding the acquisition of information on the creation of a Model Forest

	Not at all	Slightly	Moderately	Very	Very much
The management of natural resources in a way that does not jeopardize future generations	0.9	12.1	18.8	24.2	43.9
Education and research	3.6	6.7	22.4	39.9	27.4
Local development indicators	3.1	10.8	29.6	44.4	12.1
Cooperation with Universities, Technological educational institutes and Forestry Institutes	2.2	13.5	27.4	35.9	21.1
The benefits of stakeholders and the local people from the partnership	3.1	14.3	34.5	35.4	12.6
The implementation process	2.2	7.6	30.5	32.3	27.4
Searching for new opportunities	2.7	9.0	26.5	33.2	28.7
The better promotion of local Products	3.1	9.4	13.5	33,2	40,8

Table 3. Evaluation of objectives resulting from the Model Forest creation

Next, residents were required to assess the objectives of the Model Forest. As shown in Table 3, it can be observed that for most participants (approximately 70%) targets regarding the management of natural resources that secure them for the future generations, education and research, as well as the enhanced promotion and projection of local products were the most significant objectives. As already mentioned, there are many difficulties to be faced for an effective management of natural resources and hence respondents were required to evaluate the main difficulties in creating a Model Forest and in managing it. It can be seen in Table 4 that funding was perceived as the most important issue, followed by the lack of interest in voluntary participation and cooperation among interested parties.

Difficulties	Not at all	Slightly	Moderately	Very	Very much
Lack of interest in voluntary participation	3.6	13.5	27.8	27.8	27.4
Funding	3.1	13.0	22.4	23.3	38.1
Communication among interested parties	2.7	17.9	34.1	29.1	16.1
Trust among interested parties	4.5	16.1	34.5	28.3	16.6
Cooperation among interested parties	4.0	11.7	28.7	31.4	24.2
Lack of a common vision	3.6	17.0	30.9	22.9	25.6
Interested parties' perception that the general public and themselves do not benefit from the partnership	4.5	21.1	31.8	24.7	17.9

Table 4. *Evaluation of the difficulties regarding the creation of a Model Forest*

Regarding residents' view on the benefits arising from the creation of a Model Forest, it should be noted that most of them were highly rated (Table 5).

Benefits	Not at all	Slightly	Moderately	Very	Very much
More effective management of natural resources	1.8	11.7	35.0	35.4	16.1
Support for education and learning in local communities	0.4	13.9	28.3	39.0	18.4
Projection and promotion of local products	1.8	5.8	29.6	31.4	31.4
Support for information dissemination among members of the partnership	0.9	10.3	44.4	32.7	11.7
Exchange of know-how	0.9	12.1	33.2	33.6	20.2
Participation in European programs	0.9	9.0	30.9	35.4	23.8
Creation of new job positions	2.2	9.4	23.3	30.5	34.5
Economy improvement	4.0	13.5	21.1	33.2	28.3
Prevention of immigration	7.2	17.0	30.0	29.6	16.1
Raising awareness among forest populations	1.3	13.9	32.7	35.9	16.1
Tourist attraction	0.9	12.6	23.8	34.1	28.7
Environmental education	3.6	10.8	32.3	32.3	21.1

Table 5. *Respondents' assessment of benefits arising from the creation of a Model Forest*

However, most participants (65%) rated the creation of new jobs, the attraction of tourists (62.8%) and the improvement of economy (61.5%) as the most important benefits. Finally, other highly rated advantages included the support for education and learning, and the participation in European programs.

Residents interest in participating in a Model Forest was also examined. Interestingly, 43.5% expressed interest in taking part, while significant shares of participants were moderately (35.4%) and slightly (15.2%) interested. Meanwhile, only a small proportion (5.8%) expressed no interest in a voluntary partnership. The lack of interest can be accounted for by the economic crisis which often affects

attitudes. In other words, the high rates of unemployment as well as other problems resulting from the economic crisis inhibit volunteering. It should be noted that a volunteer is someone who unconditionally offers his/her time, knowledge and services for useful actions which benefit others without being forced to do so and without expecting anything in return. Undeniably, the cultural values characterizing a place play a significant role in awareness about volunteering.

Residents were also asked about the sectors in which they would be interested to offer their services through their participation in the creation of a Model Forest. As shown in Table 6, it was indicated that most would be interested in participating in European programs, tourism-recreation and local products. Conversely, only a minor interest in Websites providing information about the Model Forest Network was reported.

Sectors	Not at all	Slightly	Moderately	Very	Very much
Research-education	7.2	18.8	36.8	20.2	17
Tourism-recreation	4.0	16.6	30.5	30	18.8
Local products	9.0	13	30.9	31.4	15.7
Website -international Forest Model network	13	28.7	26.9	20.2	11.2
Participation in European programs	9.9	13.9	32.3	18.8	25.1

Table 6. Percentages of sectors in which participants would be interested to offer services through their participation in the creation of a Model Forest

Afterwards, residents evaluated different information sources in terms of their contribution to public information on the environment and nature. As presented in Table 7, the most favored information sources were the Internet (66.8%), education (62.3%), family (56.5%) and scientific experts (53.4%). In contrast to these, the least preferred sources were radio stations (16.2%) and local television networks (15.3%).

Information sources	Not at all important	Low importance	Moderately important	Very important	Extremely important
Family	7.2	11.2	25.1	37.7	18.8
Education	2.7	7.6	27.4	35.4	26.9
National television networks	8.1	17.9	43	23.3	7.6
Local television networks	15.2	32.3	37.2	11.7	3.6
Radio stations	12.6	31.4	39.9	13.5	2.7
Newspapers	7.6	23.3	40.8	23.3	4.9
Magazines	6.7	26.0	37.7	23.8	5.8
Internet	4.0	7.6	21.5	35.9	30.9
Information leaflets	8.1	22.0	31.4	26.0	12.6
Environmental organizations	7.1	19.3	32.3	26.0	15.2

Books - encyclopaedias	9.0	17.5	32.3	26.9	14.3
Scientific experts (such as foresters, environmentalists etc.)	4.5	11.7	30.5	28.7	24.7

Table 7. Percentages regarding the contribution of information sources to public information on the environment and forests

DISCUSSION - CONCLUSIONS

The Regional Unit of Grevena is rich in natural resources and their effective exploitation would contribute positively to the development of the area. According to Ziogana (2003), natural resources consist a basic and dynamic factor in economic and regional development, while they predefine the emphasis and escalation of economic activities in a certain area.

Although most participants acknowledged the benefits of creating a Model Forest and despite residents' great interest in the environment and natural resources management, a certain degree of hesitation in participating in this enterprise was noticed, which confirms that volunteering encounters difficulties. A possible explanation would be that the economic crisis which plagues Greece and the resulting negative psychology of Greek citizens affect greatly their voluntary participation in actions.

The more citizens are given the opportunity to express their opinion and preferences as inputs in decision-making processes and the more seriously these are taken into consideration, better and more sustainable decisions are likely to be taken (Schugurensky, 2003). Through a voluntary partnership of individuals and groups who work together for a common vision, such as creating a Model Forest and designing a three- or five-year strategic plan, many actions can be implemented in the area. The participation could be described as a process reinforcing the ability of individuals to improve or change their lives, namely as an empowerment catalyst (Cleaver, 2001).

The relevant stakeholders who participated in the process of creating the Grevena Model Forest were dissatisfied with the cooperation among stakeholders and expressed their wish for changes in the existing legislation and the reduction in bureaucracy, so that the exploitation of natural resources becomes more flexible and reaches higher levels. What is more, some of them even suggested the establishment of biomass plants to create new job positions. The region of Grevena presents not only remarkable timber quality, but also renowned mushrooms and other non-forest products, and hence through the worldwide projection of a Model Forest and the consequent certification of forests, brand names to market certain products could be patented as was the case with *Pinus nigra* of the Grevena Model Forest. Another example would be the Urbion Model Forest in Spain where timber is sold with the quality-label "Pino Soria Burgos". Moreover, it is possible that the projection of Model Forests would attract visitors and scientists through the organization of meetings and conferences. In addition, the exploitation of biomass could help meet energy needs (electricity and heating production), but also

provide employment and thereby keep the rural and forest population from migrating. Simultaneously, the energy that may be produced could be financially competitive with the one generated by conventional energy sources and contribute to the reduction in dependence on fuel imports. As Arabatzis *et al.* (2012) claim, biomass has been recognized as one of the most important renewable energy sources since it is able to contribute decisively to the energy needs of modern society and environmental protection both in industrial and developing countries. Timber and firewood consist the most notable source of biomass and in Greece due to the economic crisis an increase in the consumption of firewood is observed especially in rural areas. At the same time, renewable energy sources are called upon to play a key-role in addressing the global increased energy demand. Specifically, issues arising from the oil crisis emphasize the important role of renewables in economic development. According to Tsantopoulos *et al.* (2014), the development of renewable energy sources and photovoltaics in particular, presents a rising trend. To achieve the above, the main prerequisites involve changes in the existing legislation, which would render the system of natural resources management more flexible, bureaucracy reduction, public information on the advantages of a Model Forest and a reliable state providing a stable taxation system without over-taxation and emergency contributions. Hence, policy officers should organize their actions more effectively and utilize the natural resources in their region by taking into account the local residents' positive attitude and by using all financial means at their disposal. A crucial prerequisite for the flexible exploitation of natural resources is to make specific changes in the existing legislation and minimize bureaucracy.

REFERENCES

- Arabatzis, G. Kitikidou K., Tampakis St, Soutsas K, (2012) 'The fuelwood consumption in a rural area of Greece', *Renewable and Sustainable Energy Reviews*, 16(9), pp. 6489–6496. doi: 10.1016/j.rser.2012.07.010.
- Cleaver, Frances. (2001) "Institutions, Agencies, and the Limits of Participatory Approaches to Development." In Cooke and Kothari 2001b, pp. 36–55.
- Frank, F., & Smith, A. (2000) *The partnership handbook*. Minister of Public Works and Government Services, Canada.
- Sawatzky H. (2006) *Partnership and Communication in Resource Management: A Study of the Canadian Model Forest Network*. A Thesis Submitted to the Faculty of Graduate Studies In Partial Fulfillment of the Requirements For the Degree of Master of Natural Resource Management. Natural Resources Institute University of Manitoba Winnipeg, Manitoba.
- Shugurensky, Daniel (2003) "Civic Participation: On Active Citizenship, Social Capital and Public Policy". *Canadian Diversity*, 2(1), pp. 10-12.
- Tolley, (2003). "Expressing Citizenship Through Participation: Values and Responsibilities"
- Tsantopoulos, G., Arabatzis, G. and Tampakis, S. (2014) 'Public attitudes towards photovoltaic developments: Case study from Greece', *Energy Policy*, 71, pp. 94–106. doi: 10.1016/j.enpol.2014.03.025.
- Ziogas, Ch. (2003) *Agricultural Economic Development*, Ziti. Thessaloniki. (in Greek).
- PFBC, (2016) "Le Centre de production de biofertilisants du RAFM - Une entreprise sociale verte en plein essor", available at: <http://pfbc-cbfp.org/actualites/items/biofertilisants-RAFM.html> (accessed 17 November 2016).
- RIABM, (2016) "(Español) Lanzamiento de la Iniciativa 20x20 durante la COP20 y el Global Landscapes Forum – propuesta incluye un componente regional para Bosques Modelo", available at:

<http://www.bosquesmodelo.net/lanzamiento-de-la-iniciativa-20x20-incluye-un-componente-regional-para-bosques-modelo/> (accessed 21 November 2016).

IMFN, (2011) "International Model Forest Network", available at: <https://imfn.net/> (accessed 3 November 2011).

EVALUATING FACTORS THAT INFLUENCING THE GROSS MARGIN IN DAIRY FARMING

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ABSTRACT

The aim of the present paper is to examine the factors that influence the gross margin and the productivity of suckler cow in Greece. The paper uses structural equation modeling (SEM) which is a superior statistical technique to multiple regression used to determine the effect of financial and non-financial factors on the productivity of goat farmers in Greece. The research data was collected using questionnaires and through personal interviews with the "heads" of the goat farms during the years 2017-2018 in the region of Central Macedonia. This model hypothesizes that gross margin is predicted by the cost of labor (X1), the amount of subsidies (X2), the cost of feed (X3), the education level (years) (X4), the age of the head of the suckler cow farm (X5).

Keywords: Suckler cow farming, Structural Equation Modeling (SEM), Gross Margin, Managerial practices

INTRODUCTION

Suckler cow farming is considered to be a dynamic sector of animal production in Greece, as it contributes significantly to the national economy. In Greece, the cattle breeding is directly linked to grazing land and less to cultivated land, as in the case of dairy cows, and is therefore subject to competition in the use of available grazing land, mainly in the sheep industry and, secondly, in sheep farming. Suckler cows use effectively the grassland (mainly herbaceous) hilly-mountainous and less-favored areas, contributing significantly to the agricultural income of rural population (Hatziminagoglou et al., 2001). Moreover, suckler cow farming has as its main productive direction the bovine is an important livestock category mainly used to produce meat and milk for human consumption, covering about 18% of protein and 9% of its energy needs (Phillips 2001).

The Greek beef cattle sector with 178 thousand suckler cows represents only 2.22% of the total EU-27 suckler cow population (EUROSTAT 2013). The annual beef meat production does not exceed 34% of the country's needs, although suckler cow population has increased by 12% over the past five years due to the EU's premiums.

The Region of Central Macedonia covers 14.3% of the country's total area. In this area livestock farming is an important economic activity, as 767,000 ewes, 403,200 goats and 10,400 suckler cows (Hellenic Statistical Authority 2016) are extensively reared. According to recent ELSTAT data. (2017), the number of suckler cows has almost doubled (19,500) in recent years, largely due to the fact that most females born in previous years have been kept for breeding purposes.

Despite the medium productivity and the high quality of the products, the suckler cow sector has low competitiveness due to the high production costs compared with other EU countries (Vlontzos and Soutsas, 2006; Aggelopoulos et al., 2009). The majority of farms in the country operates under increasing returns to scale, so an increase in size to achieve lower production costs and improved profitability is necessary (Theocharopoulos et al., 2007). The total cost of production in a suckler cow farm configures the feed costs, mainly for fattening calves, the annual costs of purchased livestock, the annual costs of fixed assets and the remuneration of labor (Kitsopanidis, 2006).

The high cost of production in the Greek suckler cow farms is one of the major problems of the industry, resulting in reduced efficiency and low competitiveness in relation to other EU countries. As a result, every effort for business development of the industry should be coupled with reducing production costs. This study aims to identify and analyze the factors that affect the gross margin and the productivity of suckler cow sector in Greece. The paper uses structural equation modeling (SEM) which is a superior statistical technique to multiple regression used to determine the effect of financial and non- financial factors on the productivity of suckler cow farmers in Greece.

MATERIALS AND METHODS

The region of central Macedonia that is being studied consists of seven regional units and is located in the center of Northern Greece. In the sampling area there are 129 holdings of suckler cows with a size of more than 20 cows. The final sample includes 66 suckler cow farms with 6.122 suckler cows, accounting the 51% of all suckler cow holdings in the research area. The data were collected by a questionnaire taking into account similar surveys in other countries (Solano et al. 2011, Soini et al. 2012 & Martin-Collado et al. 2014) and some related studies in Greece (Aggelopoulos et al. 2011 & 2014, Gelasakis et al. 2013) and through personal interviews with the "heads" of the suckler cow farms during the years 2017-2018. Tire sampling method was layered randomly (Siardos, 2005). The variety of rearing conditions in this area allows the generalization of the research results, with no significant deviation from reality.

It is worth mentioning that, in the final analysis, small, medium and large farms were included and as a result there is a great variation in the cost parameters that are taken under consideration.

The empirical data are analyzed using Structural Equation Modeling (SEM). Structural Equation Modeling, though stemming from econometrics, is increasingly applied in various disciplines such as psychology, sociology, political science, education, and in business-related disciplines like marketing, strategy, and management accounting. Generally, Structural Equation Modeling is defined as "a class of methodologies that seeks to represent hypotheses about the means, variances, and covariances of observed data in terms of a smaller number of structural parameters defined by a hypothesized underlying model". A structural equation model consists of (a) the measurement models, which link the observed variables to the latent variables, i.e. to the constructs; and (b) the structural part, which links the latent variables by using systems of simultaneous equations.

Structural Equation Modeling provides estimates of the strength of all the hypothesized relationships between the constructs in theoretical models, by comparing the model to the empirical data. This comparison is accomplished by means of fit statistics. The fit statistics can be used for accepting or rejecting the assumed relationships between the latent and observed variables (measurement models) on the one hand, and the latent variables (structural model) on the other.

The construction sequence of a SEM is to specify the model's structure and economic relationships, to estimate the parameters from historical data and to validate the model in a simulation routine (Labys, 1988). Supply, demand and price formation processes are represented by endogenous relationships that simultaneously interact to determine each other's values. The main goals of SEM are to understand the patterns of correlation/covariance among a set of variables and to explain as much of their variance as possible with the model specified (Kline, 1998).

A two-stage sampling technique was used by applying simple random sampling. The data were analyzed using the Statistical Package for Social Sciences (SPSS) Version 22.0. For the analysis data were converted into per animal for the better understanding of the results. This study utilizes structural equation modelling (SEM) using the Analysis of Moment Structures (AMOS) for robust results.

According to the literature (Doll and Orogen, 1984; Damianos and Skuras, 1999; Kitsopanides, 2006; Aggelopoulos et al., 2009) the factors that compound the overall production cost are the labour cost, the annual expenditure of fixed capital (buildings, machinery), the cost of livestock breeding, the cost of animal feed, the total expenditure of variable capital (veterinary costs). According to Swain (2009), the agricultural subsidies are an essential aspect of agriculture and play an important role in international trade. They are considered the most effective mechanism for accelerating the growth of the agricultural sector. They are paid to farmers and agribusiness operators to supplement their income in order to management of offer of agricultural commodities or influence of the cost and supply of these commodities in the international markets. Moreover, according to Adesina and

Baidu-Forson (1995), the age of the breeders, despite their experience, they are not innovate and take risks in order to increase the productivity of their holding. This is mainly due to lack of education. Younger age breeders are willing to receive education, which enhances their ability to respond to innovate (Asfaw and Admassie, 2004). Thus the study hypothesized that gross margin is predicted by the cost of labor (X1), the amount of subsidies (X2), the cost of feed (X3), the education level (years) (X4), the age of the head of the suckler cow farm (X5).

RESULTS

According to the above theory, the following research cases are proposed for investigation

Ha1: The cost of labor is expected to have a direct positive effect on gross margin

Ha2: The amount of subsidies is expected to have a direct positive effect on gross margin

Ha3: The cost of feed is expected to have a direct positive effect on the gross margin

Ha4: The age of the farm manager is expected to have an indirect positive effect on the gross income.

Ha5: The educational level of the head of farms is expected to have an indirect positive effect on gross income.

	Mean	Standard Deviation	N
Gross Margin	682,81	25,420	66
Cost of foreign Labor	22,64	4.399	66
Subsidies	310,76	6.231	66
Cost of Feed	427,07	81.633	66
Education level (years)	9,600	4.123	66
Age	43.314	14.874	66

Table 1. Descriptive statistics

In Table 1, the average total valid observations summed to $n = 66$. An analysis of the descriptive statistics reveals that the mean score of gross margin is 682.81 €. Cost of foreign labor is in the range of 22,64 €. Subsidies are in the range of 310,76 € and the cost of feed is 427,07 €. Moreover, the mean of the years of education level was 9,600 and the mean of the age of the head of suckler cow farms was 43,314.

Best fit model for gross margin Maximum likelihood estimates.

The regression model that forms part of the SEM process confirmed that there are relationships between most variables, which are consistent with theory. The path coefficients presented in Table 2 are positive and significant at 5 per cent ($p < 0.5$). It is observed that cost of feed has a direct contribution to gross margin (0,118). Cost of labor have also a direct contribution to gross margin (1,312). Subsidies have a direct positive contribution to cost of feed (1,501) and cost of feed has a direct negative contribution to cost of labor (-0,063).

			Estimate	S.E	C.R.	p
Gross Margin	←	Cost of Feed	0,118	0,025	4,612	***
Gross Margin	←	Cost of labor	1,312	0,593	2,001	0,035
Cost of Feed	←	Subsidies	1,501	0,658	2,135	0,014
Cost of Labor	←	Cost of feed	-0,063	0,028	-2,473	0,008

Table 2. Regression weights (group number 1 - default model)

			Estimate	S.E.*	C.R.**	P***
Gross margin	←	Education level	0,831	0,210	0,554	0,020
Gross margin	←	Age	0,087	0,081	0,645	0,006

Table 3. Indirect effects- Two tailed Significant (PC) (group number 1 - default model)

Table 3 shows the indirect effects to gross margin. Education level and the age of the suckler cow breeders have an indirect effect in gross margin.

Model Fit for SEM using goodness of fit indices.

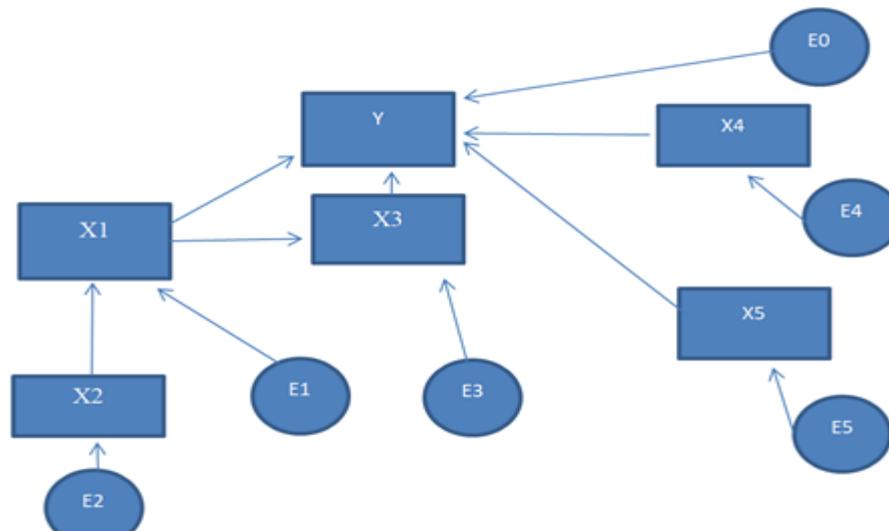


Diagram 1: SEM Model-relationships between most variables

The main objective of this study was to test the relationship between gross margin and some exogenous and endogenous variables. All the indices in Table 3 confirm that all the sample data fit to the model.

Index	Recommended value	Remark
CMIN/DF	1.312	Very good
GFI	0.958	Very good
TLI	0.985	Very good
CFI	0.992	Very good
AGFI	0.901	Very good
RMSEA	0.072	Very good

Table 4. SEM model fit indices

The GFI and the AGFI were 0.958 and 0.901 respectively. The CFI was 0.992 and the RMSEA was 0.072. Moreover, TLI was 0.985 and CMIN/DF was 1.312.

CONCLUSIONS

As shown from the results, cost of feed and cost of labor have a direct contribution to gross margin. Cost of feed has a direct contribution to cost of labor and subsidies have a negative contribution to cost of feed.

The competitiveness of suckler cow farming in Greece can be improved either through a further increase in productivity, or by lowering the overall production costs. First of all, labor has a strong correlation with gross margin. That means, a rational valorisation of labor, mechanising production

(e.g. installation of milking systems), a modernisation of the facilities for ergonomic purposes, should lead to a reduction of this cost component. Moreover, in order to lead to the optimum exploitation of feed factor, a well-balanced and inexpensive feeding is recommended. The knowledge of animal feed contents in nutritious ingredients and their suitability as well as efficient mixing, feeding and storage facilities of animal feed should lead to the improvement of the used animal feed. It is recommended the subsidies to be connected to the yield and not with the uncontrolled increase in the suckler cow population. Furthermore, education has a positive impact on the economic outcome of farms because through education the suckler cow breeders can ensure the sustainability of the farms.

Additionally, the application of structural equation modeling can constitute a "guide" for goat farms for the provision of financial support, for an evaluation of the existing status and for gaining a competitive advantage in relation to other similar form of farms. Through structural equation modeling the investigation of the relationship between inputs and outputs is also possible. This allows the rational exploitation of inputs and outputs, the restructuring of the used inputs and the reduce of production costs.

REFERENCES

- Adesina, A., Baidu-Forson, J., (1995). Farmers' perception of new agricultural technology- evidence from analysis in Burkina Faso and Guinea, West Africa. *Agricultural Economics* 13,1-9.
- Aggelopoulos S., Soutsas K., Pavlouidi A., Menexes G., (2011). Business Ranking based on Qualitative Economic Parameters: Application of a Methodological Pattern on Sheep Farms. *International Journal of Engineering and Management*, 3(2), 65-76.
- Aggelopoulos, S., Soutsas, K., Pavlouidi, A., Sinapis, E. and Petkou, D. (2009). Suggestions for Reformation in Sheep Farms based on Production Cost. *Journal of food Agriculture and Environment*, 7, (3 & 4), 561-566.
- Asfaw, A., Admassie, A. (2004). The role of education on the adoption of chemical fertiliser under different socioeconomic environments in Ethiopia. *Agric. Econ.* 30, 215-228
- Damianos, D. & Skuras, D. (1999). Farm business and the development of alternative farm enterprises: An empirical analysis in Greece, *Journal of Rural Studies*, Vol 12 (No 3), 273-84.
- Doll, J. & Oragen, F. (1984). *Production Economic*, John Wiley and Sons, New York.
- EUROSTAT 2013. Livestock: number of farms and heads of animals by type of farming. Available on line <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>
- Gelasakis A., Valergakis G., Arsenos G., & Banos G. (2012). Description and typology of intensive Chios dairy sheep farms in Greece, *J. Dairy Sci.*, Vol 95, 3070-3079.
- Hellenic Statistical Authority 2017. Agriculture, Livestock, Fishery/ Livestock / Crops Surveys. Available online <http://www.statistics.gr/en/statistics/-/publication/SPK13>
- Kitsopanidis, G. (2006). *Animal Production Economics. Principles-Applications-Technical-Economic Analysis*. Thessaloniki: Zitis Publications.
- Kline, R. B. (1998). *Principles and Practice of Structural Equation Modeling*. New York: The Guilford Press.
- Martin-Collado, D., Soini, K., Mäki-Tanila, A., Toro, M.A., Diaz, C. (2014). Defining farmer typology to analyze the current state and development prospects of livestock breeds: The Avileña-Negra Ibérica beef cattle breed as a case study. *Livestock Science*, 169, 137-145.
- Siardos, G. (2005). *Methodology of Sociological Research*. Zitis Publications.
- Soini, K., Díaz, C., Gandini, G., De Haas, Y., Lilja, T., Martín-Collado, D., Pizzi, F., consortium, EURECA, Hiemstra, S.J. (2012). Developing a typology for local cattle breed farmers in Europe. *J Anim Breed Genet*. 129,436-447.
- Solano, C., Leon, H., Pérez, E., Herrero, M. (2001). Characterising objective profiles of Costa Rican dairy farmers. *Agricultural Systems* 67, 153-179.

- Swain, S.R. (2009). Trade Externalities of Agricultural Subsidies and World Trade Organization. *American Journal of Economics and Business Administration*, 1 (3), 225-231.
- Theocharopoulos, A., Melfou, K. & Papanagiotou, E. (2007). A microeconomic approach for agricultural development: A DEA application to Greek sheep farms. *New Medit - Mediterranean Journal of Economics, Agriculture and Environment*. Vol 6 (No 4), 48-54.
- Vlontzos, G. & Duquenne N. (2009). Evolution of trade flows for sheep's milk cheese: an empirical model for Greece. In: *International Marketing and International Trade of Quality Food Products*, Edited by M. Canavari, N. Cantore, A. Castellini, E. Pignatti and R. Spadoni, Wageningen Academic Publishers, Netherlands, Ch. 2, 31-42.

CONSUMERS PERCEPTION OF FOOD SAFETY RELATED RISK IN THE ITALIAN MARKET

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ABSTRACT

The aim of this paper is to define the factors affecting the consumers' perception on food risk associated to the consumption of products (i) containing food additives, (ii) obtained with the use of pesticides, and (iii) processed through novel food technologies, in relation to different socio-economic and demographic characteristics, the source of acquisition of information on food safety issues, and the place of purchase of food. The study is based on a sample of 392 consumers, living in Italy, and it uses three ordered probit estimation models to process data collected. Findings show that food risk perception is greater among youngsters, mainly for the additives and residual pesticides in foods, and among respondents which do not pose attention to the advice of friends or family members and acquire information by them. In overall, variables affecting the foods risk perception are different in relation to the three typologies of food issues. Our study provides some theoretical, managerial, and political implications.

Keywords: Food risk; Socio-economic factors; Additives; Pesticides; novel food technologies; Information sources; Ordered probit model.

INTRODUCTION

In recent years, the issue of food safety has become increasingly important in the political agendas of governments in order to guarantee greater safety for the health of citizens and consumers in particular (Bánáti, 2011; Dosman *et al.*, 2001). This interest comes after several food scandals, fear of intoxication, growing awareness of the dangers deriving from the intake of chemical substances that have affected the consumers' perception of food risk (Bánáti, 2011, Parlato *et al.*, 2014). This food risk perception is linked to the presence in the foods of pesticide residues (Cerroni *et al.*, 2013; Dosman *et al.*, 2001) and additives (Bearth *et al.*, 2014; Dosman *et al.*, 2001; Wu *et al.*, 2013), to the processing techniques, as can be the novel food technologies, such as ionizing radiation, microfiltration, and pasteurization (Behrens *et al.*, 2009; Cardello, 2003; Cardello *et al.*, 2007; Kim *et al.*, 2014), to the information sources on food risk (Liu *et al.*, 2014; Pieniak *et al.*, 2007) and to the places where the food products are purchased (Onozaka *et al.*, 2010; Smithers *et al.*, 2008; Yu *et al.*, 2017). In this regard, a survey on the perception of food risk among European consumers reveals that chemicals, pesticides, and other toxic substances represent the

main source of concern for 19% of respondents (Eurobarometer, 2010). This percentage reaches the 30% among Italian consumers, probably due to the greater importance of the food culture in Italy that makes the Italian consumer more attentive to the characteristics of the foods eaten (Eurobarometer, 2010). In addition, the Eurobarometer survey (2010) shows that European consumers express greater trust on the information provided by doctors and other health professionals (84% of citizens interviewed in total), and personal contacts, such as family and friends (82%).

Trust in the source of information is, in fact, a factor that affects the perception of food safety, as emerged in the economic literature. In this respect, Pieniak *et al.* (2007), for instance, found that personal contacts are the most frequently used sources of information for European consumers, although doctors, dieticians and public health recommendations represent the most trusted sources of information. A similar result is obtained by Liu and co-authors (2014) in the Chinese market, showing that television and exchange of view between friends and relatives are three channels of information most used among consumers to obtain information, while the opinions of doctors, research institutes, and personal experiences are sources of information on which consumers place greater trust.

Today, consumers are increasingly looking for healthy products and in many cases are looking for direct contact with producers who can offer them greater guarantees. Behold, that the places of purchase play an important role in reducing the food risk perceived of consumers. In this regard, Yu *et al.* (2017), investigating the perception of food quality and safety in US farmer's markets, noted that a majority of farmers' market consumers have a positive perception of food safety. This greater guarantee of food safety is also found in other empirical studies, as in Onozaka *et al.* (2010) and Smithers *et al.* (2008), where locally grown and sold products are perceived as better in terms of freshness, quality, safety and nutritional values.

There are few studies in the economic literature that deals with the effects of socio-economic characteristics, such as gender, age, educational level, and income, on the consumers' perception of food risk. For instance, Bearth *et al.* (2014) and Wu *et al.* (2013) suggested a greater perception of food risk among women due to the presence of colours and sweeteners in food, confirming the results of Dosman *et al.* (2001) that showed, few years before, that women are more inclined than men to perceive the risks associated with food additives, food contamination and pesticide residues. Age also seems to play an important role in highlighting however discordant results. On the one hand, Dosman *et al.* (2001) showed that older people perceive pesticide residues in food as a risk factor linked to food safety and health, on the other hand, Cerroni *et al.* (2013) shows that young people and, particularly, consumers who have a higher level of education, have great sensitivity of food safety issues. In addition, Wu *et al.* (2013) found that men, that are younger and with low income and education level, have a lower food risk associated with the purchase and consumption of food products containing

additives, probably because they are more likely to trust government institutions that regulate food additives.

Taking into account that there are factors affecting the perception of food risk perceived by consumers, the identification of those factors that most condition the buying decision is useful not only for the definition of effective communication strategies of companies operating in the agri-food sector but also for policymakers in order to outline the most impacting economic policy measures on social fabric. In light of the above, the purpose of the study is to outline the factors affecting the consumers perception of food risk associated to the consumption of products (i) containing food additives, (ii) obtained with the use of pesticides, and (iii) processed through novel food technologies, in relation to different socio-economic characteristics, the primary source of consumer information on food safety issues, and the places of purchase. In doing this, the study is based on a survey carried out in Italy involving 392 consumers.

MATERIALS AND METHODS

An online survey was carried out between January and March 2018 to analyse the main factors affecting the consumers' perception of food risk. The link of the questionnaire were circulated on the Facebook platform and was promoted also by ADICONSUM, one of the most important association to the defence of the consumers in Italy, through their website and their social channels. The research involved 392 people living in Italy, and their number and socio-demographic characteristics reflected the distribution of the Italian population over 18 years of age in all 20 Italian regions.

The online questionnaire, designed after a thorough review of the literature, was organised into three different sections. In the first section, respondents reported their level of concern associated to three different categories of risk connected to the food safety issues, such as (i) the addition of additives and preservatives to foods, (ii) the use of pesticides, (iii) and the adoption of novel food technologies. A Likert scale ranging from 1 to 5 (where 1 was "not at all" and 5 was "very much") was used for this purpose. The second section collects information about the places of purchase in which the respondent perceives greater guarantees in terms of food safety, and the sources from which the respondent acquires information on food safety. In both cases a 5-point Likert scale was used, where, in the first case 1 was "greater guarantee" of safety and 5 "lower guarantee", while in the second case 1 was "not at all" and 5 was "very much". The last section included questions covering all the socio-economic and demographic features of the respondents, such as gender, age, number of household members, level of education, employment, the region of residence, and monthly net income expressed in euros.

Data collected were processed using an ordered probit estimation model. This method fits as well as the dependent variable expresses an opinion of the respondents, such as “agree”, “neutral”, and “disagree” (Katchova, 2013). The ordered probit is defined as:

$$y^* = \beta'W + \varepsilon_i,$$

where the y^* is unobserved dependent variable, W represents a matrix of explanatory variables, β is the vector of regression coefficients, and ε is the vector of random error terms. Being y^* unobservable, we can observe the response categories instead, as follows:

$$y = 0 \text{ if } y^* \leq 0,$$

$$y = 1 \text{ if } 0 < y^* \leq \mu_1,$$

$$y = 2 \text{ if } \mu_1 < y^* \leq \mu_2,$$

where y represents the observed choice of food risk perceived by sample, with choices from 0 to 2 (where 0 = “not at all”, 1 = “neutral”, and 2 = “relevant”), while μ_i are the threshold parameters that are estimated together with the β coefficients.

In this study, three regression models were performed to understand the impact of the explanatory variables on the perception of food risk coming from the consumption of products (i) containing food additives, (ii) obtained with the use of pesticides, and (iii) processed through novel food technologies.

Finally, to evaluate the goodness of the models different tests were estimated, such as LR chi2, Log likelihood, and Linktest.

RESULTS AND DISCUSSIONS

Table 1 shows the marginal effects of three ordered probit regression models. Despite the low values of Pseudo R2, which could lead to thinking of a low ability of the independent variables to explain the relationship with the food risk perception of our sample, it is no cause for alarm as models with low R2 values can still fit the processed data well (Allison, 2014), as can be seen from the values of LR chi2 statistic test. Furthermore, the Linktest values highlight the goodness of the three proposed models.

Table 1. Results and marginal effects of the three ordered probit regression models

Variable code	Variable name	(I) ADDITIVES Marginal effects	(II) PESTICIDES Marginal effects	(III) TECHNOLOGIES Marginal effects
GEN a	Male	.0227343 (.0334)	-.0023231 (.00832)	.0916771** (.04656)
AGE	Age	-.0741652*** (.02214)	-.0116402* (.00605)	-.0089765 (.0298)
EDU	Education level	.0026607 (.03111)	-.0177396** (.00819)	.0869516** (.04261)
INC	Level of income	.0062123 (.01596)	.0127141*** (.00478)	-.0209761 (.02194)
MM	Trust in Mass Media	-.0189342	-.0040299	-.0743891***

	information	(.01808)	(.0047)	(.02524)
SN	Trust in Social Network	-.0077112	-.0073595*	-.0420444**
	information	(.01491)	(.00433)	(.02091)
EXP	Trust in experts	-.0147807	-.002101	.0854132***
	information	(.01371)	(.00337)	(.01953)
FRI	Trust in friends and relatives	-.0546447***	-.0083384*	-.0473392**
	information	(.01651)	(.0044)	(.02297)
LSRT	Food safety perceived in the LSRT	.0578759***	-.0094555**	.0033504
		(.01578)	(.00429)	(.02184)
<hr/>				
Significance				
<hr/>				
LR chi2		54.26	37.11	54.90
Prob > chi2		0.0000	0.0000	0.0000
Pseudo R2		0.0663	0.1054	0.0647
Log likelihood		-381.86921	-157.48581	-396.782
Linktest_hatsq		.1010711	-.1749168	.0666471
P> z		0.698	0.443	0.780
Observations		392	392	392

In parentheses the standard error.

(*) significance at 0.1 level; (**) at 0.05 level; (***) at 0.01 level.

(a) dy/dx is for discrete change of dummy variable from 0 to 1

Results of the proposed models show relevant differences in the explanatory variables that are able to significantly affect the perception of food risk among Italian consumers, due to the presence of additives, residues of pesticides and the adoption of novel food technologies.

In detail, the perception of food risk associated to the presence in foods of additives would seem greater among youngsters, among interviewed who have low trust in the friends and family's opinions, and who perceive the products purchased in the Large-Scale Retail Trade (LSRT) as unsafe. These results in part are not consistent with other empirical studies according to which young people have a lower perception of food risk associated with the purchase and consumption of food products containing additives (Wu *et al.*, 2013). On the other hand, our findings show that respondents who perceive the highest food risk associated with the presence of food additives are those who do not turn to friends and family to learn about the healthiness of processed foods. This conclusion is consistent with Liu *et al.* (2014) and Pieniak *et al.* (2007), which show that consumers with greater concern about food safety issues have little trust in food alarms and opinions learned from friends and relatives, or by mass media and social network, placing greater trust on the opinions provided by doctors and competent bodies in order to satisfy their information needs adequately and without incurring false food alarms. Furthermore, the individuals most concerned about the presence of additives in foods perceive the products purchased in the LSRT as unsafe compared to those purchased from farmers. This is probably because consumers believe that foods purchased from the farmer are safer, more genuine and natural (Onozaka *et al.*, 2010; Smithers *et al.*, 2008). This is also confirmed by Yu *et al.* (2017), which, in their study on the consumers' perception of food safety in US

farmer's markets, found a greater perception of food safety by consumers in the products purchased, thanks to the higher perceived quality of products.

By observing the results of the proposed model related to the perception of food risk associated to the presence of residues in foods products of pesticide used in agriculture, appears that Italian consumers most concerned by this issue are young individuals, with a lower level of education (it should be noted that almost all the individuals present in the sample analysed attended the upper secondary school) and high income, who not acquire information on the risks of the consumption of food containing residues from friends and relatives or circulating on the Social Networks, and that perceive the products of the LSRT as safer. This result is in contrast with Dosman *et al.* (2001) who find that pesticides represent a risk factor for older consumers and for those with a low income, bringing back this result to the fact that individuals who have a higher income can reduce food risk by buying products more expensive and therefore safer for their health. Instead, our result suggests that a low level of education is connected with a high perception of risk coming from pesticides residues. This, according to Cerroni *et al.* (2013), could be traced back to the fact that education is connected to the ability of individuals to elaborate information on food risk, but at the same time, this variable could be linked to the ability to understand the potential health risks. Furthermore, Italian consumers, that perceive more the risk related to the presence of residues in food, consider the products of the LSRT as safer. This result highlights how a superior guarantee of safety was identified by these individuals in the purchase of food at the LSRT, probably for the numerous quality controls to which the products are subjected in this distribution channel before reaching the final consumer (Dadzie and Nandonde, 2019).

Finally, taking into consideration the perception of food risk associated to the use of novel food technologies, respondents more concerned are men, who have a higher level of education, and who acquire information mainly from doctors and experts, rather than from friends, Mass Media, and Social Network. This result is partially in contrast with what emerged in the study of Cardello (2003) and Cardello *et al.* (2007), according to which men give a low level of importance to the risks associated with the use of novel technologies in food processing, noting that the consumption of food processed with novel technologies, in fact, is a source of concern among consumers. That is why, probably, the individuals who are more educated, and therefore more aware of the risks that can have consuming this type of food, perceive more the food risk connected with the use of novel food technologies. A recent study carried out in Italy by Galati and co-authors (2019) reveal a considerable interest among respondents in receiving information describing novel food technologies as a method of increasing food safety, showing that this interest is greater in respondents professing high sensitivity towards food safety issues.

CONCLUSION

This research analyses factors affecting the perception of food risk perceived by Italian consumers in relation to three different categories of food safety issues: the presence of additives in foods, residues of pesticides in foods, and use of novel food technologies. Our findings show that socio-economic and demographic characteristics are good predictors to understand the food risk perceived by consumers. In particular, food risk perception is greater among youngsters, mainly for the additives and residual pesticides in foods, and among respondents which do not pose attention to the advice of friends or family members and acquire information by them. In overall, the risk perception among Italian consumers is highest among respondents that usually not acquire information on the negative effects related to food consumption. Furthermore, even the food safety perceived in the places of purchase has a strong influence on the perception of food risk, although it differs in relation to the type of food issue.

In view of the above, our study provides some theoretical, managerial, and political implications. From a theoretical point of view, our research contributes to the enrichment of the economic literature on the perception of food risk taking into consideration socio-demographic and economic variables, the source of information on food safety and the place of purchase.

On the managerial point of view, our results provide insight and hints to entrepreneurs of companies, operating in the food sector, interested in improving the effectiveness of their communication strategies. The understanding of the factors that most condition the food risk perception among consumers could be useful, in fact, to define effective communication strategies in order to reduce the perception of the risk related to certain types of food products and issues, increasing in this way the preferences and the consumers' purchasing decisions.

Switching to a political perspective, the results of our investigation could be used by governments to define adequate policies, programs, and measures in the field of food safety. Indeed, the socio-economic characteristics of consumers, their purchase behaviour and the source of information acquisition on food alarm affect individuals' perception of food risk. In this regard, governments could reduce the perception of food risk through specific information programs and awareness campaigns intended for the different categories of consumers, to improve and increase the food safety perceived by citizens. In this sense, particular attention could be given to educational programs in primary schools, where educational programs would seem to have a greater impact. Furthermore, to this must be added the need for greater transparency of information on the foods eaten. To this end, it would be desirable to make food product labels clearer in content and with more detailed information on the technologies and processes used for their processing.

Despite the value of the study, the research focuses only on three types of issues related to food safety. In this regard, future research could also investigate, for example, other food risks that concern Italian consumers and not only. In fact, a possible development of the research could concern the issues of food safety in the European market, outlining any differences existing between the different EU member countries, and intercepting the perception of the food risk of consumers who are part of the European free trade market, in order to prepare appropriate measures to stem the fear and food risk in Europe.

REFERENCES

- Allison, P.D. (2014), *Measures of Fit for Logistic Regression*, SAS Global Forum, Washington, DC.
- Bánáti, D. (2011), "Consumer response to food scandals and scares", *Trends in Food Science & Technology*, Vol. 22 No. 2-3, pp. 56-60.
- Bearth, A., Cousin, M.-E. and Siegrist, M. (2014), "The consumer's perception of artificial food additives: Influences on acceptance, risk and benefit perceptions", *Food Quality and Preference*, Vol. 38, pp. 14-23.
- Behrens, J. H., Barcellos, M. N., Frewer, L. J., Nunes, T. P. and Landgraf, M. (2009), "Brazilian consumer views on food irradiation", *Innovative Food Science and Emerging Technologies*, Vol. 10, pp. 383-389.
- Cardello, A. V. (2003), "Consumer concerns and expectations about novel food processing technologies: Effects on product liking", *Appetite*, Vol. 40 No. 3, pp. 217-233.
- Cardello, A.V., Schutz, H.G. and Leshner, L.L. (2007), "Consumer perceptions of foods processed by innovative and emerging technologies: A conjoint analytic study", *Innovative Food Science & Emerging Technologies*, Vol. 8 No. 1, pp. 73-83.
- Cerroni, S., Notaro, S. and Douglass Shaw, W. (2013), "How many bad apples are in a bunch? An experimental investigation of perceived pesticide residue risks", *Food Policy*, Vol. 41, pp. 112-123.
- Dadzie, S.H. and Nandonde, F.A. (2019), "5: Factors influencing consumers' supermarket visitation in developing economies: The case of Ghana", in Byrom, J. and Medway, D. (Eds.), *Case Studies in Food Retailing and Distribution*, Woodhead Publishing, pp. 53-67.
- Dosman, M.D., Wiktor, L.A. and Hruday, S.E. (2001), "Socioeconomic determinants of health- and food safety-related risk perceptions", *Risk Analysis*, Vol. 21 No. 2, pp. 307-317.
- Eurobarometer (2010), *Special Eurobarometer 354: Food-Related Risks*, European Commission, Brussels, Belgium.
- Galati, A., Tulone, A., Moavero, P. and Crescimanno, M. (2019), "Consumer interest in information regarding novel food technologies in Italy: The case of irradiated foods", *Food Research International*, Vol. 119, pp. 291-296.
- Katchova, A. (2013), *Ordered Probit and Logit Models*, Econometrics Academy.
- Kim, Y.-R., Lee, E. J., Park, S. H., Kwon, H. J., An, S. S. A., Son, S. W., Seo, Y.R., Pie, J.-E., Yoon, M., Kim, J.H. and Kim, M.-K. (2014), "Interactive survey of consumer awareness of nanotechnologies and nanoparticles in consumer products in South Korea", *International Journal of Nanomedicine*, Vol. 9 No. 2, pp. 11-20.
- Liu, R., Zuzanna, P. and Verbeke, W. (2014), "Food-related hazards in China: Consumers' perceptions of risk and trust in information sources", *Food Control*, Vol. 46, pp. 291-298.
- Onozaka, Y., Nurse, G. and McFadden, D.T. (2010), "Local food consumers: How motivations and perceptions translate to buying behaviour", *Choices*, Vol. 25 No. 1, pp. 1-6.
- Parlato, A., Giacomarra, M., Galati, A., Crescimanno, M. (2014), "ISO 14470:2011 and EU legislative background on food irradiation technology: The Italian attitude", *Trends in Food Science and Technology*, Vol. 38 No. 1, pp. 60-74.
- Pieniak, Z., Verbeke, W., Scholderer, J., Brunsø and Olsen, S.O. (2007), "European consumers' use of and trust in information sources about fish", *Food Quality and Preference*, Vol. 18, pp. 1050-1063.
- Smithers, J., Lamarche, J. and Joseph, A.E. (2008), "Unpacking the terms of engagement with local food at the farmers' market: Insights from Ontario", *Journal of Rural Studies*, Vol. 24 No. 3, pp. 337-350.
- Wu, L., Zhong, Y., Shan, L. and Qin, W. (2013), "Public risk perception of food additives and food scares: The case in Suzhou, China", *Appetite*, Vol. 70, pp. 90-98.
- Yu, H., Gibson, K.E., Wright, K.G., Jack, A.N. and Sirsat, S.A. (2017), "Food safety and food quality perceptions of farmers' market consumers in the United States", *Food Control*, Vol. 79, pp. 266-271.

THE NEED FOR TEACHING COMPASSIONATE SELF-LEADERSHIP IN A UNIVERSITY SETTING

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ABSTRACT

The purpose of this paper is to highlight young adults' need to develop compassionate self-leadership competencies in order to thrive and to be of service to today's fast-paced, polarized society. The paper's originality lies in the fact that it provides a pioneering blueprint for such a training intervention. The positive effects of self-leadership on personal excellence and leadership itself are well evidenced. Likewise, so is the call for more compassionate servant leaders. Nevertheless, the linchpin for compassionate leadership to be sustained is the nurture of self-compassion. Grounded on two of the most influential models of emotional intelligence and self-leadership theory, the proposed conceptual framework reflects the importance of self-compassion in leadership effectiveness. It posits a fresh, more dynamic approach to previous studies which mainly originate in task and material oriented cultures and it suggests a self-leadership style that focuses more on human connection. Moreover, the current study also conveys initial empirical evidence of the effectiveness of using the framework to train students in a state business school environment. Two methods of investigation were used for this: a qualitative end-of-course evaluation questionnaire and a pre and post course questionnaire that measured the participants' change in compassionate leadership levels. Preliminary findings suggest there is a positive change and this opens the way for further research.

"Your legacy, is every life that you have touched" – Maya Angelou

Keywords: soft skills, life skills, self-leadership, self-compassion, compassionate leadership, fourth industrial revolution, model, knowledge worker, ecology

INTRODUCTION

With the emergence and study of transformational leadership, back in the early 1990s (Bass and Avolio, 1990; Locke *et al.*, 1991), a clearer understanding arose of the makings of an effective modern leader. The 'tsunami' effect of the Fourth Industrial Revolution has changed the landscape of employability. Reverberating the words of British education reformist, Derry Hannam, during his key note speech at

the European Conference of Democratic Education (2018), “preferred job candidates need to possess skills that computers lack, such as those of a leader”.

In order to deal with our highly chaotic world, the emphasis is nowadays on possessing soft skills, such as adaptability, creativity, highly developed communication skills, a clear sense of mission and social responsibility (Moss *et al.*, 2009; Rast, 2015). This emphasis is not just about “doing business as usual”, but it is about the early stages of a huge shift in the evolution of humanity, that moves us from the century-old limiting belief that in order to survive, each individual needs to be in competition and engage in conflict with the rest, to the new belief that in order for all of us to thrive we need to cooperate, help and care for each other (Clancy and Binkert, 2017). As with all paradigm shifts, the transition is not unproblematic. Hence, even though online social networking is on the rise, there are strong indications of a society of increasingly lonely people and a decline in our ability for meaningful interaction, face to face communication, collaboration and compassion (Akram and Kumar, 2017; Subramanian, 2017; Dierendonck, 2011; Amritaswarupananda, 2013).

Historically, academic scholars study phenomena before they become widespread. The changes mentioned above have only recently started to be addressed at the level of policy making, education and industry (OECD, 2016). Nevertheless, more than two decades ago the start of these changes fuelled the quest for the study of a new area of leadership, which resulted in the rise of self-management and self-leadership literature (Manz, 1986; Manz and Neck, 2004). The pioneers of self-leadership claimed that in order for an individual to be an effective leader, she/he needs to lead from within. In other words, lead by example (Cashman, 1985). This requires competencies such as self motivation, self-regulation and the ability to set one’s own goals.

However, prior to the establishment of self-leadership as a separate construct in the areas of leadership, management and personality theories, there were doubts whether it warranted dedicated study and it was believed to be merely, just another behavioral motivational strategy (Guzzo, 1998). By early 2000, scholarly reservations about its unique value were dispersed following the increase of studies indicating an accelerated need within companies for “knowledge workers”. These were workers with the ability, irrelevant of position, to produce new knowledge, innovation and to act “smartly” in an autonomous way, in a fast-paced and unpredictable environment. This was the start of the third era in the Knowledge Economy, characterized by “the democratization and personalization of work and its focus on heuristic or else known, tacit knowledge” (Tzortzaki, 2011, p.19).

The purpose of this study is to highlight the need for educating young people to become compassionate self-leaders in order to thrive in today’s complex environment and to evolve into compassionate, servant leaders in their local community and workplace. This aim is achieved by providing a case study of a unique undergraduate self-leadership course, taught in a state business school in Greece.

Preliminary evidence of its effectiveness is supplied, through the use of an experimental measuring instrument.

The value and originality of this work mainly lies however, in the proposed conceptual framework of compassionate self-leadership and therefore, compassionate leadership, abbreviated to HEART-led. This framework has served as the course's blueprint over the past six years. More specifically, the majority of the self-leadership models originate in the US, a culture that is quantity, material and task oriented, lacking therefore on aspects that address current social and market trends, such as relationship building, connection, nurture and well-being (Alves *et al.*, 2006). This study therefore, builds upon past conceptual frameworks of self-leadership by highlighting the importance of compassion towards one-self, as the unrivaled road towards effective, compassionate leadership (De Zulueta, 2015). It posits a dynamic new conceptual model, that combines the Goleman-Boyatzis four clusters model of emotional intelligence (EI) (Boyatzis, 2009) and the seminal self-leadership three strategies model, first developed by Anderson and Prussia (1997). With the pivotal addition of the self-compassion element, this framework expands on the positive outcomes of leadership development in the direction of a more qualitative, ecological level.

The first section of this work will provide a brief overview of the self-leadership literature and how it correlates theoretically with EI theory. In the next section there is a discussion on the trends and benefits supporting the need for teaching interventions such as the one showcased herein. The third section covers the methodology of study and the building blocks of the proposed conceptual framework. Finally, the last two sections focus on the study findings, its limitations and conclusions, including suggestions for future research avenues.

Self-leadership Overview

The current theoretical framework broadly defines self-leaders as the individuals that use self-motivation and self-direction in order to achieve desirable outcomes that are part of a higher intention or vision. Self-leadership was initially defined as being linked to three types of strategies: behavioral based strategies, natural reward strategies and constructive thinking strategies (Prussia *et al.*, 1998) and this categorization has been retained years later as a sound model of self-leadership strategies (Mahembe *et al.*, 2013). This, in fact, formed one of the two bases of the proposed conceptual framework.

Behavioral self-leadership strategies are underpinned by the need for individuals to be self-aware and in this way in control of their own behavior, especially in cases of anger or unmet expectations. Behavioral self-leadership strategies are mostly influenced by the self-control theories of the 70s (Moss *et al.*, 2009). Awareness of oneself, also encourages setting ones' own goals and allows for opportunities of self-rewarding in a conscious effort towards self-motivation (Silvia and Duval, 2001). So, even tasks that

conceal high degrees of difficulty and complexity are viewed by self-leaders as challenges and when mistakes inevitably occur, these are savored as learning occasions and not as guilt trips. The re-setting of new goals by the individual under the light of the learnings, ignites an upward spiral of accomplishment.

Natural-reward strategies on their own have their place in the self-leadership construct especially when they occur naturally, simply by the individual valuing each task as an enjoyable experience or in the least being flexible in finding creative ways to complete the task as such, even when it is evidently unpleasant or boring, (Prussia *et al.*, 1998).

The third category of strategies are *constructive thinking strategies* and relate to the high levels of positivity developed by self-leaders, empowering them to transmute a destructive thought pattern into a constructive one. A large number of proposed and tested practices, such as visualization and meditation, have mushroomed over the last two decades in related areas such as mindfulness and positive psychology. Interestingly enough, self-leadership has also been viewed as a process closely correlated to self-efficacy, since the higher the belief in her or his capability to succeed, the higher are her or his confidence levels. This influences the choice of challenges the individual undertakes as well as her or his self-development growth rate (Skaalvika *et al.*, 2015).

Moreover, self-leaders direct themselves in ways of assuming responsibility of their happiness and strive to be in control of their emotions that direct behaviors, thus, closely linking the notion of EI with that of self-leadership. Reciprocally, individuals scoring highly on EI are less influenced by the fluctuations of their emotions and therefore are better at self-observation, self-correcting behaviors, self-motivation and self-goal setting and therefore greater self-leaders (Bishop *et al.*, 2005). The most uncomplicated of EI models, is the “four competency cluster” model and this was chosen as one of the building blocks of the proposed conceptual framework. It includes the competency categories of: self-awareness, self-management, social awareness and relationship management (Boyatzis, 2009).

DISCUSSION

Within the context of the aforementioned Fourth Industrial Revolution and social and economic megatrends, identified by many global watchers such as the OECD (2016) and the World Economic Forum (2018), there is a rise in the people-centered servant leadership style, whose cornerstone is compassion (Amritaswarupananda, 2013, p.59; Dierendonck, 2011). Highly volatile and complex environments, the merging of cultures, lack of privacy, automation, imbalance of natural resources, the knowledge economy, have all lead the more progressive companies to strive for an environment where employees feel that their work is ethical and underpinned by a higher intent of contribution to humanity, that is ecological and that even though they are part of the global community, they are

nevertheless allowed to be self-led and creative. Additionally, increasing pressures on time, the lack of face-to-face communication and exaggerated use of social media, has led to a reduction of employees' EI levels, with a negative impact on self-development and interpersonal skills, such as mindfulness, self-esteem, collaborative ability and managing stress, conflict management, negotiation and mediation (Boyatzis, 2006; Subramanian, 2017).

At such a juncture, this is where compassion comes into play and is much needed, not only in one's personal life but also in a business setting. The Tibetan scholar Thupten Jinpa "defines compassion as having three components: a cognitive component: "I understand you", an affective component: "I feel for you" and a motivational component: "I want to help you". "Compassion" in former CEO of Medtronic's own words is about the transformation of leadership of the "I", to leadership of the "We" (Chade-Meng Tan, 2012, p.199), thus bringing out the best in a leader's followers. Correspondingly, empirical evidence, as well as the practice of top ranking companies and the ecological need for civic engagement at all levels, supports the current trend of servant, compassionate leadership. Companies with compassionate, service led leadership that encourage virtuous attitudes and self-led working methods, based on authenticity, mutual trust and understanding have happier and higher achieving employees (Boyatzis, 2006).

Hence, today's call for compassionate servant leadership, also instigates a need for employees with compassionate self-led qualities. More to the point, there is a shortage of employees that engage in self-directive behavior, which is well rooted first and foremost in self-compassion, since compassion towards oneself is an antecedent of compassion towards others (Yarnell and Neff, 2013).

Concurrently, according to the Global Information Security Workforce Study (2017) there is a mismatch of supply and demand in the job market. Even high technology companies are seeking to find candidates that possess skills that computers do not, and these are communication and analytical, problem solving skills. On the contrary, candidates perceive that what is needed by employers is end of spectrum technical skills. The outcome is a shortage of "knowledge workers". One of the main causes for this mismatch is the gap between education (supply) and the job market (demand), (OECD, 2017).

The question worth exploring at this point is whether self-leadership is a behavior that can be cultivated at a young age through classroom interventions. In a similar fashion recent advances in self-regulation strategies have shown that these can be nurtured in the workplace environment by introducing effective managers as role models and by specialized training programmes (Stewart *et al.*, 1996; Moss *et al.*, 2009). A seminal field study carried out by Neck and Manz (1996), demonstrated the significantly positive effect of mental imagery on achieving goals and that individuals can be successfully taught how to follow constructive thought pattern strategies, which as mentioned earlier are one of the three main strategy constructs of self-leadership theory.

Although the benefits of increasing the ability of young adults or even children to be self-led are evident, a brief overview of these will be outlined below highlighting the importance of such interventions. In the age of high speed technology, information overload and growing numbers of youth suffering from attention deficit syndrome, memory loss and weak interpersonal skills, the behavioral aspect of self-leadership strategies encourages self-observation, i.e. one being aware of oneself, therefore increasing one's volition and ability to focus and achieve goals (Forstmeier and Rüdell, 2008). Moreover, self-leadership lessens the chances of breakdowns from emotional or physical exhaustion regimes to which younger adults are more prone towards, as it increases mindfulness in relating to others and mindfulness of one's body and its needs. Most importantly however, at a macro socio-economic level or even at a human existential level, the case of the empowerment of young adults through self-leadership programs is imperative. This is even more urgent, considering all the challenges that lie ahead of us and the lack of true leaders (Boulter, 2005, p.182).

The industry-education connection response to the mismatch mentioned above and the need for the development of self-leadership skills in young adults, although studied by the academic world for more than two decades, has manifested in the form of training interventions mostly in private settings. There are very few examples scattered amongst state institutions and these mainly in the form of leadership programs for undergraduate students. A review of such leadership programs has shown that the area of teaching young adults self-leadership in a higher education setting is a path less travelled (Karagianni and Montgomery, 2017).

The self-leadership course presented in this study was developed as an offshoot of a first year management course, taught to students in the School of Management and Economics at the state-owned, Hellenic Mediterranean University (former TEI of Crete), based in Greece. Apart from the above arguments in support for the development of such a course the following five realizations and principal values emerge:

1. One cannot be an effective manager without being first and foremost effective at self-management. The available academic textbooks on management lacked such an approach.
2. From an ecological viewpoint the world desperately requires compassionate leaders and less so, effective managers. Moreover, as with effective management, a prerequisite of compassionate leadership is a highly developed ability for self-leadership and self-compassion.
3. The majority of the young adults in these courses lacked self-esteem, had low self-efficacy and therefore generally adopted a pessimistic view of life and their prospects. Consequently, as also supported by self-efficacy theories (Prussia *et al.*, 1998), their goal setting skills, motivation levels and success rates were, in the majority of cases, low.

4. Although employers seek to recruit “ready to run” employees, that are fully competent in interpersonal and creative complex problem solving skills, the education provided from early school years to higher education, lacks the teaching of skills for life (Hannam, 2018).

5. The role of a teacher, especially in the realm of social studies, is not only to transfer cognitive knowledge, but also to instill humanitarian values, in tune with ecology and to facilitate the development of responsible self-led adults who can become leaders in any setting.

METHODOLOGY

The course in this case study is a final year elective and has a duration of one semester, four hours each week. With no prior model to follow, the course was initially designed based on the “four cluster” model of EI competencies (Boyatzis, 2009) and was focused on increasing the awareness of the need of developing soft skills and an awareness of emotions and the benefits of regulating them (Gear *et al.*, 2017). Now, six years later, the course syllabus has expanded. Its focus has been elevated to training young students to become compassionate self-leaders and in turn successful, compassionate, servant leaders in their chosen path. The following figure (Fig.1), reflects the blueprint that underpins the course structure and adds value to this study, as it introduces the HEART-led model as a new conceptual framework for developing compassionate leaders.

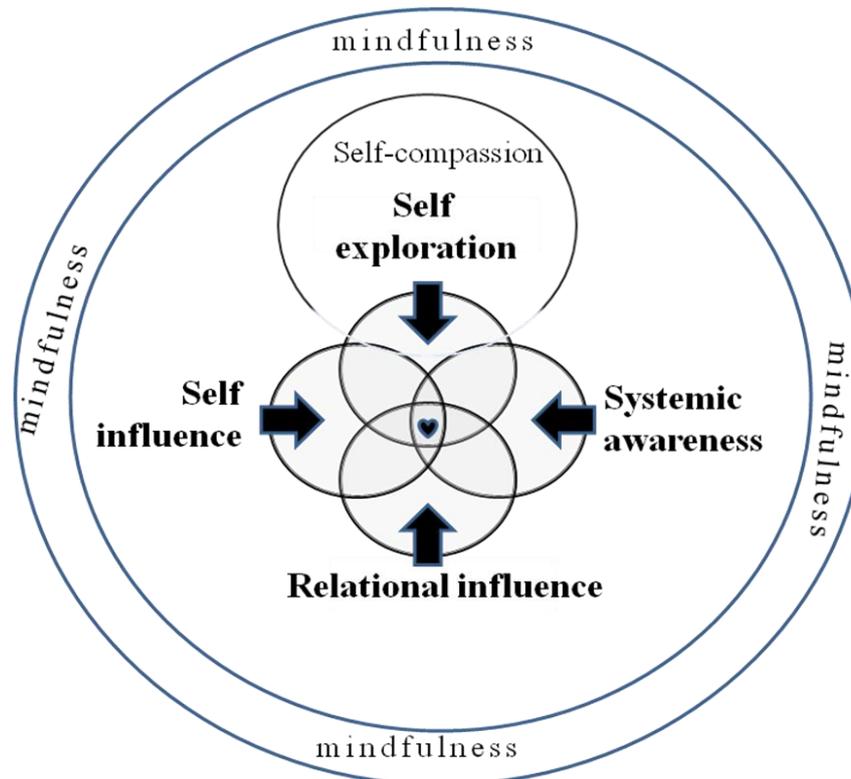


Figure 1. “HEART-LED”, A NEW COMPASSIONATE LEADERSHIP CONCEPTUAL FRAMEWORK
(SOURCE: AUTHOR’S OWN)

The framework suggests that for a leader to be compassionate, she or he needs to develop and work towards mastering four interlinking competencies: self-exploration, self-influence towards authenticity, systemic awareness (including micro and macro environmental awareness) and relational influence towards resonance. All four elements are of a normative, mobile nature, since besides being goals, they also prescribe a strategy and a direction. Moreover, unlike other leadership models, the linchpin of the HEART-led model, is self-compassion. A leader cannot behave compassionately towards others, unless she or he cultivates self-compassion, especially during moments of self-exploration (De Zulueta, 2015). The all pervading and ever present “mindfulness attitude” of a leader, is also a necessary prerequisite and goal to work towards (Amritaswarupananda, 2013).

The key difference of the Goleman-Boyatzis “four clusters” EI model and the one proposed here, is that the EI model is descriptive and static, whereas the current one is dynamic and lays down strategies. In addition, the HEART-led model includes self-contemplation strategies, such as: discovering limiting beliefs and transmuting them into empowering beliefs; the accurate gauging of performance expectations; the integration of systemic and analytical thinking for re-framing situations and deciding with discernment.

The second building block of HEART-led, was the Anderson-Prussia “three self-leadership strategies” model. The new framework, merges the natural-reward strategies into the behavior-focused strategies and adds new strategy categories under the main heading of “self-exploration”. This self-discovery journey relates to the workings of the subconscious mind and aims to improve confidence and self-efficacy levels. It involves the evaluation of reality, the cultivation of resilience and also many other elements that are relationship focused, which were missing from the Anderson-Prussia model, such as non-violent communication strategies, building rapport, e.t.c.

In the main, the HEART-led model builds on the two founding models and reinforces the importance of compassion and mindfulness in modern day leadership.

Course evaluation

The course is constantly improved using two measures: an end of semester evaluation questionnaire and a pre and post compassionate self-leadership questionnaire (the HEART-led questionnaire). Both measures are completed by the students anonymously. The evaluation questionnaire is qualitative and measures their degree of satisfaction against expectations and outcomes and their perception of self-improvement and self-worth levels.

During the initial course design the need for a student specific self-leadership skills development measurement scale became apparent, since most of the participants had little or no job experience. The original self-leadership questionnaire reflected a scale measuring the level of each student’s EI competency. At the time of using the measurement scale tool for this study, the scale had already

expanded by including additional constructs based on self-development theory (Houghton and Neck, 2002) and indicators measuring self-compassion levels. This tool has now been named the HEART-led questionnaire. It currently includes 40 items, with a 1 to 5 Likert style questions. It is still in need of further development and testing, nevertheless preliminary findings are presented below from using the pre and post questionnaire on 78 participants.

RESULTS

A paired samples t-test was conducted to compare the total scores of compassionate self-leadership levels of the 78 course participants at the beginning of the course and their scores at the end of the course. The test showed that there was a significant difference in the scores for the beginning ($M=141.15$, $SD= 13.276$) and the scores at the end ($M= 166.24$, $SD= 15.817$) of the course, with $t(77)= -19.911$, $p=0.000$. Even at a 1% significance level, the score mean at the end of the course is bigger than the score mean at the beginning.

Specifically, findings suggest that when students take such a course their level of compassionate self-leadership could potentially improve, by at least 17%. These are only preliminary results and require a more in-depth analysis. Nevertheless, these initial outcomes suggest that an intervention such as this may have a positive effect on the participants' level of self-leadership.

The findings of the course evaluation questionnaire are used every year as a feedback and course improvement mechanism. The program of study currently reflects the four constructs of self-leadership of the HEART-led model and is constantly enriched, based on the evaluation and suggestions of the students themselves, the job market trends and what is ecologically sound. It has now expanded to include areas such as: exploring varying styles of internal and external representation of the world, positive self-talk, the purposeful use of language, non-violent communication principles, Way of Council (communication circles with a talking piece), intrinsic goal setting, work, social and personal life balance, seeking life purpose, the importance of ecology and harmony, the interconnectedness of the world we live in, visualization techniques for attracting desired outcomes, courageous authentic living based on one's values and societal contribution, successful career progression with a focus on fulfillment and happiness.

Additionally, research has shown that younger people are more prone to adopt self-leadership behaviors than older ones (Kazan and Earnest, 2000), particularly those belonging to generation Y who favor interactive, participative learning methodology (Hannam, 2001; Gilliespie, 2016). This is constantly being confirmed by the course evaluation results. Therefore, the course has been developed to be of a highly experiential nature with case studies, personal journal writing for exploration of Self, 'presentation of Self' exercises ("who Am I and what Am I?"), role play exercises, group and pair

classroom exercises, personal learning agendas, mindfulness meditation and expanded awareness practices, designing a CV and job seeking strategies for a fulfilling career. Finally, “play” is an intrinsic part of the course’s learning process, since empirical studies have shown that individuals learn better when having fun.

CONCLUSIONS

The current study has limitations especially with regard to the brevity of the HEART-led model description and the HEART-led measurement tool. The tool is currently being tested for construct validity and a more in-depth statistical analysis of the existing results is being undertaken, as this is a preliminary study and is still evolving. These limitations should not, however, deflect from the fact that the conceptualization of the HEART-led model represents a first attempt to introduce the pivotal importance of self-compassion in the development of effective compassionate leaders. Moreover, the HEART-led measuring tool is in itself a useful foundation for the construction of a scale that measures the effectiveness of compassionate leadership training interventions, especially those of young people with little or no prior work experience.

Apart from the innate self-leadership abilities, there are also abilities that can be learned and developed into competencies. The review of self-leadership literature, as also the findings from this exploratory study, suggest that self-leadership training courses can positively affect the ability of an individual to become a self-leader.

Self-leadership theory demonstrates the positive relationship between an effective modern-day leader and also its positive impact on personal excellence. This study makes a strong argument for the instrumental role of self-compassion in sustaining a leader’s compassionate, servant approach in the long-term and for the need of more compassionate leaders in today’s materialistic cultures.

Moreover, under the light of learning interventions such as the one presented herein, leadership can be viewed as an inclusive process, allowing for all to be leaders in their own right and for the authentic expression of oneself. The impact of such thinking can have a constructive effect on next generations being able to cope with the challenges that lie ahead. This is in harmony with Gandhi’s philosophy “Be the change you wish to see in the world” and Aristotle’s “virtuous citizen”, both of which encourage further civic engagement.

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REFERENCES

- Akram, W. and Kumar, R., (2017), "A Study on Positive and Negative Effects of Social Media on Society", *International Journal of Computer Sciences and Engineering*, Vol.5, no.10, pp. 347-354.
- Alves, J.C., Lovelace, K.J., Manz, C.C., Matsypura, D., Toyasaki, F. and Ke, K., (2006), "A cross-cultural perspective of self-leadership", *Journal of Managerial Psychology*, Vol.21, no.4, pp.338-359.
- Anderson, J.C. and Prussia, G.E. (1997), "The self-leadership questionnaire: Preliminary assessment of construct validity", *The Journal of Leadership Studies*, Vol. 4, pp.119-43.
- Bass, B. M., and Avolio, B. J., (1990), *Transformational leadership development: Manual for the Multifactor Leadership Questionnaire*, Consulting Psychologists Press, Palo Alto, CA.
- Bishop, J.W., Scott, D., Goldsby, M.G., and Cropanzano, R., (2005), "A construct validity study of commitment and perceived support variables: A multifoci approach across different team environments", *Group and Organization Management*, Vol. 30, no.2, pp. 153-180.
- Boulter, M., (2005), *Extinction: Evolution and the End of Man*, Columbia University Press, U.S.
- Boyatzis, R. E., Smith, M. L., and Blaize, N. (2006), "Developing sustainable leaders through coaching and compassion", *Academy of Management Learning & Education*, Vol.5, pp. 8–24.
- Boyatzis, R. (2009), "Competencies as a behavioral approach to emotional intelligence", *The Journal of Management Development*, Vol. 28 No. 9, pp. 749-770.
- Cashman, K., (1995), "Mastery from the inside out", *Executive Excellence*, Vol.12, no.12, pp.11-17.
- Clancy A.L., and Binkert J. (2017), "Accessing the Inner Self: Beliefs", in *Pivoting*, Palgrave Macmillan, New York, pp.73-88.
- De Zulueta P. C. (2015), "Developing compassionate leadership in health care: an integrative review", *Journal of Healthcare Leadership*, Vol. 8, pp. 1–10.
- Forstmeier, S. and Rüdell, H., (2008), "Measuring Volitional Competences: Psychometric Properties of a Short Form of the Volitional Components Questionnaire (VCQ) in a Clinical Sample", *The Open Psychology Journal*, Vol. 1, pp. 66-77.
- Gear, T., Shi, H., Davies, B.J., Abdlelaziz Fets N., (2017) "The impact of mood on decision-making process", *EuroMed Journal of Business*, Vol. 12 Issue: 3, pp.242-257.
- Global Information Security Workforce Study, (2017), <https://iamcybersafe.org/wp-content/uploads/2017/06/europe-gisws-report.pdf> (site accessed on 8 March 2019).
- Guzzo, R.A., (1998), "Leadership, self-management, and levels of analysis", in: Danserau F. and Yammarino F.J. (eds), *Leadership: The Multiple-Level Approaches, Classic and New Wave*, Stanford, CT: JAI Press, pp. 213–219.
- Gillispie V, (2016), "Using the Flipped Classroom to Bridge the Gap to Generation Y", *The Ochsner Journal*, Vol. 16, no.1, pp. 32-6.
- Hannam, D. (2001), "A pilot study to evaluate the Impact of the student participation. Aspects of the citizenship order on Standards of education in Secondary schools", Report to the DfEE.
- Hannam, D. (2018), Key Note speech at the European Conference for Democratic Education (EUDEC 2018), August 2018, Crete, Greece.
- Houghton, J.D. and Neck, C.P., (2002), "The revised self-leadership questionnaire", *Journal of Managerial Psychology*, Vol.17, no.8, pp. 672-691.
- Karagianni, D. and Montgomery, A., (2017), "Developing leadership skills among adolescents and young adults: a review of leadership programmes", *International Journal of Adolescence and Youth*, Vol. no. 23, pp. 1-13.
- Kazan, A. L. and Earnest, G. W. (2000), "Exploring the concept of self-leadership", *Leadership Link*, Winter 2000.
- Locke, E. A., Kirkpatrick, S. A., Wheeler, J., Schneider, J., Niles, K., Goldstein, H., Welsh, K., and Chah, D., (1991), *The Essence of Leadership*, Lexington Books, NY.
- Mahembe, B., Engelbrecht, A. S., and De Kock, F. S. (2013), "A confirmatory factor analytic study of a self-leadership measure in South Africa: Original research", *South Africa Journal of Human Resource Management*, Vol.11, no.1, pp. 1–10.
- Manz, C.C. (1986), "Self-leadership: toward an expanded theory of self-influence processes in organizations", *Academy of Management Review*, Vol. 11, No. 3, pp. 585-600.
- Manz, C. C., and Sims, H. P., Jr. (1991), "SuperLeadership: Beyond the Myth of Heroic Leadership", *Organizational Dynamics*, Vol.19, no.4, pp. 18-35.
- Manz, C.C. and Neck, C.P. (2004), *Mastering Self-leadership: Empowering Yourself for Personal Excellence*, 3rd ed., Pearson Prentice-Hall, Upper Saddle River, NJ.
- Moss, S. A., Dowling, N., and Callanan, J. (2009), "Towards an integrated model of leadership and self regulation", *Leadership Quarterly*, Vol. 20, pp. 162-176.

- Neck, C.P. and Manz, C.C., (1996), "Thought self-leadership: the impact of mental strategies training on employee cognition, behavior and affect", *Journal of Organizational Behavior*, Vol.17, pp.445-467.
- OECD (2016), *Trends Shaping Education 2016*, OECD Publishing, Paris.
- OECD, (2017), *OECD Skills Outlook 2017: Skills and Global Value Chains*, OECD Publishing, Paris.
- Rast, D.E., (2015), "Leadership In Times Of Uncertainty: Recent Findings, Debates, And Potential Future Research Directions", *Social and Personality Psychology Compass*, vol. 9, issue 3, pp. 133-149.
- Prussia, G.E., Anderson, J.S. and Manz, C.C., (1998), "Self-leadership and performance outcomes: The mediating influence of self-efficacy", *Journal of Organizational Behavior*, vol.19, no.5, pp.523-538.
- Skaalvika, E., Federicia, R.A. and Klassen, R.M., (2015), "Mathematics achievement and self-efficacy: Relations with motivation for mathematics", *International Journal of Educational Research*, Vol. 72, pp.129-136.
- Seligman, M.E.P., Csikszentmihalyi, M., (2000), "Positive psychology: An introduction", *American Psychologist*, Vol. 55, pp. 5-14.
- Silvia, P. J. and Duval, T. S. (2001) "Objective Self-Awareness Theory: Recent Progress and Enduring Problems", *Personality and Social Psychology Review*, Vol.5, no.3, pp. 230-241.
- Stewart, G. L., Carson, K. P. and Cardy, R. L. (1996), "The Joint Effects Of Conscientiousness And Self-Leadership Training On Employee Self-Directed Behavior In A Service Setting", *Personnel Psychology*, Vol. 49, pp.143-164.
- Subramanian, K., (2017), "Influence of Social Media in Interpersonal Communication", *International Journal of Scientific Progress and Research*, Vol.109, pp. 70-75.
- Swami Amritaswarupananda Puri, (2013), *Color of the Rainbow: Compassionate Leadership*, M.A. Center Publishers, India.
- Tzortzaki, A.M. (2011), *Knowledge Management in Service Organizations: A multidisciplinary model*, LAP Lambert Academic Publishing, UK.
- Van Dierendonck, D. (2011), "Servant leadership: A review and synthesis", *Journal of Management*, Vol.37, pp.1228-1261.
- Yarnell, L.M. and Neff, K. D., (2013) "Self-compassion, Interpersonal Conflict Resolutions, and Well-being", *Self and Identity*, Vol.12, no.2, pp.146-159.

AFRICA AND THE INTERNATIONAL CRIMINAL COURT JUSTICE DEFERRED OR DENIED?

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ABSTRACT

Established in 2002, the ICC is a permanent court to try individuals who commit the world's most serious crimes: genocide, war crimes and crimes against humanity. The ICC is a court of last resort and not a court of first instance. Several African states and the African union have criticized the indictments citing that the Court seems to be overly concentrating its efforts on the African continent. Factors such as the limitations imposed on the Court's jurisdiction and the lack of domestic or regional alternatives for prosecuting crimes against humanity. This article traced the origin of African dissent against the ICC and examined its implications on justice for victims, international law, as well as the future of the Court.

Keywords: Accountability, ICC, crimes against humanity and justice.

CONTEXTUALISING THE INTERNATIONAL CRIMINAL COURT

On 17 July 1998, one hundred and twenty states adopted the Rome Statute, which established the International Criminal Court (Roman Statute of the International Criminal Court, 1998). One-third are from the African nations, and the continent's delegates and representatives have historically played an important role both in drafting the statute and developing the judicial institution. The ICC is the first permanent international criminal court whose main aim is to ensure accountability for perpetrators of the most serious crimes of international concern. The Court is participating in a global fight to end impunity, and through international criminal justice it aims to hold those responsible accountable for their crimes and to help prevent them from happening again. Detailed consideration is given to the history of war crime trials and their place in the system of international law, the legal and political significance of a permanent ICC, the legality and legitimacy of war crime trials, the tensions and conflicts involved in negotiating the ICC Statute, the general principles of legality, the scope of defences, evidential dilemmas, the perspective of victims, the nature and scope of the offences within the ICC's jurisdiction – aggression, genocide, war crimes, crimes against humanity, questions of admissibility and theories of jurisdiction, the principle of complementarity, national implementation of the Statute in a range of jurisdictions, and national and international responses to the ICC. The creation of the Court was primarily embraced in Africa because most states had and continue to

experience atrocious crimes; for example, the Rwandan genocides of 1994, which resulted in almost one million deaths (Eltringham, 2004). It was inevitable that forty-seven states participated in the drafting process of the Roman Statute, and the majority approved its adoption (Murithi, 2013). The ICC will only exercise jurisdiction where a state is unable or unwilling to genuinely investigate and prosecute persons accused of committing such crimes. This paper blends detailed legal analysis with practical and policy perspectives and offers an authoritative complement to the extensive commentaries on the ICC Statute. The method that will be used is legislation, reviews of articles and analysis of international law instruments and reports on the ICC.

In this article the role of the ICC will be analysed in creating accountability for atrocities in Africa. The ICC is a very important avenue for ensuring accountability and justice for serious crimes in Africa. The method that will be used is legislation, reviews of articles and analysis of international law instruments and reports on the ICC.

IS THE INTERNATIONAL CRIMINAL COURT TARGETING AFRICA INAPPROPRIATELY?

In the first ten years of the ICC, all investigations and prosecutions have been concerned with situations in Africa. Since its establishment in 2002, the International Criminal Court has heard 22 cases and designated 36 individuals, all of them from Africa (Kariuki, A, 2015) Most of the investigations relate to situations in Africa, namely, the Democratic Republic of Congo, Uganda, the Central African Republic, Dafur/Sudan, Kenya, Libya, Ivory Coast and Mali (ICC Forum, March 2013-January 2014).

Instead of asking whether Africa's targeting is unfair or justified, we need to ask: "Why Africa?" One reason may be that the Office of the Prosecutor has only opened investigations in Africa, and many situations of concern simply do not fall within the ICC jurisdiction.

There may be a good reason for this. It could be that many situations of concern do not fall within the International Criminal Court's jurisdiction (ICC Forum, March 2013-January 2014). The mandate as set out in the Rome Statute only allow crimes committed after July 2002 and its subject matter jurisdiction is limited to war crimes, crimes against humanity and genocide. The International Criminal Court is only a court of last resort for countries that are either unable or unwilling to try suspects themselves. Jean Ping, the former AU Commissioner, told the media that African countries are against Ocampo who is rendering justice with double standards (Lough, 2011), and believes that the ICC is designed to target Africa. He summed it up in his recent exclamation: Why not Myanmar? Why not Iraq?" (Kariuki M, March 12, 2015). Ping's question has an answer: Myanmar is not part of the ICC, and the Court is indeed targeting countries like Iraq. Iraq is not part to the Rome Statute and

the Court is in the process of conducting a preliminary examination to determine whether there is a reasonable basis for it to proceed further with its investigation.

THE ICC'S OUTREACH AND COLLABORATION IN AFRICA: THE NEED FOR COOPERATION

There is a two-way communication between the ICC and the situation countries which are subject to the ICC's investigations and proceedings. Article 86 of the Rome Statute obliges Parties to cooperate with the ICC in its investigations and prosecution of cases.

Omar al-Bashir is the current President of the Republic of North Sudan since its independence in 2011. The Sudanese government has declined to surrender its nationals, including its president, Al-Bashir, whose arrest warrants are pending. He has continued to bluntly defy summons to appear before the ICC or answer the charges against him (UNSC Res, 1593). Al-Bashir's latest act of defiance was his travel to Rwanda in March 2018 to attend the African Union Summit despite a warrant out of his arrest by the ICC (AfricaNews, 2018).

The ICC has repeatedly requested for cooperation from African member states to arrest al-Bashir should he travel out of Sudan to a country which is signatory to the Rome Statute. African leaders have repeatedly scoffed at the ICC's directives to arrest the Sudanese leader; for instance, in March 2018 at the AU Trade Summit, Rwanda joins a long list of African countries that have defied the request of the ICC to arrest and hand the infamous president over to the court for prosecution (AfricaNews, 2018). Most cases were about the Court's failures in handling the case, accusing it of basing its evidence on hearsay rather than conducting a serious investigation (Kaiuki, A; 2015).

Kenya has paid lip service to cooperation with the ICC to avoid it from prosecuting its citizens. It has nevertheless established an ICC field office in Kenya to assist in the investigation of cases currently before the Court. In the absence of an international police force willing to arrest alleged perpetrators, the ICC continues to rely on the goodwill of its state parties and other inter-governmental organisations to function effectively.

PROSECUTION OF AFRICAN LEADERS IN THE ICC

There is the sense that the ICC is being utilised in a politically motivated fashion to pursue opponents of governments (Murithi, T and Ngari, A: 2011). Although the parties may not agree on the process, the outcome is owned by all the parties, which allows them the confidence to return to the table for further and better outcomes. Justice cannot be achieved without the aggrieved having the right to be heard. The ICC will only exercise jurisdiction where a state is unable or unwilling to

genuinely investigate and prosecute persons accused of committing such crimes. It is therefore important to briefly examine some of the most contentious indictments of African leaders by the ICC.

Kenya

President Uhuru Kenyatta of Kenya became the first sitting Head of State to be subjected to the jurisdiction of the ICC on charges of crimes against humanity, which he strongly denied (Bowcott, 2014). He was indicted on five counts of his alleged role in unleashing a wave of post-election violence during 2007-2008 that left 1 200 people dead and 600 000 displaced (The Prosecutor v Uhuru, 2015). Kenyatta handed over his power to his deputy, William Ruto before flying to The Hague in Holland (Bowcott, 2014). The President invoked Article 147(3) of the Constitution of Kenya, which provides that in cases where the President is absent or temporarily incapacitated, and in cases where the President so decides, the Deputy President shall act as President. The President will then be able to answer to the charges against him in his personal capacity and not as the Head of State. To highlight how seriously the President wanted the transfer of power to be understood, after announcing his intention in Parliament, he went to Harambee House where he signed the relevant papers and symbolically handed Ruto his symbols of power, signified largely by the presidential motorcade (Mosoku, 2014). Kenya's President, Uhuru Kenyatta has become the first sitting head of state to appear before the International Criminal Court in The Hague faced with charges of crimes against humanity over his role in the violence that followed the 2007 elections in Kenya. However, he says the charges against him are politically motivated and insists that the case should be thrown out (Holligan, 2014).

The case against President Kenyatta was postponed several times while the prosecutor attempted to build the case against him (Deutsche Welle, 2016). Despite the case against Kenyatta being dropped, the court's statement highlighted "the relevance of the materials sought... to current or future investigations." It also warned that any similar lack of cooperation could have a "serious impact on the functioning of the court in future proceedings." Under ICC rules founded by the Rome Statute, which 124 countries have signed up to, all states are required to cooperate fully with ICC investigations and prosecutions (Deutsche Welle, 2016). President Kenyatta's case is significant in that it showed a level of willingness of an African leader to cooperate with the ICC regardless of the allegations of non-cooperation. On several occasions, Kenyatta showed his displeasure and accused the ICC court of biasness towards African States.

Sudan

On 16 October 1993, al-Bashir appointed himself "President" and disbanded the Revolutionary Command Council. The executive and legislative powers of the council were taken by al-Bashir. Sudan's President Omar Hassan al-Bashir did not appear before the ICC after several summons. Al-Bashir's latest act of defiance was his travel to Rwanda in March 2018 to attend the African Union

Trade Summit despite a warrant out for his arrest by the ICC (AfricaNews, 2018). The warrant details ten charges, which include five counts of crimes against humanity, two counts of war crimes and three counts of genocide (The Prosecutor v Omar Hassan Ahmad al-Bashir, 2010).

The ICC did not receive any cooperation from several African states, even South Africa. The ICC found South Africa had failed in its duty to arrest Sudanese President Omar al-Bashir when he was in the country (News 24, 2017) attending an African Union summit in Johannesburg in June 2015. By failing to arrest al-Bashir, the court's ruling stated that South Africa had failed to honour its obligations under international law. For the failure to arrest al-Bashir in March 2018 at the AU Trade Summit, Rwanda joins a long list of African countries that have defied the request of the ICC to arrest and hand over to the Court for prosecutions (AfricaNews, 2018).

Africa's defiance against presidential-Bashir's arrest warrant begun in July 2009 at the thirteenth AU Heads of State summit in Libya where African leaders made a commitment not to arrest and extradite President al-Bashir of Sudan to the ICC whenever he travelled to their territories (Abdulai, 2010). The disproportionality lamented by African leaders is primarily driven by limitations on the ICC'S jurisdiction and the lack of alternative judicial pathways in Africa (Kariuki, 2015). Al-Bashir has visited several African states with the confidence that he would not be arrested. This confidence arose by the assurance that most African leaders share in the sentiment that the Court has ceased to be an independent and impartial forum.

Chad and Uganda hosted al-Bashir in May and July 2016 even after being referred to the Council. Al-Bashir also visited Russia, which is not a party to the ICC. Al-Bashir was indicted on three counts of genocide, meaning that he intended to destroy in part the Fur, Masalit and Zaghawa ethnic groups. He has survived longer than any other post-colonial Sudanese head of state.

On 29 March 2017 the Kingdom of Jordan also declined to arrest al-Bashir when he visited the State for the twenty-eight Arab League Summit Meeting in Amman.

Libya

Libya is not a state party to the Rome Statute, although the United Nations Security Council referred the situation in Libya to the ICC to investigate alleged crimes against humanity following the outbreak of popular demonstrations against the regime of M Gaddafi in February 2011. The UN Security Council has also failed to provide the necessary support for the ICC investigation. Civil society continues to call for accountability for widespread crimes afflicting the country, including those through Rome Statute ratification and implementation.

Uganda

The Republic of Uganda signed the Rome Statute in 1999 and later in 2002 deposited its instrument ratifying the treaty. This signing and ratifying of the Rome Statute demonstrated Uganda's

commitment and submission to the authority of the Court, and the obligations imposed by the Rome Statute. Uganda has a campaign of resistance fought by the Acholi-dominated Uganda People's Democratic Army (UPDA), the Allied Democratic Forces (ADF) and the Lord's Resistance Army (LRA) (Doom and Vlassenroot, 1999). The Ugandan government referred the situation to the Court in 2003 by a letter from President Yoweri Museveni to the prosecutor of the ICC, Luis Moreno Ocampo. The question to ask then is why would these very states compromise their commitments in defence of their peers who are accused of committing these crimes?

President Museveni also joined the regiment of African leaders opposing the authority of the ICC in African states (Hanson, 2008). The Court has four outstanding arrest warrants for top-level members of the Lord's Resistance Army including their leader Joseph Kony. The ICC does not have the power to arrest these four persons: such arrests are the responsibility of state parties. Museveni's biggest defiance against the ICC was perhaps during his own inauguration in May 2016, which was also attended by Sudanese President al-Bashir who is still wanted by the Court (The Prosecutor v Omar Hassan Ahmad Al Bashir, 2010). The Ugandan President referred to the ICC as a bunch of useless people who had lost his support completely (Associated Press).

Democratic Republic of the Congo

In March 2006 Thomas Lubanga Dyilo was surrendered to the Court by the Congolese government after a February warrant for his arrest. His trial was set to begin in June 2008 but has been delayed because ICC judges determined the prosecution had withheld evidence from the defence. The sheer horror of the conflict in Congo may not be enough to trigger international prosecutions by the ICC. There is a decidedly idealistic tone that both underpins and animates the movement for international justice. Unfortunately, the reality is pocked with competing interests and constituencies. In determining its potential role in the conflict in the Democratic Republic of Congo, the Office of the Prosecutor of the ICC must consider the stability of the country's government, the future of its national justice system, the ramifications of unequal justice for victims of the entire war, the feasibility of successful prosecutions, whether or not Ituri is the appropriate conflict with which the Court should begin its institutional life, and so on. It is impossible for the ICC to avoid these difficult questions.

WHAT IS THE US POSITION ON THE ICC?

Initially the US opposed the ICC out of fear because it thought it would be used for politically motivated prosecutions of US personnel abroad, but of late it is softening its stance on the Court. When the Security Council voted to refer the issue of Dafur to the ICC in March 2005, the United States abstained rather than vetoing the referral.

The US position is still ambivalent, but this does not mean that the United States has turned the corner to seek out ways to cooperate with the Court. US legislations continue to penalise countries that are signatories to the Rome Statute.

The United States government has consistently opposed an international court that could hold US military and political leaders to a uniform global standard of justice. The Clinton administration participated actively in negotiations towards the International Criminal Court treaty, seeking Security Council screening of cases. The Bush administration, coming into office in 2001 as the Court neared implementation, adopted an extremely active opposition. Washington began to negotiate bilateral agreements with other countries, insuring immunity of US nationals from prosecution by the Court. As leverage, Washington threatened termination of economic aid, withdrawal of military assistance, and other painful measures. The Obama administration has so far made greater efforts to engage with the Court. It is participating with the Court's governing bodies and providing support for the its ongoing prosecutions. Washington, however, has no intention to join the ICC, due to its concern about possible charges against US nationals. The Trump administration takes a tough stance against The International Criminal Court (Eyewitness news, 2018). The US will not cooperate with the ICC and will not provide any assistance to the ICC. The Trump administration even threatened tough action against the International Criminal Court should it try to prosecute Americans for alleged war crimes in Afghanistan (Word News, September 2018).

AFRICAN UNION TO WITHDRAW FROM ICC

Africa has a rocky relationship with the ICC, which plays right into the rhetoric that the Court is targeting Africans and is being used as a tool for the enforcement of neo-colonialism by Western powers (Kasande et al., 2017). Several African leaders feel that the Court abused its powers by pushing self-serving agendas like unconstitutional regime change (Hatcher, 2013). Nine African leaders have been charged in the ICC for various crimes.

Several African leaders have argued that the ICC has digressed from its original mandate of ensuring accountability and justice for the most serious crimes under international law, to a political tool used by the West to promote a neo-colonial agenda (Kasande, et al., 2017). The AU has also accused the Court of breaking international law, saying that by investigating sitting heads of African states it has failed to respect political figures' guarantees of immunity from prosecution. The international immunity laws stem from an understanding that while in office, state officials fulfil critical executives' duties and that undergoing prosecution for criminal offenses could hinder their performance (Kariuki, 2015). Many of the African cases investigated by the ICC were referred to the Court by the governments of these countries themselves. The procedures of the ICC require that

justice be a two-way street: when the international community or even a country's own government asks for international aid in bringing justice, the ICC has a heavy responsibility to take action. The ICC has invoked its own jurisdiction in only one situation. Other situations have all come to the Court through referrals from the states concerned and the Security Council. Moreover, the ICC has declined to investigate only two situations outside of Africa. This small number of decisions provide an insufficient basis to conclude that the ICC is discriminating in its selection practices.

SOUTH AFRICA'S FAILED WITHDRAWAL FROM ICC

South Africa's fall out with the ICC came in June 2015 when the Sudanese President Omar al-Bashir who is wanted by the Court on charges of crimes against humanity attended an African union summit meeting in Johannesburg (Mills, 2012).

Upon his arrival in South Africa, the South African Litigation Centre instituted proceedings in the High Court Gauteng Division seeking an order preventing Bashir's exit and effecting of his warrant of arrest (Southern Africa Litigation Centre v Minister of Justice, 2015). The High Court ordered that President al-Bashir was prohibited from exiting South Africa pending its final decision. Immediately after pronouncing its order, the High Court was informed by government counsel that al-Bashir had left the country earlier that day. President Jacob Zuma justified his government's action stating that the arrest of al-Bashir was tantamount to illegitimate regime change in Sudan (Tladi, 2015). Notwithstanding this consideration, the ICC ruled that South Africa had failed in its duty to arrest al-Bashir and extradite him to The Hague for prosecution. South Africa did not face any sanction for failing to arrest the Sudanese President, and expressed its intention to withdraw from the ICC (Fabricius, 2017). Moreover, the government followed up its intention by tabling a bill in parliament seeking to repeal the Rome Statute of the ICC, which would effectively withdraw from the ICC. South Africa's Minister of Justice and Correctional Services withdrew the bill in accordance with Rule 334. The South African situation is an account of a failed attempt aimed at liberating itself from the authority of the ICC.

IS THE ICC TARGETING AFRICA? AFRICA AND THE INTERNATIONAL CRIMINAL COURT - JUSTICE SHOULD PREVAIL

The disproportionality lamented by African leaders is primarily driven by limitations on the ICC's jurisdiction and the lack of alternative judicial pathways in Africa. The ICC focus on Africa is neither legally nor morally inappropriate but nonetheless threatens to undermine perceptions of the Court's fairness.

In assessing the work of the ICC, one must devise a benchmark against which to measure it. It is unclear what standard should be used as the ICC is a *sui generis* institution that had to be built from the ground up within the context of ongoing conflicts that demand immediate attention while sharing some similarities to the practices and staff representing divergent legal philosophies, traditions and practices.

The bottom-line is that the world's tolerance for totalitarian regimes is wearing thin. A leader who attempts to govern his nation on autocratic terms automatically becomes unpopular within his own country and the international community at large. Human rights embrace the principles of democracy, constitutionalism, separation of powers and rule of law, which all seek to eliminate the likelihood of the abuse of power. International crimes are mostly perpetrated by powerful and seemingly untouchable state officials who are not normally prosecuted for their roles in such atrocities (Akande and Shah, 2010). Failure to ensure accountability for such violations leads to a detestable cycle of impunity.

Critics accused the ICC of acting immorally by discriminating against Africa and Africans in deciding which situations to investigate and prosecute. The evidentiary basis for such claims is weak. The ICC has invoked its own jurisdiction in only one situation. The other situations have all come to the Court for referrals from the states concerned and the Security Council. The ICC has declined to investigate only two situations outside Africa.

CONCLUSION

African leaders therefore have an obligation to ensure that any person who perpetrates international crimes, head of state or not, must be held accountable for those atrocities. Africans deserve justice and in cases where a state fails to prosecute a perpetrator of international crimes, the ICC offers a forum under which such proceedings may be conducted.

The role of the ICC is to create accountability for atrocities in Africa. This is essentially a legal claim. The ICC fail to respect international law governing head of state immunity, which they claim prohibits prosecution of head of state, even for international crimes. They assert that the ICC is not respecting the principle of complementarity which prohibits the Court from investigating or prosecuting cases when a state with jurisdiction is doing so in good faith.

The strongest argument that the ICC exclusively focuses on Africa is inappropriate and a sociological one. Substantial evidence suggests that perceptions of the ICC 's fairness have suffered in at least some African audiences because of the focus on Africa. It is unclear whether such perceptions are located primarily at the governmental level or are shared widely among African populations. It

concluded that although the ICC has its deficiencies, it remains a very important avenue for ensuring accountability and justice for serious crimes in Africa.

If African leaders harbour grievances with the court's methods of operation or are unsatisfied by the ICC's adequacies, it is incumbent upon them to champion reform on the areas of concern through the appropriate channels. To quit the court altogether does nothing for victims but promotes impunity of perpetrators for international crimes, which is highly desirable. Ultimately, victims of international crimes still need justice, which to this end has been provided by international tribunals such as the ICC, regardless of its shortcomings. Psalm 94:15 reads, "for justice will prevail and all the morally upright will be vindicated" (Bible).

REFERENCES

- Abdulai, E.S. (2010). *The Standoff between ICC and African Leaders Debate Revisited*. The Foundation for Law, Justice and Society (ed.), Oxford Transitional Justice Research: Debating International Justice in Africa. AfricaNews (2018).
- AfricaNews (22 March 2018). 'SUDAN'S Bashir defies ICC-arrest warrant, travels to Kigali for AU trade summit'. AfricaNews. Access on 22 June 2018. Available at <http://www.africanews.com/2018/03/22/sudans-bashir-continues-iccdefiance-campaign-travels-to-kigali-for-au-trade/>
- Akande, D. & Shah, S. (2010). "Immunities of state officials, international crimes, and foreign domestic courts." *European Journal of International Law*, 21(4); 815-852.
- Associated Press (12 May 2016). "Walkout at Ugandan president's inauguration over ICC remarks" *The Guardian* available at: <https://www.theguardian.com/world/2016/may/12/walkout-at-ugandan-presidents-inauguration-over-icc-remarks>.
- Bowcot, O. (8 October 2014) 'Kenya's Uhuru Kenyatta becomes first head of state to appear before ICC' *The Guardian* Access on 27 June 2018. Available at; <https://www.theguardian.com/world/2014/oct/08/kenya-uhuru-kenyatta-head-of-state-icc-hague>.
- Deutsche Welle (19 September 2016). "Recommends Kenyan govt rapped by ICC over Kenyatta case". Available at <http://www.dw.com/en/kenyan-govt-rapped-by-icc-over-kenyatta-case/a19562050>
- Doom, R & Vlassenroot, K. (1999). *African Affairs*, Volume 98, Issue 390, 1 January 1999 Pages 5-36
- Eltringham, N. (2004). *Accounting for horror: Post-genocide debates in Rwanda*. Pluto Press.
- Eyewitness News (2018). Trump to take tough stance against International Criminal Court <https://ewn.co.za/Topic/United-States>).
- Fabricius, P. (7 December 2017). "South Africa confirms withdrawal from ICC" *Daily Maverick* available at : <https://www.dailymaverick.co.za/article/2017-12-07-south-africa-confirms-withdrawal-from-icc/#.WsXxwohuaM8> access on 23 October 2018.
- Hanson, S. (July 2008). *Africa and the International Criminal Court Council on Foreign Relations*. Access on 11 October 2018 <https://www.cfr.org/background/africa-and-international-criminal-court>.
- Hatcher, A. (8 October 2014). "Kenya's President Kenyatta at ICC in The Hague" *BBC News*. Available at <https://mg.co.za/article/2013-04-12-00-museveni-rails-against-the-icc-during-kenyattas-inauguration>. Access on 23 October 2018.
- Holland, S. (2018). *World News*. September 10, 2018 Trump administration takes aim at International Criminal Court, PLO.
- Holligan, A. (8 October 2014). "Kenya's President Kenyatta at ICC in The Hague." *BBC*
- ICC Forum (March 2013 – January 2014). *The Promise Institute of Human Rights: Invite Experts on Africa Question* Access on 6 June 2018. Available at <http://iccforum.com/hrp>.
- Kariuki, A. (March 12, 2015). *War Crimes and Punishment; Why is the ICC targeting Africa* *Brown Political Review* Access on 4 June 2018. Available at <http://www.brownpoliticalreview.org/2015/03/war-crimes-and-punishment-why-is-the-icc-targeting-africa/>.
- Kasande, S., Gitari, C. & Suma, M. (16 February 2017). *AU Strategy for collective withdrawal from the ICC a non-starter' ICTJ* Available at <https://www.ictj.org/news/au-withdrawal-icc-non-starter>.

- Khoza, A. (2018). News24 South Africa should have arrested Al-Bashir – ICC 2017 0706 Access on 25 September 2018.
- Lough, R. (January 30, 2011). African Union accuses ICC prosecutor of bias Top news January 30, 2011.
- Mills, K. (2012). "Bashir is dividing us: Africa and the International Criminal Court." *Human Rights Quarterly*, 34(2), pp. 404-447.
- Mosoku, G. (7 October 2014). President Uhuru Kenyatta's ICC shocker as DP Williams Ruto gets power to act. Available at <https://www.standardmedia.co.ke/article/2000137340/president-uhuru-kenyatta-s-icc-shocker-as-dp-william-ruto-gets-power-to-act>.
- Murithi, T. (2013). The African Union and the International Criminal Court; An embattled Relationship/ AfricaPortal. Available at <https://www.africaportal.org/publications/the-african-union-and-the-international-criminal-court-an-embattled-relationship/> Access on 1 June 2018.
- Murithi, T. & Ngari, A. (21 & 22 February 2011). The ICC and Community-Level Reconciliation: In-country Perspectives, Institute for Justice and Reconciliation Africa Programme: Regional Constitution Report.
- Roman Statute of the International Criminal Court. Adopted at a diplomatic conference in Rome on 17 July 1998 and entered into force on 1 July 2002.
- Tladi, D. (2015). "The duty on South Africa to Arrest and Surrender President al-Bashir under South African and International Law: A Perspective from International Law" *Journal of International Criminal Justice*, 13(5); 1027-1047.
- United Nations Security Council Resolution 1593 (2005). Adopted by the Security Council at its 5158th meeting, on 31 March 2005).
- Cases:
- Southern Africa Litigation Centre v Minister of Justice and Constitutional Development and Others (27740/2015) [2015] ZAGPPHC 402; 2016 (1) SACR 161 (GP); 2015 (5) SA 1 (GP); [2015] 3 All SA 505 (GP); 2015 (9) BCLR 1108 (GP) (24 June 2015).
- The Prosecutor v Uhuru, 2015 ICC-01/09-02/11.
- The Prosecutor v Omar Hassan Ahmad Al Bashir, ICC - 02/05-01/09.

STRATEGY-MAKING BY ANSWERING 49 QUESTIONS: A NOVEL PROCESS-BASED PRACTICE MODEL

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ABSTRACT

Strategic thinking does not only concern *what* to decide, but also *how* to decide. A new processual model for strategy-making is presented and legitimized through systems theory, state of the art strategy literature, as well as many years of practical strategizing. The purpose of the model is to aid in improving the quality of firms' strategic decisions by enhancing rigor. To this end, the model guides (aspiring) strategists through 'empirical', 'sensemaking', and 'envisioning' phases by inviting them to systematically produce 49 logically identified pieces of knowledge, in order to reach seven knowledge milestones. It is argued that if firms use this epistemic tool well, they can inject more discipline, logic and justification into their strategy-making processes, thereby increasing the likelihood of reaching desirable outcomes. Future research could seek to compare the quality of the strategic decisions made with the tool to those made without it.

Keywords: Strategizing, Decision making, Strategic cognition, Sense making

INTRODUCTION

According to Jarzabkowski and Wilson (Jarzabkowski & Wilson, 2006; Wilson & Jarzabkowski, 2004), strategy practice is in something of a crisis; the increased rate of change in contemporary business environments makes theoretical strategy knowledge increasingly irrelevant. Whether true or not, when the aim is to identify guidelines for improving firm performance, a nomothetic view of causation must be rejected. The causality that concerns practitioners – what to do in a particular situation, to achieve a particular goal – is typically not included in statements offered by contingency models (Sandberg & Tsoukas, 2011). A practicing strategist is not looking for a *contingent* theory that is dependent on a domain, but for a specific theory, *given* a domain.

The inability of past strategy theory to adequately guide the practical strategist does not mean, however, that practice makes perfect. Scholars rightfully warn strategy practitioners and educators about embracing simple solutions stemming from glib presumptions (Augier & March, 2007). Moreover, many widely used analytical tools like Porter's Five Forces model (Porter, 2008) point to a very narrow subset of potential resolutions or opportunities.

To a large extent, the gap between strategy theory and practice stems from the fact that the firm is not 'out there' to be discovered as a coherent whole. A firm can only be known through observable data, and therefore constitutes something that is "found and made, discovered and invented" (Wright, Paroutis, & Blettner, 2013, p. 119). None of this means that history no longer matters; thinking must be informed by past observations. However, knowledge that is derived from the past is less and less usable in a deterministic way (Vaara & Lamberg, 2016). It makes that the challenge for a firm is no longer selecting a strategy, but creating a flexible organization that is able to continually redefine strategy based on a dynamic and holistic perspective of the firm and its environment (Fowler, 2003; Porter, 1991). This, in turn, means local-search processes become much more important (Raelin & Coghlan, 2006). Moreover, some evidence already suggests that the training of strategists to systematically search complex decision environments is an important way forward to improve strategic decision making (Gary, Wood, & Pillinger, 2012). Such search processes are difficult, however, and might even be impossible without access to solid intellectual tools or epistemic objects (Fowler, 2003). Hence, (aspiring) strategists may welcome devices that can aid in making sense of all available data (Molina-Azorín, 2014), especially ones that reflect generic theories of *what* to search for and *how* to do this. Indeed, a process-type outline on *how to go about* strategic thinking in practice is required.

SYSTEMS THINKING, SENSEMAKING, ENVISIONING, AND ARTICULATION

It is posited here that the possibility of acquiring true knowledge about a business environment is dependent on the way a strategist collects, organizes, and interprets information. As such, strategists are posed here not as knowers, but as self-consciousness and self-directing learners who want to counter naive or false beliefs, and who are intrinsically motivated to acquire, create, and apply new knowledge (De Déa Roglio & Light, 2009; Rousseau, 2012).

When thinking then becomes *firm-specific* and *strategic* thinking, a strategist would benefit from adopting a *systems thinking* lens. Systems thinking means one tries to gain an understanding of how a system works first, adopt or develop a mental model next, and finally prepare for strategic decision making (Spender, 1996). The mental model view acknowledges that strategizing exists in people's minds and in their views about the world and their firm's place in it (Gavetti & Rivkin, 2007). Additionally, if perceptions and ensuing interpretations form the bases for decisions and argumentation, and therefore ultimately also for actions (Narayanan, Zane, & Kemmerer, 2011), then strategists must also learn how to *express* these beliefs.

Acknowledging that better decision making depends on having superior mental models, and that we think in words, means Herbert Simon's "preferred world" (Rousseau, 2012, p. 604) is dependent on the making of better firm-specific propositional statements. When this idea is embraced, it can be argued a new model that aims to prepare for better strategy-making would need to provide an outline on *how to describe* a firm, both normatively (what is a proper description?) and procedurally (how should these proper descriptions be formed?).

Logically, such a model would first need to guide the strategist through an 'empirical' phase to gather firm-specific content and establish an empirically justified basis for further statement making. This phase should not be aimed at trying to form a mental model of a firm's entire business environment, but a mental depiction of what, according to, is the observable *interdependence representation* of a firm's environment (Martignoni, Menon, & Siggelkow, 2016). Subsequently, such a model must guide the strategist through a 'sensemaking' phase in which all gathered but still disparate facts, information, and interpretations are assembled into what Brown and Thompson (2013, p. 1148) call an "ordered universe of meaning". This second phase is thus aimed at ascribing *relevant meaning* to the empirically based statements made in the preceding phase. The goal of this phase is to establish a practical, value-creating theory for a firm. This echoes what (Martignoni et al., 2016) call *performance representation*.

Finally, such a model must guide a strategist through an 'envisioning' phase, in which all information and subsequent sensemaking is synthesized into a coherent set of forward-looking beliefs that enable strategic judgment. To transition from sensemaking to envisioning enables a differentiation between being *knowledgeable* and being *wise*. A knowledgeable person is one who holds justified true beliefs that are supported by facts and arguments, while a wise person is able to demonstrate sound and serene judgment by applying this knowledge (Kessler, 2006).

A NEW PRACTICE MODEL FOR FIRM-SPECIFIC STRATEGY MAKING

Based on the above, a new model is proposed that is best characterized as an analytic-philosophical system. Its development rests upon a foundation of axioms regarding the nature of a firm, strategic thinking, and knowledge. These axioms are as follows:

1. A firm is a socially constructed, complex, adaptive system;
2. To survive, a firm must be successful in creating value;
3. The goal of strategic thinking is to be prepared for decision making;
4. The probability of success can be increased through better knowledge;
5. Beliefs cannot be accepted as knowledge unless they are logically true and justified.

When combined, these axioms portray a firm as a mental construct of a purposeful system that is in a constant state of flux. Also, it is viewed as a system whose chances of preferred outcomes ultimately depend on the quality of strategists' mental models which, in turn, depend on their ability to generate, justify, and express relevant beliefs regarding particular firms. This view informs us strategists must always combine the aforementioned systems thinking with *critical thinking*, because critical thinking enables the questioning and comparing of mental models to other ways of interpreting reality, and thus also the changing and forming of mental models (De Déa Roglio & Light, 2009).

Specifically, the proposed model is designed on the assumption that future incoming cash flow uncertainty ultimately defines what should be considered 'strategic'. When this notion is embraced, it results in the logical distinction of business world information as:

1. Information relating to cash flows that can be *controlled* by decisions (=known outcomes);
2. Information relating to cash flows that can be *influenced* by decisions (=unknown outcomes).

Both categories are mutually exclusive, but do they capture all relevant business world information? Here, systems thinking tells us that any division of information can only be exhaustive if all relevant *componential* objects of knowledge are incorporated, as well as all *systemic* objects of knowledge. In epistemological terms, these objects of knowledge are 'things', 'relations', and 'events'. Following this argument, the business world can purposefully present itself to the strategist through an information trichotomy (See, Figure 1):

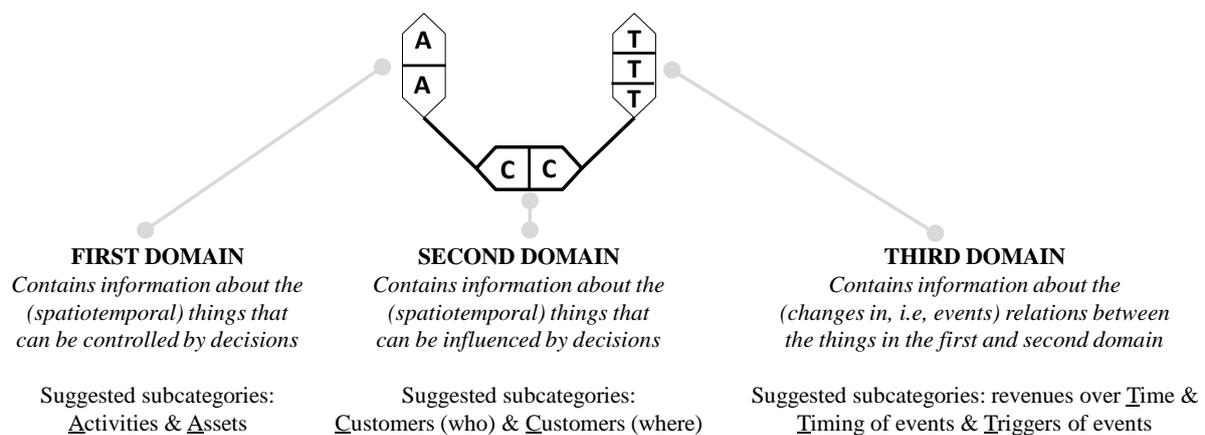


Figure 1. The information trichotomy and suggested subcategories

In its everyday operationalization, the first domain covers information relating to what is usually referred to as 'supply'. The second domain contains information relating to what is commonly referred to as 'markets' or 'demand'. The information in both domains relates to real-life objects which can be sensed externally. The third domain is different because it contains information that is needed to assess the systemic properties of the firm system. This necessitates the inclusion of a 'temporal'

domain to consider relationships between supply and demand over time, as well as any changes in that relationship (i.e., 'events').

Next, as the domains do not refer to observable phenomena or specific data directly, it is necessary to load them with intelligible firm-specific data. Seven real-life subcategories are suggested. For the first two domains they are 'Activities' and 'Assets', and 'Customers (who)' and 'Customers (where)', the latter two reflecting market demand from a behavioral and geographical perspective. It is noted these subcategories provide a useful memory aid for the first two domains, but it is not perfect. For instance, a product's selling price is controlled by a firm, but it is not an asset or activity. Similarly, a firm might want to influence a government even if it is not a customer. For the third domain three subcategories are suggested. They are: 'revenues over Time', 'Timing of events', and 'Triggers of events'. Combined, they facilitate the idea that the relationship between supply and market demand is dynamic, whereas changes can occur in the relation, caused by changes in activities, assets, customer behavior, or geographical markets (the 'things' in the first and second domain). Regarding the 'revenues over Time' subcategory, a strategist must consider all information, apropos an *output* perspective; i.e., information on revenue cash flow outcomes. Focusing on the second 'Timing of events' subcategory entails considering information from an *input* perspective; what events caused revenues to change? These events reveal the dynamically-complex nature of a firm. The third suggested subcategory 'Triggers of events' is concerned with the underlying causes of these events; essentially referring to information regarding external forces, including for instance the ones in the PESTEL acronym. Such forces can trigger a continued effect (e.g., diminishing resources), or a sudden effect on the focal firm (e.g., technological developments).

ANALYSIS AND SYNTHESIS

The order in which the information domains are best dealt with for analytical purposes can be identified through systems logic (see, Figure 2, left icon). When analyzing a situation, any strategist will first try to understand the component parts of the system. This information can only apply to actual 'things', whose information is part of the first or second information domain. Of the two, the Activities & Assets domain should be considered first because, from a cognitive point of view, the second Customer (who/where) domain is one level up on complexity. For instance, information regarding assets should not trigger any discussion; either a firm owns or uses certain assets, or it does not. Information regarding customers is different. It might not be completely abstract, or even specific and recognizable in many cases, but what can be influenced is not a matter of fact (i.e., the customer is not a 'fact'). As a result, statements based on the second domain of information require statistical proof. And, as it is wise to establish facts before discussion commences, analysis of the Activities &

Assets domain logically precedes analysis of the Customers domain. Finally, when we conceive the firm as a system, the third, temporal domain must also be considered. After all, analyzing activities, assets and customers is only useful if it is also clear how they interact; what their (value-creating) systemic properties are.

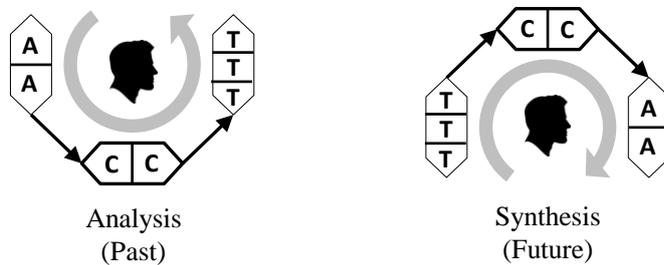


Figure 2. Use of the information trichotomy for analysis and synthesis

The information trichotomy and its suggested subcategories can also be used for a forward-looking synthesis (see, Figure 2, right icon), given one realizes three things. First, since it is not possible to have information from the future, the information domains can no longer be studied to establish what is or has been; they can be used instead to *imagine* what future things, relations, and events are important. Second, all statements now demand the inclusion of a time dimension because there may only be one past, but there are endless possible futures. Third, the domains need to be approached in reverse: AA–CC–TTT is for analysis, TTT–CC–AA is for synthesis. This reversal supports a purposeful, systematic envisioning of a firm’s future from abstract-to-concrete. In such an exercise, it is sensible to first consider the more abstract, outside forces (i.e., triggers of events) that might lead to imaginable events (i.e., timing of events), which will, in turn, impact the potential for incoming cash flows (i.e., revenues over time). This potential resembles what Gavetti and Levinthal (2000) call the ‘payoff space’, reflecting knowledge of a firm’s potential for value creation. This knowledge must then be used to make congruent assumptions about the industry’s customers and their behavior, marking the inclusion of the second Customers information domain in the synthesis exercise. The final task when making forward-looking statements logically demands consideration of future Activities & Assets, as they are the only things one can actually decide *on*. It marks the point at which the ultimate question for strategists arises: “Given the projected market potential and considering what that says about customer behavior and geographical markets, what should we decide regarding our activities and assets?”. It is where strategic thinking naturally ends.

TOWARDS STRATEGIC WISDOM VIA SEVEN KNOWLEDGE MILESTONES

It can be argued strategists who are able to answer the above question prudently demonstrate strategic wisdom. Epistemologically, it reflects reaching a knowledge milestone. It is posited this milestone is: *Having knowledge of how the firm is expected to ‘work’ & Having knowledge of what this likely*

means for what can be controlled and influenced by the firm. Figure 3 illustrates this is identified as the final milestone in a series of seven knowledge milestones that can be discerned between the two extremes of 'firm-specific ignorance' and 'firm-specific strategic wisdom'. Metaphorically, reaching a knowledge milestone means the strategist is able to write a purposeful chapter in the 'story of a firm' that is relevant for strategy-making. Consistent with the theory of foundationalism, and visualized in Figure 3, such storytelling prescribes that justified beliefs are structured like a building, with a foundation and a superstructure (see, e.g., Hasan & Fumerton, 2018). Beliefs belonging to the superstructure (i.e., later chapters) are supported by the justified beliefs in the foundation (i.e., earlier chapters). By means of the icons, Figure 3 also shows the information trichotomy applies to each chapter; it is only the content-perspective of the statements that differs. Each knowledge milestone reflects one for strategy-making purposes relevant content-perspective. Table 1 illustrates this. It presents an example propositional statement for each of the seven content-perspectives, regarding the same object of knowledge (in this case the 'Customers (who)' object of knowledge).

Strategy-Making Phase	Content Perspective of Statement	Example Statement	Section in Table A1
'obtain general knowledge'	Non-industry- / non-firm-specific	"The customer is the entity that decides to buy from a firm."	#3
Empirical	Absolute, industry-specific	"This industry operates in a B2B market."	#10
Empirical	Absolute, firm-specific	"The firm sells to supermarkets."	#17
Sensemaking	Relative, industry-specific	"Customers in this industry are loyal."	#24
Sensemaking	Relative, firm-specific	"The firm has a large customer base."	#31
Envisioning	Absolute, industry-specific	"The key customer demographic in this industry is expected to double in size over the next five years."	#40
Envisioning	Relative, firm-specific	"The firm is better equipped than its competitors to meet the growing demand for more luxury."	#47

Table 1 Example statement for seven identifiable statement perspectives regarding the 'Customers (who)' subcategory of the information trichotomy

USING THE 72 MODEL AS AN EPISTEMIC TOOL

How the different perspectives align with the seven chapters, and how the chapters align with the seven knowledge milestones is illustrated in the Appendix (Table A1). This table shows that, to reach the knowledge milestones, statements need to be made regarding the seven suggested subcategories, for each of the seven content perspectives. Each perspective corresponds with a 'chapter' in the for strategy-making purposes relevant story of a firm. As Table A1 shows, this story has 49 sections. Organized and presented in this way, they provide an epistemic tool for analysis and

synthesis during strategy-making. Next, it is briefly discussed how this '7² Model' can be systematically applied in practice by addressing the subsequent sections.

Clearly, the first concern in any strategic thinking exercise is *having an adequate general knowledge base* (i.e., milestone 1, see, bottom Figure 3 and bottom left Table A1). After all, the more general knowledge strategists have of what the firm *can* do (section #1), of what they *can* own (section #2), of which customers and what geographical markets (sections #3 and #4) *can* be distinguished, of what *can* happen, and of what causes *can* exist (sections #5, #6, #7), the better equipped they are to undertake relevant analyses or syntheses.

Subsequently, a strategist must identify what controllable phenomena (e.g., activities and assets) define a particular industry. To this end, the aforementioned knowledge of what firms can do and own must be compared to what firms in an industry *actually* do (section #8) and own (section #9). This is important because strategists should not try to develop mental models of the *entire* business environment of a firm. Moreover, the potential importance of firm activities and assets like R&D, engineering, product development, outlets, intellectual property, brand image, permits, staffing quality, and the like, only becomes clear if one realizes that these elements are not necessarily relevant in other industries. Next, one must understand what characterizes the market, and how both a firm's industry *and* the firm itself developed to the present day. To this end, sections #10 through #21 (making up the remainder of the second and third chapter) must be addressed. If done properly, two empirically-based knowledge milestones are reached (see, Figure 3 for the corresponding second and third knowledge milestones).

When formulating chapters four and five, the focus shifts to how the firm's industry differs from other industries, how the firm differs from its competitors, and what these differences could mean for value creation; this constitutes the 7² Model's sensemaking phase. Unlike the statements made in the empirical phase (see, Table 1), this phase is concerned with making *relative* statements. Comparative statements are necessary because, on the one hand, value creation itself is a relative phenomenon, and, on the other, strategic thinking is needed due to competition, making industry and firm comparisons essential. It means absolute statements regarding things like activities and assets have no intrinsic value. This phase aims to overcome this by making sense of (ascribing for value creation functional meaning to) the knowledge produced in the empirical phase. Ideally, this phase ends with the articulating of a practical, value-creating theory for a firm's industry and the firm, based on all knowledge produced.

Finally, chapters six and seven must be formulated to envision how both a firm's industry and the firm are expected to develop in the future. These two chapters make up the 7² Model's envisioning phase. In it, the aforementioned value-creating theories can be applied to justify statements about

future events (sections #36, #37, #43, #44), and *future* relations (sections #38 and #45) in the firm's business environment, followed by statements about the things firms can influence by decisions (sections #39, #40, #46, #47). As a final step, strategists should reflect on how the industry can benefit most from expected customer behavior (sections #41 and #42), and, most importantly, how the firm can change its activities and assets accordingly (sections #48 and #49). This must be considered last, so as the strategist is prepared for deciding what activities and assets it must keep from the past, lose from that past, and create in the present, to go to the preferred future state (Handy, 1995; Liedtka, 1998). In short, chapter seven marks the reaching of the final knowledge milestone; the one that enables the demonstrating of strategic wisdom.

DISCUSSION AND CONCLUSIONS

Practicing strategists need skills for generating knowledge so as to manage, understand, and reduce the uncertainty that typifies the future of a firm. According to Spanos and Lioukas (2001) and Dougherty (1993), strategic decision making requires at least a combination of relevant knowledge creation and an integrating process. Barney (2001, p. 49) argues that a complete "model of strategic advantage would require a full integration of models of the competitive environment with models of firm resources". According to (Farjoun, 2008) such forward-looking mental or process models are indispensable for strategizing because they attempt to define the nature, level, and scope of the uncertainty the firm faces (Dickson, Farris, & Verbeke, 2001). By providing a well-grounded epistemic tool, the 7² Model specifically guides strategists towards a coherent, functional, justifiable, forward-looking perspective on a firm. Future research on the 7² Model is recommended in terms of investigating, among other things, how the explicating of an underlying question per section may offer strategists detailed guidance in obtaining, integrating and applying case-specific knowledge in strategy-making practice. The resulting narrative infrastructure may also inspire new research, especially as it can illustrate how important but disparate tools and concepts can be related linguistically (when their implied questions are explicated as well). As an example, Table 1 highlights how the 7² Model conceptually links the value chain model, PESTEL, business model canvas, Porter's five forces, RBV, and the dynamic capabilities view (see, respectively, sections #1, #7, #15-19, #27+36, #30, #24+34). Experts could also retrospectively rate the quality of strategic decisions made with and without the 7² Model by otherwise equal strategists.

REFERENCES

Augier, M., & March, J. G. (2007). The pursuit of relevance in management education. *California Management Review*, 49(3), 129-146.

- Barney, J. B. (2001). Is the Resource-Based "View" a Useful Perspective for Strategic Management Research? Yes. *The Academy of Management Review*, 26(1), 41.
- Brown, A. D., & Thompson, E. R. (2013). A narrative approach to strategy-as-practice. *Business History*, 55(7), 1143-1167.
- De Déa Roglio, K., & Light, G. (2009). Executive MBA programs: The development of the reflective executive. *Academy of Management Learning & Education*, 8(2), 156-173.
- Dickson, P. R., Farris, P. W., & Verbeke, W. J. M. I. (2001). Dynamic strategic thinking. *Journal of the Academy of Marketing Science*, 29(3), 216-237. doi:10.1177/03079459994605
- Dougherty, D. (1993). Book review: Beyond the hype: Rediscovering the essence of management. *Administrative Science Quarterly*, 38(4), 693-696.
- Farjoun, M. (2008). Strategy making, novelty and analogical reasoning — commentary on Gavetti, Levinthal, and Rivkin (2005). *Strategic Management Journal*, 29(9), 1001-1016.
- Fowler, A. (2003). Systems modelling, simulation, and the dynamics of strategy. *Journal of Business Research*, 56(2), 135-144.
- Gary, M. S., Wood, R. E., & Pillinger, T. (2012). Enhancing mental models, analogical transfer, and performance in strategic decision making. *Strategic Management Journal*, 33(11), 1229-1246.
- Gavetti, G., & Levinthal, D. (2000). Looking forward and looking backward: Cognitive and experiential search. *Administrative Science Quarterly*, 45(1), 113-137.
- Gavetti, G., & Rivkin, J. W. (2007). On the origin of strategy: Action and cognition over time. *Organization Science*, 18(3), 420-439.
- Handy, C. (1995). *The age of paradox*: Harvard Business Press.
- Hasan, A., & Fumerton, R. (2018). Foundationalist theories of epistemic justification. In E. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2018 ed.). Stanford: Metaphysics Research Lab, Stanford University.
- Jarzabkowski, P., & Wilson, D. C. (2006). Actionable strategy knowledge: A practice perspective. *European Management Journal*, 24(5), 348-367.
- Kessler, E. (2006). Organizational wisdom. *Group & Organization Management*, 31(3), 296-299.
- Liedtka, J. M. (1998). Strategic thinking: can it be taught? Long range planning, 31(1), 120-129.
- Martignoni, D., Menon, A., & Siggelkow, N. (2016). Consequences of misspecified mental models: Contrasting effects and the role of cognitive fit. *Strategic Management Journal*, 37(13), 2545-2568.
- Molina-Azorín, J. F. (2014). Microfoundations of strategic management: Toward micro-macro research in the resource-based theory. *BRQ Business Research Quarterly*, 17(2), 102-114.
- Narayanan, V. K., Zane, L. J., & Kemmerer, B. (2011). The cognitive perspective in strategy: An integrative review. *Journal of Management*, 37(1), 305-351.
- Porter, M. E. (1991). Towards a dynamic theory of strategy. *Strategic Management Journal*, 12(S2), 95-117.
- Porter, M. E. (2008). The five competitive forces that shape strategy. *Harvard Business Review*, 86(1), 78-93, 137.
- Raelin, J. A., & Coghlan, D. (2006). Developing managers as learners and researchers: Using action learning and action research. *Journal of Management Education*, 30(5), 670-689.
- Rousseau, D. M. (2012). Designing a better business school: Channelling Herbert Simon, addressing the critics, and developing actionable knowledge for professionalizing managers. *Journal of Management Studies*, 49(3), 600-618.
- Sandberg, J., & Tsoukas, H. (2011). Grasping the logic of practice: Theorizing through practical rationality. *Academy of Management Review*, 36(2), 338-360.
- Spanos, Y. E., & Lioukas, S. (2001). An examination into the causal logic of rent generation: contrasting Porter's competitive strategy framework and the resource-based perspective. *Strategic Management Journal*, 22(10), 907-934.
- Spender, J. C. (1996). Making knowledge the basis of a dynamic theory of the firm. *Strategic Management Journal*, 17(S2), 45-62.
- Vaara, E., & Lamberg, J. A. (2016). Taking historical embeddedness seriously: Three historical approaches to advance strategy process and practice research. *Academy of Management Review*, 41(4), 633-657.
- Wilson, D. C., & Jarzabkowski, P. (2004). Thinking and acting strategically: New challenges for interrogating strategy. *European Management Review*, 1(1), 14-20.
- Wright, R. P., Paroutis, S. E., & Blettner, D. P. (2013). How useful are the strategic tools we teach in business schools? *Journal of Management Studies*, 50(1), 92-125.

**APPENDIX (TABLE A1) THE 7² MODEL FOR STRATEGY-MAKING
IDENTIFYING 49 KNOWLEDGE SECTIONS**

The Information Trichotomy	EMPIRICAL PHASE		SENSEMAKING PHASE		ENVISIONING PHASE		
	Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5	Chapter 6	Chapter 7
	Non industry- & non-firm-specific (theory-like) statements <i>Firm-Specific Ignorance</i>	Absolute industry-specific empirical statements <i>PAST & PRESENT</i>	Absolute firm-specific empirical statements	Relative industry-specific sensemaking statements	Relative firm-specific sensemaking statements	Absolute industry-specific envisioning statements	Relative firm-specific envisioning statements
	<i>GENERAL KNOWLEDGE BASE</i>					<i>FUTURE</i>	<i>Firm-Specific Strategic Wisdom</i>
CONTROLLED 'Things'	1 Value chain	8	15	22	20 ...Capabilities	42	49
	2	9	16	23	30 Resource Based View	41	48
INFLUENCED 'Things'	3	10	17	24	31	40	47
	4	11	18	25	32	39	46
RELATIONS between 'Things' & EVENTS (changes in 'Things')	5	12	19 Business Model Canvas	26	33	38	45
	6	13	20	27 Porter's 'Power' forces	34 ...Dynamic	37	44
	7 PESTEL	14	21	28	35	36 Porter's 'Threat' forces	43
	Milestone 1	Milestone 2	Milestone 3	Milestone 4	Milestone 5	Milestone 6	Milestone 7
			<i>Resulting in a practical, value-creating theory</i>	For the industry	For the firm	<i>Apply the practical theory to enable the demonstrating of strategic wisdom</i>	

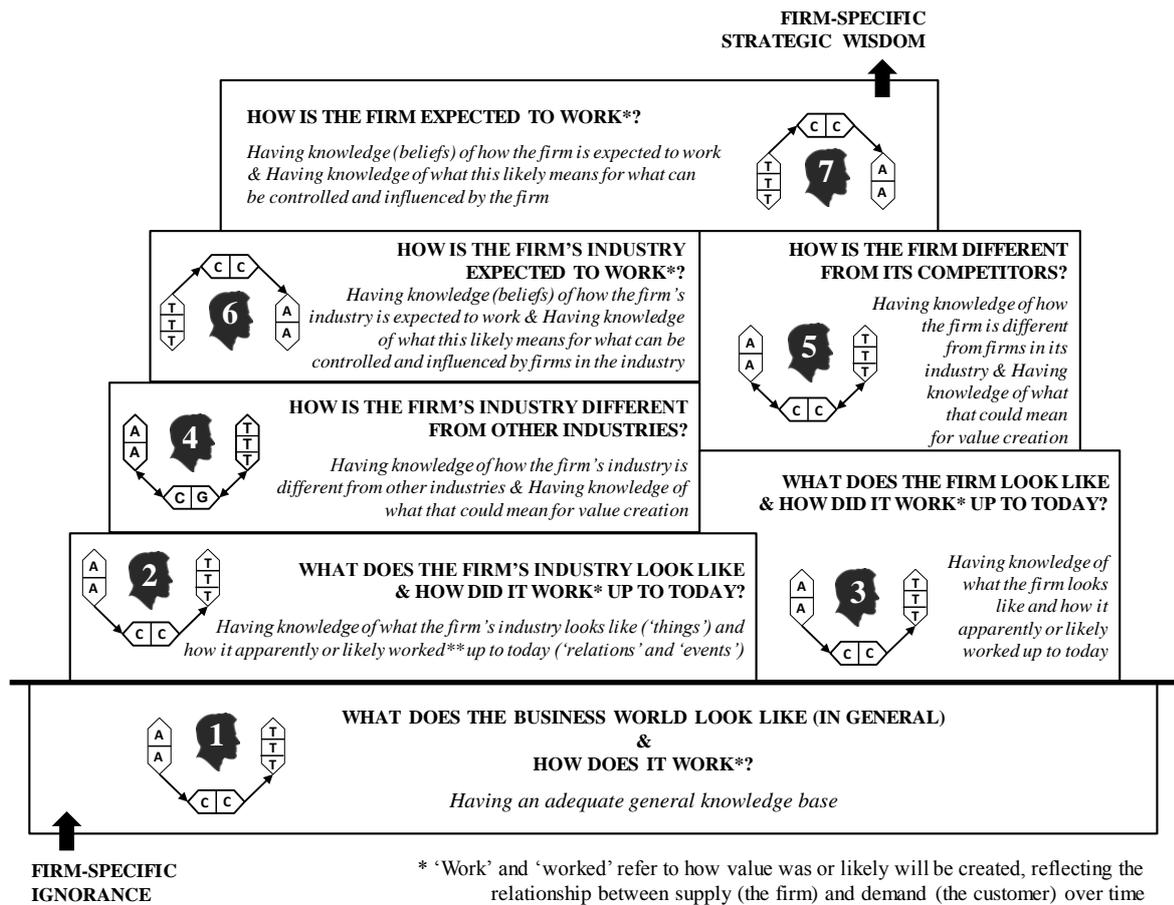


Figure 3. Strategic knowledge production using a foundational approach: Identifying seven knowledge milestones between firm-specific ignorance and firm-specific strategic wisdom

A TYPOLOGY FOR CHEESE BUSINESSES BASED ON THEIR STRATEGIC ORIENTATION

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ABSTRACT

In Greece, the food sector and specifically that of cheese business consists the backbone of economy and requires special investigation. The identification of the current situation and the particularities characterizing the specific sector is very important in a period of economic crisis. This effort will be made through creating the typology for cheese businesses and identifying their strategic orientation. At the same time, the basic financial indexes and the innovativity of the businesses will be examined.

Keywords: typology for cheeses businesses, strategic orientation, Greek cheese businesses, financial indexes, innovativity.

1. INTRODUCTION

The cheesemaking sector was chosen due to its important role in the Greek economy and also its strong growth prospects. According to official data of the Hellenic Statistical Authority (2016), the processing sector occupies the first place with a share of 98.8% of the total value of products sold. The food industry is in the lead of the processing sector with a rate of 19.6% of the total value of products sold, while dairy and cheese manufacturers make a significant contribution to forming the value of products sold and rank first in the industry sector (in the years 2013 and 2014 the corresponding rates were 21.2% and 21.5%, respectively). In Greece, the cheese industry involves a large number of businesses, (545 cheese dairies according to Eurostat, 2012), thereby supporting the development of other production sectors (milk production) but also multiple other enterprises (engineering equipment, maintenance, etc.). Regarding the domestic cheese production, it presents a rising trend over time and the exports of cheese products are increasing in the last years, according to the Hellenic Statistical Authority. Indicatively, in 2016 the total exported quantities reached 58,557 tons, which was the highest rate in the last seven years and increased by 9.5% in relation to 2013.

2. MATERIALS AND METHODS

The aim of the present paper is to investigate the effect of development strategies, economic performance and innovativity on finding and improving the competitiveness of food businesses and particularly cheese businesses. It is worthwhile to note that there are not many studies focusing on analyzing the sector, the followed strategies, the innovation levels of these businesses and their development prospects. In addition, a sub-target is to categorize the cheesemaking businesses based on their common characteristics and through these characteristics to extract a typology.

The number of the cheese businesses which participated in the study was based on the data obtained by the Greek Ministry of Rural Development and Food as well as the Greek agricultural organization "Dimitra" of the year 2016 and concerned the data for the year 2015. In addition, the study was implemented in the last quarter of 2016.

The present study focused on businesses whose productivity is equal to or greater than 200 tons and which have a share at about 90% of the total quantity produced (126 cheese businesses). That is because industry studies are conducted in a similar manner. According to the relevant literature, the remaining businesses due to their special characteristics (small family-owned or small and medium-sized enterprises) are often studied separately from the others as particular categories (ICAP, 2012; ICAP, 2016). In our study, we tried to contact all cheese businesses (126 in total), however this was not feasible due to certain difficulties. Of these, only 68 responded.

The questionnaire used in the survey consisted of two parts: the first part concerned the identification of the innovativity level and was developed based on international manuals recording innovation (Oslo manual 2005, Frascati manual) and on the relevant questionnaires of the European statistical service (Community Innovation Survey, 2010). The second part of the questionnaire included questions aiming at indicating the strategic orientation of the studied businesses. To design the questionnaire, the methodology developed by Dess and Davis (1984) was used. Moreover, to identify the strategic orientation of the businesses, Porter's classification framework was used (Theodossiou *et al.*, 2014; Sergaki *et al.*, 2014; Salvou & Sergaki, 2013; Bournlakis, 2011; Salvou, 2010; Salvou & Halikias 2009).

In terms of statistical analysis, Principal Component Analysis was used to indicate the strategic orientation of the businesses. In specific, through the application of the analysis on main components (Principal Component Analysis) the structural cohesion of variables composing the strategic orientation of each business was examined (Hair *et al.*, 1995; Sharma, 1996; Cattell, 1978; Dunteman, 1989; Tabakis, 2001). For each business, through PCA one score of strategic orientation was estimated with the use of the regression method (Hair *et al.*, 1995).

The same method was used to process the data and to extract the financial indicators (Niarchos, 2004; Atrill *et al.*, 2006; Vasiliou & Iriotis, 2008) so that the financial profile of the business could be developed (Niarchos, 2004; Brealey *et al.*, 2006; Gitman, 2005; Van Horne, 2002) through their typological analysis (Menexes & Aggelopoulos, 2008).

In the study, four basic categories of financial indexes were examined through an equal number of indexes:

1. Circulation or Overall Liquidity Index (Liquidity Indexes).
2. Circulation Velocity Assets Index (Activity Indexes).
3. Overall Leverage Index (Leverage Indexes).
4. Gross Profit Index (Performance Indexes).

In addition to the above indexes we created an Innovativity Index which shows how innovative are the businesses in relation to the other businesses which participated in the study. This index was developed by aggregating the positive responses to questions examining the innovation of the businesses.

Moreover, to get a better picture of the businesses' expenditure on innovative activities, we used Principal Component Analysis for Categorical Data and hence an overall index for the expenditure was created. The data required for the index were found by measuring expenditure after dividing it into current expenditure, which concerned running costs and labor costs, and capital expenditure, which referred to fixed capital assets without depreciation. Furthermore, Hierarchical Cluster Analysis was used to create clusters of businesses with similar behavior regarding the applied development and innovation strategies as well as economic performance (Chalkias, 2010; Siardos, 1999; Hair *et al.*, 1995; Coakes & Steed, 1999; Kobrich *et al.*, 2003; Iliadis *et al.*, 2004; Barnes *et al.*, 2007; Wilhelmsson, 2004; Everitt, 1993; Hair *et al.*, 1995; Sharma, 1996).

Afterwards, cheese businesses were classified based on their characteristics. This step is quite important since it can be the "guide" for assessing the current situation and help acquire competitive advantage against similar businesses (Kobrich *et al.*, 2003). As already mentioned, the development of typologies was carried out through Cluster Analysis (Hair *et al.*, 1995; Coakes and Steed, 1999; Menexes & Aggelopoulos, 2008).

The process described above helped form 'groups' or 'types' or 'business clusters', which regardless of being differentiated from each other, maintained the same homogeneity criteria for specific common or alike characteristics (in this paper we will refer to them as 'clusters'). Moreover, hierarchical cluster analysis was used to form the typology of the study sample's cheese businesses (Everitt, 1993; Norusis, 1992; Aldenderfer & Blashfield 1984), as a reliable tool to rationally assess them. Next, the clusters were created according to the Ward criterion and to measure the difference among the

studied businesses the squared Euclidean distance was used (Hair *et al.*, 1995; Sharma, 1996). The relevant significance (contribution) of the variables forming the clusters was evaluated through the coefficient of determination R² (Sharma, 1995).

The necessary statistical analyses were performed with the statistical package SPSS 15.0 (Kinnear & Gray, 1995; Babbie and Halley, 1998; Bryman and Cramer, 1999; Coakes and Steed, 1999) with the installation of the subsystem Exact Tests (Mehta and Patel, 1996). At the same time, the significance level of statistical tests was defined at $\alpha=0,05$. Meanwhile, to gain further insights into the specific characteristics of the clusters of the cheese businesses, the profile of the clusters was examined in relation to other variables which did not participate in the formation of the clusters but were explored through the questionnaire.

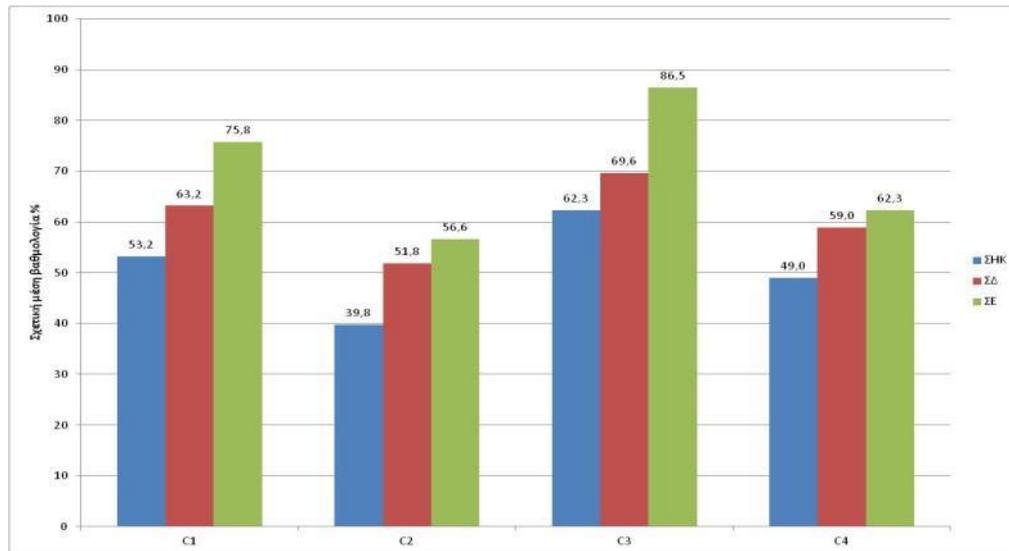
The analysis resulted in the creation of profiles of two levels. The first profile was based on the strategic orientation and the second on the number of employees, the mean production measured in tons, the financial indexes, the innovativity indexes and innovation expenditure. Finally, based on the production degrees (scores) a cheese businesses typology was developed to monitor if they can be grouped in clusters to highlight the specific characteristics of each cluster.

3. RESULTS

Hierarchical Cluster Analysis was conducted, to form the typology of the sample's cheese businesses on the basis of the three factorial axes of the strategic orientation. Simultaneously, the squared Euclidean distance was applied to measure how the businesses differentiated from each other, while the Ward criterion was used to form the clusters. Notably, the businesses typology was based upon their strategic orientation. Hierarchical Cluster Analysis was applied on the standardized scores (z-scores) of businesses on each axis of the strategic orientation. Our analysis indicated the formation of four distinct clusters of cheese businesses (see Diagram A1 and Diagram A2).

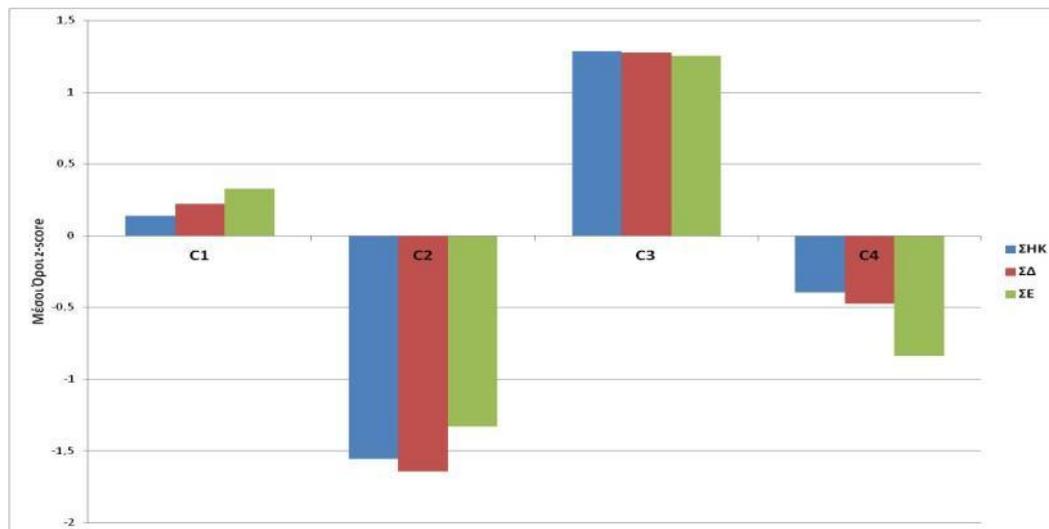
First-level profile of clusters-groups

As it can be seen in Diagram 1 and Diagram 2, the cheese businesses which were included in our sample can be grouped into four clusters. Hence, 28 cheese businesses belong to Cluster 1 (C1) making up 41.2% of the sample, 10 businesses belong to Cluster 2 (C2) representing 14.7% of the sample, 14 businesses belong to Cluster 3 (C3) making up 20.6% of the sample and finally 16 businesses belong to Cluster 4 (4) representing 23.5% of the sample.



CLS: Cost Leadership Strategy, DS: Diversification Strategy, FS: Focus Strategy

Diagram 1: First-level profile of the four clusters



CLS: Cost Leadership Strategy, DS: Diversification Strategy, FS: Focus Strategy

Diagram 2: Second-level profile of the four clusters

According to Table 1 and the rates of the determination coefficients R^2 , it is indicated that all three coefficients play an important role in the formation of the four clusters. Specifically, the coefficients **DF** (Diversification Strategy) and **FS** (Focus Strategy) make the greatest contribution followed by the coefficient **CLS** (Cost Leadership Strategy).

Types-Clusters	CLS*	DS*	FS*	N (%)
C1	53.2 b	63.2 b	75.8 b	28 (41.2%)
C2	39.8 d	51.8 d	56.6 d	10 (14.7%)
C3	62.3 a	69.6 a	86.5 a	14 (20.6%)
C4	49.0 c	59.0 c	62.3 c	16 (23.5%)
Total	52.1	61.9	72.0	68
ANOVA P	<0.001	<0.001	<0.001	
R2	0.753	0.818	0.806	

*For each dimension of the Strategic Orientation, average rates which are followed by a Latin letter present a statistically significant difference at significance level $\alpha=0.05$ ($P\leq 0.05$), according to the Tukey test. CLS: Cost Leadership Strategy, DS: Diversification Strategy, FS: Focus Strategy

Table 1: Centroids (average rates) of cheese businesses' Clusters-Types

Cluster 1 which makes up the biggest share (41.2%) of the sample's cheese businesses presents the following profile in terms of the three determining factors.

Regarding the coefficient Focus Strategy (FS), the cheese businesses belonging to this cluster are characterized by the Strategic Orientation of the Focus Strategy with the highest average 75.8%. Moreover, it can be observed that it is distinguished from the other types of Strategic Orientation.

As for the Diversification Strategy (DS), the cheese businesses are characterized by 63.2% by the Strategic Orientation of the Differentiation Strategy. Hence, the percentage of businesses trying to cope with the competition by creating unique products is not high.

In relation to Cost Leadership Strategy (CLS), the Strategic Orientation of the Cost Leadership Strategy characterizes the cheese businesses by 53.2%. This means that the businesses of Cluster 1 do not choose low-cost production. This inference can be further supported by the major divergence in relation to coefficient FS which according to Table B1 is greater than 20 percentage points but lower than the coefficient DS.

In view of the above results, it is indicated that the businesses of this cluster choose a particular market segment, aim at it and try to gain a competitive advantage against the other businesses, while meeting the special needs of this segment. This can be achieved either by diversifying the produced product against competition or by focusing on the cost of the produced product.

The second cluster (C2) consisting of 10 businesses (14.7%), is the smallest of all clusters and presents the following profile in terms of the three coefficients.

Regarding coefficient Cost Leadership Strategy (CLS), the businesses of Cluster 2 are characterized only slightly (by 39.8%) by the Strategic Orientation of the Cost Leadership Strategy. Namely, the businesses of this cluster do not choose low-cost production to diversify themselves from other similar businesses.

As for the factor Diversification Strategy (DS), the businesses of the second cluster choose the Diversification Strategy at a low rate, by 51.8%. It should be noted that this percentage is considered low despite being greater than the coefficient of Cost Leadership Strategy.

Finally, although the Focus Strategy prevails over the two previous coefficients, its percentage remains low since only 56.6% of businesses choose the Focus Strategy for their Strategic Orientation. Consequently, it can be stated that the second cluster is comprised of few businesses which tend to choose slightly the Focus Strategy even though they are not in a position to have a clear strategic orientation.

The third cluster (C3) consists of 14 businesses (20.6%) and presents the following profile in terms of coefficients.

In relation to Cost Leadership Strategy, the Strategic Orientation of the Cost Leadership Strategy characterizes by 62.3% the cheese businesses of this cluster. That is, the businesses of the third cluster can produce products at low cost as a reliable means of gaining a competitive advantage.

Regarding the Diversification Strategy, the cheese businesses are characterized by the Strategic Orientation of the Diversification Strategy by 69.6%. Thus, this percentage is greater than the coefficient CLS but still very close to this option.

As for the Focus Strategy, the cheese businesses of this cluster are characterized by the Strategic Orientation of the Focus Strategy by the highest average which is 86.5%. In addition, it can be observed that it is distinguished from the other types of Strategic Orientation.

Hence, the third cluster gives priority to the Focus Strategy rather than the other two strategies. That is, to gain a competitive advantage the businesses of this cluster focus on a specific segment of the market and meet their needs by diversifying the produced product or by focusing on the cost of the produced product.

Cluster 4 (C4) is comprised of 16 businesses (23.5%) and presents the following profile in terms of the three coefficients.

In relation to Cost Leadership Strategy (CLS), for their Strategic Orientation the cheese businesses of the fourth cluster seem to choose the Cost Leadership Strategy by 49%.

Concerning the Diversification Strategy (DS), the businesses of the fourth cluster appear to choose this strategy by 59.0% and this percentage is higher than the one of CLS but sufficiently low to diversify from it.

With regard to the Focus Strategy (FS), the businesses of the fourth cluster are characterized by the Strategic Orientation of the Focus Strategy by 62.3%. Hence, this cluster prioritizes the Focus Strategy to a higher degree than the other two strategies, while their percentage difference is very low.

The above observations can lead to the conclusion that the cheese businesses of the fourth cluster are not in a position to follow thoroughly a specific strategy. According to Porter's theory, such businesses are characterized as "stuck in the middle" and this observation takes on particular importance since the fourth cluster has the second highest number of businesses of all clusters.

The following table (Table 2) presents the identification of the four clusters containing the cheese businesses in terms of the first-level profile.

Clusters	Characteristics
C1 "Orientation in Focus Strategy with Diversification"	<ul style="list-style-type: none"> - Selection of a specific market segment - Meeting special needs of the target market - Attempt to diversify the produced products
C2 "Potential Orientation in Focus Strategy"	<ul style="list-style-type: none"> - Difficulty in selecting a segment of the target market - Difficulty in selecting a specific way to diversify products against competition - Attempt to follow the Focus Strategy - Difficulty in meeting the needs of the target market
C3 "Orientation in Focus Strategy with Diversification or Cost advantage"	<ul style="list-style-type: none"> - Selection of a particular market segment - Meeting the specific needs of the target market - Diversification in produced products - Cost advantage for produced products

C4 Orientation difficulty "Stuck in the middle"	<ul style="list-style-type: none"> - Difficulty in selecting strategic orientation - Difficulty in creating competitive advantage - Difficulty in increasing profits - Difficulty in diversifying produced products - Difficulty in gaining loyal customers
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Table 2: Identification of clusters in terms of first level profile

Second level cluster profile

To gain further insights into the specific characteristics of the indicated clusters, the profile of businesses was investigated in relation to other variables which did not participate in the formation of the clusters but were examined through a questionnaire. These variables involved the number of employees, the production in tons, the financial indexes, the innovativity indexes and the innovativity expenditure indexes.

Types-clusters	Personnel	Production (tons)
C1	13.6 b	1072.5 b
C2	6.5 c	427.0 c
C3	44.9 a	3993.6 a
C4	13.8 b	1029.1 b
ANOVA P	<0.001	<0.001
Total	19.0	1568.8

In each column, the average rates followed by a different Latin letter present significant statistical difference at significance level $\alpha=0.05$ ($P\leq 0.05$), according to the Tukey test.

Table 3: Comparison between clusters-cheese business types in terms of their average number of employees and the average production in tons

As Table 3 shows, the third cluster (C3) presents the highest average number of employees (44.9 employees) and the highest average production (3,993.6 tons) compared to the other clusters of the analysis.

Cluster 3 is followed by the fourth cluster (C4), where the average employee number is 13.8 and the average production is equal to 1029,1 tons and the first cluster (C1) where the average employee number is 13.6 and the average production 1027,5 tons. Finally, cluster 2 (C2) presents the lowest average number of employees (6.5) and the smallest average production (427 tons).

Types-Clusters	COLI*	CVAI*	OLI*	GPI*
C1	3.21	1.23	0.45	0.14
C2	4.27	1.03	0.42	0.17
C3	2.72	1.08	0.51	0.15
C4	2.11	1.57	0.57	0.16
ANOVA P	<0.112	<0.239	<0.408	<0.767
Total	3.01	1.25	0.49	0.15

In each column, the average rates followed by a different Latin letter present a statistically significant difference with significance level $\alpha=0,05$ ($P\leq 0.05$), according to Tukey test. *COLI (Circulation or

Overall Liquidity Index), CVAI (Circulation Velocity Assets Index), OLI (Overall Leverage Index) and GPI (Gross Profit Index).

Table 4: Comparison between Clusters-Types of cheese businesses in terms of their financial indexes

With regard to Table 4, certain observations can be made. Regarding the variable COLI, the second cluster (C2) presents the highest average, which is 4.7, followed by C1 with average 3.21, C3 with average 2.75 and finally C4 with average 2.11. These results allow us to state that clusters C2 and C1 have adequate liquidity and can fulfill their obligations, while C3 can fulfill its obligations and lastly C4 can marginally meet its obligations.

In terms of the variable CVAI (Circulation Velocity Assets Index), cluster C4 has the highest average of 1.57, followed by C1 with an average of 1.23, C3 with an average of 1.08 and C2 with an average of 1.03. In the light of these results, it may be stated that all clusters utilize their assets to enhance their sales. In specific, clusters C4 and C1 do so to a higher degree than clusters C3 and C2 which follow this strategy only a little above the limit.

In terms of the OLI (Overall Leverage Index), cluster C2 presents the lowest average which is equal to 0.42, whereas C1 has an average of 0.45, C3 an average of 0.51 and C4 an average of 0.57. These results allow us to infer that the second cluster (C2) uses more own capital for the production process rendering the businesses of this cluster more attractive to financial institutions compared to those of the other clusters. Moreover, it can be observed that cluster C1 has also a low average (in comparison to clusters C3 and C4), while it is closer to cluster C2 (characterized by using own capital and low level of external finance). In addition, cluster C1 is followed by cluster C3 which presents an average that shows a balance of foreign capital of total asset. The latter means that foreign capital is used in such a way that obligations can be met. Finally, cluster C4 has the highest average indicating that it uses external financing more than the other clusters, but a possible attempt to acquire some new financing may not be feasible.

On a general note, it may be stated that the overall average of all clusters is relatively low (0.49) which highlights their effort to decrease external financing which however in turn reduces their profits.

In relation to GPI (Gross Profit Index), cluster C2 has the highest average of 0.17 followed by cluster C4 (average 0.16), cluster C3 (average 0.15) and cluster C1 (average 0.14). In view of these results we can reach the conclusion that the second cluster (C2) has the greatest margins for gross profits compared to the other clusters, although it generally has small gross profit margins. Moreover, it is interesting that the overall average of all clusters is quite low (0.15) highlighting the difficulty in increasing profits.

Types-Clusters	Innovativity Index	Innovativity Expenditure Index
C1	6.89 a	33.94 ab
C2	4.40 b	12.58 b
C3	8.57 a	53.76 a
C4	4.44 b	18.01 b
ANOVA P	<0.001	<0.001
Total	6.29	31.13

In each column, the average rates followed by a Latin letter differ significantly statistically at significance level $\alpha=0.05$ ($P \leq 0.05$), according to Tukey's test.

Table 5: Comparison between Clusters-Types of cheese businesses in terms of their Innovativity Indexes and Innovativity Expenditure Indexes

As shown in Table 5, in relation to the variables "Innovativity Index" and "Innovativity Expenditure Index", cluster C3 presents the highest averages (8.57 and 53.76, respectively) followed by cluster C1 (6.89 and 33.94, respectively), cluster C4 (4.44 and 18.01, respectively) and cluster C2 (4.40 and 12.58, respectively). In view of these results, it can be seen that cluster C3 has the highest degree of innovativity of all clusters. Yet, the relevant expenditure for such innovativity is quite high. Next, in Table 6 the characteristics of the four clusters based on the second level profile are presented.

Clusters	Characteristics
C1	<ul style="list-style-type: none"> - Medium number of employees - Medium production - Quite good liquidity and ability to meet obligations - Intensive use of assets - Use of own capital for the production process - Small margins for gross profit - High innovativity level and quite high innovativity expenditure
C2	<ul style="list-style-type: none"> - Small number of employees - Low production - Good liquidity and ability to meet obligations - Marginal and intensive use of assets - Greater use of own capital and low external financing - Small margins for gross profit - Low innovativity level and low innovativity expenditure
C3	<ul style="list-style-type: none"> - High number of employees - Big production - Medium liquidity and ability to fulfill obligations - Marginal and intensive use of assets - Use of foreign capital to meet obligations - Small margins for gross profit - High innovativity and high innovativity expenditure
C4	<ul style="list-style-type: none"> - Medium number of employees - Medium production - Medium liquidity and ability to marginally fulfill obligations - More intensive use of assets - Use of external financing

	<ul style="list-style-type: none"> - Small margins for gross profit - Low innovativity level and low innovativity expenditure
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Table 6: Cluster identification in terms of the second level profile

With regard to the second level profile, it can be stated that cluster C1 involves medium number of employees and has medium production capacity. The businesses belonging to this cluster can fulfill their obligations since they have an adequate liquidity. At the same time, assets are intensively used, and the production process is realized through own capital. Regarding innovativity, they present a high levels of innovativity and innovativity expenditure. Nevertheless, the margins for gross profit remain small.

Regarding cluster C2, both the number of employees and production capacity are low, while it has good liquidity and businesses can fulfill their obligations. Simultaneously, they use their assets intensively and marginally. In addition, the production process is based on own capital and small external financing. In relation to innovativity, they present low levels of innovativity and innovativity expenditure. Finally, the margin for gross profit is small.

Cluster 3 (C3) employs a large number of employees and has a high production capacity. Moreover, it has medium liquidity and the businesses of this cluster can meet their obligations. Meanwhile, they make intensive and marginal use of assets, whereas the production process is achieved mainly through the use of external financing. Foreign capital is used in such a way that the businesses can meet their obligations. At the same time, they present high levels of innovativity and innovativity expenditure. Despite these efforts, the margin for gross profit remains low.

Cluster 4 (C4) employs a medium number of employees and has a medium production capacity. The liquidity is medium, and businesses can only marginally fulfill their obligations. Simultaneously, assets are intensively used, and the production process is achieved through external financing. In addition, the levels of innovativity and innovativity expenditure are low. As with the previous clusters, the gross profit margin is small.

4. CONCLUSIONS

Observing the results related to the four clusters of the cheese businesses, as these were formed in terms of the first (Table B2) and second level (Table 7) profiles, certain conclusions may be drawn. First, the cheese businesses of the third cluster (C3) follow the Focus Strategy for their Strategic Orientation compared to clusters C1 and C2 which do not correspond to all characteristics of this strategy although they prioritize this strategy. Finally, it is worthwhile to note that Cluster 4, the most populous cluster, cannot or is not in a position to follow or even to tend towards a specific strategic

orientation. Consequently, the businesses of this cluster remain uncompetitive and have low profit margins.

Cluster C1	Cluster C2	Cluster C3	Cluster C4
Orientation in Focus Strategy with Diversification	Potential Orientation in Focus Strategy	Orientation in Focus Strategy with Diversification or Cost advantage	Orientation difficulty "Stuck in the middle"
Fist level profile	Fist level profile	Fist level profile	Fist level profile
<ul style="list-style-type: none"> - Selection of a particular market segment - Meeting special needs of the target market - Attempt to diversify the produced products 	<ul style="list-style-type: none"> - Difficulty in selecting a part of the target market - Difficulty in diversifying the produced products against competition - Attempt to follow the Focus Strategy - Difficulty in meeting the needs of the target market 	<ul style="list-style-type: none"> - Selection of a particular market segment - Meeting the specific needs of the target market - Diversification in produced products - Cost advantage for produced products 	<ul style="list-style-type: none"> - Difficulty in selecting strategic orientation - Difficulty in creating competitive advantage - Difficulty in increasing profits - Difficulty in diversifying produced products
Second level profile	Second level profile	Second level profile	Second level profile
<ul style="list-style-type: none"> - Medium number of employees - Medium production - Quite good liquidity and ability to meet obligations - Intensive use of assets - Use of own capitals for the production process - Small margin for gross profit - High innovativity level and quite high innovativity expenditure 	<ul style="list-style-type: none"> - Small number of employees - Low production - Good liquidity and ability to meet obligations - Marginal and intensive use of assets - Greater use of own capital and low external financing - Small margins for gross profit - Low levels of innovativity and innovativity expenditure 	<ul style="list-style-type: none"> - High number of employees - Big production - Medium liquidity and ability to fulfill obligations - Marginal and intensive use of assets - Use of foreign capital to meet obligations - Small margins for gross profit - High levels of innovativity and innovativity expenditure 	<ul style="list-style-type: none"> - Medium number of employees - Medium production - Medium liquidity and ability to marginally fulfill obligations - More intensive use of assets - Use of external financing - Small margins for gross profit - Low levels of innovativity and innovativity expenditure

Table 7: Summary table of clusters in terms of the first and second profile

To conclude, the grouping of cheese businesses based on their common characteristics enables us to draw inferences related to their operation and how they interact with the external environment. According to the results of the present study, most businesses follow or try to follow the focus strategy for their strategic orientation. At the same time, it was indicated that 38.2% of the sample tries

to follow this strategy or cannot follow any strategy which results in negative consequences such as being “stuck in the middle”.

Regardless of the cluster they belong to, their strategic orientation and innovativity, businesses still have small margins for gross profit and possibly a future study could shed more light on the reasons accounting for this difficulty. Lastly, the present study could serve as a basis for further and more thorough research on the cheesemaking sector but not on the food sector.

REFERENCES

- Atrill, P. and McLaney, E., (2006). “Accounting and finance for Non – Specialists”, New Jersey: Prentice Hall, pp. 174-183.
- Babbie, E. & Halley, F. (1998). *Adventures in Social Research. Data Analysis Using SPSS for Windows 95*. Thousand Oakes: Pine Forge Press.
- Barnes S., Bauer H., Neuman M., Huber F., (2007). Segmenting Cyberspace: A customer typology for the internet. *European Journal of Marketing* vol. 41, No 1, pp 71-93.
- Bourlakis, Michael, and T. C. Melewar. "Marketing perspectives of logistics service providers: present and future research directions." *European Journal of Marketing* 45.3 (2011): 300-310.
- Brealey, R.A., Myers, S.C. and Allen, F., (2006). “Corporate Finance”, 8th edition, McGraw-Hill Irwin.
- Bryman, A. & Cramer, D. (1999). *Quantitative Data Analysis with SPSS Release 8 for Windows: A Guide for Social Scientists*. London and New York: Routledge.
- Cattell, R. (1978). *The Scientific Use of Factor Analysis in the Behavioral and Life Sciences*. Plenum Press, New York.
- Chalkias I., 2010. *Statistics. Research analysis methods for business decisions*. 3rd edition, Athens: Rosili Publications, pp. 411-447.
- Coakes, S., and Steed, L., (1999). “SPSS Analysis without Anguish”, Singapore: John Willey and Sons, Inc.
- Cooper, Donald R. and Pamela S. Schindler. (2008) *Business research methods*. Vol. 10. New York: McGraw-hill.
- Dess, Gregory G., and Peter S. Davis. "Porter's (1980) generic strategies as determinants of strategic group membership and organizational performance." *Academy of Management journal* 27.3 (1984): 467-488.
- Dunteman, George H. *Principal components analysis*. No. 69. Sage, 1989.
- ELSTAT, (2016): *Study on the production and sale of industrial products 2013-2014*.
- Everitt, B. (1993). *Cluster Analysis*. London: Edward Arnold A division of Hodder & Stoughton.
- Eurostat, (2017). *National accounts and GDP*. [ONLINE] Available at: http://ec.europa.eu/eurostat/statisticsexplained/index.php/National_accounts_and_GDP/el [Accessed on 11 December 2017].
- Gitman, L., (2005), “Principles of Managerial Finance”. Cengage Learning.
- Hair, J., Anderson, R., Tatham, R. & Black, W. (1995). *Multivariate Data Analysis With Readings*. USA: Prentice-Hall International, Inc.
- Hair, J.F., Black W.C., Babin B.J., Anderson, R.E. and Tatham, R.L. (2006), *Multivariate, Data Analysis*, Sixth Edition, Pearson /Prentice Hall, New Jersey.
- ICAP (2013), *Sectoral study, Dairy products*, Athens.
- ICAP (2013), *Sectoral study, Cheese products*, Athens.
- ICAP (2014), *Sectoral study, Dairy products*, Athens.
- ICAP (2015 & 2016), *Sectoral study, Cheese products*, Athens.
- ICAP (2010). *Dairy industries in the EU, statistical data*.
- Iliadis, L., Koutroumanidis T. and Arabatzis, G. (2004). Evaluation and Ranking of the Financial Status of the Greek Rural Cooperatives Unions by a Decision Support System. *Agricultural Economics Review*, 5 (1), 24-35.
- Kinney, P. & Gray, C. (1995). *SPSS for Windows Made Simple*. East Sussex: Psychology Press Ltd.
- Kobrich, C., Rehman, T. and Khan, M. (2003). “Typification of Farming Systems for Constructing Representative Farm Models: Two Illustrations of the Application of application of multi-variable analysis in Chile and Pakistan”, *Agricultural Systems*, vol 76, No 1, pp. 141-157.
- Matopoulos, A. and Bourlakis, M. (2011), "Identifying innovation strategies: insights from the Greek food manufacturing sector", *International Journal of Innovation and Regional Development*, Vol. 3, No 2, pp. 159-73.

- Mehta, C. & Patel, R. (1996). SPSS Exact test 7.0 for Windows. Chicago: SPSS Inc.
- Menexes, G. and Aggelopoulos, S., (2008). "Proposals for the financing and development of Greek farms based on a clustering method for categorical data". *EuroMed Journal of Business*, Vol. (3) 2, pp. 263-285.
- Menexes, G., Aggelopoulos, S., Sergaki, P., Chioteris, S., (2012). "Convergence Index for Groups of Data relative to a "Target" Group: Application on the Financial Data of a Sample of Greek Agricultural Cooperatives". *Proceedings of 5th EuroMed Annual Conference, Glion-Montreux, Switzerland, 4th - 5th October 2012*.
- Niarchos, N., 2004. *Financial Analysis of Accounting Records*. Athens: Ed. A. Stamoulis, pp. 47-110.
- OECD (2005), *The Measurement of Scientific and Technological Activities Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, OECD publishing.
- OECD (2011). *Fostering Productivity and Competitiveness in Agriculture*, OECD Publishing.
- OECD (2015). *Food and Agriculture Organization of the United Nations, OECD-FAO Agricultural Outlook 2015*, OECD Publishing, Paris
- O'Mahoney M. and B. van Ark (2003), *EU-productivity and competitiveness: an industry perspective*, Office for Official Publication of the European Community, Luxembourg, pp. 273.
- Porter, Michael E (2011), "Competitive advantage of nations: creating and sustaining superior performance", Simon and Schuster.
- Porter, Michael E. (1985), *Competitive advantage: Creating and sustaining superior performance*. New York: The Free Press, p.38
- Porter, Michael E. (1990), "The competitive advantage of nations." *Harvard business review* Vol.68 No.2, pp. 73-93.
- Salavou, H. (2010). "Strategy types of service firms: evidence from Greece". *Management Decision*, Vol. 48, No 7, pp 1033-1047.
- Salavou, H. (2010). "Strategy types of service firms: evidence from Greece". *Management Decision*, Vol. 48, No 7, pp 1033-1047.
- Salavou, H. E., & Halikias, J. (2009). Strategy types of exporting firms: a view on the basis of competitive advantage. *European Business Review*, Vol. 21, No 2, pp. 144-158.
- Salavou, H. E., & Sergaki, P. (2013). Generic Business Strategies in Greece: Private Food Firms versus Agricultural Cooperatives. *Journal of Rural Cooperation*, Vol.41, No 1, pp. 44-59.
- Saunders, Mark NK, and Philip Lewis. *Doing research in business & management: An essential guide to planning your project*. Pearson, 2012.
- Sergaki, P., Aggelopoulos, S., Tsakiridou, E., & Menexes, G. (2014). Strategic orientations and typology of agricultural cooperatives and private food firms in Greece. In *7th Annual Conference of the EuroMed Academy of Business* (Vol. 26, pp. 400-411).
- Theodossiou, G., Arvanitakis, S., Chatzitheodoridis, F., & Kontogeorgos, A. (2014). Greek Small & Medium Sized Dairy & Cheese Enterprises: A Strategic Assessment Under The Economic Crisis. *Studia Universitatis Babeş Bolyai-Negotia*, Vol. 3, pp.19-34.
- Van Horne, J., (2002). "Financial Management and Policy". Twelfth edition, Stanford University.
- Vasiliou, D. & Hriotis, N., (2008). *Financial Administration, Theory and Practice*, Athens: Rosili, pp. 34-72.
- Varvaras, I., Aggelopoulos, S., Chioteris, S. (2015), " The concept of innovation and its definition in the food and drink industry: A review of the literature", *Specialized Conference of the EuroMed Academy of Business, Paris 2015*, EuroMed Press, Paris, pp. 279-297.
- Wilhelmsson, M., (2004). A method to derive housing sub-markets and reduce spatial dependency. *Property Management*, Vol. 22, No 4, pp. 276-288

THE RELATIONSHIP AMONG STRATEGIC ORIENTATION, INNOVATIVITY DEGREE AND FINANCIAL EFFICIENCY IN THE FOOD INDUSTRY

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ABSTRACT

In the context of increasing competitiveness among food businesses, it is interesting to understand the factors which reinforce the competitive advantage as well as the way the factors interact with each other. The proposed theoretical framework examines the link among three basic factors (Strategic Orientation, Innovativity Degree and Financial Results) and how they affect each other. Hence, the aim of the present paper is to evaluate the relationship among the above factors and examine the validity of their proposed correlation model. To test the theoretical model, the Structural Equation Model was applied to big Greek cheese businesses. The results of the empirical analysis led us to the conclusion that in the food sector and specifically in that of cheese businesses there is interdependence among Strategic Orientation, Innovativity Degree and Financial Results.

Keywords: Strategic Orientation, Innovativity Degree, Financial Results, Competitiveness, Cheese Businesses.

INTRODUCTION

Finding and analyzing competitiveness can provide answers to classic economic questions, such as what defines investments in businesses, the success of businesses, the development of businesses or what government policy should be followed to develop businesses (Abbott & Brehdahl, 1993; Porter, 1990). Unfortunately, there is no specific definition of competitiveness while its finding and quantification consists a rather difficult process since competitiveness can refer to and be analyzed in various levels. Specifically, competitiveness can refer to the level of an entire economy (i.e. of state), the level of a particular sector or the level of an individual business (Bojnec & Fertó, 2014; Frohberg & Hartmann, 1997). At the same time, measuring and quantifying competitiveness is often closely related to the factors which emerge both in the internal and external environment of the business but also of the economy in which they are active, while the involvement of the personal view of the investigator makes the whole process composite and complex (Latruffe, 2010; Traill & Pitts, 1998). In

this paper, we deal with the relationship among three basic factors of competitiveness. That is, Strategic Orientation, Innovation Degree and Economic Performance are studied at the level of a particular business sector, the sector of Greek cheese businesses. In total, 68 cheese businesses from all parts of Greece with production higher than 200 tons participated in the survey. Moreover, to reach conclusions, the Structural Functional Model was used.

2. CONCEPTUAL FRAMEWORK

Competitiveness is a multidimensional notion which assumes great importance when applied at a business level (OECD, 2011). According to Latruffe (2010), competitiveness can be defined as the ability to address competition successfully or the ability to sell products which satisfy the requirements of demand (price, quality, quantity), while profits allowing the business to flourish gradually are made.

A business or an organization aims at creating competitive advantage so that it can distinguish through its singularity over its competitors. To understand how the competitive advantage occurs, we must first try to understand it. On a general note, it can be said that the competitive advantage means that a business does something better than competition (Kaliski, 2001). As Grant (2008) notes, it is difficult to define the competitive advantage. At a basic level, "a business has a competitive advantage over the other businesses when it makes greater profits" or "when it can produce better financial results than the others" (Barney & Hesterly, 2008). Thus, the competitive advantage is associated with the creation of value (Van Horne & Wachowicz, 2008; Broyles, 2007), but also with maintaining an above-average profitability for many years. Consequently, it can be stated that under these circumstances the business has a stable competitive advantage (Hill et al., 2014). In addition, Pietersen (2010) defines competitive advantage as achieving a bigger gap between the perceived by customers product value and the costs that the business covers to provide the competitive advantage in comparison to competitors.

In view of the above, a crucial question arises: how can the notion of competitive advantage exist if it is defined only by business profitability? Rumelt (2003) and Grant (2008) claim that the competitive advantage can be related to other factors as well. Indicatively, a business can choose to stop making profit for the sake of investments in a technology market or in view of the customers' needs.

According to Porter (1985), the competitive advantage is a set of activities undertaken by a business and involves new or improved products, services, organization systems, marketing systems, production systems, predictions of market developments and generally every form of innovation. From this perspective, it is observed that innovation is one of the most significant factors determining

the rules of the current business competition (Jongen & Meulenbergh, 2005). The same observations were reinforced by Dess and Davis (1984). At the same time, Kim and Mauborgne (2005) also regarded innovation as advantageous and concluded that successful businesses create competitive advantage while redefining their product supply through innovation (increase in product value). That is, they create a new space in the market (in this case the market in which a business is active consists another factor). This claim is further supported by the perception that a business or an organization maintains the competitive advantage and the enhanced financial performance through innovation (Dess et al., 2014).

Beside the above, the competitive advantage is also related to the strategies followed by businesses since Hill et al. (2014) state that a stable competitive advantage can be achieved through the followed strategy which in turn can lead to higher profitability. Meanwhile, Grant (2008) associates the sources of the competitive advantage (Table 1) with Porter's general strategies noting that the sources of the competitive advantage define the two basic different approaches of business strategy.

Many researchers have connected competitiveness to business efficiency and have used efficiency indicators to quantify competitiveness (Irz & Jansik, 2015; Jansik et al., 2014; OECD, 2011). According to these researchers, businesses can improve their profitability which can be measured in relation to profit, development, market share and business duration (Heron & Robinson, 1993). Finally, the decision-making which forms the competitive advantage of big businesses is undertaken by top-level executives (such as managers and department heads) through the policies that each business sets but also through the organization and administration rules laid by theoreticians like Porter. Conversely, in small businesses which cannot afford to employ qualified executives, strategic decisions are usually made by the business owner (who is often unqualified) and correspond to the financial circumstances of the business. As a consequence, the competitive advantage emerges by chance (Papastathopoulos, 2009).

To measure competitiveness, Adam Smith placed cost (in particular absolute cost differences) as the single advantage (Brewer, 1999; Brewer, 2008) and then David Ricardo added to competitiveness the notion of competitive advantage (Poppe et al., 2007). On the other hand, Krugman and Obstfeld (1988) as well as O'Mahoney and Van Ark (2003) examined competitiveness as driven by productivity. At the same time, recent studies have added new aspects to analyzing competitiveness. Indicatively, these involve the financial performance of businesses (Barney & Hesterly, 2008), innovation (Dess et al., 2014), strategic orientation and the geographic location where the business is active (Porter, 1990; Barney, 2008; Thompson et al, 2014). In addition, various methodologies have used profitability, efficiency, management and value chain as factors affecting demand, as it can be seen in Table 1.

Performance measurements	The measurement factors are profitability, development, market share and trade balance.
Competitive potential	This refers to the availability and quantity of inputs which are related to efficiency.
Competitive process (Buckley et al., 1988)	Competitive process relates to qualitative characteristics and aims at measuring the process of management.
Industrial networks approach (Solleiro et al., 2005)	The interaction among businesses or with other organizations within a sector is evaluated.
Agribusiness complexes (Viaene, 1994)	Economic activities are emphasized.
Filiere Analysis (Raikes et al., 2000)	Filiere analysis compares business groups which present additional needs, while it assesses them in the light of their contribution to the entire system.
Porter's diamond (Porter, 1990)	Porters' diamond is based on the interaction among the following factors: strategy, factors affecting demand, factors' conditions, government, businesses which are related and support each other as well as random events.

Table 1. Methodologies for measuring competitiveness

Based on the above table, one can perceive the complexity and the difficulty in connecting all these parameters not only due to their high number but also due to the different methodologies used to determine competitiveness in a business or a business sector.

According to Cortimiglia et al. (2015), competitiveness can be described by the factors and methods which are related to it. In Porter's view (1990), they also interact with each other and in a limited scale study it is impossible to investigate all factors. Finally, to form a complete picture of competitiveness, all used factors must be concentrated in a single measurement model (OECD, 2011; Latruffe, 2010).

In view of the above, the present study focuses on three specific competitiveness factors: Strategic Orientation, Innovativity Degree and Financial Results.

The connection of these factors in a single model will consist a guide to business competitiveness in the food sector and specifically in the sector of cheese businesses in Greece.

The formation of the theoretical model

The validation of theoretical models has also been investigated in previous studies carried out in the food sector and these studies have led to the method of the Structural Equation Model (SEM).

To understand the potential sources of the competitive advantage so that businesses can design a successful strategy, Carraresi et al. (2011) examined the relationship between strategic choice and efficiency in food businesses in Italy. The results of the empirical analysis indicated that in the food sector strategic choices which are based on innovation, product placement and the development of chain relationships have a positive effect on business efficiency. Moreover, innovation plays a major role in the above because of its direct and indirect influence. In addition, in her study on the

agricultural sector, Chisasa (2014) noticed that productivity and efficiency increased through funding and developing agricultural businesses. Zheng & Li (2017) tried to explore the relationship between development strategies, innovation and efficiency in food businesses and their research showed that the low-cost strategy and the diversification strategy have a positive impact on the businesses' efficiency, but also on their innovativity level.

Based on the above, specific research hypotheses can be formed which refer explicitly to food industry and should be examined in a single model. These research hypotheses are:

- Strategic Orientation affects directly Innovativity.
- Innovativity Degree affects directly Strategic Orientation.
- Strategic Orientation affects directly Financial Results.
- Innovativity affects directly Financial Results.
- Financial Results affect directly Innovativity.
- Financial Results affect directly Strategic Orientation.
- Expenditures for Innovation affect directly Innovation.

On the basis of the above research hypotheses, the model can be graphically represented (Figure 1). In Figure 1, the variables are represented as rectangles and the arrows express the influence and/or interaction relationships among the variables.

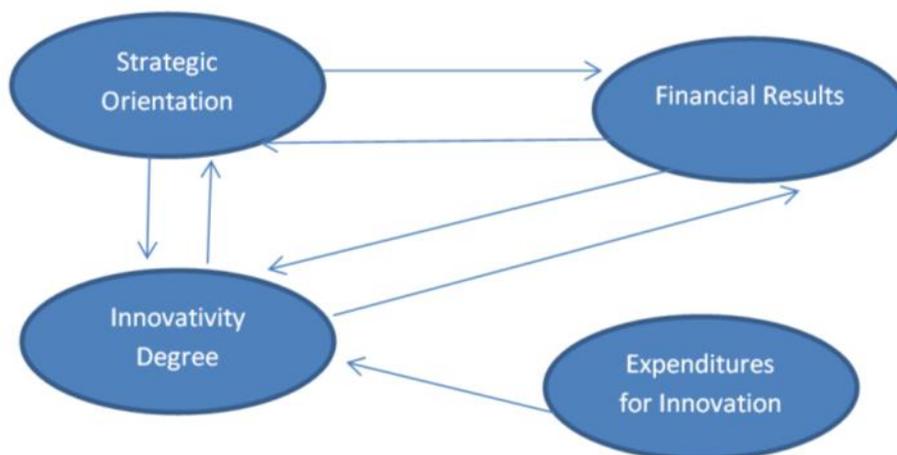


Figure 1: Theoretical-Conceptual Model Context

It can be inferred from the observation of Figure 2 that beside the previous direct effects among variables (see section 4.2), further indirect effects emerge which must be studied.

To validate the Theoretical model (Figure 1), an evaluation, representation and control method for the theoretical model is required. Hence, the Structural Equation Model (SEM) was chosen as the most appropriate method.

The application of the Structural Equation Model aims at investigating the parameters which affect the competitiveness of our sample's cheese businesses. This can be achieved through the effect of the Strategic Orientation, Financial Results, Innovativity Degree and Expenditures for Innovation. Hence, the relationships of the basic factors which consist the competitiveness of cheese businesses are analyzed.

The observed variables are illustrated with squares, whereas the existence of a linear relationship, namely regression, is represented with single direction vectors (Bentler & Weeks 1998).

The necessary data for the research were collected via questionnaire and were then analyzed with a certain methodology. Then, the Structural Equation Model was applied using the software package Amos. Moreover, the results are supported by the theoretical background.

Conceptual framework and the hypotheses of the research model

Based on research hypotheses which have been presented above, Figure 2 could be designed (referred to as conceptual framework and the hypotheses of the research model).

In this figure, one can see the observed variables while the single direction arrows illustrate the existence of a linear relationship among factors.

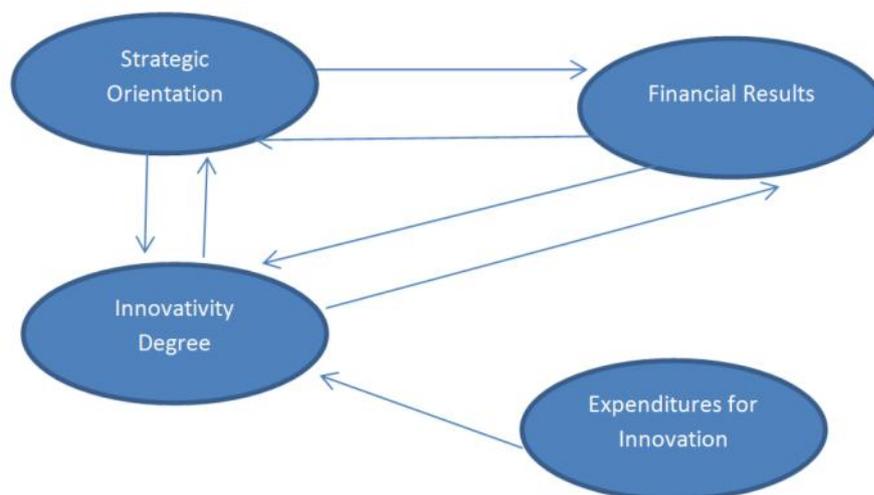


Figure 2: Conceptual framework and research model hypotheses

It can be inferred from the observation of Figure 2 that beside the previous direct effects among variables (see section 4.2), further indirect effects emerge which must be studied.

Hence, the research hypotheses are formed as follows:

- H₁₁: Strategic Orientation affects directly the Innovativity Degree.
- H₁₂: Strategic Orientation affects directly Financial Results.
- H₁₃: Strategic Orientation affects directly Financial Results through the Innovativity Degree.
- H₁₄: Strategic Orientation affects indirectly the Innovativity Degree through Financial Results.
- H₁₅: The Innovativity Degree affects directly the Financial Results.
- H₁₆: The Innovativity Degree affects directly Strategic Orientation.
- H₁₇: The Innovativity Degree affects indirectly Strategic Orientation through Financial Results.
- H₁₈: The Innovativity Degree affects indirectly Financial Results through Strategic Orientation.
- H₁₉: Financial Results affect directly Strategic Orientation.
- H₁₁₀: Financial Results affect directly the Innovativity Degree.
- H₁₁₁: Financial Results affect indirectly the Innovativity Degree through Strategic Orientation.
- H₁₁₂: Financial Results affect indirectly Strategic Orientation through the Innovativity Degree.
- H₁₁₃: Expenditures for Innovation affect directly the Innovativity Degree.
- H₁₁₄: Expenditures for Innovation affect indirectly Strategic Orientation through the Innovativity Degree.
- H₁₁₅: Expenditures for Innovation affect indirectly Financial Results through the Innovativity Degree..
- H₁₁₆: Expenditures for Innovation affect indirectly Strategic Orientation through Economic Results.

3. CURRENT SITUATION IN THE SECTOR

The food industry and particularly the sector of cheese businesses was chosen because of the significant role it plays in the Greek economy and its great developmental prospect.

According to the official data of the Hellenic Statistical Authority (2016), the sector of food industry is in the lead of the processing sector with a percentage of 19.6% of the sold products' overall value, while the contribution of dairies in forming the value of sold products in food industry is in the first place (for the years 2013 and 2014 it reached 21.2% and 21.5%, respectively).

In terms of the domestic consumption of cheese products, a rising trend at a rate of about 2% until 2016 was recorded and, at the same time, the value of the domestic cheese market is estimated at €1.7 billion for the year 2015 (ICAP 2013, 2014; E.T. 2015, Eurostat)

Moreover, according to the data of the Hellenic Statistical Authority, there is a longitudinal increase in the value of the exported cheese products during the last years (the increase reached 12.3% in 2014).

4. MATERIALS AND METHODS (DATA COLLECTION)

4.1 Data selection

The data regarding the number of cheese businesses were derived from the Greek Ministry of Rural Development and Food as well as the Greek Agricultural Organization "Dimitra". In addition, the data concern the financial year 2015 and the research was conducted in the last three months of 2016.

According to these data, 546 cheese businesses were operating in 2015 in Greece. Most of them were small- and medium-sized businesses with production lower than 200 tons (ICAP, 2016; ELGO-Dimitra, 2016). In view of the official data (ICAP, 2012; ICAP, 2016), the businesses often lack the required modern machinery, but also strategic orientation (Saubers et al., 2012). As reported by the relevant literature, because of these special characteristics these businesses are studied as particular categories of businesses and separately from other businesses (ICAP, 2012).

Due to this limitation the research was studied businesses whose production capacity exceeded 200 tons. In total, 68 businesses of this kind corresponded positively and participated in the study.

4.2 Questionnaire design and methodology selection

The data collection is based on structured questionnaires, scales and in-depth research studies, while the posed questions require clear answers. Consequently, there is little room for error and the statistical results can be interpreted. Hence, the researcher can be confident that the research will have a correct outcome (Cooper et al., 2008). In view of the above, it can be seen that the present study uses a quantitative method.

The primary data were collected via questionnaires which were completed by cheese businesses. This was a quite difficult process because the businesses presented high dispersion (ICAP, 2014; ICAP, 2016) and there was also a lack of registered data as well as of previous similar studies (Salavou, 2010).

Regarding the questionnaire, it consisted of two parts: the first part investigated innovation and was designed according to international manuals used for registering innovation (Oslo manual 2005, Frascati manual) and relevant questionnaires used by the European Statistical Service (Community Innovation Survey, 2010). The second part included questions designed to examine the strategic orientation of the surveyed businesses and was based on the methodology developed by Dess and Davis (1984). This way it was possible to define the strategic orientation of the studied businesses according to Porter's classification framework (Theodossiou et al., 2014; Sergaki et al., 2014; Salavou & Sergaki, 2013; Bourlakis, 2011; Salvou, 2010; Salvou & Halikias, 2009). To find the strategic orientation of each business, Principal Component Analysis was used. In specific, Principal Component Analysis was applied to examine the structural coherence of the variables that consisted the strategic orientation of each business (Hair et al., 1995; Cattell, 1978; Tabakis, 2001). More specifically, a score of strategic orientation was computed for every business using the Regression method (Hair et al., 1995). The same method was performed to process the data and extract financial indicators. Hence, in this study the following financial indicators were used: Circulation or Overall Liquidity index, Circulation Velocity Assets Index, Overall Leverage Index and Gross Profit Index (Niarchos, 2004; Atrill et al., 2006; Vasiliou & Iriotis, 2008).

5. RESULTS AND DISCUSSION

To ensure that our method would give the best results possible, measurements were carried out at two different models (Table 1 and Table 2) and the one that presented the best adaptation was chosen. The model's indicators with the best adaptation concerning the strategic orientation, innovativity degree and financial results are given in the table below:

Model	X ²	df*	p	X ² / df.	RMSEA	PCLOSE	GFI	AGFI	CFI
Proposed model	72.708	47	0.009	1.547	0.090	0.078	0.870	0.784	0.926
Requirement	Good confirmation model		> 0.05	< 2	< 0.05	> 0.05	> 0.900	> 0.900	> 0.900
	Adequate confirmation model			< 5	< 0.08				

Table 1: Model 1

Model	χ^2	df*	p	χ^2/df	RMSEA	PCLOSE	GFI	AGFI	CFI
Proposed model	72.738	48	0.012	1.515	0.088	0.078	0.869	0.787	0.929
Requirement	Good confirmation model		> 0.05	< 2	< 0.05	> 0.05	> 0.900	> 0.900	> 0.900
	Adequate confirmation model			< 5	< 0.08				

Table 2: Model 2

(*df: degrees of freedom)

Meanings of the abbreviations included in Table 1 and Table 2:

- RMSEA: Root Mean Square Error of Approximation
- GFI: Goodness of Fit Index
- AGFI: Adjusted Goodness of Fit Index
- CFI: Comparative Fit Index

The model presented in Table 1 meets the requirement for the value of the observed significance level p . Moreover, it meets the requirement for indicator χ^2/df and hence it can be considered it is confirmed adequately by the data. Additionally, as seen in Table 3, the index RMSEA does not meet the requirement for adequate model confirmation. However, the index PMSEA has a statistically significant difference from value 0.05 ($PCLOSE > 0.05$). Regarding the model in Table 2, it is indicated that it meets the requirement for the observed significance level p . As with the model in Table 1, this model also meets the requirement for indicator χ^2/df and thus it can be considered that the model is confirmed adequately by the data. In Table 3, it can be seen that the index RMSEA does not meet the requirement for adequate model confirmation, but it does not differ statistically significantly from the value 0.05 ($PCLOSE > 0.05$). Therefore, we can accept the eligibility of this model.

In addition, it is clear from Table 2 that the data relating to the confirmed data have an acceptable adaptation to the model which concerns the relationship among the factors of the food businesses' competition and more specifically the sample's food businesses.

Consequently, in line with the above results, the model corresponding to Table 2 has acceptable adaptation and is at the limit of validation which highlights the need for further investigation.

The research hypotheses presented previously in the section "Conceptual framework and the hypotheses of the research model" are illustrated in Diagram 1 (path diagram) which was developed according to the Methodology of Structural Equation Modeling.

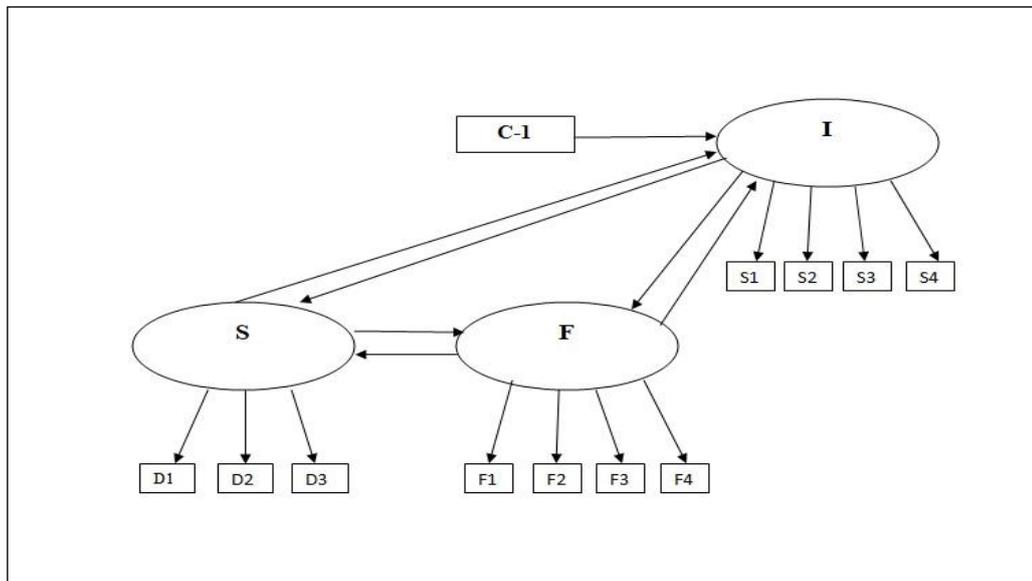


Diagram 1: Effects of factors affecting the competition of cheese businesses

I: Innovativity Degree

F: Financial Results

S: Strategic Orientation

C1: Expenditure for Innovation

F1: Circulation or Overall Liquidity Index

F2: Circulation Velocity Assets Index

F3: Overall Leverage Index

F4: Gross Profit Index

S1: Product Innovation

S2: Innovation in Procedures

S3: Organizational Innovation

S4: Marketing Innovation

DO_1: Cost Leadership Strategy

DO_2: Diversification Strategy

DO_3: Focus strategy

Single direction vector = Existence of linear relationship

Double direction vector = Conversion among variables

Variables	Standardized Coefficients	Regression	90% Confidence Interval		P
			Low limit	High Limit	
Innovativity degree ← Expenditure for Innovation	.539		.311	.754	.010
Circulation or Overall Liquidity Index ← Financial Results	.751		.544	1.184	.010
Circulation Velocity Assets Index ← Financial Results	-.397		-.600	-.126	.005
Overall Leverage Index ← Financial Results	-.997		-1.374	-.661	.009
Gross Profit Index ← Financial Results	.195		-.006	.349	.113
Product Innovation ← Innovativity Degree	.589		.221	.713	.049
Innovation in Procedures ← Innovativity Degree	.595		.419	.700	.018
Organizational Innovation ← Innovativity Degree	.250		.038	.395	.069
Marketing Innovation ← Innovativity Degree	.404		.244	.571	.009
Cost Leadership Strategy ← Strategic Orientation	.878		.801	.932	.019
Diversification Strategy ← Strategic Orientation	.972		.917	1.015	.016
Focus Strategy ← Strategic Orientation	.817		.698	.889	.021
Financial Results ← Strategic Orientation	2.028		1.189	3.430	.009
Financial Results ← Innovativity Degree	-1.147		-2.048	-.489	.013
Innovativity Degree ← Strategic Orientation	.612		.425	.838	.004
Strategic Orientation ← Innovativity Degree	.637		.325	.769	.038
Innovativity Degree ← Financial Results	-.101		-.282	.089	.335
Strategic Orientation ← Financial Results	-.613		-1.547	-.208	.022

Table 3: Values of regression coefficients in the Structural Equation Model and Statistical Significance (P) of indirect effects.

The regression model which consists part of the Structural Equation Model verified that there are relationships among most factors thereby confirming the theory. The regression coefficients (presented in Table 3) have a significance level of $P \leq 0.05$ and confirm the hypothesis in the correlation matrix. If that were not the case, the statistical correlation would not be statistically significant and thus the other would not be confirmed.

Results in Table 3 indicated the confirmation of the following hypotheses:

- H₁₁: Strategic Orientation affects positively the Innovativity Degree (relative significance: 0.612).
- H₁₂: Strategic Orientation affects positively Financial Results (relative significance: 2.028).
- H₁₅: The Innovativity Degree affects negatively Financial Results (relative significance: -1.147).
- H₁₆: The Innovativity Degree affects positively Strategic Orientation (relative significance: 0.637).

- H₁₉: Financial Results affect negatively Strategic Orientation (relative significance: -0.613).
- H₁₃: Expenditures for Innovation affect positively the Innovativity Degree (relative significance: 0.539).

As given in Table 3, the application of the model involves some further indirect effects which were investigated through the Structural Equation Model.

- H₁₇: Financial Results affect positively the Circulation or Overall Liquidity Index (relative significance: 0.751).
- H₁₈: Financial Results affect negatively the Circulation Velocity Assets Index (relative significance: -0.751).
- H₁₉: Financial Results affect negatively the Overall Leverage Index (relative significance: -0.997).
- H₂₁: The Innovativity Degree affects positively the Product Innovation (relative significance: 0.589).
- H₂₂: The Innovativity Degree affects positively the Innovation in Procedures (relative significance: 0.589).
- H₂₃: The Innovativity Degree affects positively the Innovation in Procedures (relative significance: 0.595).
- H₂₄: The Innovativity Degree affects positively Marketing Innovation (relative significance: 0.404).
- H₂₅: Strategic Orientation affects positively Cost Leadership Strategy (relative significance: 0.878).
- H₂₆: Strategic Orientation affects positively Diversification Strategy (relative significance: 0.972).
- H₂₇: Strategic Orientation affects positively Focus Strategy (relative significance: 0.817).

Results shown in Table 3 indicated that the following hypotheses were not confirmed:

- H₁₀: Financial Results affect directly the Innovativity Degree.
- H₂₀: Financial Results affect directly the Gross Profit Index.
- H₂₈: The Innovativity Degree affects directly Organizational Innovation (however the result can be considered marginal).

Next, Table 4 examines the indirect effects among variables.

	C1	S	I	F
S	.013			
I	.005			.047
F		.038	.014	

Table 4: The values of the regression coefficients in the structural equation model and statistical significance (P) and indirect effects

I: Innovativity Degree

F: Financial Results

S: Strategic Orientation

C1: Expenditures for Innovation

Results in Table 4 showed that the following research hypotheses were confirmed:

- H₁₄: Expenditures for Innovation affects positively Strategic Orientation.
- H₁₂₉: Expenditures for Innovation affect positively Financial Results.
- H₁₄: Strategic Orientation affects positively the Innovativity Degree.
- H₁₈: The Innovativity Degree affects positively Financial Results.
- H₁₁₁: Financial Results affect positively the Innovativity Degree through Strategic Orientation.

In addition, the results of Table 2 indicated that the following research hypotheses were not confirmed:

- H₁₅: Expenditures for Innovation affect indirectly Financial Results.
- H₁₃: Strategic Orientation affects indirectly Financial Results through the Innovativity Degree.
- H₁₇: The Innovativity Degree affects indirectly Strategic Orientation through Financial Results.
- H₁₁₁: Financial Results affect indirectly the Innovativity Degree through Strategic Orientation.

6. CONCLUSIONS

The main inference that can be drawn is that there are positive relationships among the Strategic Orientation, the Innovativity Degree and the Financial Results of the cheese businesses which

constituted the sample of the present research. Moreover, these relationships are consistent with our theoretical framework. However, there are some negative effects, such as the negative effect of the Innovativity Degree on Financial Results, which should be noted. In other words, the more innovative a business is, the lesser its financial results become (that is because innovation involves financial costs).

At the same time, Financial Results have a negative effect on Strategic Orientation which allows us to infer that changes in the financial situation of the business involves also changes in Strategic Orientation.

It is worthwhile also to note that the Innovativity Degree is not influenced by Financial Results. Namely, a business enjoying very good financial results might not be as innovative as a business having less good financial results. The latter makes more sense if one considers that we refer to businesses which have a low level of innovation and whose produced products are subjected to the consumer culture.

Finally, the results are based on a limited sample which despite being satisfactory should be increased to extract definite conclusions. This is more evident in the model which presents acceptable adaptation but is at the limit of validation. Moreover, the same research with the same parameters could be conducted in other food sectors to generalize the theory.

REFERENCES

- Abbott, P. C., & Brehdahl, M. E. (1993). *Competitiveness: definitions, useful concepts and issues*. Addison-Wesley, Boston.
- Atrill, P. and McLaney, E., (2006). "Accounting and finance for Non – Specialists", New Jersey: Prentice Hall, pp. 174-183.
- Barney, J. B. and Hesterly, W. S. (2008). *Strategic management and competitive advantage: concepts and cases*. Upper Saddle River, NJ: Pearson/Prentice Hall, pp. 22-43, 122-203.
- Barney, J. B., and Hesterly, W. S. (2008). *Strategic management and competitive advantage: concepts and cases*. Upper Saddle River, NJ: Pearson/Prentice Hall, pp. 22-43, 122-203.
- Bojnec, Š, Fertó, I. 2014. Export competitiveness of dairy products on global markets: The case of the European Union countries. – *Journal of Dairy Science* 97, 6151–6163.
- Bourlakis, Michael, and T. C. Melewar. "Marketing perspectives of logistics service providers: present and future research directions." *European Journal of Marketing* 45.3 (2011): 300-310.
- Brewer, A. (1999) 'Adam Ferguson, Adam Smith, and the concept of economic growth', *History of Political Economy*, 31 (2): 237-54.
- Brewer, A. (2008) 'Adam Smith's stages of history', Discussion Paper n. 08/601, Department of Economics, Bristol University.
- Broyles, J. (2007). *Financial management and real options*. John Wiley & Sons. pp 77-93.
- Buckley, P.J., Christopher, L., Prescott, K., 1988. Measures of international competitiveness: a critical survey. *Journal of Marketing Management* Vol. 4, No 2, pp. 175–200.
- Carraresi, L., Mamaqi, X., Albisu Aguado, L. M., & Banterle, A. (2011). The relationship between strategic choices and performance in Italian food SMEs: a resource-based approach.
- Carraresi, L., Mamaqi, X., Albisu, L. M., & Banterle, A. (2011). The relationship between strategic choices and performance in Italian food SMEs: a resource-based approach (No. 726-2016-50084).

- Chisasa, J. (2014). The finance-growth nexus in South Africa's agricultural sector: a structural equation modeling approach, *Banks and Bank Systems*, Vol 9
- Cooper, Donald R. and Pamela S. Schindler. (2008) *Business research methods*. Vol. 10. New York: McGraw-hill.
- Dess G, Lumpkin, G. T., Eisner, A and McNamara G., (2014). *Strategic Management: Creating Competitive Advantages*, Global Edition, McGraw-Hill and Irwin, pp.48-65, 140-154, 376-387.
- Dess G, Lumpkin, G. T., Eisner, A and McNamara G., (2014). *Strategic Management: Creating Competitive Advantages*, Global Edition, McGraw-Hill and Irwin, pp.48-65, 140-154, 376-387
- Dess, G.G., και Davis, P.S. (1984). Porter's generic strategies as determinants of strategic group membership and performance. *Academy of Management*, Vol. 26, p. 467-488.
- ELSTAT, (2016): Study on the production and sale of industrial products 2013-2014.
- European Parliament. 2011. [europarl.europa.eu](http://www.europarl.europa.eu/meetdocs/2009_2014/documents/com/com_com(2011)0048_/com_com(2011)0048_el.pdf). [ONLINE] Available at: [http://www.europarl.europa.eu/meetdocs/2009_2014/documents/com/com_com\(2011\)0048_/com_com\(2011\)0048_el.pdf](http://www.europarl.europa.eu/meetdocs/2009_2014/documents/com/com_com(2011)0048_/com_com(2011)0048_el.pdf) [Accessed 18 February 2014].
- European Parliament. 2013. [europarl.europa.eu](http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2013-0333+0+DOC+PDF+V0//EN). [ONLINE] Available at: <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+REPORT+A7-2013-0333+0+DOC+PDF+V0//EN> [Accessed 22 February 2014].
- European Parliament. 2014. [europarl.europa.eu](https://publications.europa.eu/en/publication-detail/-/publication/69a64699-18d7-40b9-8f92-1db3226cd2ec). [ONLINE] Available at: <https://publications.europa.eu/en/publication-detail/-/publication/69a64699-18d7-40b9-8f92-1db3226cd2ec> [Accessed 7 April 2014].
- Eurostat. 2017. *Agriculture, forestry and fishery statistics 2017 edition*. [ONLINE] Available at: <http://ec.europa.eu/eurostat/documents/3217494/8538823/KS-FK-17-001-EN-N.pdf/c7957b31-be5c-4260-8f61-988b9c7f2316> [Accessed 11 December 2017].
- Eurostat. 2017. *Εθνικοί λογαριασμοί και ΑΕΠ*. [ONLINE] Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/National_accounts_and_GDP/el [Accessed 11 December 2017].
- Frohberg, K., & Hartmann, M. (1997). Comparing measures of competitiveness (No. 2). Discussion paper, Institute of Agricultural Development in Central and Eastern Europe.
- Grant, R. M. (2008). *Contemporary strategy analysis*. Blackweell Publishing, Uk, p.203-221
- Herron, L. & Robinson, R.B. (1993) 'A structural model of the effects of entrepreneurial characteristics on venture performance'. *Journal of Business Venturing*, Vol. 8, No. 3, pp. 281-294.
- Hill, C., Jones, G., and Schilling, M. (2014). *Strategic Management: Theory: An Integrated Approach*. Cengage Learning, pp.123-140,153-210.
- ICAP (2010). *Dairy industries in the EU, statistical data*.
- ICAP (2013). *Sectoral study, Cheese products, Athens*.
- ICAP (2013). *Sectoral study, Dairy products, Athens*.
- ICAP (2014). *Sectoral study, Cheese products, Athens*.
- ICAP (2014). *Sectoral study, Dairy products, Athens*.
- Irz, X., Jansik, C. 2015. Competitiveness of dairy farms in northern Europe: A cross-country analysis. – *Agricultural and Food Science*, 24 (3), 206–218.
- Jansik, C., Irz, X., Kuosmanen, (N. 2014). *Competi-tiveness of Northern European dairy chains*. – MTT Agrifood Research Finland, Economic Research, Publications 116, 160 pp.
- Jongen, W. M., & Meulenber, M. (Eds.). (2005). *Innovation in agri-food systems*. Wageningen Academic Pub. pp.17-50, 221-253.
- Kaliski, B. (2001). *Ethics in Management*. Encyclopedia of Business and Finance, Gale Group pp 170-195, 385-410
- Kim, W. C., & Mauborgne, R. (2004). *Blue ocean strategy*. Harvard business review., pp.71-85.
- Krugman, P.R. and M. Obstfield (1988), *International economics:theory and implications*. 6th ed.
- Latruffe, L. (2010), "Competitiveness, Productivity and Efficiency in the Agricultural and Agri-Food Sectors", *OECD Food, Agriculture and Fisheries Papers*, No. 30, OECD Publishing, Paris.
- Niarchos, N., 2004. *Financial Analysis of Accounting Records*. Athens: Ed. A. Stamoulis, pp. 47-110.
- Niarchos, N., 2004. *Financial Analysis of Accounting Records*. Athens: Ed. A. Stamoulis, pp. 47-110.
- OECD (2005), *The Measurement of Scientific and Technological Activities Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, OECD publishing.
- OECD (2005), *The Measurement of Scientific and Technological Activities Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, OECD publishing.
- OECD (2011). *Fostering Productivity and Competitiveness in Agriculture*, OECD Publishing.
- OECD (2011). *Fostering Productivity and Competitiveness in Agriculture*, OECD Publishing.
- OECD (2015) *Food and Agriculture Organization of the United Nations, OECD-FAO Agricultural Outlook 2015*, OECD Publishing, Paris

- OECD (2015). Food and Agriculture Organization of the United Nations, OECD-FAO Agricultural Outlook 2015, OECD Publishing, Paris
- O'Mahoney M. and B. van Ark (2003), EU-productivity and competitiveness: an industry perspective, Office for Official Publication of the European Community, Luxembourg. pp. 273.
- Papastathopoulos, A. (2009). Strategy and Management of New Technologies in Small and Medium Enterprises (Doctoral dissertation).
- Pietersen, W. (2010). Strategic learning: How to be smarter than your competition and turn key insights into competitive advantage. John Wiley & Sons.
- Poppe, K. J., Wijnands, J. H., Van der Meulen, B. M., & Bremmers, H. J. (2007). Struggle for Leadership: the Competitiveness of the EU and US Food Industry. In 2007 Annual Meeting, July 29-August 1, 2007, Portland, Oregon TN (No. 9919). American Agricultural Economics Association (New Name 2008: Agricultural and Applied Economics Association).
- Porter, Michael E. (1985), Competitive advantage: Creating and sustaining superior performance. New York: The Free Press, p.38
- Porter, Michael E. (1990), "The competitive advantage of nations." Harvard business review Vol.68 No.2, pp. 73-93.
- Porter, Michael E. (1990), "The competitive advantage of nations." Harvard business review Vol.68 No.2, pp. 73-93.
- Porter, Michael E. (1990), "The competitive advantage of nations." Harvard business review Vol.68 No.2, pp. 73-93.
- Raikes, P., Friis Jensen, M., & Ponte, S. (2000). Global commodity chain analysis and the French filière approach: comparison and critique. *Economy and society*, Vol. 29, No 3, pp. 390-417
- Rumelt, R. P. (2003). What in the world is competitive advantage. Policy working paper, 105(2003), 1-5.
- Salavou, H. (2010). "Strategy types of service firms: evidence from Greece". *Management Decision*, Vol. 48, No 7, pp 1033-1047.
- Salavou, H. (2010). "Strategy types of service firms: evidence from Greece". *Management Decision*, Vol. 48, No 7, pp 1033-1047.
- Salavou, H. E. (2013). Hybrid strategies in Greece: a pleasant surprise. *European Business Review*, 25(3), 301-314.
- Salavou, H. E., & Halikias, J. (2009). Strategy types of exporting firms: a view on the basis of competitive advantage. *European Business Review*, Vol. 21, No 2, pp. 144-158.
- Salavou, H. E., & Sergaki, P. (2013). Generic Business Strategies in Greece: Private Food Firms versus Agricultural Cooperatives. *Journal of Rural Cooperation*, Vol.41, No 1, pp. 44-59.
- Saunders, Mark NK, and Philip Lewis. *Doing research in business & management: An essential guide to planning your project*. Pearson, 2012.
- Sergaki P., Aggelopoulos S., Tsakiridou E., and Menexes G. (2014), Strategic orientation and typology of agricultural cooperatives and private food firms in Greece.
- Sergaki, P., Aggelopoulos, S., Tsakiridou, E., & Menexes, G. (2014, September). Strategic orientations and typology of agricultural cooperatives and private food firms in Greece. In 7th Annual Conference of the EuroMed Academy of Business (Vol. 26, pp. 400-411).
- Solleiro, J. L., & Castañón, R. (2005). Competitiveness and innovation systems: the challenges for Mexico's insertion in the global context. *Technovation*, Vol 25, No 9, pp. 1059-1070.
- Theodossiou, G., Arvanitakis, S., Chatzitheodoridis, F., & Kontogeorgos, A. (2014). Greek Small & Medium Sized Dairy & Cheese Enterprises: A Strategic Assessment Under The Economic Crisis. *Studia Universitatis Babeş Bolyai-Negotia*, Vol. 3, pp.19-34.
- Thompson, J. L., Scott M.J., and Martin, F. (2014). *Strategic Management: Awareness and Change*, Cengage Learning EMEA, pp. 5-35, 261-286
- Traill, B., & Pitts, E. (1998). *Competitiveness Food Industry*. Blackie Academic & Professional pp.1-35, 118-143, 286-299.
- Van Horne, J. C., & Wachowicz Jr, J. M. (2008). *Fundamentals of Finance Management*. YD Williams", Moscow, Russia.
- Vasiliou, D. & Hriotis, N., (2008). *Financial Administration, Theory and Practice*, Athens: Rosili, pp. 34-72.
- Viaene, J. (1994). *Agribusiness-complexes*. Department of Agricultural Economics, University of Ghent.

STRATEGIC TRANSFER PRICING RISK MANAGEMENT: NEW CHALLENGES AHEAD

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ABSTRACT

The paper deals with Transfer Pricing and it answers the call for specific studies investigating the relation between Management Control Systems and Transfer Pricing risk management. The research involves a multi-level case study carried out into a Multinational Enterprise based in North-West Italy.

Meanwhile data collection was being carried out, the selected MNE was under investigation by the Italian Revenue Agency on the matter of Transfer Pricing. The Authors had the opportunity to interview Group CFO and a member of the Board of Directors, directly involved in Transfer Pricing practices within the Group.

Findings show that MNEs are increasingly compliance oriented; international Groups' Top managers consider Transfer Pricing as a strategic tool to reach competitive advantages rather than a mere mean to reach tax savings. On the other hand, tax authorities are increasingly auditing Intangible related transactions, in line with the OECD reports, having gained a remarkable knowledge on Transfer Pricing practices.

MNEs adapt their Management Control Systems in order to better detect risky transactions and to elaborate better policies for the future.

MNEs, showing an increasing attitude toward compliant behavior and appear to be ready for Joint audits between different jurisdiction which would avoid double taxation risk and result into a mere reallocation of profit among different States.

Results foster the research on the topic of Transfer Pricing and provide useful insights to practitioners and Auditors.

Keywords: Transfer Pricing; Risk Management; Tax Compliance; Management Control System.

1. INTRODUCTION

The paper deals with Transfer Pricing, a topic that has been increasingly attracting attention by multinational enterprises and by tax authorities over the past decades.

Transfer pricing practices indeed involve the choice of the pricing policy for transactions occurring among entities from different countries but within the same Group and, therefore, the potential (mis)allocation of taxable income among different tax jurisdictions in order to obtain tax savings.

OECD (2017) developed “arm’s length principle” expressed in art. 9 of its model convention to prevent or to realign these undesirable outcomes. Under this principle, MNEs should set intercompany prices as independent parties would do.

Nowadays, most of the developed Countries have enforced comprehensive legislation on this matter and have introduced compliance requirements based on the Guidelines and recommendations provided by OECD (OECD: 2010; 2017).

As a direct consequence, tax authorities’ sensibility on this topic has increased as well as tax audits aimed to find harmful transfer pricing practices, especially after OECD issued its Base Erosion and Profit Shifting reports (BEPS) in 2013-2015 that culminated in 2017 revised Guidelines.

Thus, the main aim of this paper is to start investigating how MNEs deal with transfer pricing and how recent evolutions within this environment have affected – or are affecting – them from different perspectives.

As literature shows, indeed, from a strategic point of view, Transfer Pricing represents a potential source of risk in term of financial and reputational losses; while from an operational point of view, the management control system has to respond and to adapt in order to cope with the ever-changing legislative environment.

Case-study was selected as the most appropriate methodology to investigate the evolutions on the matter as well as to ensure practical outcomes and guidance for professionals working in the field and for tax authorities since the paper captures some of the main concerns and expectations for years to come that professionals expressed around this topic.

The remainder of this paper is structured as follow: section 2 presents the relevant literature on the topic; section 3 introduces the case study and explains the research design, the methodology adopted and the conceptual framework to interpret the findings. Section 4 presents findings while section 5 discusses them and draws the conclusions on this topic.

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2. LITERATURE REVIEW

The topic of Transfer Pricing gathered the attention of many different actors in the economic panorama as it represents a key issue for Multinational Enterprises, Institutions (tax authorities) and practitioners around the globe.

Recent studies by Consultancy firms (Deloitte, 2018; EY, 2014; EY, 2016) indeed show as Transfer Pricing has become a priority on the agenda of MNEs and Institutions over the past decades and even more after the OECD issued the BEPS report and more specifically actions 8-10 (OECD, 2015).

Transfer Pricing indeed, is associated with several risks within Multinational Organizations (Miller, 1992), e.g. double taxation and reputational risk. Double taxation risk occurs when a First country requires a transfer pricing adjustment on income of an MNE while a second country involved does not accept a corresponding adjustment.

Reputational transfer pricing risk occurs when a Multinational Group suffers from a transfer pricing adjustment that becomes of public domain with negative downturns.

Thus, many Scholars too have dealt with this topic investigating organizations' behavior from different perspectives. For this reason, it is possible to identify many streams of Literature on the matter.

A first part of the Literature indeed shows that Multinational Organizations' transfer prices are affected by tax rates differences among the Countries (Borowski, 1997; Colling & Shackelford, 1997; Clausing, 2003; Grant, et al., 2013). Another stream of Literature, on the other hand, focused on the outcomes of transfer pricing policies on Multinational Enterprises results (e.g.: Picciotto, 1992; Cravens and Shearon, 1996; Nichols and Conover, 2000; Bartelsman & Beetsma, 2003; Hanlon and Heitzman, 2010; Klassen, et al., 2017).

Other Scholars then investigated the main determinants of transfer prices changes within the organizations (Boyns & Edwards, 1999) or price determination (Bouwens and Steens, 2016).

Lastly, a stream of Literature focused on the countermeasures adopted by different countries in order to deter harmful practices by Multinational Enterprises (Eldenburger & Joanne, 2003; Chan and Chow, 1997 and more recently Borowski, 2010; Buus, 2018; Bosung, et al., 2018).

Even if Transfer Pricing is commonly perceived as mean to obtain tax saving and related extra-profits by shifting income towards States that apply lower income tax rates (Sikka and Willmott, 2010), many Scholars showed the strategic relevance of this practice.

For example, Cravens (1997) shows that Executives of Multinational firms consider transfer pricing as a strategic lever to obtain competitive advantages towards competitors. Similar results are presented also by (Plesner Rossing and Rohde, 2010).

According to this point of view, Transfer Pricing practices within the organizations have been analyzed in depth by many Researchers.

As discussed above, Transfer Pricing is related to many risks within an organization, thus it has become vital over the past decades for MNEs to develop proper risk management practices also under the growing request of compliance by tax Administrations (Wunder, 2009). Compliance itself indeed is perceived as a risk within Organizations (Jost, et al., 2014).

In this sense, Hagigi and Sivakumar (2009) depicted an integrated framework for MNEs having to cope with exogenous and endogenous risks.

Literature also pointed out that a key success factor for risk management practices is the Management Control System "MCS" (Plesner Rossing, 2013): in this sense the Author elaborates on the *Levers Of Control* Framework proposed by (Ferreira & Otley, 2009) explaining how Intra and Inter-Organizational Interactions affect tax strategy and the Management Control System itself.

Despite all of these studies, major gaps still persist in Literature as shown by (Plesner Rossing & Carsten, 2014) in particular in understanding how MNEs deal with transfer pricing and how MCSs adapt to ever-changing tax context. Other gaps and open questions arise also in Martins (2017) that analyses the impact of new Accounting GAAP on comparables reliability.

This paper aims to fill the former gap and provide some insights about recent evolutions of transfer pricing practices.

3. METHODOLOGY

Research Design

The case study is guided by (Yin, 2009) (Yin, 2018). Case study research might be chosen when the research questions are "how" and "why" questions; when the researcher has no control over behavioral events and when he/she is focusing on studying a contemporary or new phenomenon. In other words, the case study is appropriate for an exploratory or explanatory phase of the research/investigation.

Moreover, case study represents an appropriate methodology when the research focuses on understanding real-world case in which the understanding itself is likely to involve conditions peculiar of the case analyzed as shown by (Yin & Davis, 2007). Therefore, case study methodology is open to the use of theory or conceptual categories that guide the research and analysis of data (Meyer, 2001) but it is also a reliable method to explore new theories (Eisenhardt, 1989).

Indeed, case study research guarantees for a holistic view of the process as argued by (Gummesson, 1988): "The detailed observations entailed in the case study method enable us to study many different aspects, examine them in relation to each other, view the process within its total environment and also use the researchers' capacity for 'verstehen'".

For these reasons, multi-level case study was adopted as a reliable method to observe real world practices and to explore new evolutions and patterns in Organizations.

In this case, the Research Question formulated is:

RQ: How do Multinational Enterprises deal with Transfer Pricing Risk and How are Organization responding to recent evolutions in this environment?

The case here presented analyses a Multinational Enterprise (hereafter also “MNE” or “Group”) headquartered in the North-West of Italy. The Group is involved in two main lines of business: (i) the production and sale of milling machineries and (ii) the developing of Numerical Control Software linked to the milling machine or sold apart and installed on third party machineries.

In addition, MNE provides many services related the machineries and software sold.

The first Company of the Group was incorporated in the 1970s, after a couple of decades of stable growth, it started opening subsidiaries in Europe, United States, South America and Asia. This led the Group to face Transfer Pricing issues since the early ‘90s and thus to develop strong competences on the matter that motivated us to select it for this research.

The Group is deemed to have own peculiarities, but the conclusions drawn from this case study are likely to be observed during future steps of research involving further Companies as they represent practices developed in many years of experience and proved effective in several tax audits.

Indeed, “Group” structure reflects a rather common organizational path in Multinational Enterprises that centralize their Research and Development activities as well as their manufacturing operations, selling through a web of subsidiaries around the globe.

In this case, MNE located R&D in Italy, as well as most of the manufacturing activities with minor part in China through a joint venture. Subsidiaries are located in France, Spain, Germany, Brazil, United States and China and perform mostly distributive activities. Moreover, they offer maintenance services. For the purpose of the present case study it must be mentioned that MNE’s products are highly customized to meet customers’ specific needs.

Data collection

The case studied was conducted from February to May 2019, after an extensive reading of the literature on the matter and after having selected “MNE” as a reliable subject for the case study, the research strategy was designed.

Due to the high sensitivity of the information reported in the present case study, the Authors agreed with top management at MNE not to publish or divulge the name of the Company.

The authors carried out structured interviews with the Chief Finance Officer at parent company of “MNE” who deals with transfer pricing on a daily basis inside the organization.

Then, the Authors interviewed one of the members of the Board of Directors at the Parent Company of “MNE”. More specifically, the Director deals on a daily basis with commercial matters. He gained a

remarkable experience in his 33 years within the Group. In particular, he spent many years in each of the subsidiaries and this represented a major strength for the case study.

Lastly the Authors had the occasion to meet the President of the Board of Directors for a short informal meeting on the topic of Transfer Pricing.

The interviews were structured based on the relevant literature before every meeting in order to cover all of the topics under investigation except from the one with the President of the board of Directors at MNE.

The main interviews were audio recorded (total 3 hours and 15 minutes) and then transcribed (the interviews were conducted in Italian, any sentence reported in the “findings” section has been translated by Authors). After the transcription, the interviews were coded to link more reliably each part of the interview itself with each topic.

In order to enhance the reliability of the study, the coding activity was independently replicated by each of the Authors.

The Authors also had the opportunity to analyze some relevant material and to discuss future opportunities and concerns within the Transfer Pricing area for “MNE”.

As said above, findings of this case study are likely to be observable also in other Multinational Enterprises.

Nevertheless, further case study may be replicated in different Multinational Enterprises in order to generalize results.

4. FINDINGS

Transfer Pricing Context

MNE has been developing its business outside Parent company’s territory through subsidiaries since the second half 1980s and therefore has been facing Transfer Pricing issues over the last decades in terms of price setting, formalization of intercompany Agreements and Tax authorities’ audits.

Transfer Pricing strategy at MNE focuses on dual objective: from a first point of view, MNE aims to comply with the main Regulation in each of the Countries involved in Intercompany transaction.

On the other hand, as also pointed out by the Group CFO, Transfer Pricing should represent a tool in order to achieve strategic goals balancing margin across the various subsidiaries.

Indeed, he argued that Transfer Pricing should represent, in an ideal world, *“the tool to reach the correct marginality in every subsidiary, which is functional to the final goal of the Group economic equilibrium”*.

Nevertheless, the CFO acknowledges that [Transfer Pricing] *“often represents a compliance tool that follows the business practices”*.

In this sense the Organization has developed a remarkable set of procedure in order deal with Transfer Pricing risks: indeed, both CFO and the Director highlighted that prevention is MNE's key success factor on the matter. The Director pointed out that the first complete analysis of the transfer pricing policy at MNE was conducted when opening the first subsidiary.

For example, MNE started to prepare documentation suggested by OECD well before the introduction of the rules avoid penalties in case of transfer pricing adjustment (in Italy penalty protection applies under art. 1, par. 6 of Decree 471/1997 since Tax year 2010).

This, helped MNE to develop a better documentation, refined in all of the aspects year after year, which created a standard inside the Company.

Despite this, it is worth noting that for the Master File Document, the Group still relies on external tax consultant, with a vast experience on the matter. *"This", argues the CFO, "is because the form is still very important when MNE has to explain its transactions to the Revenue Agency or to other Auditors"*.

Moreover, the pricing policy is subject to a complete revision at least every two years. This process involves not only Finance Area and board of Directors, but also many functions among the Parent company and each Subsidiary involved in each intercompany transaction.

The Director argues about this procedure that *"past experience suggested us to deal with price setting and price revision gathering around a table all of the representatives from the entities involved and from the different functions. An adequate and equilibrate discussion among different Directors and managers would more likely result into a price similar to a negotiation between independent parties"*.

Therefore, a preliminary questionnaire is sent to each of the functional area (Supply Chain, Logistics, Services Offices, Commercial). Each responsible then can make suggestions and give advices with reference to the transaction.

The questionnaire is also a valid support in order to understand whether relevant elements of the functional analysis have changed through the period.

Intercompany Sales of Goods

Part of the transfer Pricing strategy involves *"the consistency between the pricing policies with business transactions"*, argued indeed the CFO, *"that is a crucial element to support the fairness of our conduct. MNE aims to apply the same pricing policy for every typology transaction independently from the country of the subsidiary. Indeed, MNE has a unique price list which represents the base from which the price of every intercompany sale is calculated through a discount rate"*.

This policy may generate though, fluctuations among the margins between subsidiaries in different Countries and it may also alert the tax auditors during their audits, as happened in the recent audit. In fact, MNE has been inspected recently by the Italian Revenue Agency on the matter of transfer pricing (the Audit concluded with minor remarks during the period of our case study).

“The most difficult task that MNE has”, explained us the Group CFO, “is to convince the Auditor in Italy or in the other Country that our decisions were driven by business opportunities and, for us, every single machine sold is somehow a “different business” from the previous one”.

MNE, indeed, has a catalogue of standard products that are fully customizable by the final customer when placing the order. The customer has the opportunity to share its needs with the technician at MNE and develop its own machinery which is then assembled directly at the customer’s plant. To this extent every transaction may be considered different from the previous one.

Nonetheless, other elements must be taken into account: *“the Parent Company for example may sell one of his machineries to one of the subsidiaries realizing a tiny margin. This would probably be considered not acceptable by the Italian Revenue Agency, but the Intercompany sale may have been concluded anyway because the milling machine is going to be placed in one of the most advanced plants in the world and this will be an outstanding advertising for the Group”.*

As part of the revision procedure, recently, MNE has also started to analyze each relevant intercompany transaction involving the sale of milling machineries. This represents a correction of the Management Control System, which enables a useful “ex-post” analysis to drive future price choices.

Indeed, the CFO argued that *“we are conducting a profit analysis using big data and data mining that will help us to understand what are the most profitable machineries and the subsidiaries that have higher margin. This kind of analysis would also support a different price policy if we deem that a subsidiary is earning a margin higher than it should”.*

According to the CFO therefore, Transfer Pricing should be considered as an opportunity to reach a more in-depth knowledge of the Organization at MNE.

Transfer Pricing of Intangibles

Intangible and Value creation related to transfer Pricing analyses are central aspects of the recent Base Erosion and Profit Shifting report by OECS (2015). According to the OECD indeed, the profit allocation among the entities of a Multinational Group should reflect the contribution of every single entity to creation of value.

MNE centralized the entire R&D activity at the Parent Company’s facilities in Italy where the Group located the main manufacturing sites. Nevertheless, MNE carried out an analysis about a possible transfer of know-how from the Parent Company to its subsidiaries.

In this sense, the CFO explained that *“the mere sale of a machinery does not involve the transfer of know-how. When Parent Company’s technician provide services to foreign subsidiaries too, we do not transfer know-how”.*

It is worth noting that the Company adhered to the Patent Box regime, which allows to relief the part of the income that a taxpayer produces through the direct or indirect use of Intangible properties (or intellectual properties under L. 190/2014).

Under this regime, MNE concluded an agreement with the Revenue Agency in order to establish the correct amount of the profit gained from the use of the Intangibles.

Interestingly, the CFO argued on this topic *“Patent Box regime helped the Organization to carry out an extensive qualitative analysis of out intangible management”*.

The Analysis pointed out that MNE dealt with know-how and intellectual property correctly both with reference to external and internal subjects.

This helped to enhance the overall knowledge and the consciousness of the problems related to intangibles: indeed, according to the CFO: *“Employees are one the most important ingredient of MNE’s know-how”*.

Transfer Pricing and Financial Transactions

Financial Transaction have been recently analyzed by the OECD in a specific working paper (2018) related to the Base Erosion and Profit Shifting report.

We found that intercompany financial transaction are material within the Group: this mainly due to the unfavourable payment terms negotiated with final customer.

MNE experienced several problems dealing with intercompany financing activities due to differences among jurisdictions (for example MNE was not able to include into a cash pooling agreement some extra-EU subsidiaries).

Nonetheless, the Group was able to manage excess of cash in non-EU subsidiaries thanks to dividend policies of intercompany financing.

Neither CFO nor Director anyway were aware of the latest document issued by OECD.

Transfer Pricing and Tax Audits

The Parent Company of MNE had been under investigation of the Italian Revenue Agency during the data collection period. Eventually, the audit closed with minor consequences for the Group, which may be considered a proof of a fair management of the Intercompany transactions.

Starting from the on-going Audit we had the opportunity to share some thoughts with the Director and with the CFO about how MNE deals with tax audits.

Based on their experience, it emerged that they were mostly concerned by the attitude of the Auditors: indeed, Transfer Pricing practices should be determined (and audited) starting from the business point of view. Sometimes, they complained, the Auditors lack of a global vision and, as said also above, the hardest task for taxpayers is to explain the fairness of the economic reasons behind the transactions.

Nonetheless they noticed that over the past years Tax Auditors have improved their knowledge on the matter.

Moreover, the risk of double taxation arises serious concern at MNE: the CFO indeed acknowledged that Tax Audits carried out by a single jurisdiction lead to potential harmful conclusion for the Enterprises.

It would be much more desirable to face multilateral tax audits involving tax authorities from the jurisdictions interested by the transaction and the MNE Group: this would reduce without any doubt the risk of double taxation.

5. CRITICAL COMMENTS AND CONCLUSIONS

The case study gave significant insights about Transfer Pricing risk management in Multinational Enterprises.

First of all, findings confirmed the fact that Transfer Pricing is considered as a strategic tool coherently with previous literature (Cravens, 1997; Plesner Rossing and Rohde, 2010) and not only a mean to achieve tax savings through profit shifting.

Moreover, findings showed that Transfer Pricing strategies are focusing more and more on compliance oriented behaviours, as MNEs try to limit related risk (Jost, et al., 2014).

The MNE analyzed in the case appeared to be fully compliant with the current Italian Legislation: the top management showed interest on the topic and has proved to have a solid knowledge.

Nonetheless, the authors suggested a further review of the Intangible related transactions. Indeed, the revised version of the OECD Guidelines underline the importance of a correct profit allocation through a careful functional analysis having particular regard to the so-called "DEMPE" functions (Development Enhancement Maintenance Protection and Exploitation). In this sense for example (Peng and Lagarden, 2019).

It is worth noting that also different provisions are now affecting Transfer Pricing practices, such as Patent Box legislation.

This case study would also support contingency theory about Management Control System elaborated by Plesner Rossing (2013).

In order to answer to the Research Question, the case study shows that MNEs try to minimize Transfer Pricing risk through preventive actions and analyses. A strategic planning of the intercompany transaction, ex post analyses and compliance oriented programmes can lead to overcome tax audits without any double taxation or reputational downturns.

Also, in line with contingency theory, Management Control System adapt in Multinational Enterprises in order to respond to exogenous factors (e.g.: new regulation, new tax environment).

The case study suggests that MNEs are likely to evolve their MCSs in order to better detect risky transactions and to allow corrective measures to transfer pricing policies.

Lastly, OECD and Tax Jurisdictions are putting more and more pressure on MNEs requiring higher levels of disclosure. MNEs on the other hand are more and more compliance oriented and ready to face Joint audits involving more than one Jurisdictions. These would probably reduce the risk of double taxation, when no fraud is detected by Tax Authorities.

To conclude, this work answers to the call for analyses of Transfer Pricing practices within Multinational Enterprises. Even though the results are deemed to be likely observed in other Multinational Enterprises, further case study may lead to generalize them.

This paper can foster research on the matter of Transfer Pricing and to provide useful insights to both Practitioners and tax Administrations.

REFERENCES

- Bartelsman, E. & Beetsma, R., 2003. Why pay more? Corporate Tax Avoidance through Transfer Pricing in OECD Countries. *Journal of Public Economics*, 87(9-10), pp. 2225-2252.
- Borowski, S., 1997. Factors Motivating Transfer Pricing Choices of Japanese and United States Transnational Corporations. *Journal of International Accounting, Auditing and Taxation*, 6(1), pp. 25-47.
- Borowski, S., 2010. Transfer Pricing Practices of Transnational Corporations in PATA Countries. *Journal of International Accounting, Auditing and Taxation*, 19(1), pp. 35-54.
- Bosung, K., Kun Soo, P., Se-Youn, Y. & Sang Hun, P., 2018. Offshoring and Outsourcing in a Global Supply Chain: Impact of the Arm's Length Regulation on Transfer Pricing. *European Journal of Operational Research*, Volume 266, pp. 88-98.
- Bouwens, J. & Steens, B., 2016. Full-Cost Transfer Pricing and Cost Management. *Journal of Management Accounting Research*, 28(3), pp. 63-81.
- Boyns, T. & Edwards, J. R., 1999. A Longitudinal Study of the Determinants of Transfer Pricing Change. *Management Accounting Research*, 10(2), pp. 85-108.
- Buus, T., 2018. Risk and Transfer Pricing Regulation at the Multinational Enterprises' Routine Units: a Literature Review. *Prague Economic Papers*, 27(8), pp. 621-636.
- Chan, K. & Chow, L., 1997. An Empirical Study of Tax Audits in China on International Transfer Pricing. *Journal of Accounting and Economics*, 23(1), pp. 83-112.
- Clausing, K. A., 2003. Tax Motivated Transfer Pricing and US Intrafirm Trade Prices. *Journal of Public Economics*, 87(9), pp. 2207-2223.
- Colling, J. H. & Shackelford, D. A., 1997. Global Organizations and Taxes: an Analysis of the Dividend, Interest, Royalty and Management Fee Payments between U.S. Multinationals' Foreign Affiliates. *Journal of Accounting Economics*, 24(2), pp. 151-173.
- Cravens, K., 1997. Examining the Role of Transfer Pricing as a Strategy for Multinational Firms. *International Business Review*, 6(2), pp. 127-145.
- Cravens, K. & Shearon, W. J., 1996. An Outcome-based Assessment of International Transfer Pricing Policy. *The International Journal of Accounting*, 31(4), pp. 419-443.
- Deloitte, 2018. Link Between Transfer Pricing and Customs Valuation. D.Lgs. 18 December 1997, n. 471.
- Eisenhardt, K. M., 1989. Building Theories from Case Study Research. *Academy of Management Review*, 14(4), pp. 532-550.
- Eldenburg, L. & Joanne, P., 2003. International income-shifting regulations: Empirical evidence from Australia and Canada. *The International Journal of Accounting*, 38(3), pp. 285-303.
- EY, 2014. Global Transfer Pricing Tax Authorities Survey.
- EY, 2016. How Anti-Beps Policies are Changing Transfer Pricing.
- Ferreira, A. & Otley, D. T., 2009. The Design and Use of Performance Mangement Systems: an Extended Framework for Analysis. *Management Accounting Research*, Volume 10, p. 262-282.
- Grant, R., Grantley, T. & Roman, L., 2013. Determinants of Transfer Pricing Aggressiveness: Emprirical Evidence from Asutralian Firms. *Journal of Contemporary Accounting and Economics*, 9(1), pp. 136-150.

- Gummesson, 1988. *Qualitative Methods in Management Research*. Lund: Chartwell-Bratt.
- Hagigi, M. & Sivakumar, K., 2009. Managing Diverse Risks: an Integrative Framework. *Journal of International Management*, 15(3), pp. 286-295.
- Hanlon, M. & Heitzman, S., 2010. A Review of Tax Research. *Journal of Accounting and Economics*, 50(2), pp. 127-178.
- Jost, S. P., Pfaffermayr, J. & Winnes, H., 2014. Transfer Pricing as a Tax Compliance Risk. *Accounting and Business Research*, 44(3), pp. 260-279.
- Klassen, K., Lisowsky, P. & Mescall, D., 2017. Transfer Pricing: Strategies, Practices and Tax Minimization. *Contemporary Accounting Research*, 34(1), pp. 455-493.
- Law 23 December 2014, n. 190.
- Martins, A. F., 2017. Accounting Information and its Impact in Transfer Pricing Tax Compliance: a Portuguese View. *EuroMed Journal of Business*, 12(2).
- Meyer, C. B., 2001. A Case Study in Case Study Methodology. *Field Methods*, 13(4), pp. 329-352.
- Miller, K., 1992. A Framework for Integrated Risk Management in International Business. *Journal of International Business Studies*, 23(2), pp. 311-331.
- Nichols, N. & Conover, T., 2000. A Further Examination of Income Shifting Through Transfer Pricing Considering Firm Size and/or Distress. *The International Journal of Accounting*, 35(2), pp. 189-211.
- OECD, 2010. *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations*, Paris: OECD Publishing.
- OECD, 2015. *Aligning Transfer Pricing Outcomes with Value Creation, Actions 8-10*, Paris: OECD Publishing.
- OECD, 2017. *Model Tax Convention on Income and on Capital: Condensed Version 2017*, s.l.: OECD Publishing.
- OECD, 2017. *Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations*, Paris: OECD Publishing.
- OECD, 2018. *Public Discussion Draft - BEPS Actions 8-10 Financial Transactions*, Paris: OECD Publishing.
- Peng, C., Lagarden, M., 2019. DEMPE Functions and the RACI Concept – More Clarity or Confusion Ahead? *International Transfer Pricing Journal*, 1(1), 3-11.
- Picciotto, S., 1992. International Taxation and Intrafirm Pricing in Transnational Corporate Groups. *Accounting, Organization and Society*, 17(8), pp. 759-792.
- Plesner Rossing, C., 2013. Tax Strategy Control: the Case of Transfer Pricing Risk Management. *Management Accounting Research*, 24(1), pp. 175-194.
- Plesner Rossing, C. & Carsten, R., 2014. Transfer Pricing: Aligning the Research Agenda to Organizational Reality. *Journal of Accounting & Organizational Change*, 10(3), pp. 266-287.
- Plesner Rossing, C. & Rohde, C., 2010. Overhead Cost Allocation Changes in a Transfer Pricing Tax Compliant Multinational Enterprise. *Management Accounting Research*, 21(3), p. 199–216.
- Sikka, P. & Willmott, H., 2010. The Dark Side of Transfer Pricing: its Role in Tax Avoidance and Wealth Retentiveness. *Critical Perspectives on Accounting*, 21(4), pp. 342-356.
- Wunder, H., 2009. Tax Risk Management and the Multinational Enterprise. *Journal of International Accounting, Auditing and Taxation*, 18(1), pp. 14-28.
- Yin, R. K., 2009. *Case Study Research: Design and Methods*. Applied Social Research Method Series.. London: SAGE.
- Yin, R. k., 2018. *Case Study Research and Applications: Design and Methods*. Sixth Edition. London: SAGE.
- Yin, R. K. & Davis, D., 2007. Adding New Dimensions to Case Study Evaluations: . In: *Informing Federal Policies for Evaluation Methodologies*. San Francisco: Jossey-Bass, pp. 75-93.

FORECASTING TOURISM DEMAND IN EUROPE

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ABSTRACT

This study investigates the performance of the k nearest neighbor (k NN) forecasts in the context of European tourism demand. The forecasting performance of neural networks is examined across different parameterisations of the k NN model. The selection of the most appropriate k NN parameterisation can produce more accurate forecasts. Tourism demand is forecasted monthly for twenty European countries. Tourism demand is measured via seven variables for the reason of consistency in results. k NNs better forecast tourism demand in shorter horizons; in specific, one month ahead. The parameterisation of the k NN model affects forecasting performance. More sophisticated parameterisations perform better than either an ARIMA model or a naive k NN parameterisation. The inclusion of international stock indices significantly increases forecasting accuracy. The more explanatory variables employed, the higher forecasting accuracy is retrieved. However, there is not a specific group of stock markets affecting more the k NN model's forecasting accuracy. The forecasting accuracy of k NNs differs between three (Western, Eastern and Southern) European regions.

Keywords: Nearest neighbor; Forecast; Europe; Tourism demand.

1 INTRODUCTION

Tourism planning in either a company or regional level is assisted by accurate demand forecasts. However, it was mostly after 2000 that literature started to systematically research tourism demand forecasting. Li et al. (2005) reviewed studies in tourism demand forecasting between 2000 and 2004. Song and Li (2008) reviewed tourism demand forecasting literature between 2004 and 2008. Many papers forecasted tourism demand via linear models, like ARIMA.¹ Tourism demand was also forecasted by autoregressive distributed log model

¹ See, Smeral and Wuger (2005).

(ADLM)¹, error correction model (ECM)², vector autoregressive model (VAR)³, or time varying parameter (TVP)⁴ models. The tourism demand was forecasted also nonlinearly via GARCH modelling in Chan, Lim and McAleer (2005). Neural networks (NN) have been employed in tourism demand forecasting only recently (Kon and Turner, 2005; Palmer et al., 2006; among others). Combining forecasting methods are nonlinear forecasting methods that have relatively recently employed in tourism. These methods combine either linear or nonlinear forecasts from other models. Wong, Song, Witt and Wu (2007) employed the variance-covariance, and the discounted mean square error combining methods. Recently, Shen, Li and Song (2011) employed the forecasting power of the simple average, the variance-covariance, the discounted-mean-square-error, the shrinkage error, and the time-varying parameter combining methods in forecasting UK outbound tourism demand.

Another nonlinear forecasting method is the k -Nearest Neighbor approach. k NN models, with their ability to adapt to data-imperfection, nonlinearity and arbirer function mapping, are a useful alternative to the the static regression forecasting models. The k NN forecasting method is based on the weighted average of the k nearest neighbors of the item predicted. Weights are proportional to the proximity of the neighbor to the predicted item. The forecasting accuracy depends on the choice of the number of neighbors (k) and the distance metric (Kulkarni, Lugosi, and Venkatesh, 1998).

The recent literature puts emphasis on the selection of the number of the k nearest neighbors. This selection is empirically examined internationally for industrial production. Literature has proposed different ways to select the number of k nearest neighbors. If the k value is too small eliminates important information; if it is too large results in noise that deteriorares forecasting accuracy.⁵ One of the first papers dealing with the appropriate number of k nearest neighbors is Stone (1977). In the present paper, RMSE ans MAE loss functions are employed as distance metrics. Regarding the distance metric, see Basseville (1989). The k nearest neighbor regression method was recently empirically analyzed by Ahmed et al. (2010) in a comparative forecasting framework with other machine learning models. Wong et al. (2010) and Kulesh et al. (2008) adopt an adaptive k -nearest neighbors (AKN) method. More recently, a locally weighted regression was introduced by Li, Shen, and Xiong (2012).

Nearest neighbor predictions have been employed and analyzed by both practitioners and academic literature. Fernandez-Rodriguez, et al. (1999) extend nearest-neighbor predictors to allow

¹ See, Song, Wong and Chon (2003).

² See, Kulendran and Witt (2003).

³ See, Song and Witt (2006).

⁴ See, Li et al. (2006).

⁵ A large part of the forecasting literature is volatility forecasting. An influential paper from the latter is Lux and Kaizoji (2007). They compared the forecasting performance of long-memory models to GARCH and ARMA models upon the predictability of both volatility and volume for a large sample of Japanese stocks.

for a wider information set. Gencay (1999) proposed the use of technical trading rules to in-sample select the nearest neighbors. The k NN algorithm is a simple yet effective and hence commonly used classification algorithm in industry and research. Some recent studies are: Maggini, Giles, and Horne (1997), Yang, and Shahabi (2007) and Park, and Samworth (2008). The k NN method is also used to forecast histogram time series (Arroyo, and Mate, 2009). A most recent study on k -nearest neighbor forecasting is Zhang, Jank and Shmueli (2010) with an application to online auctions. Wichard (2011) proposed a combined forecast of a neural network, a nearest neighbor model and a nearest trajectory model as well for the NN5 time series competition data set. k NN can also be used for correcting imbalanced samples; a recent application to tourism is Li and Sun (2012).

The present paper does not concentrate on a forecasting competition. Forecasting competition studies have three limitations: (a) there is not a clear answer to which models should be examined instead of others; (b) in many cases, the forecasting method is assumed to be ordinary least squares (OLS); and (c) more heavily parameterised models are employed only when there are limited datasets available. Because of these limitations, the present paper empirically evaluates different model parameterisations of k NNs. k NNs are compared to the benchmark ARIMA model in terms of forecasting accuracy. The inclusion of the major international stock market indices as explanatory variables tries to raise the forecasting accuracy of the methods employed. It is also examined whether groups of regional stock markets, across the world and per continent, increase the forecasting accuracy of k NNs. The best parameterisation of the k NN method is revealed across twenty European countries and seven tourism demand measures. Three forecasting evaluation criteria provide consistency in results. European tourism demand is measured and forecasted in a monthly frequency.

The paper is structured as follows. In section 2 methodology describes the k NN forecasting model with the forecast evaluation criteria as well. In section 3 data is described. In section 4 the empirical evidence is presented, and in section 5 concluding remarks are provided.

2 METHODOLOGY

The main k NN modelling issues: number of nodes, hidden layers, hidden nodes, output nodes, activation function, training algorithm, training sample, test sample and performance measures (see, Palmer et al., 2006; and, Choudhary and Haider, 2012). The number of nodes, hidden layers, hidden nodes and output nodes are empirically selected. As activation function is employed a locally adjusted linear autoregressive model. Forecasts are retrieved in either univariate or multivariate level. The out-of-sample significance of inclusion of the explanatory variables is

examined.¹ The Levenberg-Marquardt backpropagation is the training algorithm employed.² 500 iterations are employed for optimization. Optimization is based on either root mean square error (RMSE) or mean absolute error (MAE). The twelve months of 2003 year was used as input. The remaining of the dataset is split into training-, validation- and test- sets. The validation set corresponds to the period from January 2011 to June 2013. The test- set corresponds to the last twelve months, from June 2013 to June 2014. The out-of-sample performance of either ARIMA or *k*NNs is evaluated via the Root Mean Square Error (RMSE) and the Mean Absolute Error (MAE) criteria. Both criteria have been extensively employed in the tourism demand forecasting literature.

One-month-ahead (monthly) forecasts are retrieved. The forecasting performance of a *k*NN model is examined across different parameterizations. Moreover, ARIMA model is employed as a benchmark. ARIMA was proposed by Box and Jenkins (1970). Smeral and Wuger (2005) found that ARIMA was a bad performer. ARIMA is selected as a benchmark forecasting model as far as it is the most accurate forecasting model in the tourism demand forecasting literature (see, Claveria and Torra, 2014; among others).

The methodology section focuses on prediction by nearest neighbor methods. The target of *k*NN is to find the *k*-nearest neighbors of a test pattern x ($x \in \omega$) in T based on a dissimilarity measure $d(\cdot, \cdot)$, and then classify the pattern x with the same label as the majority voting of nearest patterns in the training set. The *k*NN algorithm was introduced in Cover and Hart (1967). Let x_t ($t = 1, \dots, n$) be a finite time series. Vectors x^{m, τ_t} of *m* observations are sampled from the original time series at intervals of $\tau \in \mathbb{N}$ units.

$$x_t^{m, \tau} = (x_t, x_{t-\tau}, \dots, x_{t-(m-1)\tau})$$

$$t = 1 + \tau(m-1), \dots, n \quad (1)$$

where *m* is the embedding dimensions and τ the delay parameter. According to Takens (1981), $\tau = 1$ and

$x^{m, \tau} = x^{m, 1}$.³ Local predictions are generated by analyzing the historical paths of the vectors around the last available vector

$$x_n^m = (x_n, x_{n-1}, \dots, x_{n-(m-1)}) \quad (2)$$

¹ Athanasopoulos and Hyndman (2008) employed explanatory variables, like economic variables, dummy variables, in the regression function of the models employed.

² Law (2000), and Pattie and Snyder (1996) were from the first to adopt the back-propagation neural networks model. A more recent study on tourism demand forecasting via a back-propagation neural network is Chen, Lai and Yeh (2012).

The closest k vectors (3) are selected to maximise the function:

$$p(x_i^m, x_n^m) \quad (3)$$

Next, the predictors of the future evolution of x_n^m are simply estimates of x_{n+1} for the next observation.

The prediction x_{n+1}^f of x_{n+1} can be obtained using some extrapolation of observations:

$$x_{i1+1}, x_{i2+1}, \dots, x_{ik+1} \quad (4)$$

subsequent to the k NNs m -histories.

$$x_{n+1}^f = F(x_{i_1+1}, x_{i_2+1}, \dots, x_{i_k+1}) \quad (5)$$

Locally adjusted linear autoregressive predictions are employed for weighting:

$$x_{fn+1} = \alpha^0 x_n + \alpha^1 x_{n-1} + \dots + \alpha^{m-1} x_{n-(m-1)} + \alpha^m \quad (6)$$

Coefficients are fitted by Ordinary Least Squares. The regression is between the k NNs as in (3) on their future evolution. The $\hat{\alpha}_i$ are the values that minimize either (a) Mean Square Errors, or (b) Mean Absolute Errors. For example, MSE:

$$\sum_{r=i}^k (x_{i_r+1} - \alpha_0 x_{i_r} - \alpha_1 x_{i_r-1} - \dots - \alpha_{m-1} x_{i_r-(m-1)} - \alpha_m)^2 \quad (7)$$

For further details on estimation methods World than those two, see Casdagli and Weigend (1994), and Hastie, Tibshirani, and Friedman (2001).

3 DATA AND DESCRIPTIVE ANALYSIS

3.1 Data

Tourism demand can be measured by various variables: tourism revenues (Akal, 2004), tourism employment

(Witt, et al., 2004), tourism expenditure in the destination (Li et al., 2006) and overnight stays (Claveria and Datzira, 2010). Some studies in tourism demand forecasting filter data for removing trends and seasonalities.

However, there is part of the literature showed inconclusive evidence as to whether seasonality should be treated as stochastic or deterministic, and whether imposing seasonal unit roots may lead to more accurate forecasts (see, Coshall, 2005, and Alleyne, 2006). In the present paper, the null

hypotheses of a unit root and nonstationarity are rejected in a 5% significance level for all European countries and tourism demand measures. Moreover, as evidenced in Claveria and Torra (2014), there is a trade-off between the degree of preprocessing and the accuracy of the forecasts obtained with neural networks, which are especially suited to deal with nonlinear data. Here, data series are de-trended; however, no filter for seasonalities is employed. This is because, when data series are filtered heavily for accounting for the presence of seasonality and eliminating the existing outliers, k NNs produce less accurate forecasts. The broader economics literature has extensively studied the recent financial crisis starting from the housing sector in the USA. A plausible crisis effect is not irrelevant to tourism demand forecasting. Min (2005) examined the effect of SARS on tourism demand in Taiwan. However, the limitation for such impact analysis is in periods of successive crises. This is the case since 2008 for Europe. All European countries, for which tourism demand forecasts are produced, are still affected by the consequences of the financial crisis started in 2007. That is why, there is not any care, in the present paper, for the crises' effects in k NN forecasting.

The present paper examines the most out-of-sample accurate parameterization of a k -nearest neighbor model for seven tourism demand in twenty European countries as destinations and not as regions of origin (disaggregate data). Tourism demand is measured by seven different tourism accommodation variables.¹ These seven forecasted tourism demand variables are: the number of nights spent by both residents and non-residents at any tourist demand establishments ($ALL - ALL$), the number of nights spent by both residents and non-residents at any hotel demand ($ALL - HOT$), the number of nights spent by residents at any tourist demand establishments ($RES - ALL$), the number of nights spent by residents at any hotel demand ($RES - HOT$), the number of nights spent by non-residents at any tourist demand establishments ($NRES - ALL$), the number of nights spent by non-residents at any hotel demand ($NRES - HOT$), and the Net occupancy rate of bed-places and bedrooms in hotels and similar accommodation (%) ($NORBP$).

The twenty European countries, for which tourism demand forecasts are provided, are: Austria, Belgium, Cyprus², Czech Republic, Denmark³, Finland, Germany, Greece⁴, Hungary, Italy,

¹ Monthly number of nights spent in hotels were forecasted has been examined by Thawornwong and Enke (2004) and Teixeira and Fernandes (2012).

² The tourism demand of Cyprus as destination was researched in Bicak, Altinay and Jenks (2005) (in an annual frequency).

³ The tourism demand of Denmark as destination was researched in Song, Witt and Jensen (2003) and Witt et al. (2004); both in an annual frequency.

⁴ The tourism demand of Greece as destination was researched in Petropoulos, Patelis, Metaxiotis, Nikolopoulos and Assimakopoulos (2003), Dritsakis (2004), Patsouratis, Frangouli and Anastasopoulos (2005), Petropoulos et al. (2005). All these studies concerned annual data.

Netherlands, Norway, Poland, Portugal¹, Romania, Slovakia, Slovenia, Spain², Sweden³, and UK. Because, in most of cases, tourism policy makers have to make decisions in the short-run (in less than a year)⁴, monthly data series are employed and forecasts are retrieved one-month-ahead.

It is also examined whether four groups of twenty eight equity indices from around the World (*Europe, Americas, Asia, and World*) provide a significant additional explanatory power to the most accurate parameterization of a *k*-nearest neighbor model. The first group concerns twelve European equity markets (*Europe*): Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Spain, Switzerland, and

UK. The second group concerns four American equity markets (*Americas*): Argentina, Brazil, Mexico, and

USA. The third group concerns nine Asian equity markets (*Asia*): Australia, Hong Kong, India, Indonesia, Japan, Malaysia, Singapore, South Korea, and Taiwan. The fourth group concerns all international equity markets (*World*); including the *Europe, Americas, Asia* stock indices as well as the ones from Israel, Russia, and South Africa. The explanatory variables were de-meanned.⁵ The data series for all tourism demand measures and all stock (equity) market indices are available in a monthly sampling frequency for a decade starting in January 2003 and ending in June 2014.

3.2 Descriptive analysis

Both European tourism demand series and stock indices are descriptively analyzed through time series graphs and sojourn density plots. Time series or sojourn density plots depict the similarities and differences in the patterns between the countries of the same group. The twenty European countries for the seven tourism demand measures are split into three groups: *North* (Austria, Belgium, Denmark, Finland, Germany, Netherlands, Norway, Sweden, and United Kingdom), *East* (Czech Republic, Hungary, Poland, Romania, Slovakia, and Slovenia) and *South* (Cyprus, Greece, Italy, Portugal, and Spain).

Figures 1-6 are provided for analyzing the tourism demand (as measured by the two most indicative tourism demand measures as expected: *ALL – ALL* and *NORBP*) for twenty European countries in three groups (*North, East, and South*). The time series graphs for the *ALL–ALL* measure

¹ The tourism demand of Portugal as destination was researched in Rodrigues and Gouveia (2004), Gouveia and Rodrigues (2005). Both studies concern a monthly frequency.

² The tourism demand of Spain as destination was researched in Gil-Alana et al. (2004) (in a quarterly frequency), Roget and Gonzalez (2006) (in an annual frequency).

³ The tourism demand of Sweden as destination was researched in Gustavsson and Nordstrom (2001) and Salman (2003). Both studies concern a monthly measurements.

⁴ Examples are short-term business planning, staffing, stock management, etc.

⁵ Then, ADF-values revealed no unit root at a 5% significance level; no further trend.

are depicted in Figures 1-3, for the *North*, *East*, and *South* groups accordingly. The time series graphs for the *NORBP* measure are depicted in Figures 4-6, for the *North*, *East*, and *South* groups accordingly. The sojourn densities for the *ALL – ALL* measure are depicted in Figures 7-9, for the *North*, *East*, and *South* groups accordingly. The sojourn densities for the *NORBP* measure are depicted in Figures 10-12, for the *North*, *East*, and *South* groups accordingly.

According to the time series figures (Figures 1-6), the evolution of the nights spent in any tourist accommodation (*ALL-ALL*) and the net occupancy rate (*NORBP*) in time is really seasonal with a trend in most cases. European countries have their highest tourism demand in July.¹ There are two exceptions in Europe.

UK has the highest tourism demand in August and September.² The seasonal pattern for tourism demand in Greece changes between nights spent in tourist accommodation and net occupancy rate. The former tourism demand measure indicates highest tourism demand in December and January; whereas, the latter in July and August.

The sojourn density indicates whether the distribution of a series is the stationary density of the Markov chain. The sojourn density summarizes the long-term behaviour of the hidden-states: it quantifies the proportion of time spent by the system at each point in state-space (the so-called "sojourn time"). Sojourn densities characterize the time spent by the series in local neighbourhoods and can be estimated by nonparametric methods (see Phillips, 2001a and 2005, and Rust, 2005). Bulla and Bulla (2006) showed that the sojourn time distribution is the difference between a hidden Markov Model (HMM) and a hidden semi-Markov model (HSMM). A coherent analysis of sojourn densities is provided in Phillips (2001b). If there is irregularity in the sojourn density, there is a unit root; so, the data is not equally spaced in time. In the present paper, the discussion about the distributional properties of the tourism demand and equity indices is derived by sojourn densities.³ There is evidence of irregularity (not bell-shaped curves) in sojourn densities for tourism demand. The sojourn densities for the nights spent at any tourist establishments (*ALL-ALL*) are depicted in Figures 7-9 for the Northern, Eastern and Southern European countries accordingly. The sojourn densities for all European nights spent at any tourist accommodation are skewed at the right. Most of the sojourn densities for the net occupancy rate of bed-places and bedrooms in hotels and similar accommodation (%)

¹ Austria has many nights spent also in January, February and March. Finland has many nights spent also in June. However, they are still lower than the ones in July and August. Sweden has the highest number of nights spent only in July and not in August.

² UK has its highest net occupancy rate in July apart from August and September.

³ Because of the number of stock indices, graphs and sojourn densities for these indices are not included in the paper. However, they are available upon request.

(*NORBP*) are not rightly skewed. However, they are not bell-shaped either. Most of them have two peaks. This indicates nonlinearity in the time series. Moreover, the sojourn densities for the nights spent and net occupancy rates reveal a more complicated pattern in terms of nonlinearities for the latter. European net occupancy rates are depicted in Figures 10-12 for the Northern, Eastern and Southern European countries respectively.

Moreover, the presence of unit root is a common distributional characteristic between European tourism demand and international stock indices. All other distributional properties between these two groups of data series differ. This is the reason why, international stock indices have been employed to explain the European tourism demand. The problem of unit root is treated via the first differences in all data series. The European tourism demand is forecasted either without or with the inclusion of explanatory variables in any *k*NN method. Witt and Song (2000) suggested the inclusion of variables indicative to tourism demand. The present paper examines whether the inclusion of international equity indices improves European tourism demand forecasting. It is also examined whether a group of stock indices increases forecasting performance in the *k*NN methods. The following groups of stock indices are considered: *Europe*, *Americas*, *Asia*, and *World*. Each group of the first three concern the corresponding continents; whereas, the last group concerns all international stock indices. Table 1 analytically deploys the countries for which their major stock indices are the explanatory variables. Forecasting concerns a one-month ahead forecasting horizon. Forecasting takes place in either a univariate or multivariate level for any method employed.

4 EMPIRICAL FINDINGS

4.1 Research questions

Analytical empirical findings are depicted in Tables 2-13. Table 14 provides summarised results. Three evaluation criteria (MAE, RMSE, and DIR) have been employed. MAE is the mean absolute error. RMSE is the root mean square error. DIR is the percentage (%) at which the forecasts accurately predict the direction actual figures. Tables 2-4 provide the out-of-sample evaluation of tourism demand forecasts when the group of European equity indices (*Europe*) are used as the explanatory variables for the three evaluation criteria (MAE, RMSE, and DIR) accordingly. Tables 5-7 concern tourism demand forecasts with the group of American equity indices (*Americas*) as explanatory variables for the three evaluation criteria accordingly. Tables 8-10 present the evaluation of forecasts with the group of Asian equity indices (*Asia*) as explanatory variables for the three evaluation criteria accordingly. Tables 11-13 concern evaluation of forecasts when explanatory

variables are all international equity indices from all regions/continents (*World*) for the three evaluation criteria accordingly.

Many research questions can be retrieved from the empirical evidence. The ones answered in this section are the following:

(1) Indicate which model provides most accurate forecasts. The models AR, Naive, NNM1, NNM2, and NNM3 are symbolized as AR, M0, M1, M2, and M3 accordingly.¹

(2) Does any of the four different parameterisations of k -nearest neighbor models (Naive, NNM1, NNM2, and NNM3) retrieve more accurate forecasts than the ARIMA (AR) benchmark forecasting model? If this is true, it is symbolized by Y; Worldwide, by N. The benchmark forecasting model is an ARIMA model (in either univariate or multivariate level), for which the number of orders is selected according to the AIC information criterion.

(3) Which of the four (Naive, NNM1, NNM2, and NNM3) parameterisations of the k -nearest neighbor model returns the most accurate forecasts? The Naive parameterisation concerns nearest neighbors with automatic selection without explanatory variables, and estimated as a simple average on a default number of neighbors.² This is the only parameterisation without explanatory variables. The NNM1 parameterisation concerns nearest neighbors with explanatory variables and estimated as a simple average of the first k nearest neighbors. The NNM2 parameterisation concerns nearest neighbors with explanatory variables and estimated as a weighted average (by distance) of k nearest neighbors. The NNM3 parameterisation concerns nearest neighbors with explanatory variables and estimated as a simple average on a default number of neighbors.³ Four groups of the main equity indices of their corresponding countries' stocks exchanges are employed as explanatory variables. The equity indices data are indicated and graphically examined in section 3. The indication of the most accurate k -nearest neighbor forecasts for the Naive, NNM1, NNM2, and NNM3 parameterisations, is 0, 1, 2, and 3 accordingly.

(4) The orders for the k -nearest neighbor models (Naive, NNM1, NNM2, NNM3, and NNM4) are estimated by minimising either the RMSE or the MAE evaluation criteria. Is the Root mean square error (RMSE) or the Mean absolute error (MAE) loss function (e.g. equation 7) that provides more accurate forecasts? If none, the RMSE, or the MAE loss function provides more accurate k -

¹ The ARIMA model, for the remaining of the paper, will be notated as AR for simplicity reasons.

² The default number of neighbors is selected to be capped to 2% of the number of the out-of-sample period, which in its turn is capped to 1/3 the number of total observations.

³ The default number of neighbors is selected to be capped to 2% of the number of the out-of-sample period, which in its turn is capped to 1/3 the number of total observations.

nearest neighbor forecasts than the others, the 0, R, and M symbols are indicated accordingly.¹

For example, a result of M1-Y-1-R in any table indicates that a European country's specific demand measure is more accurately forecasted by the NNM1 (or M1) model. This result concerns a specific group of explanatory variables (*Asia*), when the evaluation takes place from the RMSE criterion as well as in either a univariate or multivariate level. Y indicates there is a k -nearest neighbor model that provides more accurate forecasts than the AR benchmark model. 1 signifies the NNM1 parameterisation is the most accurate parameterisation. R depicts minimising the Root mean square error (RMSE) loss function provides more accurate forecasts than the Mean absolute error (MAE) loss function.

4.2 Empirical evidence

In most of European countries, demand is better forecasted by the back-propagation neural network (or k -nearest neighbor) model compared to the ARIMA benchmark. This result is also evident in Chen, Lai and Yeh (2012). Athanasopoulos and Hyndman (2008) found that the inclusion of economic variables improves the forecasting performance of state space models in forecasting tourism demand. The inclusion of international stock indices as explanatory variables in k NN models improves the forecasting performance of this class of models. This result is evident in an either univariate or multivariate forecasting framework. Most of the explanatory variables are positively related to tourism demand. This means as the growth in the international stock markets increase the tourism demand in Europe.

5 CONCLUDING REMARKS

Summarized results are provided in Tables 14 and 15. Across all results, the k NNs forecast European tourism demand better than ARIMA. There is not clear evidence on which of the three parameterisations is best for k NNs forecasting European tourism demand. The The results of the present paper contradict to the results of Claveria and Torra (2014), in terms of NNs performance. As indicated in the Empirical findings section, k NNs outperform ARIMA.² This result is evident regardless the inclusion as well as the selection of stock indices as explanatory variables. However, this result is evident on Cho (2003).

The NNM3 parameterisation, which concerns nearest neighbors with explanatory variables and estimated as a simple average on a default number of neighbors, provides the best forecasts when

¹ When neither of the RMSE and MAE loss functions can return more accurate forecasts than the other, the 0 symbol is used.

² The ARIMA model more accurately forecast tourism demand only in Northen Europe in a univariate forecasting framework.

European stock indices are explanatory variables. When either American or Asian stock indices are used as explanatory variables, the NNM2 parameterisation (which concerns nearest neighbors with explanatory variables and estimated as a weighted average -by distance- of k nearest neighbors) provide the best forecasts. When all international stock indices are explanatory variables, the NNM1 parameterisation (which concerns nearest neighbors with explanatory variables and estimated as a simple average of the first k nearest neighbors) forecasts best the European tourism demand. When forecast evaluation is implemented via the RMSE criterion, the best forecasts come from the RMSE-optimized k NNs.

The tourism demand in the Northern and Eastern Europe is better forecasted via the NNM2 parameterisation. In Southern Europe, there is not a clear-cut winner between NNM0, NNM2 and NNM3. The common outcome is that only k NNs can forecast accurately European tourism demand, regardless the geographical location of each European country.

REFERENCES

- [1] Ahmed, N., Atiya, A., Gayar, N., El-Shishiny, H., 2010. An empirical comparison of machine learning models for time series forecasting. *Econom. Rev.* 29 (5-6), 594-621.
- [2] Akal, M., 2004. Forecasting Turkey's tourism revenues by ARMAX model. *Tour. Manag.* 26, 359-365.
- [3] Alleyne, D., 2006. Can seasonal unit root testing improve the forecasting accuracy of tourist arrivals? *Tourism Economics* 12, 45-64.
- [4] Arroyo, J., Mate, C. 2009. Forecasting histogram time series with k -nearest neighbours methods. *Int. J. Forecast.* 25 (1), 192-207.
- [5] Athanasopoulos, G., Hyndman, R.J., 2008. Modelling and forecasting Australian domestic tourism. *Tour. Manag.* 29, 19-31.
- [6] Basseville, M., 1989. Distance measure for signal processing and pattern recognition. *Sign. Process.* 18 (4), 349-369.
- [7] Bicak, H.A., Altinay, M., Jenkins, H., 2005. Forecasting tourism demand of North Cyprus. *Journal of Hospitality and Leisure Marketing* 12, 87-99.
- [8] Box, G.E.P., Jenkins, G.M., 1970. *Time series analysis, forecasting and control*. San Francisco: Holden Day.
- [9] Bulla, J., Bulla, I. 2006. Stylized facts of financial time series and hidden semi-Markov models. *Comp. Stat. Data Anal.* 51 (4), 2192 – 2209.
- [10] Casdagli, M., Weigend, A.S., 1994. Exploring the continuum between deterministic and stochastic modelling, in: Weigend, A.S., Gereshenfeld, N.A. (Eds.), *Time Series Prediction: Forecasting the Future and Understanding the Past*. Reading, MA: Addison Wesley.
- [11] Chan, F., Lim, C., McAleer, M., 2005. Modelling multivariate international tourism demand and volatility. *Tourism Management* 26, 459-471.
- [12] Chen, C.-F., Lai, M.-C., Yeh, C.-C., 2012. Forecasting tourism demand on empirical mode decomposition and neural network. *Knowledge-Based Systems* 26, 281-287.
- [13] Cho, V., 2003. A comparison of three different approaches to tourist arrival forecasting. *Tour. Manag.* 24, 323-330.
- [14] Choudhary, A., Haider, A., 2012. Neural network models for inflation forecasting: an appraisal *Appl. Econ.* 44, 2631-2635.
- [15] Claveria, O., Datzira, J., 2010. Forecasting tourism demand using consumer expectations. *Tour. Rev.* 65, 18-36.
- [16] Claveria, O., Torra, S., 2014. Forecasting tourism demand to Catalonia: Neural networks vs. time series models. *Econ. Mod.* 36, 220-228.

- [17] Coshall, J.T., 2005. A selection strategy for modelling UK tourism flows by air to European destinations. *Tourism Economics* 11, 141-158.
- [18] Cover, T.M., Hart, P.E., 1967. Nearest neighbor pattern classification. *IEEE Transactions on Information Theory* IT-13(1), 21-27.
- [19] Dritsakis, N., 2004. Cointegration analysis of German and British tourism demand for Greece. *Tourism Management* 25, 111-119.
- [20] Fernandez-Rodriguez, F., Sosvilla-Rivero, S., Andrada-Felix, J., 1999. Exchange-rate forecasts with simultaneous nearest-neighbour methods: evidence from the EMS. *Int. J. Forecast.* 15 (4), 383-392.
- [21] Gencay, R., 1999. Linear, non-linear and essential foreign exchange rate prediction with simple technical trading rules. *J. Int. Econ.* 47 (1), 91-107.
- [22] Gil-Alana, L.A., Gracia, F.P.D., Cunado, J., 2004. Seasonal fractional integration in the Spanish tourism quarterly time-series. *Jouurnal of Travel Research* 42, 408-414.
- [23] Gouveia, P.M.D.C.B., Rodrigues, P.M.M., 2005. Dating and synchronizing tourism growth cycles. *Tourism Economics* 11, 501-515.
- [24] Gustavsson, P., Nordstrom, J., 2001. The impact of seasonal unit roots and vector ARMA modelling on forecasting monthly tourism flows. *Tourism Economics* 7, 117-133.
- [25] Hastie, T., Tibshirani, R., Friedman, J., 2001. *The Essentials of Statistical Learning*, Springer, New York.
- [26] Kon, S.C., Turner, W.L., 2005. Neural network forecasting of tourism demand. *Tour. Econ.* 11, 301-328.
- [27] Kulendran, N., Witt, S.F., 2003. Leading indicator tourism forecasts. *Tourism Management* 24, 503-510.
- [28] Kulesh, M., Holschneider, M., Kurennaya, K., 2008. Adaptive metrics in the nearest neighbours method. *Physics D* 237 (3), 283-291.
- [29] Kulkarni, S.R., Lugosi, G., Venkatesh, S.S., 1998. Learning pattern classification survey. *IEEE Transact. on Inf. Theory* 44 (6), 2178-2206.
- [30] Law, R., 2000. Back-propagation learning in improving the accuracy of neural network-based demand forecasting. *Tour. Manag.* 21, 331-340.
- [31] Li, G., Wong, K.F., Song, H., Witt, S.F., 2006. Tourism demand forecasting: a time varying parameter error correction model. *J. Travel Res.* 45, 175-185.
- [32] Li, S., Shen, Z., Xiong, G., 2012. A k-nearest neighbor locally weighted regression method for short-term traffic flow forecasting. 2012 15th International IEEE Conference on Intelligent Transportation Systems (ITSC), p.p. 1596-1601.
- [33] Li, G., Song, H., Witt, S.F., 2005. Recent developments in econometric modeling and forecasting. *J. Travel Research* 44, 82-99.
- [34] Li, H., Sun, J., 2012. Forecasting business failure: The use of nearest-neighbour support vectors and correcting imbalanced samples - Evidence from the Chinese hotel industry. *Tourism Management* 33 (3), 622-634.
- [35] Lux, T., Kaizoji, T., 2007. Forecasting volatility and volume in the Tokyo stock market: long memory, fractality and regime switching. *Journal of Economic Dynamics and Control* 31 (6), 1808-1843.
- [36] Maggini, M., Giles, C., Horne, B., 1997. Financial time series forecasting using k-nearest neighbors classification, in: Cadwell, R.B. (Eds.), *Nonlinear Financial Forecasting: Proceedings of the First INFFC*. p.p.169-181.
- [37] Min, J.C.H., 2005. The effect of the SARS illness on tourism in Taiwan: an empirical study. *International Journal of Management* 22, 497-506.
- [38] Palmer, A., Montano, J.J., Sese, A., 2006. Designng an artificial neural network for forecasting tourism time-series. *Tour. Manag.* 27, 781-790.2006)
- [39] Park, B., Samworth, R., 2008. Choice of neighbor order in nearest-neighbor classification. *Annals Statist.* 36 (5), 2135-2152.
- [40] Patsouratis, V., Frangouli, Z., Anastasopoulos, G., 2005. Competition in tourism among the Mediterranean countries. *Applied Economics* 37, 1865-1870.
- [41] Pattie, D.C., Snyder, J., 1996. Using a neural network to forecast visitor behavior. *Ann. Tour. Res.* 23(1), 151-164.
- [42] Petropoulos, C., Nikolopoulos, K., Patelis, A., Assimakopoulos, V., 2005. A technical analysis approach to tourism demand forecasting. *Applied Economics Letters* 12, 327-333.
- [43] Petropoulos, C., Patelis, A., Metaxiotis, K., Nikolopoulos, K., Assimakopoulos, V., 2003. SFTIS: A ecision support system for tourism demand analysis and forecasting. *Journal of Computer Information Systems* 44, 21-32.
- [44] Phillips, P.C.B., 2001a. Trending time series and macroeconomic activity: Some present and future challenges. *J. Econom.* 100 (1), 21-27.
- [45] Phillips, P.C.B., 2001b. Descriptive econometrics for non-stationary time series with empirical illustrations. *J. Appl. Econom.* 16 (3), 389-413.

- [46] Phillips, P.C.B., 2005. Econometric analysis of Fisher's equation. *Amer. J. Econ. and Soc.* 64 (1), 125–168.
- [47] Rodrigues, P.M.M., Gouveia, P.M.D.C.B., 2004. An application of PAR models for tourism forecasting. *Tourism Economics* 10, 281-303.
- [48] Roget, F.M., Gonzalez, X.A.R., 2006. Rural tourism demand in Galicia, Spain. *Tourism Economics* 12, 21-31.
- [49] Rust, J., 2005. Comments on "Econometric Analysis of Fisher's Equation" by Peter C. B. Phillips, *Amer. J. Econ. Soc.* 64 (1), 169–184.
- [50] Salman, A.K., 2003. Estimating tourist demand through cointegration analysis: Swedish data. *Current Issues in Tourism* 6, 323-339.
- [1] Shen, S., Li, G., Song, H., 2011. Combination forecasts of international tourism demand. *Annals of Tourism Research*, 38 (1), 72-89.
- [51] Smeral, E., Wuger, M., 2005. Does complexity matter? Methods for improving forecasting accuracy in tourism: The case of Australia. *Journal of Travel Research* 44, 100-110.
- [52] Song, H., Li, G., 2008. Tourism demand modelling and forecasting - A review of recent research. *Tour. Manag.* 29, 203-220.
- [53] Song, H., Witt, S.F., 2006. Forecasting international tourist flows to Macau. *Tourism Management* 27, 214-224.
- [54] Song, H., Witt, S.F., Jensen, T.C., 2003. Tourism forecasting: Accuracy of alternative econometric models. *International Journal of Forecasting* 19, 123-141.
- [55] Song, H., Wong, K.F., Chon, K.K.S., 2003. Modelling and forecasting the demand for Hong Kong tourism. *International Journal of Hospitality Management* 22, 435-451.
- [56] Stone, C.J., 1977. Consistent nonparametric regression. *Annals Statist.* 5 (4), 595-645.
- [57] Takens, F., 1981. Detecting strange attractors in turbulence. *Lect. Notes in Math.* 898, 365–381.
- [58] Teixeira, J.P., Fernandes, P.O., 2012. Tourism time series forecast - Different ANN architectures with time index input. *Procedia Technology* 5, 445-454.
- [59] Thawornwong, S., Enke, D., 2004. The adaptive selection of financial and economic variables for use with artificial networks. *Neurocomputing* 6, 205-232.
- [60] Wichard, J.D., 2011. Forecasting the NN5 time series with hybrid models. *Int. J. Forecast.* 27 (3), 700-707.
- [61] Witt, S.F., Song, H., 2000. Forecasting future tourism flows. In S. Medik, & A. Lockwood (Eds.), *Tourism and hospitality in the 21st century* (pp. 106-118). Oxford: Butterworth-Heinemann.
- [62] Witt, S.F., Song, H., Louvieris, P., 2003. Statistical testing in forecasting model selection. *Journal of Travel Research* 42, 151-158.
- [63] Witt, S.F., Song, H., Wanhill, S.P., 2004. Forecasting tourism-generated employment: the case of Denmark. *Tour. Econ.* 10, 167-176.
- [64] Wong, W.K., Xia, M., Chu, W.C., 2010. Adaptive neural network model for time-series forecasting. *European J. Operational Res.* 207 (2), 807-816.
- [65] Yang, K., Shahabi, C., 2007. An efficient k nearest neighbor search for multivariate time series. *Inf. Comput.* 205 (1), 65–98.
- [66] Zhang, S., Jank, W., Shmueli, G., 2010. Real-time forecasting of online auctions via functional K-nearest neighbors. *Int. J. Forecast.* 26 (4), 666-683.

TABLES

Table 1. Classification of dependent and explanatory data time series

Dependent-variables groups			Explanatory-variables groups			
North	East	South	Europe	Americas	Asia	World
Austria	CzechRepublic	Cyprus	Austria	Argentina	Australia	Israel
Belgium	Hungary	Greece	Belgium	Brazil	China	Russia
Denmark	Poland	Italy	Finland	Mexico	HongKong	SouthAfrica
Finland	Romania	Portugal	France	USA	Japan	
Germany	Slovakia	Spain	Germany		India	
Netherlands	Slovenia		Greece		Indonesia	
Norway			Ireland		Malaysia	
Sweden			Italy		Singapore	
UnitedKingdom			Netherlands		SouthKorea	
			Spain		Taiwan	
			Switzerland			
			UnitedKingdom			

Notes. Table 1 reports the classifications of dependent (country tourism demand) and explanatory (stock market indices) variables to three and four groups accordingly. Country tourism demand is measured via seven measures: (1) the number of nights spent by both residents and non-residents at any tourist establishments (*ALL-ALL*), (2) the number of nights spent by both residents and non-residents at hotels (*ALL-HOT*), (3) the number of nights spent by residents at any tourist establishment (*RES -ALL*), (4) the number of nights spent by residents at hotels (*RES - HOT*), (5) the number of nights spent by non-residents at any tourist establishment (*NRES - ALL*), (6) the number of nights spent by non-residents at hotels (*NRES - HOT*), and (7) the net occupancy rate of bed-places and bedrooms in hotels and similar tourist accommodation (%)

(NORBP).

Table 2. Mean absolute error (MAE) evaluation of *k*-nearest neighbor European tourism demand forecasts

	ALL – ALL	ALL – HOT	RES – ALL	RES – HOT	NRES – ALL	NRES – HOT	NORBP	Average
Panel A. Northern European countries (North)								
Austria	0.1703	0.4370	0.0123	0.0575	0.1202	6.27e-4	0.0361	0.1191
Belgium	0.0129	0.0699	0.0628	0.0017	0.0288	0.0087	0.0359	0.0315
Denmark	0.3291	0.0116	0.0040	0.0066	0.0643	0.0123	0.0847	0.0732
Finland	0.0211	0.1173	0.0208	0.0056	0.0103	0.0028	0.0235	0.0288
Germany	0.3753	0.1326	0.2841	0.0844	0.1699	8.39e-4	0.0573	0.1578
Netherlands	0.8046	0.0010	0.2978	0.0020	0.4837	0.0269	0.0204	0.2338
Norway	0.0412	0.0082	0.0394	0.0135	0.0229	0.0059	0.0765	0.0297
Sweden	0.1052	0.3093	0.0934	0.0770	0.0019	0.0066	0.1389	0.1046
United Kingdom	0.0961	0.8597	0.6425	0.1449	0.2994	0.1257	0.0727	0.3201
Czech Republic	Panel B. Eastern European countries (East)							
	0.2752	0.1800	0.0945	0.0161	0.0075	0.0451	0.1157	0.1049
Hungary	0.1163	0.1591	0.0438	0.0338	0.0494	0.0152	0.3158	0.1048
Poland	0.1415	0.0044	0.0404	0.0099	0.0087	0.0051	0.0860	0.0423
Romania	0.0335	0.2688	0.0033	0.0190	0.0021	3.85e-4	0.0410	0.0526
Slovakia	0.1227	0.0028	0.0113	0.0027	0.0498	0.0246	0.0234	0.0339
Slovenia	0.2649	0.0400	0.0356	0.0018	0.3004	0.0113	0.6777	0.1902
Cyprus	Panel C. Southern European countries (South)							
	0.0361	0.0135	-	-	0.0150	0.0095	0.1442	0.0437
Greece	0.1339	0.1731	0.0020	0.0131	0.1276	0.1170	0.1414	0.1012
Italy	0.9931	-	0.4546	0.2035	0.5005	0.0615	0.0087	0.3703
Portugal	0.1060	0.7129	0.0629	0.3031	0.0305	0.0177	0.8165	0.2928
Spain	4.24	7.84	4.04	1.1137	0.5837	0.0397	0.4968	2.6226

Average 0.4209 0.5971 0.3287 0.1111 0.1438 0.0269 0.17066 0.2570

Notes. Table 2 reports the forecast evaluation of seven tourism demand series for twenty European countries, via the Mean absolute error (MAE) criterion. Each of the reported values concerns the best forecasting evaluation across all *k*NN parameterisations, and across all selections of stock indices as explanatory variables. The forecasted tourism demand series are: the number of nights spent by both residents and non-residents at any tourist demand establishments series (*ALL – ALL*), the number of nights spent by both residents and non-residents at any hotel demand series (*ALL–HOT*), the number of nights spent by residents at any tourist demand establishments series (*RES – ALL*), the number of nights spent by residents at any hotel demand series (*RES–HOT*), the number of nights spent by non-residents at any tourist demand establishments series (*NRES–ALL*), the number of nights spent by non-residents at any hotel demand series (*NRES–HOT*), and the Net occupancy rate of bed-places and bedrooms in hotels and similar demand (%) (*NORBP*). Moreover, an average measure (*Average*) indicates the average result across all tourism demand series forecasted.

Table 3. Root mean square error (RMSE) evaluation of *k*-nearest neighbor European tourism demand forecasts

	ALL – ALL	ALL – HOT	RES – ALL	RES – HOT	NRES – ALL	NRES – HOT	NORBP	Average
Panel A. Northern European countries (North)								
Austria	6.99	2.47	2.90	2.51	8.46	6.18	6.09	5.09
Belgium	1.72	1.42	2.02	0.5457	1.63	1.04	2.99	1.62
Denmark	4.22	0.8490	3.29	0.4359	2.27	0.5939	3.08	2.10
Finland	1.75	1.23	1.57	1.06	0.8633	0.5795	2.53	1.37
Germany	32.34	13.14	25.11	12.19	4.69	2.92	2.90	13.33
Netherlands	11.87	2.15	4.33	1.27	4.99	1.24	3.11	4.14
Norway	3.23	2.41	1.58	1.17	1.25	0.4146	3.62	1.95
Sweden	3.13	2.00	2.29	0.9761	1.05	0.8876	1.50	1.69
United Kingdom	39.99	10.98	25.55	4.31	13.64	4.83	2.91	14.60
Czech Republic	Panel B. Eastern European countries (East)							
	2.04	2.52	0.6688	0.8062	2.01	1.40	2.41	1.69
Hungary	1.01	1.81	1.30	0.7536	1.46	0.9054	3.33	1.51
Poland	2.87	1.98	2.84	1.32	1.37	0.7008	1.92	1.86
Romania	2.20	2.05	1.59	1.27	0.3203	0.2096	2.37	1.43

Slovakia	1.06	0.4984	0.7758	0.0242	0.5941	0.3048	1.52	0.6752
Slovenia	0.8142	0.3832	0.5287	0.3062	0.8045	0.3717	3.63	0.9771
Cyprus	Panel C. Southern European countries (South)							
	European (Southern)							
	1.68	1.97	-	-	1.03	2.00	7.64	2.86
Greece	11.83	3.32	2.78	1.19	13.46	2.88	5.14	5.80
Italy	24.95	-	21.11	14.34	13.62	13.99	2.57	15.10
Portugal	3.85	3.25	1.96	1.32	2.89	3.04	2.53	2.69
Spain	30.98	27.16	17.81	7.64	21.83	12.72	2.79	17.28
<i>Average</i>	9.43	4.29	6.32	2.81	4.91	2.86	3.23	4.89

Notes. Table 3 reports the forecast evaluation of seven tourism demand series for twenty European countries, via the Root mean square error (RMSE) criterion.

Table 4. Directional (DIR) evaluation of k-nearest neighbor European tourism demand forecasts

	ALL – ALL	ALL – HOT	RES – ALL	RES – HOT	NRES – ALL	NRES – HOT	NORBP	Average
Panel A. Northern European countries (North)								
	0.8889	1.00	0.7778	0.6667	0.8889	0.8889	0.7778	0.8413
Belgium	0.8889	0.4444	0.7778	0.5556	0.4444	0.4444	0.7778	0.6190
Denmark	0.8889	0.7778	0.6667	0.5556	0.7778	0.7778	1.00	0.7778
Finland	0.7778	0.3333	0.7778	0.7778	0.8889	0.5556	0.7778	0.6984
Germany	0.8889	0.8889	0.8889	0.8889	0.8889	0.7778	0.8889	0.8730
Netherlands	1.00	0.8889	0.8889	0.7778	0.6667	0.7778	1.00	0.8571
Norway	0.8889	0.5556	0.8889	0.6667	0.6667	0.5556	0.7778	0.7143
Sweden	0.8889	0.6667	0.8889	0.7778	0.7778	0.5556	1.00	0.7937
United Kingdom	0.7778	1.00	0.8889	1.00	0.7778	1.00	0.8889	0.9048
Czech Republic	Panel B. Eastern European countries (East)							
	European (East)							
	0.8889	0.7778	1.00	0.6667	0.5556	0.6667	0.8889	0.7778
Hungary	0.8889	0.7778	0.7778	0.6667	0.7778	0.7778	0.7778	0.7778

Poland	1.00	0.8889	0.8889	0.8889	0.6667	0.8889	0.8889	0.8730
Romania	1.00	0.8889	0.7778	0.8889	0.4444	0.5556	1.00	0.7937
Slovakia	0.8889	0.6667	0.6667	0.5556	0.4444	0.6667	1.00	0.6984
Slovenia	0.8889	0.6667	0.3333	0.5556	0.5556	1.00	0.8889	0.6984
Cyprus	Panel C. Southern European countries (Southern Europe) (So)							
	0.8889	0.7778	-	-	0.8889	0.8889	0.8889	0.8667
Greece	0.8889	0.7778	0.8889	0.6667	1.00	0.6667	0.7778	0.8095
Italy	0.8889	-	0.6667	0.7778	1.00	1.00	0.8889	0.8704
Portugal	1.00	1.00	0.6667	0.6667	0.7778	0.8889	1.00	0.8571
Spain	0.8889	1.00	0.6667	1.00	1.00	1.00	1.00	0.9365
<i>Average</i>	0.9001	0.7778	0.7778	0.7368	0.7445	0.7667	0.8945	0.8019

Notes. Table 4 reports the forecast evaluation of seven tourism demand series for twenty European countries, via the directional (DIR) criterion.

Table 5. The significance of the groups of stock indices on k -nearest neighbor European tourism demand forecasts

	MAE	RMSE	DIR
Panel A. Northern European countries (<i>North</i>)			
Austria	World	Americas	Europe
Belgium	-	Europe	-
Denmark	Americas	Americas	World
Finland	Europe	Americas	-
Germany	Europe	World	-
Netherlands	Americas	Americas	-
Norway	Europe	Americas	World
Sweden	-	Americas	World
United Kingdom	-	Americas	World
NORTH	Europe	Americas	World
Panel B. Eastern European countries (<i>East</i>)			

CzechRepublic	Europe	Europe	Asia
Hungary	Americas	Americas	World
Poland	Americas	World	World
Romania	Americas	Europe	Americas
Slovakia	World	Europe	World
Slovenia	Americas	Americas	World
EAST	Americas	Europe	World
Panel C. Southern European countries (<i>South</i>)			
Cyprus	-	World	World
Greece	Europe	Americas	-
Italy	Americas	Americas	-
Portugal	-	Americas	World
Spain	Americas	Americas	World
SOUTH	Americas	Americas	World
<i>TOTAL</i>	Americas	Americas	World

Notes. Table 5 reports the groups of international stock indices (if any), for which the most accurate tourism demand forecasts are retrieved for the Norther, Easter, Southern and Total European countries. The groups of international stock indices which are indicated as Europe, Asia, Americas and World, concern the European, Asian, American and World-wide (all) stock indices. - indicates there is no group of explanatory variables (stock indices) producing more accurate forecasts than the others. *NORTH*, *EAST*, *SOUTH* and *TOTAL* symbolize the group of stock indices with the most accurate *k*NN forecasts for Northern, Eastern, Southern and Total European countries, accordingly.

Table 6. Univariate Vs. Multivariate *k*NN forecasting

ALL – ALL	ALL – HOT	RES – ALL HOT	RES – HOT	NRES – ALL	NRES	– NORBP	All
P							
U _a	M	M	U	U	U	M	U
M ⁿ _e	M	U	M	M	M	U	M
U _l	U	U	U	M	M	U	U
U	M	U	U	M	M	U	U

A. Mean absolute error (*MAE*)

North

East

South

Total

P							
U ^a _n	U	M	M	U	M	U	U
U _e	U	M	M	U	U	U	U
U _l	U	U	U	M	U	U	U
U	U	M	M	U	U	U	U
B							

. Root mean square error (RMSE)

North

East

South

Total

Panel C. Direction (DIR)

North	U	U	M	U	U	U	U	U
East	M	U	M	M	M	U	M	M
South	U	M	U	M	M	U	U	U
Total	U	M	M	M	M	U	U	M

Notes. Table 6 reports whether the most accurate forecasts come from univariate or multivariate *k*NN forecasts. Results are summarized for Northern, Eastern, Southern and Total European countries. Results are presented for all tourism demand measures. *All* indicates the results across the board of all tourism demand measures. Forecasts are evaluated via mean absolute error, root mean square error and a directional criterion. They are symbolized as MAE, RMSE and DIR in Panel A, B and C accordingly.

Table 7. RMSE- Vs. MAE-based kNN forecasting

Panel A. Mean absolute error (MAE)

0	M	0	0	0	R	0	0
0	0	0	0	M	0	0	0
0	R	0	0	0	0	0	0
0	0	0	0	0	0	0	0

P

M _a	M	M	M	M	M	M	M
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nel B. Root mean square error (RMSE)

<i>North</i>	M	M	M	M	M	M	M	M
<i>East</i>	M	M	M	M	M	M	M	M
<i>South</i>	M	M	M	M	M	M	M	M
<i>Total</i>	ALL – ALL	ALL – HOT	RES – ALL HOT	RES – HOT	NRES – ALL	NRES – NORBP	All	

Panel C. Direction (*DIR*)

North	M	0	0	0	0	0	M	0
East	0	0	0	0	R	0	0	0
South	0	M	R	0	0	0	0	0
Total	0	0	0	0	0	0	0	0

Notes. Table 7 reports whether the most accurate forecasts come from univariate or multivariate *k*NN forecasts. R depicts minimising the Root mean square error (RMSE) loss function provides the most accurate forecasts. M indicates the Mean absolute error (MAE) loss function most accurately forecast tourism demand. 0 indicates none of RMSE and MAE loss functions provide more accurate forecasts. Results are summarized for Northern, Eastern, Southern and Total European countries. Results are presented for all tourism demand measures. *All* indicates the results across the board of all tourism demand measures. Forecasts are evaluated via mean absolute error, root mean square error and a directional criterion. They are symbolized as MAE, RMSE and DIR in Panel A, B and C accordingly.

Panel A. Mean absolute error (*MAE*)

Y	Y	Y	Y	Y	Y	Y	Y	Y
Y	Y	Y	N	N	Y	Y	Y	Y
Y	Y	Y	Y	Y	N	Y	Y	Y
Y	Y	Y	Y	Y	Y	Y	Y	Y
P								
Y	a	Y	Y	Y	Y	Y	Y	Y
Y	n	Y	Y	Y	N	N	Y	Y
Y	e	Y	Y	Y	Y	Y	Y	Y
Y	l	Y	Y	Y	Y	Y	Y	Y

B. Root mean square error (*RMSE*)

North

East

South

Total

Table 8. kNN Vs. ARIMA forecasting

P									
a									
ALL	n	ALL	ALL - HOT	RES - ALL	RES - HOT	NRES	- NRES - HOT	NORBP	All
e									
l									

Table 9. kNN forecasting

C								
. Direction (DIR)								
North	Y	Y	Y	Y	Y	Y	Y	Y
East	Y	Y	Y	Y	N	Y	Y	Y
South	Y	N	Y	Y	Y	Y	Y	Y
Total	Y	Y	Y	Y	Y	Y	Y	Y

Notes. Table 8 reports whether the most accurate forecasts come from univariate or multivariate kNN forecasts. Y indicates there is a k-nearest neighbor model that provides more accurate forecasts than the ARIMA benchmark model. N indicates the opposite. Results are summarized for Northern, Eastern, Southern and Total European countries. Results are presented for all tourism demand measures. All indicates the results across the board of all tourism demand measures. Forecasts are evaluated via mean absolute error, root mean square error and a directional criterion. They are symbolized as MAE, RMSE and DIR in Panel A, B and C accordingly.

Panel A. Mean absolute error (MAE)

M0	M2	M2	M0	M0	M0	M1	M0
M2	M2	M2	M3	M0	M1	M0	M0
M2	M2	M0	M2	M3	M0	M0	M2
M0	M2	M0	M2	M2	M0	M0	M0
M2	M2	M2	M2	M2	M0	M0	M2
M2	M2	M0	M2	M2	M0	M0	M2
M2	M2	M2	M3	M0	M1	M0	M2
M2	M2	M2	M0	M0	M0	M0	M0

Panel B. Root mean square error (RMSE)

North
East
South
Total

P								
a								
	<i>ALL - ALL</i>	<i>ALL - HOT</i>	<i>RES - ALL</i>	<i>RES - HOT</i>	<i>NRES - ALL</i>	<i>NRES - HOT</i>	<i>NORBP</i>	<i>All</i>
e								
1 C. Direction (<i>DIR</i>)								
North	M0	M0	M0	M0	M2	M2	M0	M0
East	M2	M2	M2	M2	M0	M0	M1	M2
South	M2	M1	M2	M2	M0	M2	M1	M2
Total	M2	M0	M2	M2	M0	M2	M1	M2

Notes. Table 9 reports the *k*NN parameterisation with the most accurate forecasts. The Naive parameterisation (M0) concerns nearest neighbors with automatic selection without explanatory variables, and estimated as a simple average on a default number of neighbors. The NNM1 parameterisation (M1) concerns nearest neighbors with explanatory variables and estimated as a simple average of the first *k* nearest neighbors. The NNM2 parameterisation (M2) concerns nearest neighbors with explanatory variables and estimated as a weighted average (by distance) of *k* nearest neighbors. The NNM3 parameterisation (M3) concerns nearest neighbors with explanatory variables and estimated as a simple average on a default number of neighbors. Results are summarized for Northern, Eastern, Southern and Total European countries. Results are presented for all tourism demand measures. *All* indicates the results across the board of all tourism demand measures. Forecasts are evaluated via mean absolute error, root mean square error and a directional criterion. They are symbolized as MAE, RMSE and DIR in Panel A, B and C accordingly.

DIGITAL TECHNOLOGIES AND TECHNOSTRESSORS, A SURPRISING PARADOX FOR PRODUCTIVITY AND WORK/HOME CONFLICT

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ABSTRACT

Digital technologies are rapidly becoming a major fixture in both our work and personal lives. This study empirically validates the impact of information overload, technostress, and the role of presenteeism as key to determining the impact on productivity and conflict (between work-family and technology-family) related to digital technology use. This empirically tests new constructs related to technostressors and social media.

Keywords: technostress, work-family conflict, digital technology, social media, sociotechnical theory

INTRODUCTION

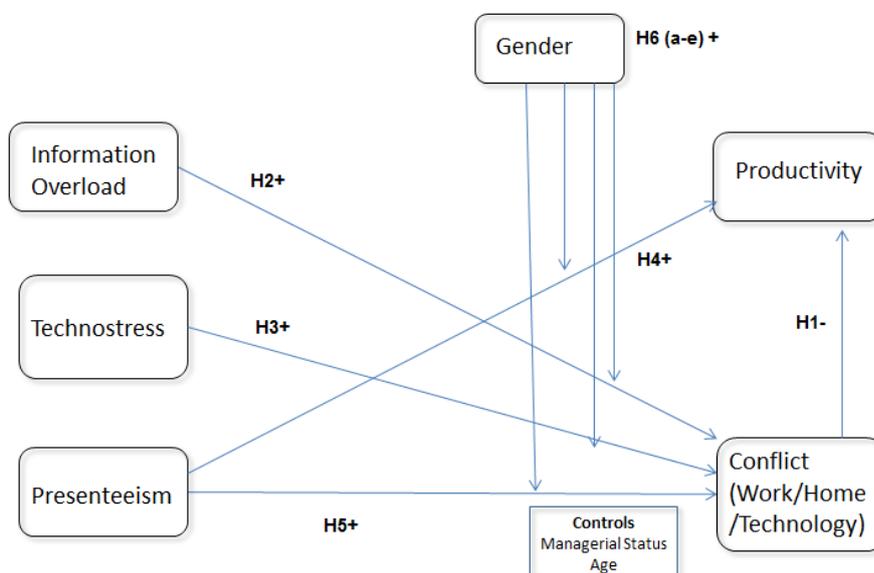
This study empirically validates the impact of information overload, technostress, and the role of presenteeism as key to determining the impact on productivity and conflict (between work-family and technology-family) related to digital technology use. Digital technology is transforming not only our personal lives but also the way we work. Technology is introduced into our personal lives and the workplace at rapid speed. This technology includes devices (i.e., tablets, smartphones); social applications (i.e., social networking and social media); or knowledge applications such as collective intelligence (e.g. crowdsourcing, crowdfunding).

Digital technologies such as cloud, mobile, data/analytics and social media are forcing companies to rethink how they compete and win customers. The demands and expectation of employees and management are increasing as technology/tools become more sophisticated and accessible. At the same time, technology is an integral part of our professional and family lives. A large body of research has considered the positive aspects of information technology (IT) use. However, research spanning more than a decade, along with emerging practice commentary, are focusing on the complex and often alarming ways in which use of IT affects organizational and social life. For example, studies found technostress having a significant negative impact on employee productivity (Tarafdar et al., 2007). Further complicating the impact is pervasive information and communications technologies (ICTs) enable us to get connected almost anywhere at any time. As a 2004 study correctly articulates, “[t]he diffusion of information and communications technologies

(ICTs) such as the Internet, the advanced wireless technologies and mobile communications networks have fundamentally changed our way of routine work and daily life (Hoffman, Novak, & Venkatesh, 2004)” (Wang et al., 2008: 3003). This has only intensified over the last decade. As digital technology permeates all aspects of organizational life, a grapple with IT enabled patterns of work and collaboration are emerging: (1) individuals have quick and easy information access that facilitate flexible work patterns versus (2) the growing potential for addiction, misuse, overuse, overload and stress brought on by increased digital technology use. The purpose of this study is to contribute to the understanding of these complex sets of social and individual uses of digital technologies across work and home settings, especially if such intensive, pervasive use is associated with non-beneficial and unintended consequences on work productivity and quality of home life.

RESEARCH MODEL & LITERATURE REVIEW

This research, informed by literature and previous empirical research, explores the impact on productivity and conflict on three key digital technology stressors: information overload, technostress and presenteeism. The researchers seek to understand the effect of information overload, conflict and presenteeism moderated by gender on productivity and conflict (work-family and technology-family). The research model is presented in Figure 1. The following section explores these impact areas individually, proposing their associated research hypotheses.



NOTE: Standardized estimates shown. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; ns=not significant.

Figure 1: Research Model

Social Media

“The use of social media technologies—such as blogs, wikis, social networking sites, social tagging, and microblogging –is proliferating at an incredible pace” (Treem & Leonardi, 2012: 143).

Although everyone is familiar with social media in one context or another, it is important to define social media from an operational perspective. Social media are technologies that have, “engendered radically new ways of interacting...there are literally hundreds of different social media platforms...social networking, text messaging, shared photos, podcasts, streaming videos, wikis, blogs, discussion groups...” (Hanna et al., 2011: 266). Consequently, social media is not a single sort of technology or a specific platform or application. Rather, social media is a communicative phenomenon that resides across a spectrum of different technology applications and platforms. It is this unique communicative aspect of social media that has given it such leverage within society as a functional utility of sorts.

In this regard, social media has become largely ubiquitous from a functional perspective and certainly in a communicative sense. Social media use has become perhaps the single most recognized form of interaction taking place across the internet and the World Wide Web (web) today. Social media is a compendium of all the social networking sites available through internet and web technology and is accessed through various technology platforms. The data indicates that 69% of adults use some form of online social media site (Pew Research, 2018). This is a large percentage of the population that have shifted some or most of their social interactions online from offline. While personal interaction among people remains the primary way for most people to interact, social media as communication channel has altered the dynamic of how and, perhaps more importantly, why people communicate.

Social media has replaced or, in some cases, created entirely new forms of communicative interaction among people. For instance, some researchers have identified three unique modalities of human interaction that occur within the context of social media (Ellison et al., 2011: 16-17):

1. Initiation in which social media behaviors are targeted towards initiating contact with new acquaintances
2. Maintenance behaviors in which people utilize the tools of social media to maintain friendships, contacts and conducting virtual interactions
3. Social media information seeking wherein social media is utilized to augment some relationship that exists offline

These three modalities of human interaction within the context of social media have largely worked to refine how social communication occurs in both the professional and the personal setting.

Technostress

The issue of technostress has become extremely relevant in the contemporary business environment as well as, to a lesser degree, in the personal environment. Technostress arises when technology being utilized by people in the workplace or even in their personal lives presents

significant barriers to practical and symbolic use. Technostress has been defined in the literature as being an inability for people to adapt adequately to new technologies in which they reject the technology outright or, alternatively, they become overly dependent upon the technology (Tarafdar et al., 2011). Either one of these scenarios is extremely damaging to an organization's capacity to compete in its given industry or market whether these are public or private in character.

In order to become fully cognizant of what constitutes technostress, one must first understand what constitutes stress. Stress is an element known to all members of an organization regardless of the environment in which the organization operates. Stress, in a universal sense, is a state that an individual experiences such that the individual believes that the circumstances being faced exceed his or her capabilities to manage them (Tarafdar et al., 2011: 306). Understanding this leads to a better realization of the qualities that comprise technostress. Yet, technostress has certain attributes that differentiate it somewhat from typical stress. Within the construct of technostress, there is the sense within the individual that the specific source of all the stress being experienced involves the technology being interacted with. Furthermore, this stress may involve fear and rejection of the technology and thus result in poor performance or it may involve the belief that the individual is worthless without the technology (Self & Aquilina, 2013). In either outcome, productivity suffers because of psycho-social aspects of the phenomenon involved in technostress as an established disorder.

Despite these reservations within the organization related to technostress and the clear implications that technostress has on individual productivity, many organizations continue unabated in deploying technology systems. There is an inclination on the part of some organizations to ignore some of the characteristics of collective technostress that can be experienced by employees because organizations often adopt the perspective that technology is the best way to manage the implicit assets of the enterprise. This is seen in the literature of knowledge management systems, where researchers have said that, "Technology based knowledge management systems are seen, by many, as the holy grail for ensuring that the crucial knowledge held by the staff in an organization is captured, codified and preserved for the benefit of the organization" (Self & Aquilina, 2013: 118). This knowledge then consists of the ideas, habits and practices of the staff within an organization that would otherwise be transferred either verbally or textually. The unspoken assumption then within the organization by both management and staff is that the people in the organization are somehow deficient without technological support.

Hypotheses Development

The duality (i.e., impact on both negative and positive outcomes) of technology use has not received adequate attention in prior research, especially as it relates to social media. The

pervasiveness of digital technology, in particular social media has created an environment in which working professionals have the potential to be available 24/7. The inability to “turn-off” digital technology activity can potentially lead to a decrease in individual productivity and an increase in family-work conflict. Factors that may impact individual productivity and family-work conflict include information overload, technostress and presenteeism. The effect of ICTs on stress in individuals is an important area of inquiry that is still in the early stages of investigation (Cooper & Cartwright, 1997; Cooper, Dewe, & O'Driscoll, 2001; Torkzadeh & Doll, 1999). Social media and other digital technologies have capabilities for ubiquitous and continual connectivity. The use of these leads users to feel that they are never free of technology, are always under supervision or “on call” (Clark & Kalin, 1996) as employees spend significant time connected. The workday tends to extend and enter into all other area of life. All of this may lead to a loss in individual productivity. Presenteeism is defined as the degree to which the technology enables users to be reachable. The underlying premise of this concept is that different ICTs offer different degrees of connectivity. Digital technology is enabled by smartphones and mobile technology which impact the pervasiveness of presenteeism. Evidence suggests that IT can contribute to burnout enabling employees to be accessible to the office anytime and anywhere through laptops, email, cell phone, etc. (McGee, 1996).

Direct Effects

Productivity

For many years productivity has been used as the justification for the selection and deployment of workplace technologies. The rationale being that employees within an organization become more efficient when provided with technology that makes them more effective at what they do. There is little doubt that technology does, at a fundamental level, increase individual worker productivity. This dynamic is evident in the data wherein overall worker productivity and overall employment were interrelated.

Increased usage of technology tools does not always lead to increased work productivity; rather, sometimes it actually can be counterproductive. An estimated 28% of our workday is consumed by interruptions propagated by technology which cost the US economy approximately \$558 billion a year (Spira & Goldes, 2007). For instance in 2009, Pew Internet and American Life Project coined the term “ambivalent networkers” to describe a growing population of Information and Communication Technology (ICT) users who feel over-connected. While 39% of Americans were adopters, 61% did not feel like ICT should play a bigger role in their daily lives (Vasquez, 2009).

Conflict

For the purposes of this paper, conflict refers to the tension that takes place between the use of technology that interferes with the home and family demands. Technology and specifically the

internet have facilitated a significant conflict between work demands for attention and home demands for attention in the employee. Often times conflict develops in which some employees resisting the organization's capacity to funnel work at them at all hours of the day and any day of the week. Simply put, the worry is such, "that by making it easier to blur the boundary between work and life, the Internet is disrupting the balance" (Coget, 2011: 95). Most employees do receive compensation based on an hourly wage so there is a legitimate fear of being asked to do work for the organization without receiving adequate compensation. Likewise, even salaried employees have an expectation that their home-life is protected in some way from the invasive nature of their work. While some people may not mind such intrusions, many others resent it and all would agree that if one is doing work outside of the workplace and accepted work hours, some form of compensation is appropriate.

Furthermore, there is the observation that failure to protect the integrity of one's home-life disrupts the work-home balance. This work-home balance has been shown to be instrumental in factors such as employee motivation, job satisfaction and quality productivity (Beauregard, 2011). In turn, employees within the organization that are highly motivated satisfied with their positions and who are productive tend to treat the organization's clients or customers much better. This has the added effect of improving the not only the productivity of the organization as a whole but its overall revenues or returns as well. A work-home balance that is in conflict or that is under threat from the organization tends to disrupt all of these human capital factors that are so important from the enterprise perspective.

Managing a work-home balance is extremely difficult in this always on environment. Technology clearly advocates tacitly for constant connectivity between the employee and the company irrespective of whether the employee at work or not and spending time with family or not. However, one unique aspect of technology is that just as it promotes an always on environment that detracts from a work-home balance, it can also provide a mechanism to improve such a conflict. One researcher says that, "The same tools that fuel more stressful job conditions also instantly connect us to our personal networks in ways that can foster greater levels of support, provide needed information... or even just give us a break from work (Chesley, 2014). Therefore, it is important to recognize that the underlying intention of technology itself has been positive but that the way in which many organizations have deployed it has been poorly designed and planned. Thusly:

Hypothesis 1. Conflict decreases Productivity

Indirect Effects

Information Overload

The concept of information overload is used in different contexts in the IS field. Irrespective of the context, information overload is generally associated with adverse effects. According to

Ayyagari (2012), "If the information provided by ICTs in an individual's work context (i.e. it can be due to emails, or access to knowledge-databases, etc.) exceeds the individual's perceived abilities to deal with this information, it reflects an imbalance in the equilibrium" (p. 19). Thusly:

Hypothesis 2. Information Overload increases Conflict

Technostress

The existing literature identifies several aspects of technostress, including work overload, individual life invasion... (Brod, 1984; Weil & Rosen, 1997). According to a report from Health Canada (Duxbury & Higgins, 2002) ICTs are linked to increased workload and almost no respondents in the survey reported that technology reduced job stress. The same case appeared for managers, over three quarters of managers in the survey felt that technology actually increased their workloads. Tarafdar et al. (2007) developed and validated a technostress measurement scale which defined five components of technostress describe typical situations where the use of computer technology can potentially create technostress. Thusly:

Hypothesis 3. Technostress increases Conflict

Presenteeism

Ayyagari et al. (2011) defines presenteeism "as the degree to which the technology enables users to be reachable" (p. 840). The underlying premise of this concept is that different ICTs offer different degrees of connectivity. According to McFarlane and Latorella (2002), ICTs are also seen as a source of interruptions in human-computer literature leading to reduced efficiencies and stress. The concept of presenteeism is one of the most widely discussed factors in the practitioner and technostress literature (Davis, Flett, & Besser, 2002; Kakabadse, Kouzmin, & Kakabadse, 2000; Ragu-Nathan, Tarafdar, Ragu-Nathan, & Tu, 2008; Tarafdar et al., 2007; Tu, Wang, & Shu, 2005; Weil & Rosen, 1997). The researchers contend that the ability to be accessible induces stress through stressors such as information overload, technostress and high engagement. It could be argued that the development of a work-home conflict stressor is due to the presenteeism characteristics of technology. Before the advances of digital technologies over the past decades, individuals' work life and home life were, for the most part separate from each other. Career oriented individuals are increasingly augmenting time spent at the office with work done at home made possible by different digital devices and applications. While constant connectivity might have benefits for some, it also comes at the cost of blurring work-home boundaries. There is growing evidence that constant connectivity of digital technologies is diminishing the quality of life to the extent that families are for example, using 'instant messages' to communicate with each other even when the individuals are in the same house (CNN, 2006). New technologies are seen as enabling blurring of boundaries between work and home (Mann & Holdsworth, 2003). Thusly:

Hypothesis 4. Presenteeism increases Productivity

Hypothesis 5. Presenteeism increases Conflict

Moderation Effects

Gender

According to some of the traditional IS studies, gender has a major influence on technostress. Men experience more technostress than women. In general, women find IS less easy to use than men (Gefen, Straub, & Boudreau, 2000). Women tend to use IS when they have to whereas men are more inclined to use IS when they want to (Venkatesh & Morris, 2000). Where use was voluntary, men were more inclined to use IS and hence experiences a higher intensity of technostress-creating conditions than women (Tarafdar et al., 2011). Gender (male, female) is selected as the moderator to observe differences in behavior for all variables. Thusly:

Hypothesis 6a. Controlling for the effects of Managerial Status & Age, the positive relationships between Conflict [WHTF] and Productivity [PROD] is stronger for M than F.

Hypothesis 6b. Controlling for the effects of Managerial Status & Age, the positive relationships between Information Overload [IO] and Conflict [WHTF] is stronger for M than F.

Hypothesis 6c. Controlling for the effects of Managerial Status & Age, the negative relationships between Technostress [TS] and Conflict [WHTF] is stronger for M than F.

Hypothesis 6d. Controlling for the effects of Managerial Status & Age, the positive relationships between Presenteeism [PRES] and Productivity [PROD] is stronger for M than F.

Hypothesis 6e. Controlling for the effects of Managerial Status & Age, the positive relationships between Presenteeism [PRES] and Conflict [WHTF] is stronger for M than F.

RESEARCH DESIGN & METHODS

Methodology

The researchers carried out a quantitative study to validate the research model. The study involved careful sampling of construct survey items from literature, assessment of the formative and/or reflective nature of the construct operationalization, survey pre-testing and hypothesis testing using SEM based statistical analyses. To test proposed hypotheses the researchers collected data using an online survey targeting full time working professionals who use social media/digital technology. The survey was based on anonymous self-reports of demographics, perceptions, attitudes, beliefs, feelings and productivity from respondents represent an efficient method to gather data (Teddlie & Tashakkori, 2009).

Construct Operationalization

Scale items for the independent variables group by IT Stressors (information overload, technostress, presenteeism) and the dependent variable group as impacts (productivity, conflict [work family/technology family]) were carefully adapted from literature based upon their theoretical relevance and reliability. The moderator variable is gender. All constructs were measured on a 5-point Likert scale ranging from 1=strongly agree and 5=strongly disagree. As previously used in the literature, all scale items were modeled as reflective. The specification for all scales were reflective (Jarvis et al., 2003).

Data was collected via an online survey using Qualtrics. The sample consisted of 300 qualified respondents (i.e., working full time professionals, over the age of 18, some familiarity with social media, etc.) contributed to the data analysis.

Structural Model

We tested our hypotheses using structural equation modeling (SEM) employing IBM SPSS and AMOS software version 21. We tested the hypothesized model and then eliminated non-significant relationships in order to achieve adequate model fit. From the suggested modification indices, two error terms were covaried (e1 to e2 which is P1_SM and P2_SM; and e7 to e8 which is TS3_SM and TS4_SM) resulting in a good fitting measurement model ($\chi^2= 261.476$, $df=191$; $\chi^2/ df = 1.369$; GFI=0.92; CFI= 0.986; RMSEA=0.035 and PCLOSE=0.994).

FINDINGS

Findings for this entire study are summarized in Table 1.

Table 1: Summary of Findings – Direct Paths & Moderation Test Results

Direct Paths			
	Hypothesis	Evidence	Hypothesis Supported?
H1	Conflict decreases Productivity	0.368 (***)	No
H2	Information overload increases Conflict	0.327 (***)	Yes
H3	Technostress increases Conflict	-0.150 (.012) **	Yes
H4	Presenteeism increases Productivity	0.254 (***)	Yes
H5	Presenteeism increases Conflict	0.150 (.012) **	Yes

Note: Standardized estimates shown; *** p<0.001; **p<0.01; *p<0.05; ns=not significant.

Moderation Effects				
	Hypothesis	Evidence (Male)	Evidence (Female)	Hypothesis Supported?
H6a	Controlling for the effects of Managerial Status & Age, the positive relationships between Conflict [WHTF] and Productivity [PROD] is stronger for M than F	Direct Beta = .451 (***)	Direct Beta = 0.289 (***)	Yes
H6b	Controlling for the effects of Managerial Status & Age, the positive relationships between Information Overload [IO] and Conflict [WHTF] is stronger for M than F	Direct Beta = .353 (***)	Direct Beta = .243 (.003) *	Yes
H6c	Controlling for the effects of Managerial Status & Age, the negative relationships between Technostress [TS] and Conflict [WHTF] is stronger for M than F	Direct Beta = -0.232 (0.005) **	Direct Beta = -0.106 (0.217) ns	Yes
H6d	Controlling for the effects of Managerial Status & Age, the positive relationships between Presenteeism [PRES] and Productivity [PROD] is stronger for M than F	Direct Beta = 0.262 (***)	Direct Beta = 0.233 (0.004)**	Yes
H6e	Controlling for the effects of Managerial Status & Age, the positive relationships between Presenteeism [PRES] and Conflict [WHTF] is stronger for M than F	Direct Beta = 0.165 (.044) *	Direct Beta = 0.148 (0.098) ns	Yes

Note: Standardized estimates shown; *** p<0.001; **p<0.01; *p<0.05; ns=not significant. M=males; F=females.

DISCUSSION

This study sought to provide empirical evidence on how certain IT stressors: information overload, technostress, and presenteeism impact productivity and conflict between technology and work/home. The results confirmed the following hypotheses: as information overload increases, conflict increases; when technostress increases, conflict decreases; when presenteeism increases, productivity and conflict increase. The hypotheses conflict decreases productivity produced a surprise result as it seems when conflict goes up productivity increases. The meanings are inherently negative; as technology is becoming so pervasive in our work and home lives, it is possible that working adult professionals are learning to cope with the stress of this technology.

Prior research of information systems usage is based on utilitarian systems such as personal productivity software and organizational applications (Lin & Bhattacharjee, 2010). "While the goal of many information systems is to increase productivity, hedonic systems are different" (Rosen & Sherman, 2006). Hedonic systems aim to provide self-fulfilling value to the user, in contrast to utilitarian systems, which aim to provide instrumental value to the user (van der Heijden, 2004).

As hypothesized, when controlling for managerial status and age, the relationships between information overload and conflict and information overload are stronger for males than females. The negative relationship between technostress and conflict is significant for males and insignificant for females. This may be attributed to recent studies that show women tend to multitask more than men (Offer & Schneider, 2011) and therefore better able to deal with technostress. The relationship between Presenteeism and productivity was slightly stronger for males than females. Presenteeism and conflict was significant for males and insignificant for females. With regards to social media usage, a

greater percentage of adult U.S. women use Facebook, Tumblr, Pinterest, Instagram and Twitter than their male counterparts.

Lastly, our research provided insights about how IT stressors: information overload, technostress and presenteeism impact productivity and work/family conflict. Managerial status seems to have an impact on productivity and conflict as these relationships were significant. The impact of age on conflict is significant for all respondents as well as males and females and may be suitable for further investigation.

REFERENCES

- Anderson, J. C., & Gerbing, D. W. 1988. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3): 411.
- Ayyagari, R. 2012. Impact of information overload and task-technology fit on technostress. Paper presented at the Proceedings of the Southern Association for Information Systems Conference, Atlanta, GA, USA.
- Ayyagari, R., Grover, V., & Purvis, R. 2011. Technostress: technological antecedents and implications. *MIS Quarterly*, 35(4): 831-858.
- Beauregard, T. A. 2011. Direct and indirect links between organizational work-home culture and employee well-being. *British Journal of Management*, 22(2): 218-237.
- Brod, C. 1984. *Technostress: The human cost of the computer revolution*: Addison Wesley Publishing Company.
- Chesley, N. 2014. Workplace technology use may increase both employees' distress and productivity. *LSE American Politics and Policy*, (online). Retrieved from: <http://blogs.lse.ac.uk/usappblog/2014/03/24/workplace-technology-use-may-increase-both-employees-distress-and-productivity/>.
- Clark, K., & Kalin, S. 1996. Technostressed out? How to cope in the digital age. *Library Journal*, 121(13): 30-32.
- CNN. 2006. Switch off and get creative: CNN Travel, June 19. Retrieved from <http://www.cnn.com/2006/TRAVEL/06/19/blackberry.addicts/index.html?iref=allsearch>.
- Coget, J.-F. 2011. Technophobe vs. Techno-enthusiast: Does the internet help or hinder the balance between work and home life? *The Academy of Management Perspectives*, 25(1): 95-96.
- Cooper, C. L., & Cartwright, S. 1997. An intervention strategy for workplace stress. *Journal of Psychosomatic Research*, 43(1): 7-16.
- Cooper, C. L., Dewe, P. J., & O'Driscoll, M. P. 2001. *Organizational stress: A review and critique of theory, research, and applications*: Sage.
- Davis, R. A., Flett, G. L., & Besser, A. 2002. Validation of a new scale for measuring problematic Internet use: Implications for pre-employment screening. *CyberPsychology & Behavior*, 5(4): 331-345.
- Duxbury, L. E., & Higgins, C. A. 2002. The 2001 national work-life conflict study: Report one: Health Canada.
- Ellison, N. B., Steinfield, C., & Lampe, C. 2011. Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society*, 13(6): 873-892.
- Gefen, D., Straub, D., & Boudreau, M.-C. 2000. Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, 4(1): 7.
- Hanna, R., Rohm, A., & Crittenden, V. L. 2011. We're all connected: The power of the social media ecosystem. *Business Horizons*, 54(3): 265-273.
- Jarvis, C. B., MacKenzie, S. B., & Podsakoff, P. M. 2003. A critical review of construct indicators and measurement model misspecification in marketing and consumer research. *Journal of consumer research*, 30(2): 199-218.
- Kakabadse, N., Kouzmin, A., & Kakabadse, A. 2000. Technostress: over identification with information technology and its impact on employees and managerial effectiveness. In N. K. Kakabadse, & A. K. Kakabadse (Eds.), *Futures: Leading change through information systems*: 259-296. Aldershot: Ashgate Publishing.
- Lin, C. P., & Bhattacharjee, A. 2010. Extending technology usage models to interactive hedonic technologies: a theoretical model and empirical test. *Information Systems Journal*, 20(2): 163-181.
- Mann, S., & Holdsworth, L. 2003. The psychological impact of teleworking: stress, emotions and health. *New Technology, Work and Employment*, 18(3): 196-211.
- McFarlane, D. C., & Latorella, K. A. 2002. The scope and importance of human interruption in human-computer interaction design. *Human-Computer Interaction*, 17(1): 1-61.

- McGee, M. K. 1996. Burnout!, *Information Week*: 34-40.
- Offer, S., & Schneider, B. 2011. Revisiting the gender gap in time-use patterns multitasking and well-being among mothers and fathers in dual-earner families. *American Sociological Review*, 76(6): 809-833.
- Pew Research. 2018. Social Media fact sheet: <https://www.pewinternet.org/fact-sheet/social-media/>.
- Ragu-Nathan, T., Tarafdar, M., Ragu-Nathan, B. S., & Tu, Q. 2008. The consequences of technostress for end users in organizations: Conceptual development and empirical validation. *Information Systems Research*, 19(4): 417-433.
- Rosen, P., & Sherman, P. 2006. Hedonic information systems: acceptance of social networking websites. *AMCIS 2006 Proceedings*: Paper 162.
- Self, R. J., & Aquilina, C. 2013. Technostress in the 21st century; does it still exist and how does it affect knowledge management and other information systems initiatives. Paper presented at the 7th International Conference on Knowledge Management in Organizations: Service and Cloud Computing.
- Spira, J. B., & Goldes, D. M. 2007. Information overload: We have met the enemy and he is us. Basex Inc.
- Tarafdar, M., Tu, Q., Ragu-Nathan, B. S., & Ragu-Nathan, T. 2007. The impact of technostress on role stress and productivity. *Journal of Management Information Systems*, 24(1): 301-328.
- Tarafdar, M., Tu, Q., Ragu-Nathan, T., & Ragu-Nathan, B. S. 2011. Crossing to the dark side: examining creators, outcomes, and inhibitors of technostress. *Communications of the ACM*, 54(9): 113-120.
- Teddlie, C., & Tashakkori, A. 2009. *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*: Sage Publications Inc.
- Torkzadeh, G., & Doll, W. J. 1999. The development of a tool for measuring the perceived impact of information technology on work. *Omega*, 27(3): 327-339.
- Treem, J. W., & Leonardi, P. M. 2012. Social media use in organizations: Exploring the affordances of visibility, editability, persistence, and association. *Communication Yearbook*, 36: 143-189.
- Tu, Q., Wang, K., & Shu, Q. 2005. Computer-related technostress in China. *Communications of the ACM*, 48(4): 77-81.
- Vasquez, D. 2009. All wired up but not too happy with it: MediaLifeMagazine.com.
- Venkatesh, V., & Morris, M. G. 2000. Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly*, 24(1): 115-139.
- Wang, K., Shu, Q., & Tu, Q. 2008. Technostress under different organizational environments: An empirical investigation. *Computers in Human Behavior*, 24(6): 3002-3013.
- Weil, M. M., & Rosen, L. D. 1997. *Technostress: Coping with technology@ work@ home@ play*: Wiley.

**THE COLLABORATION & DESIGN THINKING GLUE BETWEEN ALL
DISCIPLINES: STRATEGIES FOR BUILDING EFFECTIVE
PARTNERSHIPS THROUGH A SYSTEMITIZED, NON-LINEAR
APPROACH CENTERED AROUND HUMANS**

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ABSTRACT

Collaboration is recognized as a viable strategy for addressing uncertain, complex, and wicked social problems. Design thinking has emerged as the premier organizational path to innovation and high-performance collaboration. There are similarities between designers and collaborators, we conjecture that adopting design strategies is an important foundation for building successful collaborations. Further, we propose collaborative technology is also critical for successful collaborations. This study explores collaboration from a design and technology perspective. We propose to conduct qualitative semi-structured interviews with participants from collaborations to explore if design, design thinking, collaborative discourse and collaborative technology was adopted to build better collaborations.

Keywords: Designing collaborations, design, design thinking, cross-sector collaboration, cross-sector partnerships, public-private partnerships, collaborative discourse, mental models, collaborative technology, power, leadership, experience.

INTRODUCTION

Collaboration is recognized as a viable strategy for addressing uncertain (Caplan, 2005; Pich, Loch, & De Meyer, 2002), complex (Bryson, Crosby, & Stone, 2006; Roberts, 2000), and wicked (Roberts, 2000; Weber & Khademian, 2008) social problems. The more general literature on collaboration is vast and much of it is applicable to and useful for understanding how to structure effective collaborations. Further, the literature points to several important variables argued to affect the success or failure, three being power distribution amongst partners (Berger, Cunningham, & Drumwright, 2004; Bryson et al., 2006; Gray, 1989) leadership (Ansell & Gash, 2008; Armistead, Pettigrew, & Aves, 2007; Crosby & Bryson, 2005), and prior experience (Austin, 2000; Berger et al., 2004).

We suggest that more recent literature on design (organizational design, managing as designing, design-driven innovation) and design thinking may yield insights about building better collaborations. Design is a comprehensive approach to problem solving and transformation (Bevan, Robert, Bate, Maher, & Wells, 2007) with the purpose of developing solutions that don't exist by changing existing conditions to desired situations (Romme, 2003). "Design thinking...has emerged as the premier organizational path not only to breakthrough innovation but...to high-performance collaboration, as well" (MIT Sloan Management Review 2009, p.: 1). Finally, we propose collaborative technology is another contributing success factor.

We propose to conduct qualitative research based on semi-structured interviews with participants from ten collaborations charged with addressing wicked problems to explore if design, and design thinking has been adopted to build better collaborations and solutions. Learning more about successful (and unsuccessful) collaborations may reveal design differences that can increase the likelihood of success. Our findings may be useful to public, private, and nongovernmental organizations (NGO) in designing and managing effective collaborations.

RESEARCH QUESTION AND CONCEPTUAL MODEL

How are collaborations designed (and redesigned) by participants and to what extent is collaboration design affected by partner characteristics such as power, leadership, and experience? How does design thinking moderate this influence? What impact does collaborative technology play? What is the importance of collaborative discourse? These research questions are depicted graphically in Figure 1.

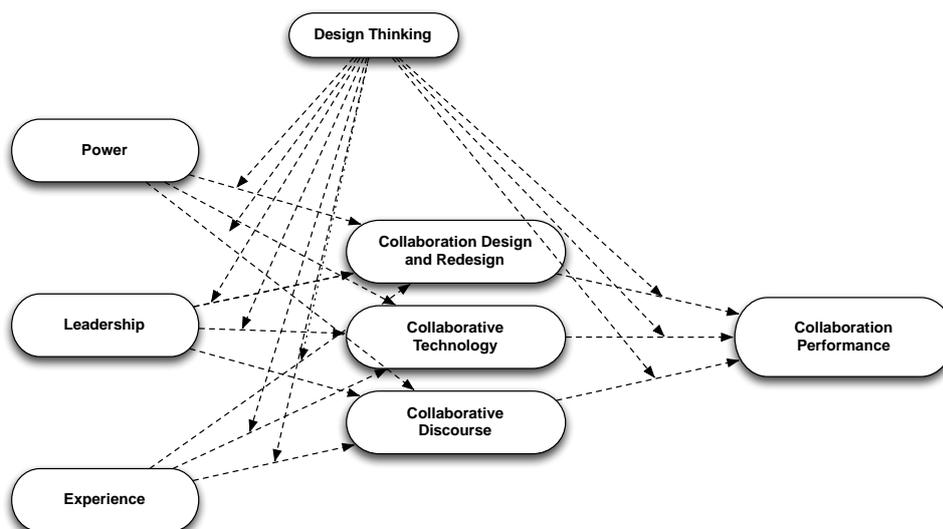


Figure 1. **CONCEPTUAL MODEL**

Collaboration is "a process in which autonomous or semi-autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships

and ways to act or decide on the issues that brought them together..." (Thomson, Perry, & Miller, 2009, p.: 25). Cross sector collaborations or public private partnerships are also considered as forms of collaboration. Nonprofit organizations include the NGO in this research. Collaborations for this study may be any of these types. How these collaborations are designed and managed is the focus of our study. Our model suggests that partner power, leadership and experience may influence the design of cross sector collaborations and that how they are redesigned may affect collaboration outcomes.

CONCEPTUAL FRAMEWORK

We begin this section with a brief discussion about benefits and challenges of collaboration and typical solutions developed through process models and structure. Thereafter we provide examples of the influence of design thinking on the private sector and the NGO, describe design fundamentals, and provide an overview of organization design and the importance of redesign. We conclude with a section on collaboration from a design perspective including a discussion on power, leadership, and experience.

Collaboration

Collaborations range from a one-time transaction to a full legal merger of two organizations based on formality, information sharing, facility sharing and the offering of joint programs (Guo & Acar, 2005). In theory, cross-sector collaborations should combine the best of what each sector brings to them (Rosenau, 1999). As Ghere (1996) observes, there is consensus in the literature that government does some things best, the private sector other things, and the NGO still different things. Still, important differences between the sectors can challenge collaboration. A recurring theme in the literature, for example, is that the NGO is mission driven while the for-profit partner is profit driven (Selsky & Parker, 2005) – posing potential conflict of interests. Visions of mutual benefit, common desire by partners across sectors to address complex social problems (Pasquero, 1991) and shared feelings of responsibility (Bryson et al., 2006; Selsky & Parker, 2005), however, may promote conceptualized synergy (Huxham, 2003), the sense that something will be achieved that could not have been attained by any of the organizations acting alone (Huxham, 2003; Huxham & Vangen, 2002).

Collaboration structure can be ambiguous, complex and dynamic (Huxham, 2003) – ambiguous because of lack of clarity on partner roles and expectations, complex because of individual partner identity or because partners may be engaged in other collaborations or partnerships, and dynamic because partners or partner purpose may shift based upon internal or external influences. The literature is replete with process models for collaboration. According to Gray (1989) the process involves problem solving, direction setting and implementation and, as described by Gajda (2004)

follows the simple stages of assemble, order, perform, transform and adjourn. While Waddock (1989) sees the process as evolutionary and needing partnership, issue crystallization, establishment and maturity, Huxham (2003) views it as a cyclical process involving communication, trust, commitment, understanding and outcomes. The partnership decision-making process, in particular, Chung has argued, "... generally involves three decisions: do I partner, with whom do I partner, and what is the partnership structure" – but, she cautions, the decisions are not made systematically (Chung, 2004, p.: 1). Overall the literature suggests that the collaboration process is iterative and more cyclical than linear (Ansell & Gash, 2008). Process transparency is also an important feature (Busenberg, 1999; Glasbergen & Driessen, 2005) indicating the need for legal agreements, contracts and procedures that define partner relationships (Pongsiri, 2002). Moreover, negotiating formal and informal agreements regarding purpose following initial agreement on defining the problem is a key process for collaboration (Bryson et al., 2006). Bryson contends that formal agreements support accountability.

While structure and process have been argued as critical collaboration features, structure has attracted limited and process the majority of scholarly interest (Bryson et al., 2006). Contingency theory examines structure in relation to other elements of collaboration (i.e., context, environmental factors, or purpose), but little research has addressed design as key to the collaboration process (Ansell & Gash, 2008). Previous inquiry into the problems encountered by participants in cross sector collaborations has not solved an important problem of practice – how to overcome imposing challenges to their effectiveness.

Influence of Design Thinking on the Sectors

Many private sector firms, such as McDonalds, Apple, Steelcase (Martin 2009, Verganti 2009), Research in Motion (the creators of the Blackberry), Proctor & Gamble, and Cirque du Soleil (Martin 2009), have benefited from design thinking and design driven innovation – but the concept is newer to other sectors. Still, while the average nonprofit organization, for example, has limited access to and knowledge of design expertise, and collaborations between NGOs and design firms are neither affordable nor routine (Rockefeller 2008), there has been some recent collaboration between the two to address social problems. As observed by Brown and Wyatt (2010, p.: 31), "Designers have traditionally focused on enhancing the look and functionality of products. Recently, they have begun using design tools to tackle more complex problems, such as finding ways to provide low-cost healthcare throughout the world. Businesses were first to embrace this new approach—called design thinking—now nonprofits are beginning to adopt it too."

Design thinking, described as "the single most important business concept to emerge from the 20th century" (Oster, 2008, p.: 111), thus may positively impact collaboration outcomes. Like cross-sector collaborations, design, "...helps to bring together people from different disciplines and

practices to jointly pursue a vision and boldly experiment..." (Avital & Boland, 2008, p.: 2). Designers, not unlike cross sector collaborators, focus on "wicked problems" defined as a "class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications in the whole system are thoroughly confusing" (Buchanan, 1992, p.: 15). Given the similarities between designers and collaborators, we conjecture that design thinking could, in particular, have considerable influence on cross sector partnerships for social innovation.

Design Fundamentals

Herbert Simon highlighted the fundamental importance of design and management in his classic book *The Sciences of the Artificial*, noting that "the natural sciences are concerned with how the things are" while design science "is concerned with how things ought to be" in order to attain goals (Simon, 1996, p.: 133). Simon argued that natural sciences show complexity as a mask for simplicity with the goal of finding patterns hidden in apparent chaos, while complexity theory (embraced by design science) suggests well chosen design rules can shape resilient and productive processes. "That is, rather than developing detailed recipes for permanent solutions, effective design points to a handful of simple rules and key processes, easy to vary and configure" (Jelinek, Romme, & Boland, 2008, p.: 322). Said differently, design is the study of the artificial world whose methods include models, pattern-formation and synthesis, and values include concern for appropriateness, practicality, ingenuity, and empathy (Cross, 2007).

Design is found in four broad areas of everyday existence: symbolic and visual communications, material objects, activities and organized services, and complex systems or living environments (Buchanan, 1992), suggesting that design "...is desperately needed in, and applicable to, our most significant human activities...", that design "make things right" and "creates things and places that work" (Caplan, 2005, pp.: xv, 4). Basic design questions include: "What do you want to accomplish? What are the materials you have to work with? Who are the people involved? What do they need and want? If this is the problem, what might a solution look like? What form might it take? What form can you give it?" (Caplan, 2005, p.: 162). Design is distinctive in that it has "things to know, ways of knowing them, and ways of finding out about them" (Cross, 2007, p.: 17). The central concern of design is "the conception and realization of new things", including the appreciation of "material culture" and "planning, inventing, making and doing" with a core language of "modeling" (Cross, 2007, p.: 17).

Human-made or artificial (as opposed to scientific) phenomenon aimed at changing an existing situation to a preferred one, (Simon, 1996) may be better managed with a "design attitude" (Boland & Collopy, 2004a). A design attitude moves beyond default solutions and ordinary systems

of logic based upon how things are (Boland & Collopy, 2004a), by “devising artifacts to attain goals” that are “concerned with how things ought to be” (Simon, 1988, p.: 69). Design thinking is identified as understanding (reflection, analysis, diagnosis and description), imagination and visualization (modeling, planning and prototyping) and action and implementation (Bevan et al., 2007). Managing as designing is the integration of design thinking, and design skills in search of new possibilities, based upon the desire to achieve something better than had been done before (Boland & Collopy, 2004b). Management by design involves design attitude, design vocabulary, recognition of the importance of artifacts or models, and redesign (Boland 2008).

Organization Design

Ideas and values regarding the design process outlined from organization design suggest that information be limited (in order to prevent excessive data gathering and the creation of experts on existing problems instead of designers of new solutions); participation and involvement in decision making and implementation (because it is important that those implementing the solutions help to create them); dialogue and discourse as the medium for intervention that leads to changes in systems and practices; and pragmatic experimentation (which means challenging conventional wisdom to design and develop new useful alternatives i.e., reinventing the wheel) (Romme 2003). Design, a comprehensive approach to problem solving and transformation (Bevan et al., 2007) and the creation of a larger sense of purpose, emphasizes creating something new (Romme, 2003). Romme argues that design research develops knowledge, and that “the pragmatism of design research can be expressed in more detail by exploring the normative ideas and values characterizing good practice in professions such as architecture, organization development and community development” (Romme, 2003, p.: 562) “The idea of design involves inquiry into systems that do not exist – either complete new systems or new states of existing systems” (Romme, 2003, p.: 558). Three ideas and values that define the content dimension of design inquiry include assuming each situation is unique, focusing on purpose and ideal solutions, and applying systems thinking (Romme, 2003).

The first idea – the assumption that each situation is different and embedded in a unique context of related problems – suggests that the problem is ill defined or wicked, meaning there is insufficient information available to arrive at a solution (Romme, 2003). The second idea, focusing on purpose and ideal solutions, mitigates the problem situation from being overwhelming, and encourages creativity and expanded thinking (Romme, 2003). Moreover, elements of ideal long-term solution may be usable today even if they are not implemented immediately (Romme 2003 referencing Nadler and Hibino 1990). The third idea, applying systems thinking, reinforces that problems are embedded in a larger system of problems.

Redesign

Just as thinking humans are adaptive systems whose goals are an interface between their internal and external environments (Simon, 1996), managing by designing is also recursive and good organizational design is dynamic requiring continual redesign (Boland Jr, Collopy, Lyytinen, & Yoo, 2008). Galbraith 1995 supports this idea stating that organization design is not a “single event”, but a continual process that requires “the continuous monitoring and assessing of the fit between goals, structure, and rewards; the creation and choice of alternative actions when there is no fit; and the implementation of the chosen design” (Galbraith, 1977).

Effective organizational design is achieved with strategic fit (Galbraith, 2002). Organizations are constantly being designed and redesigned, seeking a design gestalt (i.e., the ability to approach problems creatively and individually while maintaining unity across outcomes) through design intent, environmental constraints and capabilities, and purpose (Yoo, Boland Jr, & Lyytinen, 2006). Galbraith informs that redesign, or organization reconfiguration is important to ensure alignment. Reconfiguration can yield organizational improvements, opportunity, learning, and respond favorably to change and unpredictability (Galbraith et al., 2002). Redesign can be triggered with a new division, growth, a change in strategy, leadership, external environment, or to improve performance.

Collaborative Discourse

Human beings acquire, maintain and use internal models to understand and manipulate complex systems or situations. The presence of such ‘mental models’ were first hypothesized by Charles Sanders Peirce (1896) when he postulated that reasoning “examines the state of things asserted in the premises, forms a diagram of that state of things, perceives in the parts of the diagrams relations not explicitly mentioned in the premises, satisfies itself by mental experiments upon the diagram that these relations would always subsist, or at least would do so in a certain proportion of cases, and concludes their necessary, or probable, truth” (Hartshorne, Weiss, & Burks, 1967). However, Scottish psychologist Kenneth Craik (1943) popularized the concept when he postulated that the mind creates a ‘small-scale model’ of reality that allows it to visualize possible events and various alternatives. Simply put, mental models are internal representations of the external world that enable us to make meaning of complex situations.

Collaboration from a Design Perspective

The literature suggests that several factors, including power, leadership, and experience can affect collaboration outcomes. The well-established role of each of these factors in collaboration and the potential impact of design thinking on them are discussed below.

Power. Power is a recurring theme “causing anxiety or reward in collaboration” (Vangen & Huxham, 2003b, p.: 7). A common characteristic of collaboration is power imbalance (Ansell & Gash,

2008; Berger et al., 2004) which can result in misuse of leverage, imposed strategy or style, patronization, or dominance leading to mistrust (Ansell & Gash, 2008; Berger et al., 2004). Power imbalance is especially problematic with partners that lack organizational infrastructure (Ansell & Gash, 2008), i.e., planned processes and systems, the skills and expertise to engage in technical discussions (Lasker, Weiss, & Miller, 2001; Warner, 2006), or the time, energy, and/or freedom to be engaged (Yaffee & Wondolleck, 2003). The dominance of well-intentioned more powerful partners does not always yield the best outcomes because underestimating the power of the weaker partner (Berger et al., 2004) or underrepresented groups (Ansell & Gash, 2008), can result in collaboration inertia.

Design thinking reframes this power dynamic. Design thinking firms continuously redesign their business for innovation and efficiency (Martin 2009). For breakthrough innovations, different attitudes and skills are needed (Verganti, 2008). Instead of a focus on power imbalance, design thinking suggests that the team-based approach to innovation unlocks its creative power because “all of us are smarter than any of us” (Brown, 2009, p.: 26). In the design paradigm the solutions to complex problems is in the creative work of the team (Brown, 2009), a different approach from analytical thinking. As Brown (2009, pp.: 67, quoting Nobel Prize winner Linus Pauling) observes, “To have a good idea, you must first have lots of ideas” or expressed by Pisano and Verganti (2008, p.: 3) “interesting innovative solutions can come from people or organizations you might never have imagined had something to contribute.” Design thinking suggests that co-creation replace hierarchy “affording all stakeholders the possibility to influence and bring forth meaningful and relevant solutions in a collaborative environment” (Kirah, 2009, p.: 3).

Despite different views about the nature of power in collaborative relationships (Coston, 1998), partnerships require actors from each sector to adopt characteristics and points of view that once defined, can stabilize the identities of their counterparts (Linder, 1999). In developing innovative processes, this notion has been called perspective making (“the ability to make strong perspectives within a community”) and perspective taking (“the ability to take the perspective of another into account”) (Boland Jr & Tenkasi, 1995, p.: 350). Power between partners need not be equal (Selsky & Parker, 2005), however partners should recognize the influence of the other. This idea is advanced through research that examines the NGO as enablers (or stakegivers) and obstructors (or staketakers) in collaborations (Teegen & Doh, 2003).

This idea is distinguished and advanced in design thinking. Although it takes place in groups, design thinking is not group thinking – design thinking liberates creativity (Brown, 2009) and emphasizes fundamental human needs through a human-centered approach (Brown, 2008) which is different from a user-centered approach. The development of a human centered approach focuses on

the creation of meaning. With the introduction of design thinking, the private sector has advanced the two traditional strategies for innovation: “quantum leaps in product performance enabled by breakthrough technologies, and improved product solutions enabled by better analysis of users’ needs” creating a third strategy – design-driven innovation, a different and unexpected, unsolicited, radical innovation of meaning (Verganti, 2008, p.: 4). Human centered design involves power shifts (Greenbaum, 1993). Three aspects of power that affect collaboration are formal authority (a recognized and legitimate right to make a decision), the control of critical resources (i.e., information, expertise, dollars, equipment), and discursive legitimacy (speak legitimately for issues) (Hardy & Phillips, 1998, p.: 219). Power, thus, may be unilaterally situated (by government mandate, for example) (Mattessich, Murray-Close, & Monsey, 2001), accrued to those with financial resources or correlated with assets brought to the collaboration (Berger et al., 2004; Huxham, 2003) or discursively claimed (Hardy & Phillips, 1998). It is often anticipated that the private sector partner will be more powerful, but this is not always the case (Berger et al., 2004). Human centered design “will capture unexpected insights and produce innovation that more precisely reflects what consumers want” (Brown, 2008, p.: 8). The movement from user-centered design to the participatory experience of human centered design is evolving to design “with” people instead of “for” people (Kirah, 2009; Smith, 2009). Verganti (2008) defines this process as contingent upon “interpreters,” a wide range of noncompeting actors that investigate and influence future meaning by listening, interpreting and addressing the design conversation. This approach suggests that the power infrastructure may provide a better lens for understanding power than the three aspects discussed above.

Power infrastructure consists of points of influence that identify how power is actually enacted e.g., who names the collaboration, who is invited to join it, who arranges the meetings (Huxham, 2003), who has better relationships with various stakeholders (Berger et al., 2004), who defines the problem to be solved, etc. Huxham suggests that many points of power make up the power infrastructure and relate to communication and processes. Moreover, power infrastructure is dynamic with continuous shifting of power points (Huxham, 2003). The purpose of understanding the power infrastructure is to determine if partners are consciously or unintentionally exerting power (Huxham, 2003).

Leadership. A key component of managing as designing is leadership because leaders and designers are meaning makers (Bevan et al., 2007). With design thinking or a design attitude, leaders are encouraged to move beyond responding to alternatives presented to engage in a decision-making process that involves collecting and interpreting evidence, designing possibilities, and testing multiple ideas (Boland Jr et al., 2008).

Leaders, the collaboration literature suggests, contribute to collaboration success by engaging partners (Armistead et al., 2007), bridging the differences in organizational cultures (Berger et al., 2004; Huxham, 1996), and guiding partners through the “rough patches of the collaboration process” (Ansell & Gash, 2008, p.: 554). Leaders that embrace, empower, involve, and mobilize members (Vangen & Huxham, 2003a) and observe, will promote effective collaboration outcomes. According to Lasker and Weiss (2001) the skills required to lead partnerships are different than those of traditional leaders:

“Traditional leaders frequently have a narrow range of expertise, speak a language that can be understood only by their peers, are used to being in control, and relate to the people with whom they work as followers or subordinates rather than partners. Partnerships, by contrast, need boundary-spanning leaders who understand and appreciate partners’ different perspectives, can bridge their diverse cultures, and are comfortable sharing ideas, resources, and power.” (Lasker et al., 2001, p.: 193)

This suggests that the design of effective collaborations may owe, in part, to particular mindsets, skills and perspectives of their leaders. At its best, design thinking by a leader facilitates the collaborative process “...where all members of the organization are given the opportunity to create meaningful and relevant changes” within it (Kirah, 2009, p.: 4). Design minded leaders, she says, empower others to become agents of change. An inquiry about how and to what extent leaders influence the actual design and redesign of cross sector collaborations must necessarily, therefore, appreciate the facilitative function of leadership described by Lasker and Weiss. A leader with a “design mindset” has been described as having “...the ability to think holistically and to abstract meaning and value in multidisciplinary collaboration (Kirah, 2009, p.: 2). Not all leaders, however, are “design minded.” Gould and Campbell (2002, p.: 117) contend that “organizational structures evolve in fits and starts, shaped more by politics than by policies.” When an organizational design isn’t working well, leaders may sense it, the authors say, but “few take meaningful action” despite the fact that “design flaws can turn into disasters.” Worse, some leaders actually manipulate agendas and politick – performing what Huxam (2003) calls “collaboration thuggery.”

Experience. Partner experience can be critical, because partners can be mismatched with respect to mission, structure, goals, organizational culture, decision-making style, motives, desired constituents to serve and in cases of severe difference collaborative advantage is difficult to achieve (Berger et al., 2004; Huxham, 2003). If mutual gains are to be achieved, there needs to be some alignment among the partners because mismatched partners can also strain collaboration (Berger et al., 2004). Additional strains on collaboration that experienced partners avoid are lack of renewal necessary for continued commitment (Le Ber & Branzei, 2009), the engagement of new people in

preparation for personnel turnover (Berger et al., 2004), and conflict that emerges from different aims, expectations, strategies, and outcomes (Bryson et al., 2006).

Partners can pre-empt problems of fit and structure to avoid misallocation of costs/benefits, mismatched partners (Berger et al., 2004) and to foster renewal (Le Ber & Branzei, 2009). A classic example of misallocation of costs/benefits is the NGO contribution being undervalued by the private sector partner (often the result of not knowing how to measure it) (Berger et al., 2004). Another is belief by the NGO that the collaboration is not viewed as a priority by the for-profit partner (Berger et al., 2004). History of cooperation or conflict among partners also enables or constrains collaboration (Ansell & Gash, 2008; Gray, 1989). While high conflict is not a collaboration barrier, a history of conflict creates low trust levels that foster manipulation and deter communication (Ansell & Gash, 2008).

Design thinking suggests that experience assists with the reconciliation of analytical thinking “to declare truths and certainties about the world” and intuitive thinking “the art of knowing without reasoning” (Martin, 2009, pp.: 5-6). For example, “conventional business thinking said that a company could have innovation or it could have efficiency, but not both at once. There was, according to the received wisdom, always a trade-off” but design thinking makes both possible (Martin, 2009, p.: 82). Experience creates better design thinkers because a particular phenomenon may have been seen before, experienced partners “don’t have to interpret every sensation or input from scratch as a novice would” (Martin, 2009, p.: 165).

REFERENCES

- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of Public Administration Research and Theory*, 18(4), 543.
- Armistead, C., Pettigrew, P., & Aves, S. (2007). Exploring leadership in multi-sectoral partnerships. *Leadership*, 3(2), 211.
- Austin, J. (2000). Strategic collaboration between nonprofits and businesses. *Nonprofit and Voluntary Sector Quarterly*, 29, 69-97.
- Avital, M., & Boland, R. (2008). Managing as designing with a positive lens. *Designing Information and Organizations with a Positive Lens*.
- Babbie, E. (2010). *The Practice of Social Research* (Twelfth Edition ed.). Belmont, CA: Wadsworth
- Berger, I., Cunningham, P., & Drumwright, M. (2004). Social Alliances. *California Management Review*, 47(1), 58.
- Bevan, H., Robert, G., Bate, P., Maher, L., & Wells, J. (2007). Using a Design Approach to Assist Large-Scale Organizational Change: "10 High Impact Changes" to Improve the National Health Service in England. *The Journal of Applied Behavioral Science*, 43(1), 135.
- Boland Jr, R., Collopy, F., Lyytinen, K., & Yoo, Y. (2008). Managing as designing: Lessons for organization leaders from the design practice of frank o. gehry. *Design Issues*, 24(1), 10-25.
- Boland Jr, R., & Tenkasi, R. (1995). Perspective making and perspective taking in communities of knowing. *Organization science*, 6(4), 350-372.
- Boland, R., & Collopy, F. (2004a). Design matters for management. *Managing as designing*, 3-18.
- Boland, R., & Collopy, F. (2004b). *Managing as designing*: Stanford University Press.
- Brown, T. (2008). Design thinking. *Harvard Business Review*, 86(6), 84-92.

- Brown, T. (2009). *Change by design: how design thinking transforms organizations and inspires innovation*: New York: HarperCollins Publishers.
- Brown, T., & Wyatt, J. (2010). Design Thinking for Social Innovation. *Stanford Social Innovation Review*, 8(1), 5.
- Bryson, J., Crosby, B., & Stone, M. (2006). The design and implementation of cross-sector collaborations: Propositions from the literature. *Public Administration Review*, 66, 44.
- Buchanan, R. (1992). Wicked problems in design thinking. *Design Issues*, 8(2), 5-21.
- Busenberg, G. (1999). Collaborative and adversarial analysis in environmental policy. *Policy Sciences*, 32(1), 1-11.
- Caplan, R. (2005). *By design: why there are no locks on the bathroom door in the Hotel Louis XIV, and other object lessons* (Second ed.). New York: Fairchild Publications.
- Chung, A. (2004). *Bridging sectors: partnerships between nonprofits and private developers*: Neighborhood Reinvestment Corporation.
- Corbin, J. M., & Strauss, A. L. (2008). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory* (Third Edition ed.). Thousand Oaks, CA: Sage.
- Coston, J. (1998). A model and typology of government-NGO relationships. *Nonprofit and Voluntary Sector Quarterly*, 27(3), 358.
- Crosby, B., & Bryson, J. (2005). *Leadership for the common good: Tackling public problems in a shared-power world*: Jossey-Bass Inc Pub.
- Cross, N. (2007). *Designerly Ways of Knowing*. Board of International Research in Design: Birkh%user.
- Gajda, R. (2004). Utilizing collaboration theory to evaluate strategic alliances. *American Journal of Evaluation*, 25(1), 65.
- Galbraith, J. (1977). *Organizational Design*. Reading, MA: Addison-Wesley, Reading, MA.
- Galbraith, J. (2002). *Designing organizations: An executive guide to strategy, structure, and process*: Jossey-Bass San Francisco.
- Galbraith, J., Downey, D., & Kates, A. (2002). *Designing dynamic organizations: a hands-on guide for leaders at all levels*: Amacom Books.
- Ghere, R. (1996). Aligning the ethics of public-private partnership: The issue of local economic development. *Journal of Public Administration Research and Theory*, 6(4), 599.
- Glasbergen, P., & Driessen, P. (2005). Interactive planning of infrastructure: the changing role of Dutch project management. *Environment and Planning C: Government & Policy*, 23(2), 263-277.
- Glaser, B. G., & Strauss, A. L. (2009). *The Discovery of Grounded Theory: strategies for qualitative research*. Piscataway, NJ: Aldine Transaction.
- Goold, M., & Campbell, A. (2002). Do You Have a Well Designed Organization? *Harvard Business Review*, 80(3), 117-124.
- Gray, B. (1989). *Collaborating: Finding common ground for multiparty problems*. San Francisco: Jossey-Bass Publishers.
- Greenbaum, J. (1993). A design of one's own: towards participatory design in the United States. *Participatory design: Principles and practices*, 27-37.
- Guo, C., & Acar, M. (2005). Understanding collaboration among nonprofit organizations: Combining resource dependency, institutional, and network perspectives. *Nonprofit and Voluntary Sector Quarterly*, 34(3), 340.
- Hardy, C., & Phillips, N. (1998). Strategies of engagement: Lessons from the critical examination of collaboration and conflict in an interorganizational domain. *Organization science*, 9(2), 217-230.
- Hartshorne, C., Weiss, P., & Burks, A. (1967). *Collected Papers of Charles Sanders Peirce* (Vol. 1): Harvard University Press.
- Huxham, C. (1996). *Creating collaborative advantage*. London: Sage Publications Ltd.
- Huxham, C. (2003). Theorizing collaboration practice. *Public Management Review*, 5(3), 401-423.
- Huxham, C., & Vangen, S. (2002). What makes partnerships work. *Public management-Critical perspectives*, 1, 273-291.
- Jelinek, M., Romme, A., & Boland, R. (2008). Introduction to the special issue: Organization Studies as a science for design: creating collaborative artifacts and research. *Organization Studies*, 29(3), 317.
- Kirah, A. (2009). Co-creation and the design mindset. Paper presented at the Copenhagen co'creation designing for change conference Retrieved May 31, 2010, from http://copenhagencocreation.com/files/upload/20090812_115736_cocreation_andthedesignmindset.pdf
- Lasker, R., Weiss, E., & Miller, R. (2001). Partnership synergy: a practical framework for studying and strengthening the collaborative advantage. *The Milbank Quarterly*, 79(2), 179-205.
- Le Ber, M., & Branzei, O. (2009). (Re) Forming Strategic Cross-Sector Partnerships: Relational Processes of Social Innovation. *Business & Society*, 1-33. doi: 10.1177/0007650309345457

- Linder, S. (1999). Coming to terms with the public-private partnership: A grammar of multiple meanings. *American Behavioral Scientist*, 43(1), 35.
- Martin, R. (2009). *The Design of Business: Why Design is the Next Competitive Advantage*. Boston: Harvard Business Press.
- Mattessich, P., Murray-Close, M., & Monsey, B. (2001). *Collaboration: What makes it work*: Amherst H. Wilder Foundation St. Paul, Minn.
- Maxwell, J. (2004). *Qualitative research design: An interactive approach*: Sage.
- MIT, S. M. R. (2009). *Design Thinking: Hard skills from a soft science*. Special Report Retrieved June 11, 2010, from <http://sloanreview.mit.edu/special-report/design-thinking/>
- Oster, G. (2008). Practitioner's Corner Derailing Design Thinking.
- Pasquero, J. (1991). Supraorganizational collaboration: The Canadian environmental experiment. *The Journal of Applied Behavioral Science*, 27(1), 38.
- Pich, M., Loch, C., & De Meyer, A. (2002). On uncertainty, ambiguity, and complexity in project management. *Management Science*, 48(8), 1008-1023.
- Pisano, G., & Verganti, R. (2008). Which kind of collaboration is right for you. *Harvard Business Review*, 86(12), 79-86.
- Pongsiri, N. (2002). Regulation and public-private partnerships. *International Journal of Public Sector Management*, 15(6), 487-495.
- Roberts, N. (2000). Wicked problems and network approaches to resolution. *International public management review*, 1(1), 1-19.
- Romme, A. (2003). Making a difference: Organization as design. *Organization science*, 14(5), 558-573.
- Rosenau, P. (1999). Introduction: The strengths and weaknesses of public-private policy partnerships. *American Behavioral Scientist*, 43(1), 10.
- Selsky, J., & Parker, B. (2005). Cross-sector partnerships to address social issues: Challenges to theory and practice. *Journal of Management*, 31(6), 849.
- Simon, H. (1988). The science of design: creating the artificial. *Design Issues*, 4(1), 67-82.
- Simon, H. (1996). *The sciences of the artificial*: The MIT Press.
- Smith, S. (2009). Sondela ukuzodala kanyekanye: drawing people together in order to co-create.
- Spradley, J. (1979). *The ethnographic interview* New York: Holt, Rinehart and Winston.
- Teegen, H., & Doh, J. (2003). Conclusion: Globalization and the future of nonprofit influence. In J. Doh & H. Teegen (Eds.), *Globalization and NGOs: Transforming business, government, and society* (pp. 201-221). Westport, CT: Praeger Publishers.
- Thomson, A., Perry, J., & Miller, T. (2009). Conceptualizing and measuring collaboration. *Journal of Public Administration Research and Theory*, 19(1), 23.
- Vangen, S., & Huxham, C. (2003a). Enacting leadership for collaborative advantage. *British Journal of Management*, 14.
- Vangen, S., & Huxham, C. (2003b). Nurturing collaborative relations: Building trust in interorganizational collaboration. *The Journal of Applied Behavioral Science*, 39(1), 5.
- Verganti, R. (2008). *Design Driven Innovation*: Boston, MA: Harvard Business School Press.
- Waddock, S. (1989). Understanding social partnerships: An evolutionary model of partnership organizations. *Administration & Society*, 21(1), 78.
- Warner, J. (2006). More sustainable participation? Multi-stakeholder platforms for integrated catchment management. *International Journal of Water Resources Development*, 22(1), 15-35.
- Weber, E., & Khademian, A. (2008). Wicked problems, knowledge challenges, and collaborative capacity builders in network settings. *Public Administration Review*, 68(2), 334-349.
- Yaffee, S., & Wondolleck, J. (2003). Collaborative ecosystem planning processes in the United States: Evolution and challenges. *Environments- A Journal of Interdisciplinary Studies*, 31(2), 55-72.
- Yoo, Y., Boland Jr, R., & Lyytinen, K. (2006). From organization design to organization designing. *Organization science*, 17(2), 215.

EXPLORING POWER ASSYMETRY IN CUSTOMER RELATIONSHIPS IN THE SPECIFIC CONTEXT OF HIGHER EDUCATION

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ABSTRACT

Power, its various forms and power-related tactics have long tradition in academic research on relationship between business partners. This study aims at exploring to what extent power asymmetry treated as a multi-dimensional phenomenon, i.e. with regard to various power sources is a meaningful concept in describing relationships between current universities and their strategic customers. Case study approach applied in this research enabled getting qualitative insights with regard to postgraduate studies program organized at a middle size university in Poland. The research results suggest that power asymmetry in strategic customer relationships is blurred and dynamic, which creates managerial and teaching challenges. There are some opportunities to manage these asymmetrical relationships especially with regard to value co-creation.

Keywords: Power, Asymmetry, Strategic customers, universities

1. INTRODUCTION

Power asymmetry is commonly treated as an inherent feature in relationships between sellers and buyers within an industrial setting (Siemieniako and Mitreęa, 2018), this study, however, aims at exploring the practices of a university understood as a supplier, oriented towards balancing power within asymmetrical relationships with its strategic customers who are post-graduate students. In order to propose this concept of power asymmetry in the new, still underdeveloped field of higher education, where the university is treated as a supplier and postgraduate students perceived as buyers, the general phenomenon of power asymmetry needs to be defined and discussed at first.

2. POWER ASYMMETRY –LITERATURE REVIEW

Power has been a crucial concept in the research on business relationships for a long time. Power itself, according to Emerson (1962), derives from the dependence of certain parties on each other. Cowan, et al., (2015), stress that power within a social exchange can be understood as a potential of affecting other people's behaviour, that is manifested when a company demands something that is

incompatible with another company's desire. Such situation is likely to result in the resistance of the company receiving the demand. In relationships characterised by asymmetry, one party is recognized as being more influential and able to exercise control over the other one (Siemieniako and Mitreęa, 2018). The research on power asymmetry has been ongoing for a long time, since already in the late sixties of the previous century, French and Raven (1959), identified five different power bases, which are reward, coercive, legitimate, referent and expert power. Afterwards, many researchers used those foundations to categorize the sources of power which finally were categorized into coercive and other power sources among which expert, referent, legitimate and reward power were classified as non-coercive ones (i.e. Cowan et al., 2015; Frazier and Summers, 1984; Handley and Benton, 2012). Power asymmetry can be understood as a lack of symmetry between two companies cooperating together, or, and this is the way the authors of the paper understand it, between a business entity and a strategic customer. Other authors in the field (e.g. Benton and Maloni, 2005; Nyaga, Lynch, Marshall, and Ambrose, 2013) divide power sources into mediated and non-mediated ones, where the former refer to legitimate, coercive and reward and the latter to expert, referent, informational power. Coercive power refers to a situation where one company can punish the other, for instance by enforcing something. The study by Siemieniako and Mitreęa (2018) provided examples of using such coercive power sources as: imposing financial penalties, withholding important support or reward, or threatening to withdraw an initial promise. The mediated power sources are complemented by non-mediated power sources which encompass especially referent power, expert and informational power. Although power is a key concept in research on business relationships, a different understanding of this notion by industrial marketing researchers resulted in inconsistent empirical findings (Hingley, 2005a, 2005b).

Generally, utilizing non-mediated power, such as referent and expert power, is believed to be a more effective strategy in a long-term business relationship rather than using coercive power (Benton and Maloni, 2005; Cowan et al., 2015; Hausman and Johnston, 2010). When one party in the relationship has expert power, this means, according to Siemieniako and Mitreęa (2018) that they possess expertise and knowledge that the other party lacks and wants. Cooperating with a more competent partner usually increases the value of the relationship and makes the relationship more important for the less competent party (Palmatier, Dant, Grewal, and Evans, 2006). Another source of power – the informational power is a specific variation of expert power, because, according to Maloni and Benton (2000:9) "expert power refers to the perception that one firm holds information or expertise (such as product or process leadership) that is valued by another firm". The third source of power – referent power, can be observed and manifests itself, in view of Nyaga, Lynch, Marshall, and Ambrose (2013) in a situation when one firm admires the way another conducts its operations and therefore values

being identified with it. The referent and expert power is positively correlated with a good relationship atmosphere and many vital relationship features such as trust and commitment (Crook & Combs, 2007; Zhao, Huo, Flynn, and Yeung, 2008).

2.1 Power asymmetry and business processes

When it comes to the power asymmetry and its influence on the business processes, many authors in the field (e.g. Cowan et al., 2015; Munksgaard and Medlin, 2014; Pfeffer and Salancik, 1978; Wolfe and McGinn, 2005), stress such negative effects of power asymmetry in business relationships, as unequal distribution of benefits, predominating the more powerful party, neglecting the interests of the low-power party by the high-power party (Wolfe & McGinn, 2005), whereas the others (e.g. Cuevas, Julkunen, and Gabrielsson, 2015; Pérez and Cambra-Fierro, 2015; Wang, 2011) perceive power asymmetry as a natural aspect of business relationships. Siemieniako and Mitreġa (2018) claim that, if managed wisely, power asymmetry enables control over relationship development and may be beneficial to both sides: the dominating party and the dominated one. Although there is no consensus between authors when it comes to the positive vs. negative outcomes of power asymmetry, they ubiquitously indicate that exchange partners should avoid using power in coercive ways, if they count on long term relationship benefits (Benton and Maloni, 2005; Cox, 2001).

The issue of symmetrical or asymmetrical power is neither precisely explained in the literature or used in such manner in business practice, because there is not, and probably cannot be, a clear measure of power within the business relationship. All of this is because power in buyer-seller relationships is multi-dimensional, perspective-based and dynamic phenomenon. In the plain of business and business relationships it very rarely happens that two cooperating companies manifest the same competencies and have/offer the same resources. From the business point of view it would even be a negative situation since one business entity would have nothing special to offer the other. Siemieniako and Mitreġa (2018) stress, that differences between such partners enable synergic effects in such areas like, for instance, joint product development, or supply chain integration and power asymmetry is, probably, inevitable element of every relationship between selling and buying companies. Nevertheless, business player should analyse the risk connected with substantial power asymmetry and anticipating some negative effects by managing its position in a non-coercive way. In general, the power balance between two business partners may be acknowledged subjectively by each or one of the parties as too asymmetrical or with reasonable level of asymmetry with regard to the mix of all power sources, i.e. mediated and non-mediated power types.

3. POWER ASYMMETRY BETWEEN UNIVERSITY AND ITS STRATEGIC CUSTOMERS – CONCEPTUALISATION

As mentioned earlier, power asymmetry may be witnessed within industrial settings as an inherent feature of seller - buyers relationships and it has been researched for a rather long time. It appears to be an underdeveloped research direction in general and it is also interesting if such power asymmetry is meaningful in the specific context of relationships between university and its key customers. University sells its knowledge and expertise and therefore is a seller, whereas students can be perceived as clients. Taking into consideration rapid changes witnessed by contemporary academia (demographic crisis in EU, changes in the financial system resulting in stronger emphasis on scholars' finding financing outside university, e.g. grants, internships, etc., higher expectations towards scholars in relation to productivity), universities now compete for customers and take great care for extra income sources. By extra sources we do not mean here money provided by the government for educating regular students, but money that customers bring directly to university, for instance paying for extramural studies.

Specifically, we call postgraduate students strategic or key customers at universities for the reason that they bring direct income and they significantly differ from regular students when it comes to their expectations and background knowledge. Post graduate students first of all have different motivations of studying – as older and already involved professionally people, they know which knowledge they need to absorb to become better employees and boost career and therefore they have clear expectations towards the lecturers and the learning-teaching process. Thus, they are relatively highly motivated. What is more, they tend to have much wider background knowledge of the subject matter since they very often are specialists in the field they want to explore; this means they are really involved in classes which is treated by lecturers as an advantage, but at the same time, some of them may manifest wider practical knowledge than the academic teacher, which may be perceived by this teacher as something difficult to cope with. For the above reasons, it seems quite clear here that power asymmetry between a university and its strategic customers significantly differs in its dynamics from typical buyer-seller asymmetry within industrial settings. It seems the division between the dominating force and the dominated one will sometimes be not so clear and blurred and therefore it seems a very interesting area to explore. The topic may be also seen as very up-to-date especially in view of the fact that nowadays universities need to be more and more entrepreneurial to survive in the highly competitive environment and customer management capabilities become very important in their business.

4. RESEARCH APPROACH AND RESEARCH RESULTS

We applied a longitudinal case study approach to explore and understand specific interrelations between sellers' tactics, their power position in relation to key customers, and the relationship benefits acquired by two parties. The case study method was often used in prior studies of power asymmetry in business relationships (e.g. Cox, Watson, Lonsdale, and Sanderson, 2004; Pérez & Cambra-Fierro, 2015). Our study focuses on the evolution of a dyadic relationship between an organization and their key customers. The case study method allowed us to analyse the evolution of non-mediated power asymmetry over a period of time, as well as the mutual relationship benefits that the seller and buyer acquire over the same period of time. The relationship between the selling organization, which is a medium size public university in Poland (called University X thereafter) and the buyers, who are X's graduate students, has been studied for 8 years. In order to understand our approach, study objectives, method and the profile of informants need to be briefly discussed.

4.1 Study objectives

Main study objective was to explore in what way the concept of power asymmetry may be applicable in educational settings – between a university and its strategic clients. Detached objectives concerned discussion on mediated and non-mediated power sources in the context of educational settings between university and post graduate students and identification of domination sources of each party and their manifestations. Last, but not least, we tried to look for benefits and threats of the identified power sources and we tried to analyse if some power sources and areas of domination are blurred between the two parties.

4.2 Profile of informants

The research informants were students studying at "Y" post graduate studies in the teaching area of sales management. These postgraduate studies existed on education market for over ten years and was very competitive in comparison to other study offers at the university investigated. Students were in majority of cases sales managers from various business sectors and sales representatives aspiring for a promotion. They chose that offer for two reasons mainly: first of all, acquiring diploma with the title nicely tailored to their career, the study name is actually similar to the position most of students for a new knowledge and competencies with relation to sales management area.. They had clear needs and high expectations and at the same time really significant knowledge in the area of sales, communication and sometimes middle-level management as they were experienced employees. This way they were valuable and demanding customers for the university and lecturers especially. At the same time they really wanted to contribute to the learning and teaching process and they took active participation in shaping course program for the next years. They also had substantial impact on attitudes of prospective customers since their recommendations and word-of-mouth marketing

played and still play a significant role in promoting the studies, especially if we consider lack of concrete advertising budget that managers could use for promoting studies among candidates.

4.3 Research method

There were two main information sources that we used in case study. Firstly, we used anonymous student satisfaction questionnaire administered twice per academic year at post graduate studies. The tool was not designed for the purpose of this study specifically, because heads of post graduate studies must administer such questionnaires in order to measure satisfaction of students concerning the services provided and then report the results to university authorities. We however realised, as heads of post-graduate studies, that such questionnaires are an excellent source of information much beyond the quality of teaching-learning process and for that reason they were used for the purpose of exploring power asymmetry within university settings as well. The student questionnaire aimed at measuring student satisfaction and extensive feedback with regard to various aspects of teaching/learning twice per academic year. This means that each group of students (each edition of studies) filled it in twice. In the questionnaire there were close-ended questions designed in the form of Likert scale which measured the performance of teachers in the following categories: expert knowledge, the proportion between theoretical and practical elements in each subject, the quality and usefulness of materials administered for students, the quality of teaching style of each teacher, teachers' attitudes towards students. There were also open-ended questions that were more important for the purpose of our case study approach and there students were asked which elements of the offer they were most satisfied and dissatisfied with and why and who their favourite and most disliked teachers were and why. They were also welcomed to give any suggestions concerning study concept, offer and programme and many of them provided such information. Each year the heads of studies categorised and analysed the results and wrote down some conclusions concerning the study.

Secondly, each year few students were also asked to participate in personal unstructured interviews which concerned various aspects of teaching and learning, including problematic situations experienced by them with lecturers, students contribution to the learning process and interactions between students themselves. In total, during 8 years we collected information from 17 different students this. Additionally, we used participatory observation technique, which took form of making some notes after spotting interactions with students during classes which appeared to be relevant for our research.

In this paper we try to analyse mostly qualitative data we gathered over investigated time and try to interpret them in the context of power (a)symmetry in relationships between the university and lecturers are treated as the selling side and students as buyers. We also endeavour to explore if the

distinctions between sellers and buyers and their power are blurred, what type of asymmetry can be witnessed and how each side may be treated as a source of power and what type of power can be witnessed.

The empirical material, contained quantitative elements (Likert scale - based information concerning performance of all academic teachers, usefulness of materials, teachers' attitudes towards students) and qualitative elements (open-ended questions referring to advantages and disadvantages of the study programme, preferences with regard to the best and the worst academic teacher each year, etc.). In this case study we were mostly interested in the qualitative data and sometimes used quantitative information just to validate the qualitative results (e.g. checking if an academic teacher described in open-ended questions as the best one scored high on Likert scale as one having great expertise, manifesting positive attitudes towards students, incorporating a good proportion of theory and practice into classes). To large extent (with regard to results of personal individual interviews), the qualitative data was double coded to avoid coder's bias (Krippendorff, 2004) and then it was analysed in accordance with QDA (Qualitative data Analysis, Seidel, 1998) principles and especially the process of noticing, collecting and thinking. On the basis of the emerged theory, study questions were answered and they are going to be elaborated on in the next section of the paper.

4.5 Research results and Research discussion

The qualitative data that emerged as a result of applying QDA principles to data analysis, revealed results that may potentially contribute to the still underdeveloped area of power asymmetry in exchanges between buyers and sellers, especially in the very specific context of university sector. Our results show areas of power dominance, areas of blurred power dominance between the two parties and opportunities and threats of the identified multi-layer power dominance. The results have been grouped and they are presented below.

4.5.1 Implementing the general concept of power asymmetry in university – strategic customers setting.

Power asymmetry is commonly understood as a lack of symmetry between two companies cooperating together and in relationships characterised by asymmetry, one party is recognized as being more influential and able to exercise control over the other one (Siemieniako and Mitreęa, 2018). The above definition can be applied to the discussed context with one change only – the buyer is not a business entity, but a strategic customer which implies that this is an individual affiliated to some business (i.e. employee), sometimes very large company. The lack of symmetry can be clearly visible, but in the context of university-strategic customer relationships the dominance is not a stable thing, but it shifts from one party to the other, depending on circumstances and type of asymmetry manifested. The strategic customers investigated were aware of the lack of symmetry and they were

inclined to think that most often the university was the dominant party, but interviews conducted with students were able to give some examples of client dominance. The informants claimed that the post graduate studies created the context of stronger power position of students as compared to regular students. Post graduate students in general bring direct income to the university, have richer background field knowledge than the regular ones and, as a result, have higher expectations towards academic teachers and the teaching-learning process. On the other hand, due to their expertise, they may co-create some values with the teachers that are significant to the development of both parties. For all those reasons they are strategic customers for the university. The informants were inclined to think that in general in their relationship with university, the university is a dominant party, but they perceived power asymmetry as a natural aspect of such relationship and this is compatible with views of many authors in the field (e.g. Cuevas, Julkunen, and Gabrielsson, 2015; Pérez and Cambra-Fierro, 2015; Wang, 2011) that advocate the view that such asymmetry is part of every business relationship.

4.5.2 Mediated and non-mediated power sources in the educational setting.

While speaking about power asymmetry, we may consider mediated and non-mediated power sources in university setting. Mediated power sources comprise coercive, legitimate and reward power. As far as mediated power sources are concerned, coercive power, understood as the ability of imposing financial penalties, withholding important support or reward, or threatening to withdraw an initial promise, was according to the informants an example of university dominance (after Molm, 1997; and Yeung, Selen, Zhang, and Huo, 2009). The academic teachers mark post-graduate students and this way they may exert mediated power on them in terms of both coercive and reward power (French & Raven, 1959). There are also some elements of interactions that are matter of negotiation between university and students, e.g. potential to organize some classes in distant location combined with student integration, and university, specifically managers of the Y studies, may use this element as referent power, i.e. to make students participate in some value co-creation, e.g. providing information for teaching case studies based on real business events. Legitimate power is related to contractual agreements, which may be utilized to influence partner behaviour. In case of such power, all informants ubiquitously manifested a conviction that a university is a source of dominance since they can impose penalties for not obeying the rules described in contractual agreements, like for instance the necessity to pay the tuition fees even if they are not pleased with the process of teaching.

On the other hand, students tend to use the reward power (French & Raven, 1959) to encourage the teachers to assign higher marks to them (i.e. few informants mentioned that they offered to prepare a letter of recommendation before the final examination because they thought it could help them achieve better final results). They may also use other aspects of reward power, e.g. suggesting they

may engage in more co-creation activities in exchange for receiving extra friendly atmosphere during classes or especially during special classes organized in distant location. It appears quite clear that in case of mediated power sources, the university is the dominant party in majority of contexts, although there are blurred areas of dominance like, for instance, coercive power that can be manifested by two parties.

Non-mediated power sources comprise expert, referent and informational power. When it comes to expert power, Palmatier, Dant, Grewal, and Evans (2006), define it as an expert power which one party in the relationship has and which refers to expertise and knowledge that the other party wants. Informational power is, according to Maloni and Benton (2000) a part of expert power and for that reason they will be treated as one power source – expert power. The informants very often chose those academic teachers as their favourite ones, who had a great amount of expert knowledge in the field. This way it is visible that university is a dominating party in this context as its employers offer expert knowledge to its strategic customers. When it comes to referent power, it is understood (after Nyaga, Lynch, Marshall, and Ambrose, 2013) as a situation when one firm admires the way another one conducts its operations and therefore values being identified with it. After analysing all qualitative data it emerges that referent power is the brightest example of blurred dominance source since in the context of post graduate studies, students very highly evaluated the course, the expertise of teachers and their attitudes towards students, but at the same time they were aware that, thanks to their professional experience and business ties, they were an excellent source of information for the teachers (e.g. they could provide relevant and up-to-date data for teachers' research and teaching case studies as well as they could strongly contribute to the quality of classes at the time while they are conducted). By being very active during classes, e.g. during discussing teaching case studies and providing real life examples to theoretical lecture, some particular students built very strong personal brand towards not only their peers, i.e. other students, but also lecturers themselves, because sometimes lecturers may have a very limited expertise with regard to some specific business techniques or industry-related features. Some students generally tend to be also very influential due to spectacular professional results they report in their current or previous jobs. Thus, they are sometimes treated as living "benchmarks" for some element of teaching programme.

5. CONCLUSIONS

Our research suggests that there is a power asymmetry between university and its strategic customers and we can distinguish between various power sources (a)symmetry although in many cases power structure between parties is blurred. We feel that it should not be treated as something negative because the fact that the areas of dominance are blurred, indicates that there is a mutual influence

between university and its strategic customers and this may lead to strong value co-creation (Prahalad and Ramaswamy 2000; Vargo and Lusch 2004). It opens the future research about mechanism standing behind value co-creation in university setting and such research direction could be very interesting, because the collaboration between companies and their customers aimed at providing various resources to increase value being offered and consumed has become one of most popular topics in marketing science, especially in the last decade (Alves et al. 2016). The co-created value translates into more competitive university offer. For this reason neither scholar nor university authorities should focus only on threats of power asymmetry dynamics in this context, but rather opportunities that such dominance shifts create. It also appears worth investigating how power asymmetry creates opportunities not only for the dominant party, but for the dominated one as well. When it comes to study limitations, these are universal limitations of qualitative studies – the results have not been validated through other informants, especially not through quantitative research with rigorous sample selection. On the other hand, the scope of this qualitative research was not about “how many” or “how strong” power asymmetry influences on university-students relations, but rather we wanted to explore “whether” and “how” it happens in this specific research setting. We were mainly interested if power asymmetry concept can be applicable to buyer-seller relationships within educational settings and how power and dominance are manifested and shifted in such settings. Thus, although our research is not conclusive with regard to many aspects, i.e. how power asymmetry could be managed by university authorities, it illustrates that power asymmetry is dynamic phenomenon in this context and it creates some business opportunities at the level of the whole university and at the level of particular lecturers as well.

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REFERENCES

- Alves, Helena, Fernandes, Cristina, & Raposo, Mário. (2016). Value co-creation: Concept and contexts of application and study. *Journal of Business Research*, 69(5), 1626-1633.
- Benton, W.C., & Maloni, M. (2005). The influence of power driven buyer/seller relationships on supply chain satisfaction, *Journal of Operations Management*, 23(1), 1–22.
- Cowan, K., Paswan, A. K., and Van Steenburg, E. (2015). When inter-firm relationship benefits mitigate power asymmetry. *Industrial Marketing Management*, 48, 140–148.
- Cox, A. (2001). The power perspective in procurement and supply management. *Journal of Supply Chain Management*, 31(2), 4–7.
- Crook, T. R., & Combs, J. G. (2007). Sources and consequences of bargaining power in supply chains. *Journal of Operations Management*, 25(2), 546–555.

- Cuevas, J.M., Julkunen, S., & Gabrielsson, M. (2015). Power symmetry and the development of trust in interdependent relationships: The mediating role of goal congruence, *Industrial Marketing Management*, 48, 149–159.
- Emerson, R.M. (1962). Power dependence relations, *American Sociological Review*, 27(1), 31–41.
- Frazier, G.L., & Summers, J.O. (1984). Interfirm influence strategies and their application within distribution channels, *Journal of Marketing*, 48(3), 43–55.
- French R.P., & Raven B. (1959). The bases of social power, In: Cartwright D., (Ed), *Studies in social power*, University of Michigan Press; Ann Arbor, MI, 155–164.
- Handley, S.M., & Benton, W.C. (2012). Mediated power and outsourcing relationships, *Journal of Operations Management*, 30(3), 253–267.
- Hausman, A., & Johnston, W. J. (2010). The impact of coercive and non-coercive forms of influence on trust, commitment, and compliance in supply chains. *Industrial Marketing Management*, 39(3), 519–526.
- Hingley, M.K. (2005a). Power to all our friends? Living with imbalance in supplier-retailer relationships, *Industrial Marketing Management*, 34(8), 848–858.
- Hingley, M.K. (2005b). Responses to comments on 'Power to all our friends? Living with the imbalance in supplier-retailer relationships', *Industrial Marketing Management*, 34, 870–875.
- Krippendorff, K. (2004). *Content Analysis. An Introduction to Its Methodology*. New Delhi: Sage Publications
- Maloni, M.J., & Benton, W.C. (2000). Power influences in the supply chain, *Journal of Business Logistics*, 21(1), 42–73.
- Molm, L.D. (1997). Risk and power use: constraints on the use of coercion in exchange, *American Sociological Review*, 62(1), 113–133.
- Munksgaard, K. B., & Medlin, C. J. (2014). Self- and collective-interests: Using formal network activities for developing firms' business. *Industrial Marketing Management*, 43(4), 613–621.
- Nyaga, G. N., Lynch, D. F., Marshall, D., & Ambrose, E. (2013). Power asymmetry, adaptation and collaboration in dyadic relationships involving a powerful partner, *Journal of Supply Chain Management*, 49(3), 42–65.
- Palmatier, R.W., Dant, R.P., Grewal, D., & Evans, K.R. (2006). Factors Influencing the Effectiveness of Relationship Marketing: A Meta-Analysis, *Journal of Marketing*, 70(4), 136–153.
- Pérez, L., & Cambra-Fierro, J. (2015). Learning to work in asymmetric relationships: insights from the computer software industry, *Supply Chain Management: An International Journal*, 20(1), 1–10.
- Pfeffer, J., & Salancik, G.R. (1978). *The External Control of Organizations*. New York: Harper and Row.
- Prahalad, Coimbatore K and Ramaswamy, Venkatram (2000), 'Co-opting customer competence', *Harvard business review*, 78 (1), 79-90.
- Seidel, J. (1998). *Qualitative data Analysis. The Ethnograph* vol. 4
- Siemieniako, D. and Mitreġa, M. (2018). Improving power position with regard to non-mediated power sources – The supplier's perspective. *Industrial Marketing Management* 70 (2018) 90–100
- Vargo, S. L. and Lusch, R. F. (2004), 'Evolving to a new dominant logic for marketing', *Journal of Marketing*, 1-17.
- Wang, C. (2011). The moderating role of power asymmetry on the relationships between alliance and innovative performance in the high-tech industry, *Technological Forecasting & Social Change*, 78(7), 1268–1279.
- Wolfe, R.J., & McGinn, K.L. (2005). Perceived Relative Power and its Influence on Negotiations, *Group Decision and Negotiation*, 14(1), 3–20.
- Yeung, J. H. Y., Selen, W., Zhang, M., & Huo, B. (2009). The effects of trust and coercive power on supplier integration, *International Journal of Production Economics*, 120(1), 66–78.
- Zhao, X., Huo, B., Flynn, B. B., & Yeung, J. H. Y. (2008). The impact of power and relationship commitment on the integration between manufacturers and customers in a supply chain. *Journal of Operations Management*, 26(3), 368–388.

FINDING THE WAY OUT OF THE NETNOGRAPHY MAZE – BASIC STEPS OF CONDUCTING NETNOGRAPHY: THE TALE OF NEW RESEARCHERS IN THE FIELD

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ABSTRACT

The rapid development of Web 2.0 has offered scholars numerous emerging research methods, specifically in the marketing area. Accordingly, their interest in understanding these methods has increased. Recently, scholars have noticed the potential of netnography – an under-applied, computer-mediated, qualitative research method – but they have been reluctant to use it as a research approach during their studies as there are numerous misconceptions about netnography and its procedures. This paper, therefore, provides insights on procedures required to successfully utilise netnography, to scholars, who are willing to use netnography for the first time as a research tool. Essentially, the study discusses in details its processes by explaining the steps of conducting netnography on one of the most famous fashion online communities. The paper applies netnography to a single fashion online community in Facebook, which is active for three years and gathers a large number of fashion enthusiasts from Southeast Europe. The researcher used an active stance when conducting the method and collected data during a three-month period. The paper presents the experience of new researchers around netnography. It contributes methodologically by providing further insights to researchers by explaining the basic steps required to successfully utilise netnography, and to create and effectively deal with the organisation around its implementation. Most importantly, it shows that netnography offers scholars the opportunity to deeply understand consumers' interactions and consumer perceptions.

Keywords: Netnography, Netnography Scholar Guidelines, Qualitative Method, Fashion Online Community

INTRODUCTION

There is an increasing interest in innovation in social research methods, specifically among academics in the marketing field. The advent of Web 2.0 has created the opportunity to develop several new research methods, mostly new computer-mediated approaches, like: online focus groups, online interviews, or image analysis (Mahajan, 2015). A novel approach, which assists to successfully collect insights about consumer behavior on the Internet and has gained the attention of scholars is netnography, which has been firstly suggested by Kozinets (2002).

Netnography offers an understanding of consumer practices within online communities (e.g. de Valck *et al.*, 2009; Quinton and Wilson, 2016). As a research method, netnography has already been applied in a few researches and thus, it has established certain research procedures. Kozinets was the first scholar to suggest them. They offer useful guidelines to researchers, who intend to use such method (Chua and Banerjee, 2013; Quinton and Wilson, 2016). Several of them adopted the guidelines suggested by Kozinets (2002); on the other hand, a few others (Bratucu *et al.*, 2014) suggested further changes to the procedure. Despite scholars having different views on possible procedures, netnography has been adopted in certain sectors and has shown good results (Wiles *et al.*, 2013; Costello *et al.*, 2017).

Nevertheless, scholars are still reluctant to employ netnography in their studies. Past studies, such as Xun and Reynolds (2010), Prior and Miller (2012) and Kulavuz-Onal (2015), have provided insights into the principles of netnographic studies. They have described the procedure of applying netnography and have focused on the results of the analysis. However, there are numerous misconceptions about netnography and its procedures, which need to be further addressed by future studies. Consequently, Tunçalp and Le (2014) recognised the necessity to discuss and report thoroughly the procedures of netnography. The following research, therefore, intends to explain this approach by paying particular attention to the scope of its procedures, the data collection process and the techniques used to analyse them.

OBJECTIVES OF THE STUDY

At large, the following research aims to address the following research questions:

R1: What is the experience of the new researchers when employing netnography in their studies?

R2: What are the opportunities that netnography can offer to new scholars?

It is through these research questions that it aims to achieve its overall goal – to provide insights to new scholars in the field, who are willing to apply netnography, by demonstrating the effectiveness and benefits of using netnography as a research tool. In particular, it intends to:

- 1) identify the main literature on netnography

- 2) explain the procedures of netnography
- 3) demonstrate the process of conducting netnography for new scholars
- 4) explain the benefits of using netnography as a research tool to new scholars

Taking these into account, the paper first shows the relevant literature about netnography's concept and procedures. Secondly, it offers a description of the methodology and methods used. This is followed by the data analysis and findings section, which explains the process of applying netnography in details, and lastly, the research offers concluding remarks about netnography as a research method among new scholars.

RELEVANT LITERATURE

The concept of Netnography

Netnography was first developed in the late 1990s in the United States (Costello *et al.*, 2017). The term netnography was coined by Kozinets (1999), and it is a portmanteau of Internet and ethnography (Kozinets, 2012; Dahl, 2015). Netnography is also known by a range of other designations, such as "cyber ethnography", "virtual ethnography" (Hine, 2000) (which, in 2015, was re-articulated by Hine as "ethnography for Internet"), "online ethnography" (Markham, 2005), "connective ethnography" (Dirksen *et al.*, 2010), and "web-ethnography" (Prior and Miller, 2012). Besides having different names, these approaches differ in their methodological frameworks as well. Unlike netnography, which is conducted entirely online, online ethnography and virtual ethnography accept an amalgamation of online and offline ethnography in order to examine the online phenomena (Kulavuz-Onal, 2015). Yet, a number of scholars use these terms interchangeably (Kulavuz-Onal, 2015). According to Costello *et al.*, (2017), these confusions are the result of the wide-ranging scope and approaches used by these methods.

Kozinets is considered to be the first advocate of netnography. In his view, netnography is: "a new qualitative research method that adapts ethnographic research techniques to the study of cultures and communities emerging through electronic networks (Kozinets, 2002, p. 62)". Besides Kozinets, Hine has made significant contributions to the literature on this subject (Long *et al.*, 2015) (refer to **Table 1** to see the key researchers through the years). She views netnography as an adaption of ethnography to the Internet (Hine, 2000). Her landmark book "Virtual Ethnography" (2000) and her latest book "Ethnography for Internet" (2015) has, over the years, encouraged critical debate on the subject in question. Postill and Pink (2012) refer to Hine's work as a response to the crisis ethnography was going through in the 20th century. Numerous scholars, including Xun and Reynolds (2010) and Kulavuz-Onal (2015), agreed with Hine's view that netnography is 'the adaptive ethnography'. Additionally, Chua and Banerjee (2013) referred to netnography as the online evolution of

ethnography, Chan and Li (2010) described netnography as “a qualitative method that adapts ethnography to the Internet environment using publicly available information... (p.1036)”, and Prior and Miller (2012) referred to it as “the application of ethnographic methods to an online context (p. 507)”. Whereas, Driscoll and Gregg (2010), went even further, arguing that netnography is “ethnography which attempts to mimic (attempts to be as good as) ethnographic fieldwork (p. 17)”

1996-2000	2001-2005
Author(s)	Author(s)
Kozinets (1999) Fox and Roberts (1999) (Hine, 2000)	Kozinets (2002) Shoham (2004) Nelson and Otnes (2005)
2006-2010	2010-2015
Author(s)	Author(s)
Fuller et al., (2007) Yim et al., (2008) Markham and Baym (2008) deValck et al., (2009)	Chan and Li (2010) Xun and Reynolds (2010) Prior and Miller (2012) Brodie et al., (2013) Chua and Banerjee (2013)

Table 1: Key Researchers in Netnography through the Years (Wiles et al., 2013)

Kozinets (1999, 2002) himself, recognised the presence of anthropological ethnography elements in netnography. He argued that without ethnography, netnography would only be a ‘coding exercise’ (Kozinets, 2012). However, he did not undermine the distinctiveness of netnography – at large, he considered the approach to be authentic. Similarly, Markham (2005) considered this approach to be groundbreaking because it focuses on online communities, which differ significantly from traditional communities. The authors, similar to Kozinets (2012) and Markham (2005), consider netnography to be a distinct research method. The debate on whether netnography is a new method or an adaptation of ethnography to the Internet has not been concluded yet.

The resemblance between netnography and ethnography

As far as the resemblance between netnography and ethnography is reckoned, researchers have taken two stances: one looking at the resemblances between the two and the other looking at the differences. According to Kozinets (2012), Prior and Miller (2012) and Dahl (2015), traditional ethnography is similar to netnography on the subjects of immersiveness, and adaptability. Both methods are naturalistic, so the researcher gains insight into the actual behaviour and perspectives of consumers within a particular community (Kozinets 2012; Wu and Pearce, 2014). In both methods, the researcher takes an active role; they participate in the study, as well as offer an objective observation. Similar to

ethnography, netnography is adaptable to all cultures and communities (Wu and Pearce, 2014; Dahl, 2015). Additionally, they both offer researchers access to “emic voices (Wu and Pearce, 2014, p. 464)”. Even though several researchers came to an agreement regarding the resemblance between traditional ethnography and netnography (see Kozinets, 2012; Prior and Miller, 2012; Dahl, 2015), many others claim that the ethnographic study of virtual communities goes beyond traditional ethnography. Netnography, when compared to traditional ethnography, is less time consuming, less costly, easier to conduct, and is performed completely online (De Valck *et al.*, 2009; Dahl, 2015). Kozinets (2002) distinguished a few differences between the two methods. According to him, the nature of netnography differs from that of ethnography, as netnography studies the interactions of consumers that are carried through a technological medium. Authenticity of consumers is not known, they can interact using a false and anonymous identity (Xun and Reynolds, 2010). That, however, is not the case in ethnography, because it is conducted in person, and this does not factor (Kozinets, 2012). However, anonymity offers members of online groups more privacy, which encourages them to share their experiences, especially about sensitive topics (Wu and Pearce, 2014; Costello *et al.*, 2017). The next difference is that netnography offers researchers greater accessibility to a broader range of respondents (Xun and Reynolds, 2010; Wu and Pearce, 2014), which has a significant impact on the process of data collection, and it forces a change in the research approach.

Netnography's advantages and disadvantages

Netnography provides marketers with several advantages: it is cost-effective, since the data is freely accessible to anyone and it is unobtrusive, because it occurs in a natural context, and does not influence the community (Xun and Reynolds, 2010; Prior and Miller, 2012; Kulavuz-Onal, 2015; Costello *et al.*, 2017). By making use of it, marketers can access a large amount of data; they can deeply understand consumers' interactions and their views regarding particular brands or products. Therefore, it is considered to be very effective for marketing strategies, especially when developing new products (Healy and McDonagh, 2013). Despite that, netnography is still a relatively new method and as such has a few limitations. According to scholars, the validity and reliability of data gathered using this method is their biggest concern, especially due to the difficulties created by anonymity and questionably authentic behaviour of Internet users (Xun and Reynolds, 2010; Wu and Pearce, 2015).

Netnography's procedures

Netnography has already established procedures for conducting research (Kozinets, 2012). Despite the differences between ethnography and netnography, Kozinets (2002) suggested adopting the common structure approach of ethnography to the processes of netnography. Netnographers' approach is discussed in details below.

Entrée: According to Kozinets (2002), the researcher first needs to form research questions, and based on them, find appropriate online communities. Secondly, the researcher needs to thoroughly learn about the communities they intend to examine (search engines are invaluable at this point). After identifying the most suitable ones, Kozinets (2002) recommends evaluating them using the following criteria:

- 1) A more focused and research question-relevant segment, topic, or group
- 2) Higher “traffic” of posting
- 3) Larger numbers of discrete message posters
- 4) More detailed or descriptively rich data
- 5) More between-member interactions of the type required by the research question

(Kozinets, 2002, p. 63)

After evaluating them, the researcher can select either one or a combination of communities. Once that is done, the research can continue with the next step. The researcher has to bear in mind, however, that the process requires a considerable amount of time (Kozinets, 2002, 2012; Dahl, 2015).

Data Collection and Analysis: The researcher starts this process by selecting firstly, the data taken from the interactions between members of the community, and secondly, the data inscribed from the researcher’s observation. Afterwards, the researcher starts the data gathering process. Considering the great amount of data, Kozinets (2002) recommended to categorise both the data and the community members, in order to simplify the process. The data could be put into two categories: on-topic and off-topic; while community members could be categorised as: tourists, minglers, devotees, or insiders. Once the data collection is done, the analysis begins. The process of analysing data can be completed either by coding, content analysis, data display, or by using software solutions, such as Atlas.ti (Kozinets, 2002; Dahl, 2015).

Providing Trustworthy Interpretation: Even though netnography is a stand-alone method, triangulation of data would offer marketers a more trustworthy interpretation of it. Kozinets (2002) suggested to make use of the following methods in order to triangulate the data: “interviews, focus groups, surveys, or traditional in-person ethnographies (p. 65)”. These methods are important, especially if the researcher intends to generalise the study.

Research Ethics: According to Kozinets (2002), netnography’s use of information may not always be welcomed by the members of the researched community. Thus, if the researcher uses such information without consent, it can negatively impact the ethical value of the research.

Member Checks: The last step requires the researcher to deliver the report or its highlights to the people who were a part of the research. This could be done by publishing it on a Web page, or by sending it via an e-mail (Kozinets, 2002).

A number of researchers followed these steps precisely (see Gurrieri and Cherrier (2013)), while others, like Bratucu *et al.*, (2014) and Prior and Miller (2012) omitted one or more steps. Besides the process, the scope of netnography encouraged much discussion. Even though Kozinets (2002) did not offer any particular suggestions, many scholars shared their views on it. They were concerned with the length of the research and the number of communities involved. Academics, such as: Chua and Banerjee's (2013) preferred to conduct a parallel analysis of several online communities (15 and 4 respectively). In contrast, Ekpo *et al.*, (2015) adopted a more focused approach, by researching the interactions between two communities. Whereas other researchers such as De Valck *et al.*, (2009), Xun and Reynolds (2010), Brodie *et al.*, (2013), and Kulavuz-Onal (2015), limited their study to only one online community. Xun and Reynolds (2010) claimed that the number of communities required, depends on the topic of study and the interested population. If the researcher is interested in a particular topic discussed by a specific population that uses only such a community for that purpose, the researcher should focus on that community, in order to not become overwhelmed by data that they do not need in the first place.

As for the required length of the study, scholars have different views on it. For instance, Brodie *et al.*, (2013) conducted an eighteen-month long study on a community, unlike De Valck *et al.*, (2009) who investigated a single community for three years. Most researchers appear to prefer lengthier studies, because they yield more information than short-term studies (Costello *et al.*, 2017). Nevertheless, some netnographers use shorter studies; Kozinets himself conducted two-to-three months long studies (1999; 2002), which, in most cases, was due to time constraint limitations. Marketers, on the other hand, would have to apply the method the whole time, or in accordance to their marketing goals. Another issue which garnered attention is the participant privacy consideration that "can limit the extent to which the data can be shared (Costello *et al.*, 2017, p. 8)". Netnographers dealt with the issue in different ways. For instance, Ekpo *et al.*, (2015) used 'self-selected usernames' in order to preserve participants' privacy, while Xun and Reynolds (2010) used designations, such as "Participant X".

METHODOLOGY

Research Design

For the purposes of this research, qualitative method is considered the most appropriate one. According to Kapoulas and Mitic (2012), qualitative method is more suitable when the researcher aims to discover a phenomenon or gain a better understanding of new theories and knowledge. Moreover, Andriopoulos and Slater (2013) suggested to employ qualitative methods when the research attempts

to gain insight into the working practices of a new method, and into how they are progressing every day.

Data Collection

The data is gathered through both primary and secondary sources. Primary sources are used in order to gather insights about netnography as a research method. While secondary data, such as academic articles, reports, and studies, are used in order to support and address the identified issues from the primary sources.

Netnography

Netnography is used in order to effectively discover its potential as a marketing research tool. This paper applies netnography to a fashion online community, which has been active for three years and gathers a large number of fashion enthusiasts. The community has been given a coded name – “Trendy” – in order to ensure its privacy throughout the study. After considering the suggestions of Quinton and Wilson (2016), the research took an active stance; hence, the researcher gained permission to use the data the community members provided. A single online community has been analysed and the focus has not only been on text-data, but also on images and videos as Costello *et al.*, (2017) suggested. The data has been collected in a three-month period. The researcher gained permission from the administrators of the community in order to conduct netnography. Additionally, the research considered the participant privacy and hence used designations such as M1, M2, M3.

Sample

The sample method that is used is the non-probability sample, which is common for qualitative research. The sample is chosen in order to best fit the objectives of the study, hence purposive sampling type is used (Noy, 2008). The target population of this research are citizens of Southeastern Europe, who regularly use Internet and participate in fashion online communities.

Data analysis

Data analysis is crucial to credible qualitative research; thus, the researcher carefully chose the method of analysis. The interpretation of the results of this paper is performed through a thematic analysis, as this type of analysis is considered suitable for researchers as it offers them flexibility (Clarke and Braun, 2013). Additionally, thematic analysis offers researchers the ability to create meaningful results (Clarke and Braun, 2016; Saunders *et al.*, 2016).

Data analysis and findings

Netnographic research of the fashion online community

The following section explains in detail the procedure for conducting netnography on the selected fashion online community. The researcher has followed the guidelines suggested by Kozinets (2002);

however, it has taken into consideration suggestions of other researchers as well, such as Quinton and Wilson (2016) and Costello *et al.*, (2017).

1) Entrée: Initially, the main issues that interested the researcher were put into two research questions:

- a) What are opinions of fashion-enthusiasts on the latest trends in fashion?
- b) What are consumer perceptions on garments designed by local fashion designers?

These questions were formed after considering the main fashion designers' potential interest in the topic. The process of locating an appropriate online site to research was based on these questions. This process took a considerable amount of time because all possible sites were searched. Three online communities were identified as appropriate for the research. Each of the community was evaluated through the five criteria suggested by Kozinets (2002), and the one that fit best to the aim of the research was selected.

	Relevant Group	Traffic of Posting	Discrete Message Posters	Rich Data	Interactions Relevant to Research Questions
"Trendy"	1	1	2	1	1
"MV"	1	3	3	3	2
"FW"	3	1	2	2	2

Table 2: Evaluation of Online Communities

** 1) Satisfactory 2) Somehow Satisfactory 3)

Not satisfactory

After the most appropriate online community was identified – "Trendy" – the researcher spent a lot of time in the community, in order to learn more about the social norms, codes, and conventions, hence became familiarised with the community and its members. This community has been present on Facebook since July 2016; it is the largest fashion-related online community in the region. It is administered by four admins, and a moderator. At the beginning of the research, the community had 115,787 members; by the end of the three-month analysis, the group attracted 364 new members, 116,151 in total. The majority of the members are from Southeast Europe. The community is very famous among the people, especially younger generations. The average age of members is 24 years-old, and there is a clear dominance of females when compared to males – 87 % female users. However, there is a variety of professions - from students, English teachers, graphic designers, journalist, digital media managers, to fashion bloggers, and fashion designers. Members are motivated by a common interest – fashion, therefore, they interact daily in the group and present their opinions on numerous topics related to fashion, such as: 'in and out' outfits, outfits for events, newest trends in fashion, etc. (approximately 200 messages per day). Among others, they ask each other about opinions regarding a product or a particular brand, and the ones who have already purchased a garment from that brand,

tend to share their first-hand experience with other members. Understanding and tracking these discussions is important for fashion designers who are interested in consumer perceptions.

2) Data Collection and Analysis: The data generated was large in number and took a considerable time to be analysed. In order to simplify the process, the data was categorised as on-topic and off-topic, as it is presented in the table below (community’s members were given coded names and their posts were summarised in order to ensure confidentiality for the members).

On-Topic Data	Off-Topic Data
M22: Such a fabric can be found in Skopje or Ferizaj, these cities have the best and cheapest fabrics.	M15: Hello to everyone, I am giving away few clothes that I do not wear anymore, if anyone wants them text me.
M33: Would you please suggest me any dress for a wedding party I have to attend on September? I want something unique. Please send me any suggestion!	M22: I am not sure which nail design to do for my engagement party. Which one do you suggest? [pictures attached]

Table 3: On-topic and Off-Topic Data

Additionally, the community members were put into four categories: tourists, minglers, devotees, and insiders.

Tourists (36%)	Minglers (38%)	Devotees (19%)	Insiders (7%)
Not-Frequent Visitors	Frequent Visitors	Not-Frequent Visitors	Daily Visitors
Not Socially Involved	Socially Involved	Not Socially Involved	Socially Involved
Short-Time Members	Long-time Members	Long-time Members	Long-time Members
Great Interest in the Community	No Interest in Participation	Highly Engaged in Discussions	Highly Engaged in Discussions
			Opinion Leaders

Table 4: Community Members' Categories

After the data was collected, it was analysed through a thematic analysis. Throughout this process, forty-four codes, two themes and several sub-themes were created.



Table 5: Themes and Sub-Themes Created for this Netnographic Research

Codes			
SLB	Suggesting Local Brands	WC-HH	Workout Clothes – High Heels
SFD	Suggesting Fashion Designers	SC	Satisfied Customers
S	Sales	ST	Summer Trends
RO	Requires Opinions	CD	Creative Designers
RS	Requires Suggestions	SC	Satisfied Customers
FE	Friend/Family Experience	UO	Unsatisfactory Outfit
EB	Experience Based	KB	Knitted Bikini
DS	Discounts	HG	Handmade Goods
AV	Availability	EX	Expensive

Table 6: A few of the Codes Created for this Netnographic Research

The table below presents some of the data collected by the researcher. The data collected and analysed is in the written form; but it has to be noted that besides text, members of the online community tend to post pictures and emojis. In many cases, they post exclusively pictures or emojis without any written text. However, the research considered the usage of such pictures for study purpose to be unethical. Therefore, the following table presents only the interactions between members of the community in the written form. Great significance was given to the privacy of community's members, thus, the researcher paraphrased the comments posted by members.

ID#	Response	Code
M2	Did you all see VS's new line for the summer? What do you all think about it? I personally loved it. It's unique as his lines always are. But, a friend of mine was in the shop and tried the "famous black dress" and she said that it was not very comfortable because it is a bit hard to move wearing it. It looks awesome if you only need to pose, but not for a wedding. Did any of you try it? What do you think?	VS; RO; U; FE; UC
M3	I would really appreciate if you help me find a good fashion designer for designing my engagement dress. I need someone, who is good at their job, but not very expensive. Thank you!	RS
M10	My sister and I are knitting women swimwear. We found a great tutorial in YouTube and we did three pairs and we wanted to share them with you. In our opinion, these bikinis look great; but, what do you think? [photo attached]	KB; RO
M12	I think that designing an outfit for your graduation party is too much, and too expensive. I would rather buy an outfit in Mango, either a suit, or a simple dress, than pay for an outfit to be designed by our fashion designers.	EX; SIB; M
M13	I mean, LS' job is great and I guess we all love it, but personally, I cannot afford it. I think they should offer discounts for us because most of us are still not working and we would like to be able to wear such outfits.	EX; DS

M14	Every-day bags with solemn dresses is my favorite thing during this season.	E-DB
M16	You can find the dress in M-PX. I was there yesterday and they still have it.	MP; AV
M22	I truly do not like chockers because nowadays everyone is wearing one and it does not seem cool anymore.	CH

Table 7: Netnography's Data

The data analysis shows the topics that are mostly discussed by members of the community on the issues that the research was interested in during this three-month period. The data provides rich information about members' perceptions regarding the latest trends in fashion and local fashion designers' work. Members thoroughly discussed the trends during this period and offered new suggestions as well. As for the local designers, a large number of members loved their work; a few members criticised their designs and some others offered suggestions and alterations. In general, these insights are valuable and useful for fashion designers because they give them the opportunity to understand consumer perceptions in a natural environment.

3) Providing Trustworthy Interpretation: As it can be seen, netnography is a successful stand-alone interpretation; nevertheless, focus groups or interviews with members of the fashion online community could be conducted in order to assure the credibility of data.

4) Research Ethics: Despite Kozinets' (2002) recommendation to taking an active stance, researchers did not fully disclose their presence to the members of the community. This provided a naturalist analysis because members were not influenced by the presence of the researcher. Nevertheless, the administrators of the online community had been informed about the ongoing research since the first day.

5) Member Checks: Unlike Kozinets (2002), who delivered the final report to the members of the community, the researcher provided such a report only to the administrators, who were informed about the research. Administrators thought that the research is valuable, and it provides a good analysis of the topics discussed.

CONCLUSION

Mainly, the study explains the concept and procedures of netnography to scholars, who intend to employ netnography in their studies for the first time. The literature shows that netnography as a method has gained attention among marketing scholars. Accordingly, the paper presents briefly the work of the main authors who have contributed to the development of the method throughout the years. However, it focuses mostly on the work of Kozinets, the founder of netnography, as he is

among the first ones to propose netnography's conducting guidelines. The study also shows the main strengths and weaknesses of the method that might be encountered by researchers during the process of employing netnography, initially throughout the literature review and lately throughout the discussion of findings.

Overall, the paper provides insights to new researchers on how to conduct this under-applied method – netnography – effectively. By explaining in details each of the steps that should be followed, it intends to make scholars familiar with netnography's procedures and help them in dealing successfully with the organisation around its implementation. The paper shows that the process is easy to follow and netnography, as a research method, provides researchers with access to a large amount of data. Most importantly, it offers them the opportunity to deeply understand consumers' interactions and their views regarding particular brands or products. The paper considers Kozinets (2002) research guidelines to be useful as the researcher is able to understand customer perceptions and consumer behavior. Future research could investigate netnography's role on these two phenomena. The study, among others, shows that a single online community can be effective in gaining consumer insights if the community offers the researcher rich data related to their topic of interest.

By showing the experience of researchers, this study intends to persuade other scholars to apply this method in their future studies. Initially, it increases their knowledge of the concept of netnography. Secondly, it helps researchers understand the process they have to go through when conducting netnography; and lastly, it shows the benefits that netnography provides to them. Further insights on how to navigate in the maze of qualitative research through netnography, and use it as a triangulation technique with other popular qualitative research methods within the fashion sector, will follow in subsequent papers where advice will be given to fashion industry practitioners.

REFERENCE

- Andriopoulos, C. and Slater, S. (2013), "Exploring the Landscape of Qualitative Research in International Marketing", *International Marketing Review*, Vol. 30 No. 4, pp. 384-412.
- Bratucu, R., Gheorghe, I. R., Radu, A. and Purcarea, V. L. (2014), "The Relevance of Netnography to the Harness of Romanian Health Care Electronic Word-of-mouth", *Journal of Medicine and Life*, Vol. 7 No. 3, pp. 363-367.
- Brodie, R. J., Ilic, A., Juric, B., and Hollebeek, L. (2013), "Consumer Engagement in a Virtual Brand Community", *Journal of Business Research*, Vol. 66, pp 105-114.
- Chan, K. W. and Li, S. Y. (2010), "Understanding Consumer-to-consumer Interactions in Virtual Communities", *Journal of Business Research*, Vol. 63 No. 9, pp. 1033-1040.
- Chua, A. Y. and Banerjee, S. (2013), "Customer Knowledge Management via Social Media: the Case of Starbucks", *Journal of Knowledge Management*, Vol. 17 No. 2, pp. 237-249.
- Clarke, V. and Braun, V. (2013), "Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning", *The Psychologist*, Vol. 26 No. 2, pp. 120-123.
- Costello, L., McDermott, M. L. and Wallace, R. (2017), "Netnography: Range of Practices, Misperceptions, and Missed Opportunities", *International Journal of Qualitative Methods*, Vol. 16 No. 1, pp. 1-12.
- Dahl, S. (2015), *Social Media Marketing: Theories and Applications*, Sage, London.

- De Valck, K., Van Bruggen, G. H. and Wierenga, B. (2009), "Virtual Communities: a Marketing Perspective", *Decision Support Systems*, Vol. 47 No. 3, pp. 185-203.
- Dirksen, V., Huizinga, A. and Smit, B. (2010), "The Use of Connective Ethnography for the Study of (online) Work Practices", *New Media & Society*, Vol. 12, pp. 1045-1063.
- Driscoll, C. and Gregg, M. (2010), "My profile: The ethics of virtual ethnography", *Emotion, Space and Society*, Vol. 3 No. 1, pp. 15-20.
- Ekpo, A. E., Riley, B. K., Thomas, K. D., Yvaire, Z., Gerri, G. R. H., and Muñoz, I. I. (2015), "As Worlds Collide: The Role of Marketing Management in Customer-to-customer Interactions", *Journal of Business Research*, Vol. 68 No. 1, pp. 119-126.
- Giglietto, F. and Rossi, L. (2012), "Ethics and Interdisciplinarity in Computational Social Science", *Methodological Innovations Online*, Vol. 7 No. 1, pp. 25-36.
- Gurrieri, L. and Cherrier, H. (2013), "Queering beauty: Fatshionistas in the Fatosphere", *Qualitative Market Research*, Vol. 16, pp. 276-295.
- Healy, J. and McDonagh, P. (2013), "Consumer Roles in Brand Culture and Value Creation in Virtual Communities", *Journal of Business Research*, Vol. 66 No. 9, pp. 1528-1540.
- Hine, C. (2000), *Virtual Ethnography*, Sage, London.
- Kapoulas, A. and Mitic, M. (2012), "Understanding Challenges of Qualitative Research: Rhetorical Issues and Reality Traps", *Qualitative Market Research: An International Journal*, Vol. 15 No. 4, pp. 354-368.
- Kozinets, R. V. (1999), "E-tribalized marketing?: The Strategic Implications of Virtual Communities of Consumption", *European Management Journal*, Vol. 17, pp. 252-264.
- Kozinets, R. V. (2002), "The Field Behind the Screen: Using Netnography for Marketing Research in Online Communities", *Journal of Marketing Research*, Vol. 39, pp. 61-72.
- Kozinets, R. V. (2012), "Marketing Netnography: Prom/ot(ulgat)ing a New Research Method. *Methodological Innovations Online*, Vol. 7 No. 1, pp. 37-45.
- Kulavuz-Onal, D. (2015), "Using Netnography to Explore the Culture of Online Language Teaching Communities", *Calico Journal*, Vol. 32 No. 3, pp. 426-448.
- Mahajan, R. (2015), "Use of Social Media as a New Investigative Tool in Marketing Research for Small Business", *IJEEEE*, Vol. 5 No. 3, pp. 129-150.
- Markham, A. N. (2005), *The Methods, Politics, and Ethics of Representation in Online Ethnography*, Sage, Thousand Oaks, CA.
- Noy, C. (2008), "Sampling Knowledge: The hermeneutics of snowball sampling in qualitative research", *International Journal of Social Research Methodology*, Vol. 11 No. 4, pp. 327-344.
- Postill, J. and Pink, S. (2012), "Social Media Ethnography: The Digital Researcher in a Messy Web", *Media International Australia*, Vol. 145 No. 1, pp. 123-134.
- Prior, D. D. and Miller, L.M. (2012), "Webethnography towards a Typology for Quality in Research Design", *International Journal of Market Research*, Vol. 54 No. 4, pp. 503-520.
- Quinton, S. and Wilson, D. (2016), "Tensions and ties in social media networks: towards a model of understanding business relationship development and business performance enhancement through LinkedIn", *Industrial Marketing Management*, Vol. 54, pp. 15-24.
- Saunders, M., Lewis, P. and Thornhill A. (2016), *Research Methods for Business Students*, FT Prentice Hall, Harlow.
- Tunçalp, D., and L. Lê, P. (2014), "(Re) Locating Boundaries: a Systematic Review of Online Ethnography", *Journal of Organizational Ethnography*, Vol. 3, No. 1, pp. 59-79.
- Wiles, R., Bengry-Howell, A., Crow, G. and Nind, M. (2013) "But is it Innovation?: The Development of Novel Methodological Approaches in Qualitative Research", *Methodological Innovations Online*, Vol. 8 No. 1, pp. 18-33.
- Wu, M.Y. and Pearce, P.L. (2014), "Appraising Netnography: towards Insights about New Markets in the Digital Tourist Era", *Current Issues in Tourism*, Vol. 17 No. 5, pp. 463-474.
- Xun, J. and Reynolds J. (2010), "Applying Netnography to Market Research: the Case of the Online Forum", *Journal of Targeting, Measurement and Analysis for Marketing*, Vol. 18 No. 1, pp. 17-31.

REMEDIES FOR THE HOOLIGANISM FACTOR IN THE FOOTBALL INDUSTRY: THE PARADIGM OF CYPRUS

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ABSTRACT

The research relies on an extensive theoretical study taking into consideration the Decisions, Resolutions and Recommendations of the European Union and the Council of Europe, together with the enactments and amendments of the Cyprus law on violence in sports, to identify the key actions taken by the authorities in Cyprus, as a response to football hooliganism in an effort to improve the business of football. A problem, that for decades has been one of the biggest management issues and the main challenge in the industry.

The findings show that the Cyprus authorities managed through a series of key actions to develop a national integrated approach framework, implementing a three-pillar concept on safety management, in an effort to respond positively against football hooliganism. Therefore, the paper provides a valuable theoretical framework that can be adopted by Safety Managers.

An effective safety management is relying on an ongoing risk assessment and Managers must continuously supervise, control and practice all forces and technology systems, separately and together, in order to build an integrated operational readiness and successfully organise such multi-complex events, preserving at the same time, the balance between the three safety management elements. A safe environment creates value and the success of the football business relies on how well fans are treated and how comfortable and safe they feel at the venue.

Additionally, the findings of this research create the urge for empirical research to test the degree of application of the strategic framework and identify the volume and correlation between the created value and football as a business.

Keywords: football, hooliganism, safety management, regulatory framework, Legislation, Council of Europe, business value, integrated approach

INTRODUCTION

For decades hooliganism has been one of the major problems in football. A number of European countries have been affected by hooliganism, with United Kingdom, Germany, Netherlands and Italy being among of the countries that have experienced the biggest problems over the past years (Spaaij,

2007). According to Frosdick and Marsh (2005), hooliganism is defined as the fans' disruptive, antisocial and violent behaviour, intervening with any normal sporting activity. Disorder incidents usually involve clashes between rival fans, insults or racist behaviour, object throwing, flares or other flammable objects usage, pitch invasion, property damages, etc. (Carnibella et al., 1996).

Football hooliganism in Cyprus

The first football hooliganism incident in Cyprus was recorded back in 1939 between rival spectators. As a result, eight fans were arrested by the police and fined by the District Court. Hooliganism in Cyprus is strongly influenced by and directly related to a variety of historical, cultural and political factors. Football-related violence inevitably constitutes a social phenomenon, concerning most of the public opinion, and is always top news in mass media (Cyprus Sociological Association, 2001).

Football hooliganism is one of the main challenges and greater management issues in Cyprus (Kartakoullis and Theophanous, 2009), affecting the football business in terms of attendance and income. There exists a long list of disorder incidents in the last decade, involving street battles, car bombings, pitch invasions, riots, object throwing and many more.

A large amount of disorder incidents in Cyprus serve as examples of bad safety management in the workshops organised by the Union of European Football Associations (UEFA), classifying us as one of the most problematic countries in relation to football violence. According to the UEFA Incident Index, Cyprus has the third worst home record and sixteenth worst away record for the years 2016 - 2018. The incident assessment reports point out anarchic fan behaviour, extensive use of pyrotechnics, use of political banners, etc., and suggest immediate actions by the agencies.

Research methodology and aim of the study

Since 1985, the Council of Europe incited a series of additions and amendments in football grounds safety management, based on European best practices. These Decisions and Resolutions combine a series of theoretical studies and empirical research, staged by the Council of Europe, and currently they constitute a European "safety manual" that every member should implement. Therefore, methodologically, the research relies on an extensive theoretical study taking into consideration the Decisions and Resolutions of the European Union, the Conventions of the Council of Europe, the Recommendations of the Standing Committee and the Cyprus law on violence in sports. Cyprus is one of the first and few countries that harmonized their legal and judicial system with the recommendations made by the council of Europe.

The purpose of this paper is to theoretically recognise the generic football safety management guidelines introduced by the Council of Europe and decode the key actions taken by the authorities in Cyprus as a response to football hooliganism, in order to draw critical lessons from the case study.

Significance of the study

The paradigm of Cyprus as a peculiar field of study, due to its unique characteristics, can be used as a pilot study for countries aiming to resolve the problem of football hooliganism. The findings of this research can provide invaluable insight for small-size football industries and draw explicit theoretical and practical conclusions towards scholarly advancement and managerial implementation in the context of improving the business of football by implementing pre-existing theories and well-established European practices.

THEORETICAL FRAMEWORK

Safety management in football grounds

Most people prefer watching a football game at home, but many of them take the opportunity to travel to the stadium, enjoy the event, be part of the spectacle and support their team. All safety measures must cover the entire event flow, involving every stage, and start from the time the game is officially set, until fans return safely back home. This event flow involves several steps and interconnecting stages with the event itself being the highlight. Match organisers need to structure and implement a safety plan, aiming to provide the best possible welcoming environment (Yiapanas, 2016). The main goal in football grounds safety management is to maintain public order and safety inside and outside the sports facility, before, during and after the sporting event (Great Britain: Department for Culture, Media and Sport, 2018).

Safety is based on an ongoing assessment of risks posed by the operation of the sports venue, identifying those areas that are most vulnerable to these risks, while determining what can be done to limit them to an acceptable level. Since minimizing risk always costs money, the challenge is to minimize them at the lowest possible cost. This involves a sequence of actions and practices aiming to provide a safe and secure environment to every participant. These procedures, guide, advice and support match officials, providing best practices to accomplish their goal (Frosdick and Whalley, 1999). These principles and guidelines are the backbone and the central philosophical foundation for every safety plan, that defines the order of priorities and outlines of the operations and actions. It is the compass of preserving a general direction and strategy in implementing adaptations or improvements to the safety system in every sport venue, and in this respect, will give the relative weight and importance to each of the various elements which together constitute an integrated safety management plan (Whalley, 2008).

According to Frosdick and Chalmers (2005), all partners involved in a football match share the same concern and responsibility to preserve a balance between the three elements of safety management.

Football disasters and aftermath - The emergence of a regulatory framework

Over the past decades, several football tragedies occurred in different venues all around Europe. The official reports fundamentally changed the procedures and the safety management concept. Today, safety is considered a top-level priority for every agency. The causes of the major tragedies vary. Poor safety and security management, closed exit doors, inadequate segregation of fans, overcrowding, bad communication between the agencies, riots, fire, etc. (Darby et al., 2005).

Until the mid-80s, football hooliganism was not an issue of concern for the European institutions. The Heysel disaster in 1985 together with the Hillsborough disaster in 1989, are the two incidents that incited a series of additions and amendments in football grounds safety management (Elliot and Smith, 1993). These disasters led to serious sports grounds redevelopments and to numerous important safety guides publications.

Immediately after the tragic incidents in the European Cup final in Heysel in 1985, the Council of Europe under the Convention on Spectator Violence and Misbehaviour at Sports Events (Rec. 85/No.120), invited all the parties to establish a strong co-operation and unity between their agencies and the authorities, to prevent violence and control any disorder incidents at sports events (Council of Europe, 1985). According to Marsh et al. (1996), the different agencies started making efforts to launch a cross-border cooperation between the police and football authorities against hooliganism. The Council of Europe adopted the European Convention on Spectator Violence and Misbehaviour at Sports Events proposals and asked all member countries to respond immediately to football violence (Tsoukala, 2010; Anderson and Apap, 2002).

The integrated Safety, Security and Service approach strategic framework

The Council of Europe structured a strategic framework aiming to enforce all parties to “adopt an integrated, multi-agency approach towards safety, security and service, based upon an ethos of effective local, national and international partnerships and co-operation; to ensure that all public and private agencies, and other stakeholders, recognise that safety, security and service provision cannot be considered in isolation, and can have a direct influence on delivery of the other two components; and take account of good practices in developing an integrated approach to safety, security and service” (Council of Europe, 2016, p.1).

The trinity of *service*, *safety* and *security* formulates a three-pillar concept. Although these terms are used together and in balance, they are three indeed different elements. Chalmers and Frosdick (2011) define service as the most visible element that refers to any measures designed and implemented with the primary aim of making individuals and groups feel comfortable, appreciated and welcome, providing an exciting spectacle. This implies having suitable facilities, such as sanitary facilities, food and beverages, goods and products, etc.

Safety, as the less visible fragment, refers to any measure designed and implemented with the primary aim of protecting, looking after the health and wellbeing of the fans who attend a football event. Safety mainly deals with the structural design and maintenance of the venue in order to prevent buildings from collapsing. It manages venue capacities and aspects such as human behaviours, emergencies and evacuations in case of serious incidents. Finally, security refers to any measure designed and implemented with the primary aim of preventing and reducing the risk, and responding to any criminal activity, inside and outside the venue. It mainly deals with issues such as crime prevention and detection, terrorist attacks and serious threats (Chalmers and Frosdick, 2011).

The three elements are interconnected (Figure 1) and in cases where an overemphasis on security might happen, this could cause safety and service problems. Therefore, safety and security must always be kept in wide-ranging balance (Frosdick and Whalley, 1999).

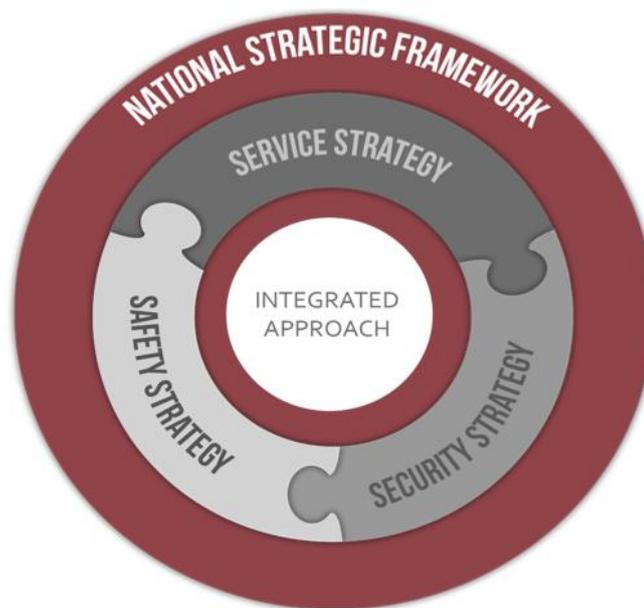


Figure 1. Integrated safety management approach (Adopted from UEFA training manual)

The Standing Committee issued a number of Recommendations in regard to the three-pillar concept of safety, security and service. Recommendation Rec.2011/1 involves good practices on how to establish the core functions of safety officers and safety stewards and how to gain the maximum through the appropriate training. In addition, the Standing Committee encouraged clubs and other agencies, to develop a stewarding system, based on specific principles (Rec.91/1), to promote the use of advisory police spotters (Rec.88/1), to adopt effective policies and measures in order to prevent and combat racist, xenophobic, discriminatory and intolerant behaviour in football (Rec.2001/6), and to forbid the use of pyrotechnical devices at sporting events (Rec.2008/3).

RESEARCH FINDINGS

Various committees were appointed, mainly following serious disorder incidents, to resolve the problem, but unfortunately, they were unable to combat football violence. The lack of implementation of the law created a culture of immunity that fans were aware of. It is clear that such a situation influences the behaviour of potential troublemakers. Since there is common agreement that football violence constitutes a serious social phenomenon in Cyprus, then the responsibility for it lies on everyone's shoulders. The Council of Europe and UEFA performed several consultative visits to evaluate the situation and proposed measures that could minimise the problem.

Actions taken, as a response to the football hooliganism problem in Cyprus

Cyprus ratified the European Convention (19.VIII.1985) on Spectator Violence and Misbehaviour at Sports Events and in particular football, on 22nd June 1987 and entered it into force on 1st August 1987. Following the recommendations, resolutions and guidelines of the European Council, the Cyprus government, in 1994, brought into effect the Spectator of Violence, Misbehaviour and Relevant Offences at Sports Events Law, L5(I)/1994, adopting most of the Standing Committee's Recommendations (Rec.93/1) concerning measures to be taken by the organisers and the authorities (Council of Europe, 2015).

The law consists of twenty Articles, securing adequate public order resources to counter-brake violence and disorder incidents, inside and outside the sports venue. It also facilitates strong collaboration between the police and the agencies involved (Spectator of Violence, Misbehaviour and Relevant Offences at Sports Events Law 1994).

The Council of Europe, in 2002 (Decision 2002/348/JHA), imposed on every member state to establish a National Bureau for exchanging information with other member states in connection with football games with an international dimension (Council of Europe, 2002). Cyprus, in order to align with the Resolutions, established in 2005 the National Football Information Point - NFIP and in conjunction to this, the existing law was amended in order to foster several legal procedures and regulations for the operation of the bureau in Cyprus. The amended law incorporates a handbook for the NFIP cooperation and introduces measures to prevent and control violence and disorder incidents in connection to games with an international dimension (Spectator of Violence, Misbehaviour and Relevant Offences at Sports Events (amended) Law 2005).

The enactment of the new law (For the Prevention and Tackle of Violence in Sports Venues Law of 2008, L.48(I)2008) was a massive step forward. It came after a long and painful period of numerous disorder incidents and extensive discussions involving all the agencies and the authorities. After years of hard work, the new law was passed by the House of Representatives on 11th July 2008. This was the

twitch of turning the condition around. The new law was based on the preexisting law and the Recommendations (Rec.93/1) of the Standing Committee (Council of Europe, 2015).

From this point on, stakeholders such as the clubs, the stadium owners, the federation, the police and other public authorities have a clear understanding of their responsibilities. Infrastructure and the suitable technology such as a CCTV system, an access system, an electronic ticketing system and a public audio system are the flagship of the implemented law.

Since infrastructure is considered a vital safety security and service element, ground owners are legally bounded to ensure that all necessary measures have been taken and the venue is able to accommodate safely the fans, having the adequate ingress and egress, wide gangways, proper segregation, clean seats and sufficient services and medical assistance.

In addition, every agency must establish good communication, before, during and after the game, and exchange every necessary information that will assist every party to accomplish its aim. The ground's regulations and procedures must ensure that no alcohol selling is permitted, and dangerous objects are possessed.

Another major asset is the legitimisation of the safety officer (with immediate application) and a stewarding system that would be implemented at a later stage with the preparation of the regulations under which the system will operate (Council of Europe, 2013). The role of the Safety officer was legally introduced, obligating the ground owners to appoint a trained and experienced individual (Article 43) who will be responsible for the safety of the spectators.

The position covers a series of actions such as crowd management and supervision, assessing risks, preparing and executing emergency plans, etc. Together with the stewards, the safety officer has full control of what is happening inside the stadium, while the police have the responsibility of maintaining public order and preventing criminal offences outside the venue (For the Prevention and Tackle of Violence in Sports Venues Law of 2008).

Closing the backlog from the law enactment in 2008 (Article 18, L.48(1)/2008), the House of Representatives passed in 2012, the implementation of safety services and stewarding regulations. As a starting point, the Cyprus Stewarding Commission (CSC) was formed (Article 3, 119(1)/2012), with their main responsibility being to recruit and train stewards and at the same time maintain an adequate stewarding system. Stewards constitute one of the main components of safety and service towards the spectators visiting the venue.

Their duties and responsibilities are now well-defined. Stewards are empowered to perform a variety of tasks such as venue inspections, flow monitoring, ticket control and body search, crowd management, fans segregation, ensure safe exit and prevent overcrowding, maintain free and

uninterrupted access to every exit gate, respond to emergencies and in general terms assists fans in any possible way (Safety services and stewarding regulation 2012).

In 2013, a consultative team delegated by the Standing Committee of the European Council carried out a consultative visit to Cyprus under the program for monitoring commitments on the implementation of the Convention. Their aim was to assist the authorities and other relevant stakeholders in their learning process in the field of safety and security at sport events. The consultative team recognised the progress achieved over the past years, by putting in place, at several levels, a structure which was based on recognised European good practice and which was in line with the Convention and most importantly, the Standing Committee recommendations. (Council of Europe, 2013).

In June 2014, assessing a series of serious disorder incidents, the authorities decided to proceed with explicit law amendments, adopting various recommendations from the consultative delegation of the Council of Europe. The aim was to strengthen the preventing measures and eliminate anonymity inside the sports venues (Yiapanas, 2016).

An independent agency was established, the Stadium Licencing Authority (SLA), to annually check all stadiums on safety and security issues and attest and certificate the appropriateness of the venue to organise sports events. The venue owners are now obliged to submit documents regarding their venue capacities, the evacuation plan procedures, the infrastructure conditions, the ground regulations, the ingress and egress volumes and procedures, the existing technology and systems, etc. (For the Prevention and Tackle of Violence in Sports Venues (unified) Law of 2014).

The pinpoint of the unified law was the institution of the fan card register, as the authorities believe that this measure will end anonymity and exclude trouble-makers from sporting events. This measure was not implemented until 2018, due to a series of questions and issues from several stakeholders, involving data protection and data ownership. The authorities assigned this project to the Cyprus Sports Organisation, a semi-governmental organisation and the highest sport authority in the country, linked to the Ministry of Education and Culture.

The unified law now segregates and defines the duties, the responsibilities and the role of each individual partner agency, establishing in this way a balanced approach towards safety, security and service. Immediately after the House of Representatives passed the amendments, the authorities established a communication strategy, to explain the importance and content of the new Articles and how they will eventually implement the integrated multi-agency safety, security and service approach.

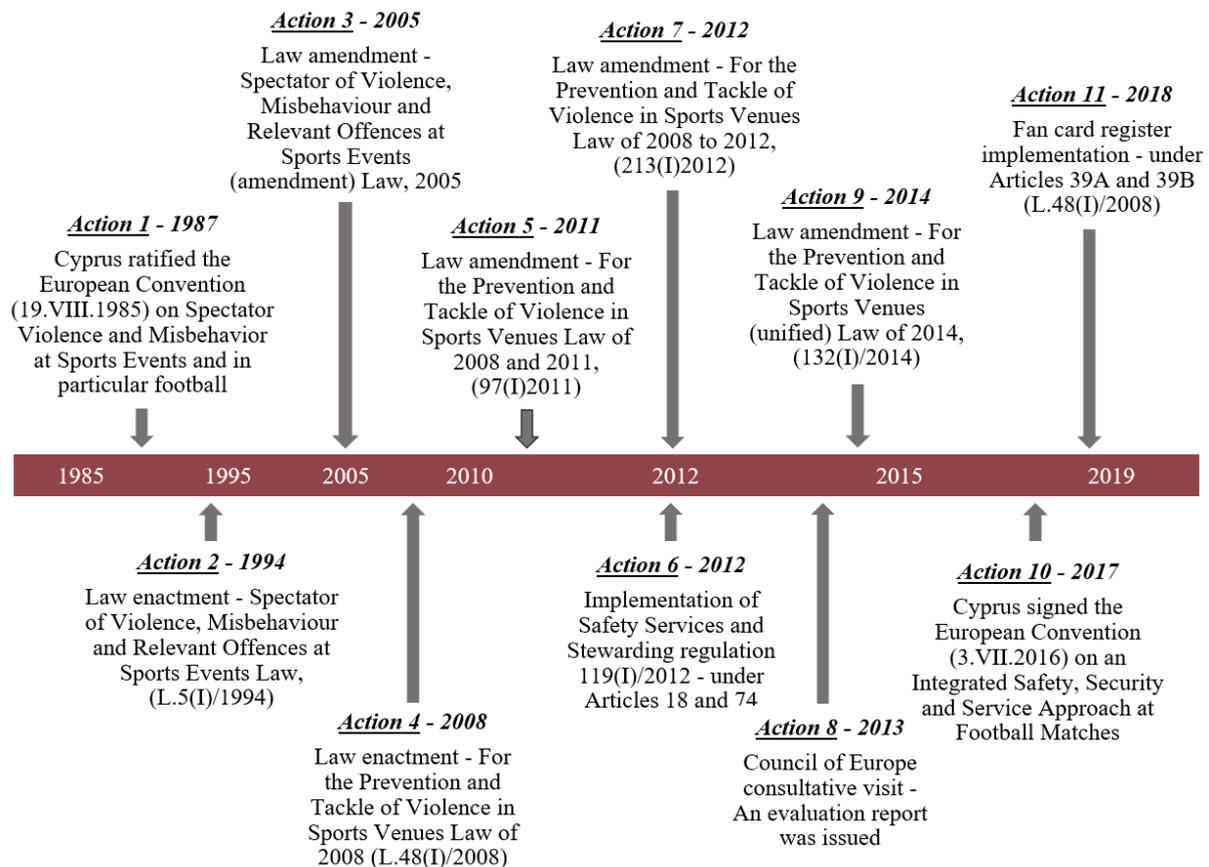


Figure 2. Chronological roadmap of the key actions as a response to the football hooliganism and violence problem in Cyprus

On 4th May 2017, Cyprus signed the European Convention (3.VII.2016) on an Integrated Safety, Security and Service Approach at Football Matches and Other Sports Events. This Convention goes beyond the scope of the Convention of 1985, as it requires the Agencies to implement additional provisions, notably with regard to international co-operation and treatment of offenders. All parties are now required to develop effective exclusion arrangements. European experience evidences that this measure is the most effective for preventing repeat offences. Football-related offenders should receive appropriate sanctions, not only within the country of residence or citizenship, but also within the country where the offence was committed.

The Convention incorporates the key principles and measures through good practices, which are widely held to reduce safety and security risks in football. This approach is aiming to provide a safe, secure and welcoming environment at football matches (Council of Europe, 2016).

Cyprus is now accountable to promote on a national level, a multi-agency, integrated approach, with the responsibilities of each agency clearly specified. The agencies, within the limits of their respective constitutional provisions, must take every necessary step to give effect of this Convention in respect of football games and adopt an integrated, multi-agency approach towards the three-pillar concept of safety, security and service.

CONCLUSIONS

Research implications

It was a common belief that football violence constituted a serious social phenomenon in Cyprus. Disorder incidents evidenced the fact that football venues were not safe, with the authorities to struggle for decades to find a solution to this multi-level problem. Unfortunately, the various committees seemed unable to develop a national strategic framework, and this, over the years, created a culture of immunity.

The authorities turned their hopes to the Council of Europe, who organised a number of consultative visits in order to evaluate the situation and recommend a series of actions. It became apparent that the existing law needed considerable amendments in order to provide the necessary means to the authorities for efficient safety in football grounds. It was also noted that every agency needed to recognise its responsibility and build a strategic framework that takes into consideration the existing international safety management principles and concepts.

The amendment of the law in 2005, but essentially the enactment of the new law in 2008 and the amendments in 2014, were the major actions taken by the authorities as a response to the football hooliganism problem in Cyprus.

Cyprus authorities managed through a series of key actions, and by adopting the Recommendations of the Council of Europe, to develop a national integrated approach framework, implementing the three-pillar concept of safety management, in an effort to respond positively against football hooliganism. Currently a strong legislation exists, and every agency has a clear understanding of their duties and responsibilities, enabling them to provide a safe and secure environment in sports events. It is now documented that these actions fulfil the needs of the safety management principles.

Managerial implications

Overall, the paper presents a number of key actions based to the Recommendations Resolutions and guidelines of the European Council that can be implemented on a national level as a response to football hooliganism. The authorities managed to build a national strategic framework and establish a strong legislation, clearly segregating the duties and responsibilities of each agency.

The theoretical findings of this research are certainly improving the business of football and doubtfully consist a valuable and essential tool for Managers to adopt. The integrated strategic framework, based on European experience and best practices, efficiently supports match officials to accomplish their goals.

An effective safety management is relying on an ongoing risk assessment and Managers must continuously supervise, control and practice all forces and technology systems, separately and together, in order to build an integrated operational readiness and successfully organise such multi-complex

events, preserving at the same time the balance between the safety management elements. A safe environment creates value and the success of the football business relies absolutely on how well fans are treated and how comfortable and safe they feel at the venue and in every stage of the event-flow. Fans need to live the experience of a football match in its wholeness and if they enjoy the event, most probably they will revisit the venue, support their team and spend more money.

Further research

This paper provides the theoretical groundwork for the generic football safety management concepts, identifying the key actions taken by the authorities in Cyprus in order to respond to football hooliganism. The findings of this research create the urge for empirical research, in terms of validating the extensive theoretical findings and test the degree of application and implementation to the explicit environment.

Additionally, there is the need of identifying the volume and correlation between the created value and football as a business and provide practical implementation of the framework as a strategic tool.

REFERENCES

- Anderson, M. and Apap, J. (2002). Changing Conceptions of Security and their Implications for EU Justice and Home Affairs Cooperation, Brussels: CEPS Policy Brief n° 15.
- Carnibella, G., Fox, A, Fox, K., McCann, J., Marsh, J. and Marsh, P. (1996). Football violence in Europe. UK: Social Issues Research Centre
- Chalmers, J. and Frosdick, S. (2011) More Safety and Security at Sports Grounds. Paragon Publishing.
- Council of Europe (1985). Council of Europe Convention on Spectator Violence and Misbehaviour at Sports Events and in particular football (19.VIII.1985), Treaty office
- Council of Europe (2002). Council Decision concerning security in connection with football matches with an international dimension (2002/348/JHA) (Articles 1-7), Official journal of the European Communities
- Council of Europe (2013). European Convention on Spectator Violence and Misbehaviour at Sports Events and in particular at Football Matches (T-RV). Consultative visit to Cyprus on the implementation of the Convention 2013.
- Council of Europe (2015). Recommendation of 18 June 2015, Rec (2015) 1 of the Standing Committee on Safety, Security and Service at Football Matches and other Sports Events
- Council of Europe (2016). Council of Europe Convention on an Integrated Safety, Security and Service Approach at Football Matches and Other Sports Events (3.VII.2016), Treaty office
- Cyprus Sociological Association (2001). Research on Football Violence in Cyprus - Cyprus Sociological Association.
- Darby, P., Johnes, M. and Mellor, G. (2005). Soccer and disaster. Routledge, pp.85-92.
- Elliot, D. Smith, D. (1993). Football stadia disasters in the United Kingdom: Learning from tragedy? Industrial and Environmental Crisis Quarterly
- For the Prevention and Tackle of Violence in Sports Venues Law of 2018, (L.48(I)/2008)
- For the Prevention and Tackle of Violence in Sports Venues (unified) Law of 2014, (132(I)/2014)
- Frosdick, S. and Chalmers, J. (2005). Safety and Security at Sports Grounds. Paragon Publishing
- Frosdick, S. and Marsh, P. (2005). Football hooliganism, Cullompton: Willan.
- Frosdick, S. and Whalley, L. (1999). Sport and safety management. Oxford: Butterworth-Heinemann.
- Great Britain: Department for Culture. (2018). Guide to safety at sports grounds. 6th ed. Stationery Office.
- Kartakoullis, N. and Theophanous, A. (2009). Important Parameters of the Football Industry in Cyprus: Challenges and Opportunities. The Sport Journal, pp.1-15.
- Marsh, P., Fox, K., Carnibella, G., McCann, J. and Marsh, J. (1996). Football Violence in Europe. The Amsterdam Group.

- Rec.85/No120 European Parliament - Resolution on the measures needed to combat vandalism and violence in sport, OJEC 229.
- Rec.88/1 Standing Committee - Recommendation on police co-operation
- Rec.91/1 Standing Committee - Recommendation on the promotion of safety at stadia
- Rec.93/1 Standing Committee - Recommendation to Parties on Measures to be taken by the Organisers of Football Matches and Public Authorities
- Rec. 2001/6 Standing Committee - Recommendation of the Committee of Ministers to member states on the prevention of racism, xenophobia and racial intolerance in sport
- Rec. 2008/3 Standing Committee - Recommendation on the use of pyrotechnical devices at sports events
- Rec.2011/1 Standing Committee - Recommendation on safety officer, supervisor and safety steward training and its Manual
- Safety services and stewarding regulation (119(I)/2012) 2012
- Spaaij, R. (2007). Understanding football hooliganism: a comparison of six Western European football clubs, Amsterdam: Vossiuspers
- Spectator of Violence, Misbehaviour and Relevant Offences at Sports Events Law (L.5(I)/1994) 1994
- Spectator of Violence, Misbehaviour and Relevant offences at Sports events (amended) Law, 2005
- Tsoukala, A. (2010). Combating Football Crowd Disorder at the European Level: An Ongoing Institutionalisation of the Control of Deviance. *The Entertainment and Sports Law Journal*, 7(2), p.13.
- Whalley, C. (2008). Stadium Safety Management in England. UK: The FA
- Yiapanas, G. (2016). Sports Grounds Safety Management, Nicosia: Armida publications

THE USE OF EDUCATIONAL TOOLS IN ENVIRONMENTAL EDUCATION: THE CASE OF PRE-SCHOOL EDUCATION

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ABSTRACT

The aim of the present study is to investigate and reflect the views of the nursery school teachers in the Prefecture of Rhodope on the educational media they make use of within the framework of Environmental Education. Environmental Education resulted from the realization of and the need to address the current environmental problems which threaten our lives. In this context, quality education is required. The selection of the appropriate educational media provides a contribution in this direction by supporting and enriching the educational approach to environmental topics and initiating the achievement of the Environmental Education objectives for a sustainable future. To collect the necessary data, a structured questionnaire consisting of closed-ended questions was developed and was completed by nursery school teachers of the Regional Unit of Rhodope. To analyze the collected data, descriptive statistics and the non-parametric Friedman test were performed. The research findings indicated that the nursery teachers approach mainly topics from the natural environment in their classroom and they regard the selection of the appropriate educational tool as a very important factor in meeting the pursued teaching objectives. Fairytales and photographic material consist the educational tools mostly used by the teachers to approach environmental topics. Finally, it was indicated that there are difficulties in using various educational tools. On the other side, the advantages arising from their use are many and significant making apparent their effectiveness in Environmental Education.

Keywords: Environmental Education, Teaching tools, Elementary Education

INTRODUCTION

The need for rational environmental management, which is linked to our life quality, resulted in the conception of Environmental Education. Since its appearance and throughout its long-term evolution through conferences and summits, as it is highlighted below, Environmental Education aimed and still aims at shaping future citizens with appropriate knowledge, attitudes, values and skills in line with its definitions and objectives. That is, to make citizens aware about and active on addressing

environmental degradation, with sustainability being the main objective. The introduction of Environmental Education in the educational system plays an important role in meeting this objective. Nowadays and despite technological development, the environmental crisis combined with the economic and social crisis undermine not only the planet but also human prosperity. The imprudent use of natural resources by man is constantly undermining the environment causing grave problems which threaten its survival (Katzi and Zachariou, 2013). To address environmental issues, Environmental Education plays a decisive role since it pursues the awareness and activation of individuals with the objective of sustainability (Pedagogical Institute, 2011). Sustainable development will provide the necessary balance among the three pillars "Environment-Economy-Society", improving and preserving this way human prosperity (Katzi and Zachariou, 2013).

Pre-school Education consists the "compass for the subsequent development and course of the child-citizen" (Pikrodimitri, 2002). From a young age, children know and learn to respect the natural world while developing values and attitudes towards it. Consequently, the introduction of Environmental Education in the pre-school age is of vital importance (Bora et al., 2010). Environmental Education should be integrated into the entire educational system and provide knowledge, values and skills (UNESCO, 1978). However, it is very important that education starts in early ages "because children become citizens of the world the moment they are born" (Birbili et al., 2014). Specifically, according to the Study Program of the Nursery School (2014), as an educational and socialization body, the nursery school is called on to "encourage children to be concerned about what is happening around them, to focus on the interdependence of people and the man-nature relationship, to appreciate and respect diversity, to assume their responsibilities and care about the common good" (Birbili et al., 2014). In this context, communication is one of the basic abilities supporting the learning process, which is considered effective when the disseminated message becomes understood. To reach a successful outcome, it is important that individuals who communicate choose the appropriate media, such as computer, images, television, etc. and are capable of using them (Birbili et al., 2014). Hence, in the nursery school, where children by nature observe and discover the world around them, the nursery school teacher can facilitate learning by using the appropriate media-materials, while various phenomena and problems are approached scientifically (Koutsouvanou and Arvaniti-Papadopoulou, 2008). In the Greek school, educators show great interest in Environmental Education compared to other actions and this interest is constantly increasing (Chrisafidis, 2005). "The role of the educator is decisive since the educator helps, mediates and facilitates the entire learning process" (Cross Thematic Curriculum Framework, 2003). According to May (2000), educators involved in environmental actions should have knowledge (ecological, social, cultural) of the environmental topic they approach. However, beside the aforementioned knowledge they should also have pedagogical knowledge and

skills in order to plan, organize and evaluate the learning process according to the objectives of Environmental Education. Moreover, they should listen to their students carefully and guide them by making the right questions (May, 2000). According to Flogaiti and Liarakou (2009), educators assume the role of the leader and are not “mere knowledge depositors”. At the same time, they should allow children to act themselves and take initiatives, that is, “to find a balance between giving up authority and keeping the situation under control”.

In view of the above, the present study attempts to examine and investigate the views of the nursery school teachers in the Prefecture of Rhodope on which media facilitate the achievement of the Environmental Education objectives. At the same time, potential obstacles to the application of educational media in the classroom are explored. Additionally, the nursery teachers’ environmental awareness level is examined since they consist the basic models to be imitated by their students. Thus, the conduct of the present research will provide important data and enrich the already existing body of research. Furthermore, it is expected that it will contribute so that the incumbent operators take the appropriate measures based on the research findings and provide the suitable structures and conditions for the practical application of Environmental Education with its effective support by the appropriate educational media. The aim of the present study is to investigate and record the views of the Pre-school Educators in the Prefecture of Rhodope on the educational media they use in approaching environmental topics in the nursery school. Specifically, the interest of the research is focused on the educational media which the pre-school educators tend to use, the difficulties they face while using them and the benefits these bring in the learning process. In essence, this study can highlight, through the views of the participating teachers, the educational media required to support effectively and qualitatively the teaching of environmental topics.

EDUCATIONAL MEDIA-MATERIALS

As indicated below, educational media play an important role in modern teaching and are an integral part of it. Their supporting and facilitating role promotes the learning process, enabling thus the fulfillment of the learning objectives. In modern school, students experiencing now the digital age receive enriched teaching to approach any subject module. Specifically, oral teaching is enriched with various media whose effectiveness is reinforced thanks to the development of technology (Trilianos, 1992). Moreover, the development of instruction in schools led to the development of teaching which was supported by various educational media (Nima and Kapsalis, 2002).

The term “educational media” is sometimes used in two meanings. In the first meaning of the term, the media convey the information while the material is the information being conveyed. However, in

the second meaning the media are not distinguished from the material while the emphasis is on communication with the help of the media (Ventouris, 2005).

On a general note, the value of educational materials in the learning process was stressed by major pedagogues, such as Montessori (Huxel, 2013), Froebel (Mac Blain, 2018) and Decroly (Dubreucq, 1993).

In the 1960s, scientists, educators and educational media producers expressed interest in the educational media (Kanakis, 1989). To bring out an independent teaching sector, scientists' motives were focused on the teaching of educational-learning media. On the other hand, educators' interest was concentrated on the effective use of educational media in teaching while the producers' interest was on their best possible construction. Specifically, the interest of the latter was "technological", whereas scientists' was "theoretical". Educational media are as important as teaching and one cannot exist without the other. During teaching planning, the educational media, which will facilitate rather and in no case substitute teaching, are defined (Pigiaki, 2004).

The selection of educational media consists therefore an important part of teaching planning (Trilianos, 1992). To be more exact, to ensure his or her teaching is effective, the educator should choose the appropriate educational media according to the content and the respective objectives of the teaching (Panayiotou et al, 2014). As a consequence, the appropriate educational media are those which will in turn enable the educator to approach the objectives of his or her teaching (Nasab et al, 2015). Yet, attention should be paid to the use of each educational medium so that "overuse" is avoided, since overusing a specific medium could cause teaching to fail. Each educational medium contributes to the enhancement of the educational objective and it should not in any case consist the "teaching objective" (Katsikis, 1989).

According to the above, the term "educational media" is defined, and their value in the educational process is emphasized. To have, however, a positive contribution to the learning process, it is necessary to choose the appropriate educational medium, a choice that is specified in the following section. In teaching, there is the ability of using a large number of educational media whose operation varies and differs (Christias, 1992). Research findings (Mupa & Chinooneka, 2015) have indicated that the use of varied educational media consists an important factor in the effective teaching, while at the same time educational media consist the educator's aids to teach and the learner's aids to learn (Chanda et al, 2001). To be effective, teaching does not, however, depend on the number of educational media but rather on their appropriate selection and use (Christias, 1992). According to Simatos (1995), the media to be used in the teaching of a topic are highly dependent on the teaching method which is determined both by the teaching subject and the pursued teaching objectives. Consequently, the teaching method as well as its subject and teaching objectives either determine or

limit the selection of educational media. Students' characteristics (gender, knowledge, interests, etc.), students' number and the level to which teaching is addressed play an important role in the selection of educational media. Before selecting the suitable educational media, the educator should also take into account the possibilities offered by the school space (classroom equipment, dimensions, lighting and other), as well as certain practical limitations (economic, temporal, etc.). Finally, educators' knowledge and ability to use certain educational media, as well as their favorable predisposition towards specific media compared to others, affect and define the selection. In other words, the educator may choose educational media with which he or she has relevant experience and greater familiarity. Hence, it is naturally inferred that the educator by considering the aforementioned factors in educational media selection will be geared toward the successful outcome of his/her teaching.

AREA OF RESEARCH-METHODOLOGY

To carry out the research, the geographical bounds of Primary Education in the Prefecture of Rhodope were defined. The Prefecture of Rhodope is located in Northeastern Greece in the central part of Greece and is bounded to the south by the Thracian Sea. At the same time, it borders to the west on the Prefecture of Xanthi, to the east on the Prefecture of Evros, while to the north it is bounded by the border with Bulgaria. The Prefecture of Rhodope covers an area of 2.543 km² and the population stands at 112,039 habitants according to the last census of 2011 (Hellenic Statistical Authority, 2011). Moreover, the Prefecture of Rhodope belongs to the Administrative Region of Eastern Macedonia and Thrace. The capital of the Prefecture is the city of Komotini. According to Law No 3852/2010 "New Architecture of the Local and Decentralized Administration-Kallikratis Program" (Greek Government Gazette 87A/7-6-2010), the Prefecture of Rhodope was divided into four municipalities. These are the municipality of Komotini with the city of Komotini being the seat of the municipality, the municipality of Maroneia-Sapes with Sapes being the seat of the municipality, the municipality of Iasmos with the town Iasmos being the municipality's seat and the municipality of Arriana where the seat is Filira. In the Prefecture, a total of 46 nursery schools operate where 99 pre-school teachers are employed among whom 18 are substitute teachers in the year 2017-2018. Initially, the first data for the conduct of the study were derived by the literature review. The present study was implemented with the help of structured questionnaire, that is, a questionnaire with a well-defined order of questions, while the researcher is not allowed to alter the order (Zafeiropoulos, 2005). To analyze the data, descriptive statistics and the non-parametric Friedman test were performed (Lupton 1993; Jolliffe 2002). The non-parametric Friedman test enables us to compare the values of three or more correlated groups of a variable and to rank their characteristics. The distribution of the Friedman criterion is χ^2 with degrees of freedom $df=k-1$, where k stands for the number of groups or samples. This criterion

ranks the values of the variables for every subject separately and estimates the mean rank of the ranked values for every variable (Makrakis, 1997).

RESULTS

The following results focus on the nursery teachers' demographic characteristics, the environmental issues they approach in the classroom, the educational tools they tend to use and the various difficulties they face in using them. The whole sample consists of female nursery teachers whose employment is permanent. The highest percentage of the respondents, by 37.7%, are in the age range 51 to 60, while the age groups 31-40 and 41-50 represent about the same proportion of the sample, namely, 31.3%. Regarding the years of service, the biggest share of participants, by 46.9%, have nine to 15 years of service. At the same time, a considerable proportion (32.8%) have more than 15 to 25 years of service and 18.8% have more than 26 years of service. In terms of family situation, 78.1% of the teachers are married, while 10.9% and 9.4% are unmarried and divorced, respectively. Simultaneously, only a very small percentage of participants, by 1.6%, are widows. As for the number of children, the highest percentage of respondents (57.8%) have two children, while 12.5% have no children and only 1.6% have four children. In relation to education level, most nursery teachers (79.7%) are bachelor holders, while 18.8% are master holders and only 1.6% are in possession of a doctoral degree.

Table 1 Hierarchy of environmental issues nursery teachers approach in the classroom after applying the Friedman test

	Mean rank
Natural environment (becoming familiar with the local ecosystem, waste management, etc.)	3.49
Environment and health (pollution, contamination, etc.)	3.41
Biodiversity loss (endangered species, animal protection, etc.)	2.38
Sustainable forest management (meaning of forests, basic causes of destruction, etc.)	3.27
Climate change (weather, global warming, etc.)	2.45
N=64, Chi-Square=46.461 df=4, p<0.001	

In their classroom, the nursery teachers in the Prefecture of Rhodope mainly approach topics on the natural environment (becoming familiar with the local ecosystem, waste management, etc.) with a mean rank of 3.49. This is followed by topics on the environment and health (pollution, contamination, etc.) with a mean rank of 3.41 and topics on sustainable forest management with a mean rank of 3.27. Topics on climate change (weather, global warming, etc.) were then ranked. Finally, the hierarchy has indicated that topics on the loss of biodiversity (endangered species, animal protection, etc.) consist the least approached topics in the classroom (mean rank 2.38) (Table 1).

Table 2 Frequency and percentages regarding the importance of the appropriate educational tools to achieve learning objectives in the approach of environmental topics

	Frequency	Percentage (%)
Moderately important	7	10.9
Important	25	39.1
Very important	32	50.0
Total	64	100.0

A very high percentage of respondents, by 89.1%, consider that the selection of the appropriate educational tool consists a very important factor in meeting the learning objectives in Environmental Education (Table 2).

Table 3 Frequency and percentages concerning the quality of the available educational tools

	Frequency	Percentage (%)
Very poor	4	6.3
Poor	19	29.7
Acceptable	29	45.3
Good	8	12.5
Very good	4	6.3
Total	64	100.0

Only a very small share of the nursery teachers (6.3%) is very satisfied with the quality of the educational tools provided to their nursery school and at the same time the same proportion of participants (6.3%) is totally dissatisfied with the available educational tools. Moreover, 29.7% of the teachers are slightly satisfied. Yet, 18.8% of the respondents appear to be satisfied with the available educational tools (Table 3).

Table 4 Frequency and percentages relating to the quantity of the available educational tools

	Frequency	Percentage (%)
Not at all	3	4.7
Slightly	29	45.3
Moderately	26	40.6
Very	4	6.3
Very much	2	3.1
Total	64	100.0

Half of the respondents in the sample (50%) perceive that the available educational tools for environmental topics in their nursery school are not satisfactory in quantitative terms. Conversely, only 9.4% of the questioned preschool teachers are satisfied with the quantity of the educational tools provided to their nursery school (Table 4).

Table 5 Hierarchy of the sources from which educators derive ideas to select/enhance the educational tools after performing the Friedman test

	Mean rank
Scientific books/journals	2.20
Internet	3.34
Colleagues	2.09
Training seminars	2.38
N=64, Chi-Square=45.055, df=3, p<0.001	

Internet is the main source the nursery school teachers prefer (with a mean rank of 3.34) to find ideas on choosing and enhancing the various educational tools. At the same time, resorting to colleagues for ideas consists the least preferred option with a mean rank of 2.09 (Table 5).

Table 6 Hierarchy of the frequency by which educators use educational tools after applying the Friedman test

	Mean rank
Fairytales	9.96
Knowledge books	8.20
Newspapers or other printed materials	4.97
Reference tables	8.81
Photographic material	9.79
Observation and experimentation instruments (magnifying glass, etc)	6.97
Computer (software, etc)	9.54
Radio/tape recorder/cd player (songs, etc)	7.24
Projector	3.63
Television (educational videos/documentaries etc)	4.17
Realia (animals, plants, etc)	5.10
Theatre-puppetry	5.95
Board or floor games	6.66
N=64, Chi-Square=287.412, df=12, p<0.001	

The application of the Friedman test indicated that for the nursery teachers the most frequently used educational tools to approach environmental topics are fairytales and photographic material, with mean ranks of 9.96 and 9.79, respectively. Then, there is the computer with a mean rank of 9.54, whereas the projector is at the bottom of the hierarchy with a mean rank of 3.63 (Table 6). Afterwards, to rank the characteristics of the variable “advantages of using the appropriate educational tools”, the non-parametric Friedman test was performed. As the ranking indicated, the appropriate educational tools first enrich the teaching of environmental topics with a mean rank of 4.34. Next, they spark the toddlers’ interest and emphasis is placed on their active participation, with mean ranks of 4.29 and 4.28, respectively. At the same time, they consider that the educational tools contribute less to the facilitation of perceiving and absorbing complicated notions with a mean rank of 3.44 (table 7).

Table 7 Hierarchy of the advantages concerning the educational contribution of educational tools in the approach of environmental topics with the application of the Friedman test

	Mean rank
Teaching is facilitated	4.22
Teaching is enriched	4.34
Emphasis is given to the toddlers’ active participation	4.28
Equal acquisition opportunities are provided (to acquire knowledge, skills, attitudes)	3.60
The perception and absorption of complicated notions is facilitated	3.44
The toddlers’ interest is raised	4.29
Toddlers are entertained	3.84
N=64, Chi-Square=29.084, df=6, p<0.001	

Table 8 Frequency and percentages regarding the need for training in using educational tools to approach environmental topics

	Frequency	Percentage (%)
Disagree	5	7.8
Neither agree or disagree	18	28.1
Agree	28	43.8
Totally agree	13	20.3
Total	64	100.0

As shown in Table 8, 64.1% of the nursery teachers consider that special training will contribute to the effective use of educational tools for teaching environmental topics. Conversely, only a small share of respondents, by 7.8%, perceive that special training is not necessary to use educational tools effectively.

Table 9 Hierarchy of the difficulties nursery teachers face in using educational tools for teaching environmental topics after applying the Friedman test

	Mean rank
Structural difficulties (equipment)	3.02
Technical difficulties (defects)	2.60
Lack of suitable/specialized knowledge	2.27
Lack of enough time (planning, preparation, using, etc.)	2.10

N=64, Chi-Square=26.940 df=3 p<0.001

As it can be seen in Table 9, the main difficulty in using educational tools for environmental topics are structural difficulties with a mean rank of 3.02. Then, there are the technical difficulties and the lack of suitable/specialized knowledge with mean ranks of 2.60 and 2.27, respectively. Finally, the teachers consider that the lack of enough time has the smallest influence on the use of educational tools (mean rank 2.10).

Table 10 Frequency and percentages related to the effectiveness of educational tools for achieving learning objectives

	Frequency	Percentage (%)
Neither agree or disagree	2	3.1
Agree	29	45.3
Totally agree	33	51.6
Total	64	100.0

A very high percentage of participants, by 96.9%, embrace the view that the educational tools are effective in fulfilling learning objectives, whereas no respondent disagreed totally with this view (Table 10).

CONCLUSIONS

The present study aimed at investigating and reflecting the views of the nursery school teachers in the Prefecture of Rhodope on the educational tools they use to approach environmental topics in the classroom. According to the research findings, fairytales consist the main educational tool the participants use to approach such topics. Although fairytales foster the dissemination of knowledge, values, behaviors and attitudes towards the environment, Greek ecological fairytales simplify the

environmental issues and present significant deficiencies, possibly due to the authors' effort to correspond to their young readership. That is, the content loses its scientific theme and basic principles of Environmental Education are not followed (Karakitsios, 2005; Beta and Papadopoulou, 2013; Chamalidou and Flogaiti, 2013).

It is also worth noting that the respondents perceive that the selection of the appropriate educational tool consists a very important factor in achieving the learning objectives. In various studies, it has been shown that the selection of educational tools leads to the success or failure of the educational procedure. Namely, regardless of achieving or not the activity objectives, the effective educational tools are in any case highlighted (Kanakis, 1989). In terms of selecting the appropriate educational tools and ways of using them to approach environmental topics, Internet constitutes the main source of ideas to which the teachers resort to derive ideas. A similar finding was indicated in another study on educators of Primary Education in which the majority (70.1%) used the Internet to search on information to correspond to the educational work more effectively (Tokmakidou et al., 2010). Regarding the way of using educational tools, 98.8% of nursery teachers agree that they should be used with flexibility. According to the Cross Thematic Curriculum Framework (2003), flexibility is the main characteristic of the program of Pre-school Education, which should be adapted flexibly to "the needs, interests, inclinations, and skills of young children". Consequently, educational media integrated into the program of Pre-school Education should be used flexibly by nursery teachers.

Generally, the study findings indicated that the pre-school teachers acknowledge the positive influence of educational media on Environmental Education. The main advantages of using them involve: a) the enrichment of teaching, b) interest stimulation, c) active participation, d) facilitation of teaching, e) toddler entertainment, f) provision of equal opportunities to acquire knowledge, skills and attitudes and g) facilitation of the absorption of complicated notions. These advantages consist also the main characteristics of successful teaching.

On the other side, the nursery teachers face certain difficulties in using educational tools which hinder the fulfillment of the educational objectives. More specifically, the main difficulties they face are structural ones. This statement is further reinforced by their general dissatisfaction with the educational tools available to their nursery school both in terms of quality and quantity, which was indicated by the present study. Other difficulties in using educational media involve technical ones which are followed by the lack of specialized knowledge. At this point, it is worth mentioning that most respondents are bachelor holders and most participants' years of service range from nine to 15. Possibly, further studies, such as postgraduate studies on Environmental Education, would enrich their knowledge. Additionally, as educational experience increases, so will the teachers' knowledge level regarding various teaching topics. Lastly, the lack of enough time consists the difficulty which

appears to affect the nursery teachers the least compared to the other difficulties relating to the use of educational tools. As shown in the study of Dimitriou and Zachariou (2005), these difficulties are generally faced in the application of Environmental Education.

In relation to the lack of suitable/specialized knowledge, a significant number of teachers appears to be positive towards special training in using educational tools for approaching environmental topics. The positive attitude towards training is also confirmed by other research works (Mpatsouta and Papagiannidou, 2006; Tsaboukou-Skanavis et al., 2005). Regarding time, the biggest proportion of pre-school teachers consider that time increases when educational tools are used for approaching environmental topics. This is contrary to the existing literature according to which time is saved due to the use of educational media (Christias, 1992). Possibly, this inconsistency results from the fact that in our study the educational media used to achieve the teaching objectives are addressed to younger ages while the planning and application of cross-thematic and experiential activities require more time in the nursery school. Hence, further research could provide significant information.

REFERENCES

- Androusou, Al. and Askouni, N. (2007). Heterogeneity at school. At Androusou, Al. (ed.). *Keys and Spare keys*, Athens: Ministry of Education, Research and Religious Affairs, University of Athens.
- Birbili, M. and Gliaou, N. (2014). *Nursery School Study Program: Scientific field: Primary Education*.
- Bora, S., McCrea, E., Gay, M., Herrmann, L., Hutchison, L., Pistillo, M., & Torquati, J. (2010). *Early childhood environment education programs: guidelines for excellence*. Washington: The North American Association for Environmental Education Publications.
- Chamalidou, Evi. & Flogaiti, Evg. (2013). Environmental issues in modern ecological fairytales of preschool age: the case of air and soil pollution from urban solid waste. A. Dimitriou (ed.) *Notions for nature and the environment in preschool education*. Thessaloniki: Epikentro, pp. 131-140.
- Chanda, D. H., Phiri, S. N., Nkosh, D. C., & Tambulukani, G. (2001). *Teaching and Learning Materials Analysis and Development in Basic Education*. Paris: UNESCO Basic Education Division.
- Chrisafidis, K. (2005). *Environmental Education: Action subject and teaching approach in Environmental Education, The new emerging culture*, ed. Georgopoulos, A. D., Athens: Gutenberg.
- Christias, I. (1992). *Theory and Methodology of Teaching*. Athens: Grigoris.
- Cross Thematic Curriculum Framework, Greek Government Gazette 304/ 13-3-1003. Athens: Pedagogical Institute.
- Dubreucq, F. (1993). Jean-Ovide Decroly. *Prospects*, 23(1-2), 249-275.
- Flogaiti, E. & Liarakou, G. (Ed.), (2009). *Education for sustainable development. From theory to practice*. Heraklion: KPE Archanon/ENSI.
- Huxel, A. C. (2013). Authentic Montessori: The Teacher Makes the Difference. *Montessori Life*, 25(2), 32.
- Kanakis, I. (1989). *Teaching and learning through modern communication media*. Athens: Grigoris.
- Karakitsios, A. (2005). Reading texts of children literature with ecological content in *Environmental Education, the new emerging culture*, edited by A.D. Georgopoulos, Athens: Gutenberg: pp. 607-618.
- Katsikis, A. (1989). Recommendations for using testing media and the formation of a special space for teaching psychio-cognitive courses and geography.
- Katzi, Ch., Zachariou, A. (2013). *Education for the environment and sustainable development as a pedagogical framework in primary and pre-primary education. Manual for educators*. Frederick Research Centre.
- Koutsouvanou, E. & Arvaniti-Papadopoulou, T. (2008). *Aid for Nursery teachers. Pre-school Education Programs*. Athens: Odysseus.
- MacBlain, S. (2018). *Learning Theories for Early Years Practice*. SAGE.
- Makrakis, B. G. (1997). *Data analysis in scientific research using SPSS*. Athens: Gutenberg.

- May, T. S. (2000). Elements of success in environmental education through practitioner eyes. *The Journal of Environmental Education*, 31(3), 4-11.
- Mpatsouta, M. & Papagiannidou, Ch. (2006). Investigation of nursery teachers' training needs. *Inspection of Educational topics*, 11, 143-158.
- Mpeta, E. & Papadopoulou, P. (2013). Animals in knowledge books. Dimitriou, A. (ed.) *Notions for nature and education in preschool education. Research data, methodological approaches and educational applications*. Thessaloniki: Epikentro.
- Mupa, P., & Chinooneka, T. I. (2015). Factors Contributing to Ineffective Teaching and Learning in Primary Schools: Why Are Schools in Decadence? *Journal of Education and Practice*, 6(19), 125-132.
- Nasab, M. Z., Esmaeili, R., and Sarem, H. N. (2015). The use of teaching aids and their positive impact on student learning elementary school. *International Academic Journal of Social Sciences*, Vol. 2, No. 11, pp. 22-27.
- Nima, E. A., & Kapsalis, A. G. (2002). *Modern pedagogy*. Thessaloniki: University of Macedonia.
- Panayiotou, A., Kyriakides, L., Creemers, B. P., McMahon, L., Vanlaar, G., Pfeifer, M. & Bren, M. (2014). Teacher behavior and student outcomes: Results of a European study. *Educational Assessment, Evaluation and Accountability*, 26(1), 73-93.
- Pedagogical Institute (2011). *Nursery School Study Program, 1st & 2nd Part: Pedagogical Framework & Principles of Nursery School Study Program, New School (School of 21st century)-New Study Program, Horizontal Act*, Ministry of Education, Research and Religious Affairs.
- Pigiaki, P. (2004). *Preparation-Planning and Evaluation of Teaching*. Athens: Grigoris Publications.
- Pikrodimitri, M. (2002). Organized learning, research and creativity in the nursery school. *Inspection of School Matters*, 6 pp.31-39.
- Simatos, A. (1995). *Technology and Education: Selection and use of monitoring teaching tools*. Athens: Patakis.
- Tokmakidou, E., Kalogiannidou, A., Tsitouridou, M., (2010) Internet in Primary Education: teacher approaches, Conference Proceedings of the 7th Panhellenic Conference with International Participation "Information and Communication Technologies in Education", Corinth, 23-26 September 2010, pp. 609-616.
- Trilianos, Th. A. (1992). *Methodology of Teaching: A critical approach to effective teaching based on findings of modern scientific research*. Athens: Tolidi.
- Tsaboukou-Skanavis, K., Petreniti B., Giannopoulou K. (2005). The dedication of Educators to Environmental Education, Conference Proceedings Heleco'05, International Scientific Conference.
- UNESCO (1978). *Intergovernmental Conference on Environmental Education Organized by UNESCO in Co-Operation with Unep (Tbilisi, Ussr, 14-26 October 1977)*. Final Report. UNIPUB.
- Ventouris, A. (2005). *Introduction to general teaching*. Athens: Mponia.

A STUDY OF ETHICAL BEHAVIOUR AT THE WORKPLACE: SCHOOLS IN THE STATE OF KUWAIT

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ABSTRACT

The purpose: The purpose of this research is to identify the key factors that affect ethical behaviour in the schools in Kuwait, and to present a conceptual framework of ethical behaviour at the workplace applicable to the education system of Kuwait. The model of ethical behaviour was developed by adapting several theories and models.

Design, Methodology, and approach: The researcher follows the Critical Realism philosophical approach in the current study, which justifies the use of a methodology to conduct the research. This research utilizes *sequential exploratory* mixed methods design; the research involves *two sequential stages*, qualitative and quantitative stages. The study starts with the qualitative stage followed by the quantitative stage. Moreover, the study employs mixed methods research, which is a procedure for collecting, analyzing and combining both quantitative and qualitative data at some stage of the research procedure within a single study.

The data collected by means of face-to-face and semi-structured interviews such as in depth interviews, followed by a questionnaire survey. The respondents represented teachers working in the Kuwaiti schools.

Findings: The current study found a significant relationship between the independent variables of the organizational ethical culture such as sanctions, congruence of supervisors, feasibility, discussability, supportability and ethical leadership and the dependent variable of ethical behaviour.

Moreover, the study revealed a significant relationship between the independent variables of personal ethical tendencies such as idealistic tendencies, relativistic tendencies and utilitarianism and the dependent variable.

In addition, the study found a significant relationship between the independent variables of both greed and the national culture such as religious beliefs and *wasta*(favouritism) and the dependent variable of ethical behaviour.

The analysis of the results ended up to the final model of ethical behaviour.

Originality and Value of the Research :To the knowledge of the authors, this type of research is conducted for the first time in the private and public schools in the state of Kuwait.

The empirical study differentiated a model of ethical behaviour valid for the education system in Kuwait and attempts to reinforce ethical behaviour and combat the widespread unethical behaviour in Kuwait as *wasta* (favouritism) and greed.

Keywords: Ethical behaviour, Organizational ethical culture, National culture, Greed, Personal ethical tendencies.

INTRODUCTION

In developing a research around the subject of ethical behaviour, it is fundamental to understand the meaning of ethics and the schools of ethics as well as the importance of ethics.

Ethics started since longtime as the basis of all religions, subsequently taught within the family and society to arrange and control relationships between individuals.

However, it is not only religions that promoted the importance of ethics in governing the human relations; the need for sets of principles was discussed by several thinkers and philosophers.

Jesus referred to ethical behaviour as the Golden Rule "Do unto others, as you would have them do unto you", which means that if you cannot make everyone follow the same rule, your rule is not a moral one. In addition, the Christianity as a religion forbids unethical behaviour, the bible stated "You shall not murder, You should not steal, You shall not commit adultery, You shall not bear false witness against your neighbour".

Furthermore, the religion of Islam elaborates on ethical behaviour "O you who have believed, do not consume one another's wealth unjustly, but only [in lawful] business by mutual consent. And do not kill yourselves [or one another]. Indeed, Allah is to you ever Merciful" (The Holy Quran, Surah Al Nisa' 4:29). This verse forbids against all unclean and corrupt means of making money.

BACKGROUND AND PROBLEM IDENTIFICATION

According to the Central Intelligence Agency (2019), The State of Kuwait is located in the Middle East, bordering the Persian Gulf, and between Saudi Arabia and Iraq.

The state of Kuwait has a geographically small, with a total area of 17,818 sq km, however it is rich country, generally open economy with crude oil reserves of about 102 billion barrels - more than 6% of world reserves. Kuwaiti authorities intend to expand creation to 4 million barrels of oil comparable every day by 2020. Oil accounts for over half of GDP, 92% of export revenues, and 90% of government income. The GDP (official exchange rate) of Kuwait is \$120.7 billion; and the nation's GDP per capita is \$65,800 (2017 est.).

According to the census of the public authority for civil information, Kuwait's total population reached 4,810,914, Kuwaiti people reached 1,417,272 and expatriates reached 3,393,642 in 7/7/2019.

Based on index Mundi, the majority of the people in Kuwait are Muslims, with Christians being a minority, Muslims are 76.7%, Christians are 17.3%, and the other unspecified account for 5.9%.

EDUCATION SYSTEM IN KUWAIT

Education system in Kuwait has its problems. Generally speaking; there is a low output of education teaching system in Kuwait.

Schools and teachers are taken in the consideration in this research due to the plagiarism is expanded in schools in Kuwait in front of some teachers as a result of the nature of the deterioration of ethics and values in the Kuwaiti society.

Al-Shatti (2018) who is a member of the Kuwait national assembly stated in the Arab-times newspaper, the Kuwaiti educational system is deep rooted corruption and fake qualification crisis, and he said when the ministry of education issued the 'Anti-Cheating Charter' to stop cheating in schools, some people were outraged as if cheating is right and they are now asked to do the opposite.

RESEARCH PROBLEM

Because of scandals, collapse of organizations, plagiarism, and unfair treatment, a significant attention has been directed to business ethics. Literature review worldwide have identified different models of ethical behaviour and factors affecting ethical behaviour in the organizations, but it is not clear which factors affect ethical behaviour in Kuwaiti schools.

AIM

The aim of this research is to identify by means of a comprehensive literature study, the factors that impact on ethical behaviour in the schools in Kuwait, and to differentiate a model of ethical behaviour valid for the education system in Kuwait.

ETHICAL THEORIES

Dobrin (2009) summarizes three schools of ethics, virtue ethics, deontological and consequential.

VIRTUE ETHICS

The virtue theory focuses on the person and issues of character and integrity. The central concern of this theory is what makes a good person.

A philosopher Aristotle represents the virtue ethics. He looks for the good life, accordingly, a moral person is not that one who does the right thing once in a while but the moral person is that one who lives life within the framework of ethical virtues.

DEONTOLOGICAL THEORY

The deontological theory attempts to evaluate actions as right or wrong, and focuses on the motive of an action and the intention behind it regardless of the consequences. The theory argues that morality is adhering to a set of rules that guides the action of an individual regardless of the consequences.

CONSEQUENTIAL THEORY

The consequential theory focuses on the external results of an action. This theory desires the greatest good for the greatest number of people. The English philosophers Jeremy Bentham and John Stuart Mill explained it as the theory of utilitarianism.

LITERATURE REVIEW

Ethical behaviour is a huge topic, and a number of factors influence ethical behaviour.

This research will elaborate on the factors influencing ethical behaviour of different aspects such as informal and formal organizational ethical culture, national culture, personal ethical tendencies and individual characteristics.

Organizational ethical culture

Kaptein (2007,2008) conducted a research about the organizational ethical culture that consisting of eight virtues such as clarity of ethical policy, sanctions, congruence of management, congruence of supervisors, transparency, feasibility, discussability and supportability, to understand unethical behaviour in the organization.

The study by Kaptein revealed that only six virtues as sanctions, congruence of management, congruence of supervisors, feasibility, discussability and supportability affect unethical behaviour negatively, on the other hand, the results pointed out that clarity of ethical policy and transparency are not significantly related to unethical behaviour.

Ethical leadership and ethical behaviour

Kaptein (2011) suggests that ethical leadership is one component of ethical culture; so when to assess ethical culture other component as ethical leadership should be included.

As summarized by Mayer et al. (2012), Brown et al.(2005) have defined ethical leadership as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making".

Mayer et al. (2012) study the antecedents and consequences of ethical leadership in the workplace.

The findings of the study by Mayer et al. (2012), suggest that ethical leadership affect unethical behaviour negatively.

National culture

Hofstede (1993), as summarized by Yu and Miller (2003), defined national culture as a collection of values and beliefs that groups of people have developed over time as a result of their relationship with their environment.

Moreover, Hofstede [6, 7], as summarized by Shore and Cross (2005), argued that individuals in an organization are influenced not only by their job at the workplace but also by the cultural values they bring with them into the organization. Therefore, the cultural values that employees bring with them into an organization are crucial to their ethical behaviour within that organization.

In Hofstede (2015) indicated that globalization and diversity have made cross-cultural management important; he introduced six dimensions of national culture as individualism vs collectivism, masculinity vs femininity, power distance, uncertainty avoidance, long-term vs short-term orientation and indulgence vs constraint.

On the other hand, Obeidat et al. (2012) indicated that Arab countries were not classified in the Hofstede's dimension of long-term vs short-term orientation, they argued that Islam and different levels of familism characterize the Arab culture, where the loyalty of individuals is for their families, tribe, religious sect or to the extended family, furthermore, Hofstede indicated that Arab culture is characterized by having a large power distance, strong uncertainty avoidance, high collectivism, and a moderate Masculine culture and femininity.

Based on Kuwait constitution (1962), Islam is an official religion in Kuwait, it corresponds with the constitution, and it states that Islam is the source of the legislation.

Almutairi (2013) highlighted that that Islam affects different aspects in Kuwait such as family relationship, business etiquette food, drinks, and personal hygiene, and agreed that national culture of Kuwait is affected by Arab tribal traditions.

In the same regard, Ali and Al-Kazemi (2007), indicated that Kuwait is an Islamic country, and Islam is a dominant variable influences the Kuwaiti culture and dictates the way of daily living and behaving in the workplace.

Religious beliefs and ethical behaviour

Commitment to a faith in one's religious belief is crucial to the ethical behaviour of employees; Rawwas et al.(2006) find that religious beliefs affect ethical behaviour positively.

Conroy and Emerson (2004) state that believers in God are less eager to behave unethically, to a great extent since they believe God will see their actions, and their unethical attitudes and thoughts.

In addition, Alleyne et al. (2010) agree with Rawwas et al. (2006) and indicate that there is a significant relationship between religious commitment and ethical behaviour.

Ferrell and Gresham (1985), as cited by Alleyne et al. (2010), stated that moral philosophies played a crucial role in the ethical decision making of an individual. Moreover, Alleyne et al. (2010) suggested that religious commitment significantly affect the ethical decision making of individuals.

In the same regard, Dobrin (2009) agreed that religion stands behind ethics, otherwise morality could be no more than a preference for people.

Furthermore, Shariff (2016) indicates that religion affects ethical behaviour positively, and he says that religious people report more prosocial behaviour than do the non- religious.

Based on the review, religious beliefs affect ethical behaviour positively.

Well-being and ethical behaviour

Fernando and Chowdhury (2010) suggested that the term well-being relates to people's wellness or the totality of their health, including inner resources and how these impact individual and social behaviour. They conducted a research about well-being and pointed out that well-being affects ethical-decision making in the workplace significantly, implying that higher spirituality well-being leads to greater ethical concerns, moreover, spiritual well-being is correlated with and predictive of idealistic decision making.

Overall, well-being contributes to the national culture and has a significant relationship with ethical behaviour.

Kuwait tribal values and ethical behaviour

"Tribalism has defined by Nothwehr (2008, p.5), as cited by Sanou (2015) , as the attitude and practice of harbouring such a strong feeling of loyalty or bonds to one's tribe that one excludes or even demonizes others who do not belong to that group".

Moreover, Nwaigbo (2005) indicates that tribalism prompts one to have positive attitude towards the individuals who are associated with that person through connection or kinship, family and clan.

Hofstede (2001 & 2005) suggested, as cited by Danon-Leva et al. (2010), that Power distance which is one dimension of Hofstede's cultural theory has described dependence relationships in a country, as well as the power distribution among members of groups, organizations, and society it is stated that this dimension affects ethical behaviours of individuals in a society and suggests the high levels of the power distance the less the risk factor for unethical behavior because the actions of individuals, groups, or organizations are more likely to be guided or informed by respect to individuals, groups, or organizations having higher authority.

Individualism–Collectivism is one dimension of Hofstede's cultural theory which considers that the state of Kuwait used to be collectivistic society; collectivism refers to individuals whom from birth are integrated into a close-knit and cohesive society.

Danon-Leva et al. (2010) expect that collectivist dimension influences ethical behaviours of individuals in a society and suggests the higher the individualism the higher the risk factor for unethical behaviour because high individualism implies that loyalty is owed only to the person, i.e., himself or herself.

Arab countries have higher levels of collectivism and lower levels of power distance and uncertainty avoidance.

Accordingly, with respect to collectivism dimension, behaviour of individuals concern with the family or clans more than objectives of the organization.

Furthermore, Bakhtari (1995) indicate that the Arab culture is traditional, family oriented, male dominated and conservative in risk taking.

In addition, It has been argued that Arab tribal values support the idea of consultative and participative decision style, as summarized by Rees and Althakhri (2008), Dedoussis (2004) has pointed out that albeit consultative and participative styles are the most widely recognized basic leadership styles in Arab culture, choices are taken without subordinates and are not designated down the chain of importance.

Furthermore, Abdalla et al. (1998) report that Arab tribal values place a strong assurance on adherence and obedience as both represent essential elements of tribal systems, also, nepotism may be openly allowed in the Arab countries in order to achieve the responsibilities of individuals toward their relatives and extended family members.

Tayeb (1997) points out that participation in decision making in Arab countries may be considered by subordinates as a management weakness in Arab culture and further, managers and subordinates in Arab societies will in general tend to dislike collaboration or teamwork.

Moreover, the managerial problems in Kuwait reveal the relationship between Kuwait tribal values and unethical behaviour, Al-Kazemi and Ali (2002) detect that the most important managerial

problems in state of Kuwait are favouritism and personal loyalty at workplace, unwillingness to take responsibility, rigid administrative systems and policies, primacy of personal relationships over work relationships, subjectivity in appraisal and promotion, reliance on inherited relations and a variety of principles which conflict with one another. They find that these managerial problems are ascribed to tribal thought which is pervasive in Kuwait society.

Overall, there is a significant relationship between Kuwait tribal values and ethical behaviour.

Greed and ethical behaviour

Seuntjensa et al.(2019) indicate that being greedy means taking more than needed, and harming other people particularly in cases of scarcity, moreover, they study the relationship between wanting more and unethical behaviour and detect that dispositional greed is indeed associated with more unethical behavior.

As summarized by Seuntjensa et al.(2019) , Steinel and De Dreu (2004) , have argued that greedy people show more unethical behaviour, and have mentioned that greedy people are more likely to prevent information from other people in a negotiation setting, furthermore, Gilliland and Anderson (2014, p. 99) have indicated that not only religions and philosophers relate greed to unethical behaviour, greed has been broadly examined as one of the reasons of financial scandals and the late 2000s financial crisis.

Accordingly, greed affects ethical behaviour negatively.

Wasta and ethical behaviour

Barnett et al. (2013) suggest that Wasta is an Arabic version, refers to an implicit social contract, which obliges those within one group to provide assistance to others within the group. It is similar to nepotism or favouritism.

In Arabic societies, people feel with pride and fulfilment to the person who has wasta and the person who is doing this wasta for him or her.

Mohamed and Mohamad (2011) define wasta in the Arabic world as the intervention and connection between a patron and client to make favour of a client in attempt to gain privileges or resources from a third party.

Moreover, Adi (2014) considers Wasta as a source of Nepotism and cronyism, and argued that "wasta" works around the rules and deteriorates the concept of fair competition and replaces it with negative relationships, and as a result, it harms the society and makes business credibility weaker. Furthermore, she indicates that Wasta is considered as an unethical behaviour because this behaviour of wasta contradicts with fairness and justice, and those who have Wasta, they can jump queues in acquiring services, while others who do not have wasta are going to struggle with the bureaucratic processes.

As summarized by Adi(2014), Hutchings and Weir (2006) have identified Wasta as an Arabic noun used in the middle east and north Africa to show nepotism or favouritism.

Furthermore, Barnett et al. (2013) indicate that wasta refers to the power of connections between people and this power employed to make favour for somebody.

Tlaiss and Kauser (2011) indicate that despite the perception that wasta is an unfair practice; it plays a key role in people's career, especially regarding development and advancement.

Overall, "wasta" influences ethical behaviour in the workplace negatively.

PERSONAL ETHICAL TENDENCIES AND ETHICAL BEHAVIOUR

IDEALISM , RELATIVISM AND ETHICAL BEHAVIOUR

Personal ethical tendencies are crucial for ethical decision making in the workplace, researchers such as Ferrell and Gresham (1985) and Hunt and Vitell (1986), as summarized by Chan et al. (2011), have reported that personal moral philosophy lies at the core of the process of ethical-decision making process.

Researchers refer Idealism to the people's concern for the welfare for others considering harming others have been always unnecessary, for example as summarized by Chan et al. (2011), Forsyth (1980) has reported that idealism represents individuals concern for the welfare of others; therefore idealistic people believe that harming others have been always avoidable, whereas those who are less idealistic feel that harm is sometimes necessary to produce good, moreover, Forsyth (1980, p.175), identified relativism as the degree to which an individual rejects universal moral rules as appropriate guidelines for ethical decisions, accordingly, relativism is related to how an individual's view differs from the ethical view of the majority.

In addition, Johari et al. (2012) find a positive relationship between idealistic tendencies and ethical behaviour.

Forsyth (1992), as summarized by Karande et al. (2002), has argued that ethical decision-making is influenced by idealism and relativism. Moreover, ethical decision-making and ethical behaviour are affected positively by idealism, and negatively by relativism.

Vitell and Singhapakdi (1993) and Sparks and Hunt (1998), as cited by Alleyne et al. (2010), concluded that relativism had a negative impact on ethical decision making but they found that idealism had a positive impact on ethical decision making.

Utilitarianism

Utilitarianism is another aspect of personal ethical tendencies and its main tenet to seek the greatest happiness of the greatest number of people. Accordingly, the utilitarianism theory judges the action

according to the result of that action, therefore, the action by someone is considered ethical if the ends of the action generate greatest happiness to the greatest number of people.

Therefore, the purpose of utilitarianism is thus the greatest good for the greatest number of people.

This theory focuses on the external results of an action and desiring the greatest good for the greatest number of people.

In addition, as summarized by Eleswed (2016), Northouse (2004) has suggested that utilitarianism is an ethical perspective concentrates on individual's behaviour whereas the behaviour is considered ethical if it generates greatest good for greatest number of people , moreover, Robbins and DeCenzo (2001) have pointed out that utilitarianism promotes the way that the decision making procedure ought to be based on the outcomes of such decision.

Schumann (2001) has stated that a utilitarian conduct inflicts doing the greatest good along with the minimal harm to other people. Thusly, utilitarian practices are viewed as ethical.

Overall, there is a significant relationship between personal ethical tendencies and ethical behaviour.

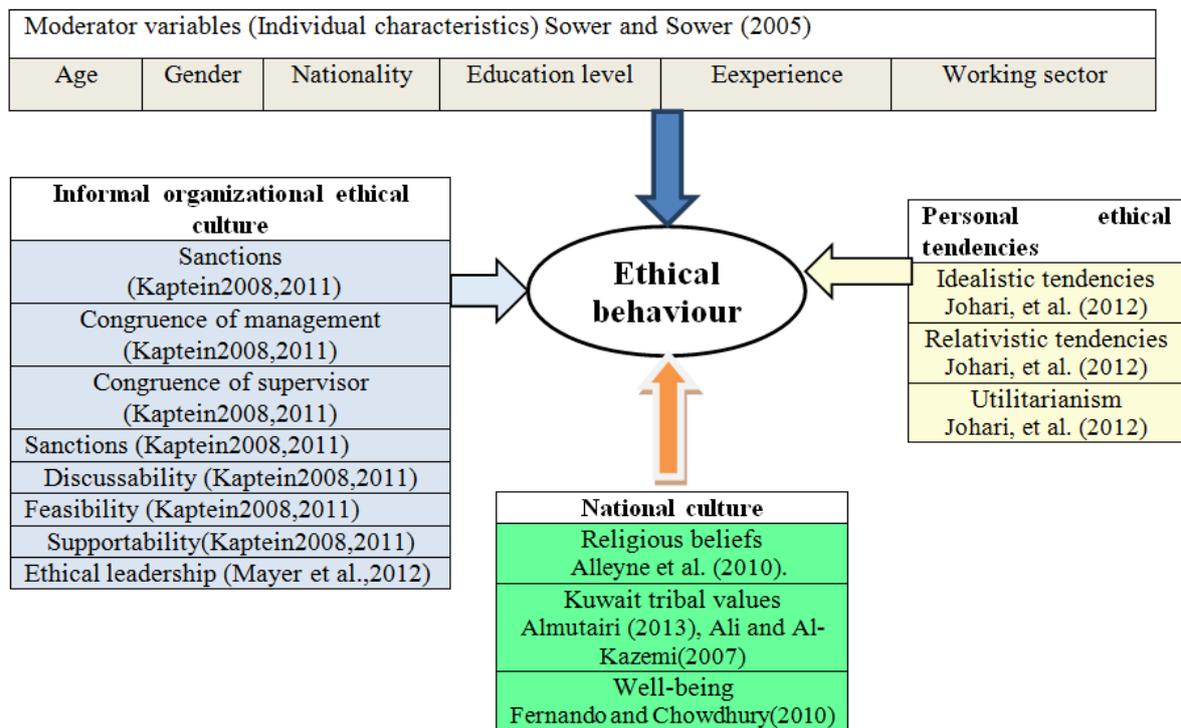
Moderator Individual characteristics and ethical behaviour

Sower and Sower (2005) suggest that demographic moderator variables have no longer been totally disregarded in values and ethics research, and point out that researchers as Franke et al., (1997) and Harris (1990) and Mason et al., (1996) link personal characteristics such as age and gender to ethical behaviour, moreover, other researchers link years of experience, educational level, and public working sector and private working sector, to ethical behaviour.

Overall, various aspects of independent variables will be considered in this research such as moderator individual characteristics, organizational ethical culture elements, national culture elements, greed and personal ethical tendency elements.

Based on the previous review, the following conceptual ethical behaviour of ethical behavior is shown below:

A Conceptual framework of ethical behaviour



Research gap

The conceptual model of ethical behaviour was developed by adapting several theories and models from different business and academic journal articles. However, the research uses different aspects to formulate the conceptual ethical behaviour model, in particular, by improving the ethical models by Kaptein (2008) and Mayer et al. (2012) and combining other variables as illustrated below:

- 1) Kaptein (2008) indicated that his model has been developed to explain ethical and unethical behaviour. However, it was tested only on unethical behaviour. Therefore, the variables will be re-tested on ethical behaviour.
- 2) The sample in Kaptein's model (2008) was drawn from Western organizations, which means that sample did not represent Arabic societies. Adler, (1991), Hofstede (1993) and Mead (1994), as summarized by Yu and Miller (2003), have indicated that national culture has a great impact on all aspects of management behaviour.
Moreover, Hofstede (1993) pointed out that people with different cultural backgrounds would have different work values.

Accordingly, this research will re-test the selected variables in Kuwait.

- 3) As summarized by Kaptein (2008), other researchers such as Baucus and Near(1991) have proposed studying other factors from outside the organization, as well as, the personal characteristics of employees.
- 4) Mayer et al. (2012) studied the effect of ethical leadership on negative outcomes such as unethical behaviour, and Kaptein (2008) related organizational ethical culture to negative

outcomes such as unethical behaviour, but Walumbwa and Schaubroeck (2009), and Piccolo et al. (2010), as summarized by Mayer et al. (2012), suggested that ethical leadership is related to positive behaviours.

RESEARCH PHILOSOPHY, METHODOLOGY AND METHODS

PHILOSOPHICAL POSITION AND JUSTIFICATION

Critical Realism is the position of the philosophy of the researcher, which justifies the use of a methodology to conduct the research. Qualitative and quantitative philosophies have shared in the development of mixed methods research.

The research will start with the qualitative stage, which will value the research by utilizing experiences and human thoughts of people contribute to our knowledge in this field.

The second quantitative stage seeks to validate and generalize the finding of the qualitative stage.

Research questions of the quantitative stage concern with the causal relationships between independent and dependent variables, therefore, there is a need for a tool to measure the phenomenon in terms of the quantitative data and hypotheses testing, therefore, the current research employs mixed methods to make a better understanding of a phenomenon.

Based on Cotty (1998), the following table highlights the framework of the philosophical position of this research as shown in table 1.1:

Table 1.1 Framework of the philosophical position of the research	
Epistemology: The theory of knowledge embedded in the theoretical perspective and methodology.	Mixture of ontological objectivism and epistemological subjectivism
Theoretical perspective: The philosophical position informing the methodology	Critical realism
Methodology: Strategy behind the choice of data collection	Qualitative and quantitative
Methods: Techniques to gather and analyses data	Methods: Case study and surveys. Techniques: Interviews and questionnaires

MIXED METHODS RESEARCH

This research will utilize mixed methods, which is a procedure for collecting, analyzing and combining both quantitative and qualitative data at some stage of the research procedure within a

single study, to communicate the research problem more clearly. Creswell (2002), as cited in Hanson et al. (2005), highlighted reasons for conducting mixed methods research as in table 1.2.

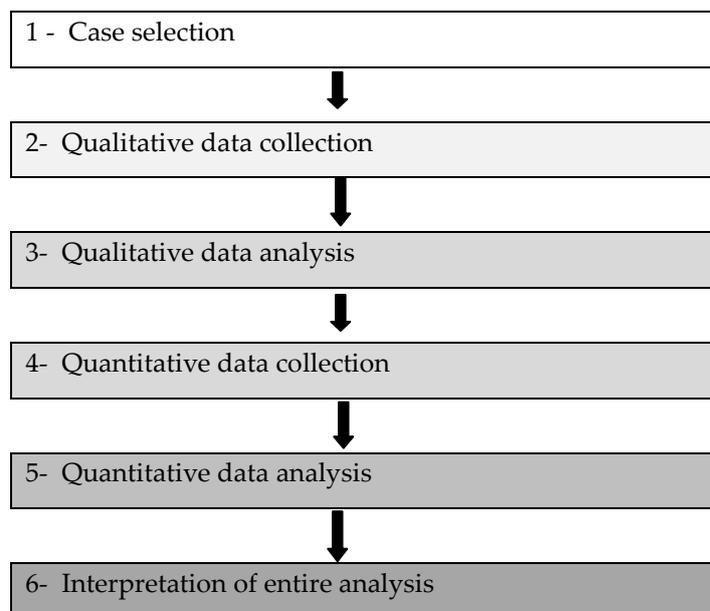
Table 1.2 Reasons for conducting Mixed Methods Research	
Rationale	Description
Triangulation	Better understand a research problem by converging results of two separate methods
Complementarity	Use one study segment to elaborate on another
Development	Use one study part as the basis for subsequent investigation
Initiation	Display results to find out paradox and contradiction by using different methods
Expansion	Investigates different facets of the theme by screening
Generality	Use the independent source of data to contextualize the main study or use quantitative analysis to supply significance of relative importance
Aid interpretation	Use qualitative data to explain quantitative variables
Solving a puzzle	Use an alternative data collection method when the initial method detects unexplainable results or deficient data

RESEARCH DESIGN

This research will utilize **sequential exploratory** mixed methods design; the research involves *two sequential stages*, qualitative and quantitative stages as shown below.

The following figure 1.2 explains the steps of the sequential exploratory mixed methods design:

Figure 1.2: Sequential Exploratory mixed methods design



TARGET POPULATION AND SAMPLE

- The target population in this study will include Kuwaiti and non-Kuwaiti teachers, who are working in public and private schools at different stages in Kuwait.
- According to the Kuwait Central Statistical Bureau, the total number of teachers in Kuwait who are working in public and private schools are (83368) teachers. Of these (40867) are non-Kuwaiti teachers and (42501) are Kuwaiti teachers.

QUALITATIVE STAGE

Qualitative stage seeks to explore phenomena. Krauss (2005) argued that qualitative research is based on a relativistic, constructivist ontology, which posits that there is no single reality, there are multiple realities constructed by human actors who experience phenomena of interest.

Constructivist paradigm claims that truth is relative and that it is dependent on one's perspective, at this STAGE, THE RESEARCH IS CONSIDERED AS INDUCTIVE RESEARCH TO BUILD A THEORY.

DATA COLLECTION

The research will adopt a strategy of a case study method to collect qualitative data.

JUSTIFICATION FOR USING A CASE STUDY

- Tellis (1997) suggested that the advantage of a case study is that it is often conducted from multi-perspectives, and indicated that in a multiple case studies, there is an opportunity for a replication of the one case study, as well as the flexibility to check and distinguish between a large range of results.
- Saunders et al. (2009) suggested that a case study provides the flexibility to answer open questions particularly, how why, and what.

SAMPLING TECHNIQUE

Data will be collected by means of face-to-face and semi-structured interviews such as in-depth interviews.

Non-probability sampling method, a *self-selection sampling technique will be employed* to select (25) participants; twelve (15) teachers and ten (10) directors as well as supervisors and administrative working in public and private schools in Kuwait.

DATA ANALYSES

The current research utilizes a thematic analysis to analyse qualitative data manually.

JUSTIFICATION OF USING THEMATIC ANALYSIS

Alhojailan (2012) highlights four reasons for using thematic analysis as shown below:

- Data interpretation.

Thematic analysis is able to detect and identify factors or variables that affect any issue generated by the participants in the research.

- Deductive and inductive approaches.

Thematic analysis is a flexible method that can be used in both deductive and inductive methodologies

- Analysis different phases.

Thematic analysis is capable to different phases in the research.

- Coding and categorizing.

Thematic Analysis is capable to arrange the data according to its similarities and differences, it provides the opportunity to code and categorise data into themes.

FINDINGS OF QUALITATIVE STAGE

- Organizational ethical culture

The qualitative findings revealed that seven variables of organizational ethical culture such as sanctions, congruence of management, congruence of supervisors, feasibility, discussability, supportability and ethical leadership affect ethical behaviour in the schools significantly.

- Personal ethical tendencies

The qualitative findings of personal ethical tendencies agree with the arguments given by other researchers and theoreticians, therefore, idealistic tendencies, relativistic tendencies and utilitarianism affect ethical behaviour significantly.

- National culture

The qualitative findings agree with the arguments given by other researchers and theoreticians that faith towards religious beliefs affect ethical behaviour significantly but do not agree with other researchers that well-being and tribal traditions affect ethical behaviour.

Moreover, a new independent variable emerged from the qualitative stage such as "wasta", and the findings indicate that wasta affect ethical behaviour negatively.

- Greed.

A new independent variable emerged from the qualitative stage such as "greed" or "loving money", and this result indicates that greed affect ethical behaviour negatively.

QUANTITATIVE STAGE

The quantitative stage seeks to validate findings of qualitative stage and generalize results.

The purpose of positivist or objectivist quantitative researcher is to discover general laws and find relationships between variables, the study will be conducted to test existing theories, and then generate the findings to the population, the researcher is as a scientist and also as a deductive researcher to test existing theories.

According to Krauss(2005),epistemological positivist holds that science is perceived as away to find the truth and to understand the world well enough. Thus, we need to find the suitable scientific approach to understand the world and the universe that operate bylaws of cause and effect.

DATA COLLECTION

The research will employ the survey strategy to collect quantitative data. According to (Saunders et al, 2009), a survey strategy is associated with the deductive approach used to answer who, what, where, how much and how many questions, therefore, it can be used for exploratory and explanatory research. The main benefit of the survey it allows the researcher to collect a large amount of quantitative data from a sizeable population in a highly economical way, which can be analysed using descriptive and inferential statistics.

SAMPLING TECHNIQUE

This research will employ a *random sampling method*, which is a type of a probability sampling technique. The researcher contacted the Ministry of Education in the state of Kuwait, and asked them to provide him with a list of the names of (5) public schools and (5) private schools to conduct my research.

SAMPLE SIZE

According to (Israel, 1999) the minimum sample size can be calculated by using the following formula: $n = p\% * q\% [z / e\%]^2$.

Where, n = minimum sample size required, Z the level of confidence, e % = margin of error, P% the proportion of the specified category q% (1-p) proportion not belonging to specified category.

Based on the assumption of $p=.5$ and $q=.5$, and z value based on 95% confidence and 5% margin of error. Accordingly, the minimum sample size is shown below $n= 50 * 50 * (0.154) n= 385$

The minimum of 400 questionnaires will be considered, the increase of sample size to account for teachers who do not respond or who do not receive the survey invitation.

Overall, (400) questionnaires will be distributed among teachers working in public and private schools in Kuwait.

RESEARCH HYPOTHESES

Research hypotheses are formulated according to the results of the qualitative stage.

Hypothesis1:

Ethical behaviour through the organizational ethical culture is significantly influenced by sanctions, congruence of supervisors, congruence of management, feasibility, supportability, discussability and ethical leadership.

Hypothesis2:

Ethical behaviour in the school is significantly influenced by faith towards religious beliefs and *wasta*, disseminated through the national culture.

Hypothesis3:

Ethical Behaviour in the school, in terms of personal ethical tendencies is significantly influenced by idealistic, relativistic tendencies and utilitarian tendencies.

Hypothesis 4:

Ethical Behaviour in the school is significantly influenced by the greed of teachers.

Hypothesis 5:

Overall ethical behaviour in the workplace is significantly influenced by the ethical organizational cultural orientation and its elements, national culture and its elements, and personal ethical tendencies and their elements.

Hypothesis 6:

There are significant differences between the genders when it comes to cultural orientation, personal tendencies, greed and overall ethical behaviour.

Hypothesis 7:

There are significant differences between age groups when perceiving organizational ethical cultural, national culture, personal tendencies, greed and overall ethical behaviour.

Hypothesis 8:

There are significant differences between types of working experience in the organizational ethical cultural, the national culture, personal tendencies, greed and overall ethical behaviour.

Overall results of hypotheses are displayed in the following table.

Hypothesis	H1	H2	H3	H4	H5	H6	H7	H8
Result	Partially supported	supported	Supported	supported	Partially supported	Partially supported	Partially supported	Partially supported

QUANTITATIVE ANALYSES

Regression analysis, cross tabulation and T-test conducted to test the hypotheses as shown in the Appendix.

SCALE

The researcher will use the five- point Likert scale. Based on Mangal and Mangal(2013) the Likert scale is easy to read and respond and the reliability of this scale has been estimated relatively high than other types of measurement scales.

MEASURING THE DEPENDENT AND INDEPENDENT VARIABLES

Fraedrich (1993) argued that ethical behaviour in the workplace needs to be empirically measured by constructs that measure deviance from organizational standards.

Summary of the variables, correspondent measuring factors and their sources, as shown in the table below:

Variables	Measuring factors	Source
Sanctions	San1,San2,San3,San4	Kaptein (2007)
Congruence of supervisors	Cns1, cns2, cns3, cns4	Kaptein (2007)
Congruence of management	Cgm1, cgm2, cgm3, cgm4	Kaptein (2007)
Feasibility	Fes1, Fes2, Fes3, Fes4	Kaptein (2007)
Supportability	Sup1, sup2, sup3, sup4	Kaptein (2007)
Discussability	Dsc1, Dsc2, Dsc3, Dsc4	Kaptein (2007)
Ethical leadership	Lea1, Lea2, Lea3, Lea4	Mayer et. al. (2012)
Greed	grd1, grd2, grd3, grd4	Seuntjens et al. (2019)
Idealism tendencies	Ide1, Ide2, Ide3, Ide4	Forsyth (1980)
Relativism tendencies	Rel1,Rel2, Rel3, Rel4	Forsyth (1980)
Utilitarianism	Utl1 , utl2, utl3 , utl4	Gokce (2017)

Greed	grd1, grd2, grd3, grd4	Seuntjens et al. (2019)
Faith towards religious beliefs	Fai1, Fai2, Fai3, Fai4	Alleyne et al. (2010)
Wasta	Wst1, wst2, wst3, wst4	Tlaiss and Kauser(2011)
Ethical behaviour	Beh1,beh2, beh3, beh4	Antonaras et al. (2015).

The dependent variable (ethical behaviour) will be measured by means of four items adopted from the scale of ethical behaviour by Antonaras et al. (2015).

DATA ANALYSES

The goal of statistical analysis is to show if there is a significant effect between the variables of interest (to answer whether we can reject the null hypothesis or not) , and how big is the effect when it is available.

SPSS version 22 will be employed to analyse the collected data by utilizing Factor analysis, Reliability analysis (Cronbach's Alpha correlation), linear regression analysis, correlation analysis, ANOVA and cross tabulation analysis.

RESULTS OF QUANTITATIVE STAGE

The findings revealed that just six variables of organizational ethical culture affect ethical behaviour such as sanctions, congruence of supervisors, feasibility, discussability, supportability and ethical leadership.

On the other hand, the independent variable of "congruence of management" was not supported by the quantitative stage while it was supported by the qualitative stage, because the participants in the qualitative stage had a belief that "congruence of management" affects ethical behaviour, but in fact the quantitative analyses found the variable "congruence of management" was not related to ethical behaviour significantly.

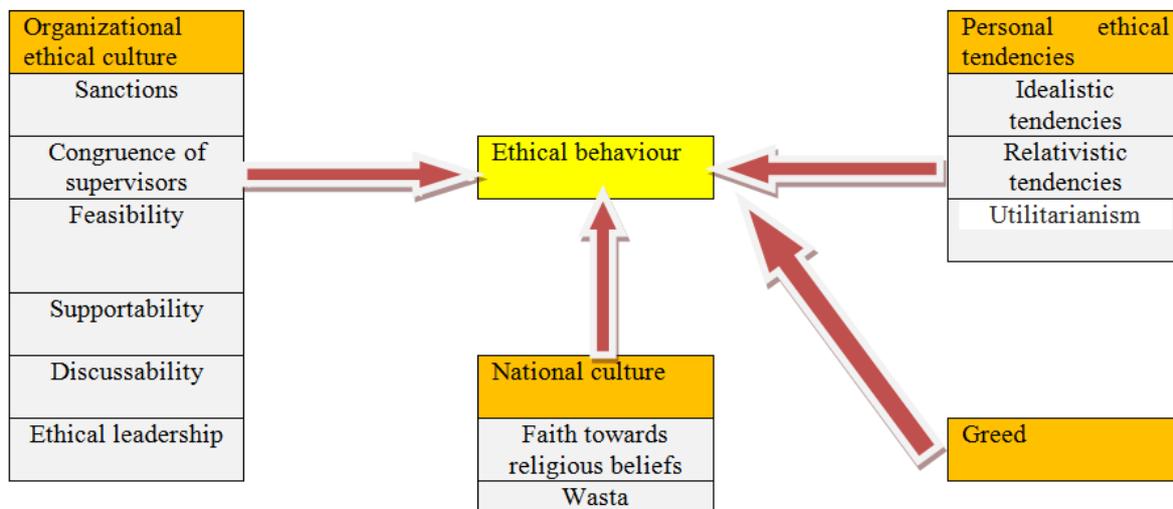
Furthermore, the findings indicated that the variables of personal ethical tendencies such as idealistic tendencies relativistic tendencies and utilitarianism affect ethical behaviour, and these findings agree with the findings of the qualitative stage.

In addition, the study finds that two variables of national culture such as wasta and religious beliefs affect ethical behaviour, and these agree with the results of the qualitative stage.

Moreover, the quantitative stage finds that greed affects ethical behaviour negatively, and this result agrees with the qualitative analysis.

The final model of ethical behaviour in the current research is created as shown below:

The differentiated model of ethical behaviour.



RESEARCH CONTRIBUTION

- This type of research is being conducted for the first time in schools in Kuwait.
- This research will fill the gap in the area of ethics especially in the Arabic region.

Treviño and Brown, (2004) have indicated that because corporate scandals have harmed millions of employees and investors, managers and researchers are beginning to recognize the importance of ethics and pay attention to questions of ethical management.

Robertson et al. (2002); Elsayed-Elkhouly and Buda (1997); and Ali and Schaupp (1992), as summarized by Sidani and Thornberry (2010), have suggested that although the call for better ethics has increased recently, few studies over the past few years have attempted to explain ethics in the workplace within the context of the Arab world.

- This research will differentiate a conceptual ethical behaviour framework valid for state of Kuwait to reinforce ethical behaviour in the workplace and combat unethical behaviour such as wasta and greed.

MANAGERIAL IMPLICATIONS AND CONCLUSION

- Regarding the cost of unethical behaviour to organizations and stakeholders, it is important to prevent or, when it does occur, to detect adequately and pay attention to unethical behavior.
- The current research reports the importance of organizational ethical culture, national culture, greed and the national culture in explaining unethical behavior of managers and employees in the schools in Kuwait.

- Overall, the management first needs to understand and unravel the existing culture and other factors of personal ethical tendencies and national culture to reduce unethical behaviour.
- The model of ethical behaviour and questionnaire that used in this research can be employed to assess the quality of the existing ethical culture in the workplace.
- Moreover, including the scale of ethical behaviour in the questionnaire will make it possible, by conducting a regression analysis, to get an overview of the most important dimensions of the ethical culture of the organization; moreover, regression analysis can be used to find the important dimensions of personal ethical tendencies and national culture.
- Furthermore, this research added a value for the Arabic library since there is a poor literature about ethics in the Arabic region.
- In addition, the current study re-tested different models provided by the literature review, which tested in the western culture, in the Arab culture.

In conclusion, the researcher aimed to identify the key factors that impact on ethical behaviour in the schools in Kuwait that help to combat unethical behaviour, moreover, the current research presents an advanced model for assessing the organizational ethical culture, personal ethical tendencies, greed and national culture.

This study also offers interesting insights into factors of organizational ethical culture, elements of personal ethical tendencies, greed and elements of national culture that affect ethical behaviour in the schools.

In addition, the study revealed that paying attention and greater insight into different dimensions of the ethical behaviour model provides opportunities to manage ethical issues better and, as a result, to lower frequencies of unethical behaviour in and by organizations.

LIMITATIONS

- The existence of limitations is inevitable in any research study as it is highly unlikely that a single research study can address all related factors or all aspects of the topic under one research, particularly in the humanities field in general.
- By employing mixed methods research strategy the researcher gains better understanding of the phenomenon or the relationship between the variables, but using this type of strategy consumes time and resources.

FUTURE RESEARCH

- The reported R square, as depicted in the model summary for overall ethical behaviour that shown in the appendix of the this paper, indicates that the independent variables of the

regression model can predict only 61.5 % of the variance leading to the dependent variable, or it indicates that the model explains 61.5% of the variability of the response data around its mean, which means that there are still other independent variables need to be considered and to be investigated in future research.

Accordingly, the door is opened for researchers and scholars to investigate other related variables and study the effect of them on ethical behaviour in the workplace.

- It is better to consider the variable of "congruence of management" in future research , since the author Kaptein(2008) found the virtue of congruence of management is significantly related to unethical behaviour but the current research found that there is no significant relationship between them.
- The current research studied and considered the demographic variables as moderating variables, we recommend researchers and scholars to study the direct effect of demographic variables on ethical behaviour in the future researches.

REFERENCES

- Abdalla, H., Maghrabi, A., and Raggand, B. 1998. Assessing the perceptions of human resource managers toward nepotism, *International Journal of Manpower*, 19(8), 554–570. Retrieved from <https://bit.ly/2Zqyt1p>
- Adi, R. (2014). *Wasta* An Arabic version of Corruption. Nottingham university business school, 1-16. Retrieved from <https://bit.ly/2KWtuxp>
- Ali, A. and Al-Kazemi, A. Islamic work ethic in Kuwait, (2007), *Cross Cultural Management: An International Journal*, 14(2), 93-104.
DOI: 10.1108/13527600710745714
- Alhojailan, M.I.(2012). Thematic analysis: A critical review of its process and evaluation. *West East Journal of social sciences*, 1(1), 39-47. Retrieved from <https://bit.ly/2YK6iKN>
- Al-Kazemi, A. and Ali, A. (2002), "Managerial problems in Kuwait", *Journal of Management Development*, 21(5), 366-375. Retrieved from <https://bit.ly/2KTMQDh>
- Alleyne, P., Devonish, D., Allman, J., Charles-Soverall, W. and Young Marshall, A. (2010). Measuring ethical perceptions and intentions among undergraduate students in Barbados. *The journal of American academy of business*, 15(2), 319-326.
- Almutairi, T., (2013), *Police-Community Relationship in Kuwait: Public Relations Perspective*, PhD thesis, University of Stirling. Retrieved from <https://bit.ly/2HpcptL>
- Antonaras, A., Iacovidou, M. and Dekoulou, P. (2015). Perceptions of employees towards business ethics: A comparative study between Greece and Cyprus, 1-20. Retrieved from <https://bit.ly/2Pq8L9M>
- Al-Shatti, KH. (2018). School degrees in doubt at every level – Corruption deep. Retrieved from <https://bit.ly/2NP1csq>
- Bakhtari, H. 1995. Cultural effects on management style: a comparative study of American and Middle Eastern management styles, *International Studies of Management and Organization* 25(3), 97–118.
- Barnett, A., Yandle, B. and Naufal, G. (2013). Regulation, trust, and cronyism in middle eastern societies: The simple economics of 'Wasta'. *The Journal of Socio-Economics*, 44, 41-46. Retrieved from <https://bit.ly/2L5Mo5f>
- Central intelligence agency. (2019). Kuwait. In *The world factbook*. Retrieved from: <https://www.cia.gov/library/publications/the-world-factbook/geos/ku.html>
- Central Statistical Bureau. (2019). Retrieved from <https://www.csb.gov.kw/>
- Chan, L., Othman, J. and Joned, R. (2011). The conceptual model of personal moral philosophy (PMP) and Ethical Decision Making (EDM). *Journal of Management Research*, 3(2), 1-14. Retrieved from <https://bit.ly/3444qMK>
- Conroy, S. and Emerson, T.(2004). Business ethics and religion: Religiosity as a predictor of ethical awareness among students. *Journal of Business Ethics*, 50(4), 383-396. Retrieved from <https://bit.ly/2P83m6L>

- Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process*. Sage publications, 1-16. Retrieved from <https://bit.ly/2NgrQsF>
- Danon-Leva, E., Cavico, F. and Mujtaba, B. (2010). Business Ethics: A Cross-cultural comparison between Hong Kong and the United States. *Journal of Business Studies Quarterly*, 1(4), 1-20. Retrieved from <https://bit.ly/2KU0sOV>
- Dobrin, A. (2009). *Business Ethics: The Right Way to Riches*. Retrieved from <https://arthurdobrin.files.wordpress.com/2008/08/business-ethics.pdf>
- Eleswed, M.(2016). Predicting Ethical Behaviors—Utilitarianism via Situational Factors among Healthcare Employees: An Empirical Investigation in a Private Hospital in Kuwait. *International Journal of Business and social science*, 7(10), 44-51
- Fernando, M. and Chowdhury, R. (2010). The relationship between spiritual well-being and ethical orientations in decision making: an empirical study with business executives in Australia. *Journal of Business Ethics*, 95 (2), 211-225.
- Fraedrich, J. (1993). The ethical behavior of retail managers. *Journal of Business Ethics*, 12(3), 207-218. Retrieved from <https://doi.org/10.1007/BF01686448>
- Gino, F. and Pierce, L. (2009). The abundance effect: Unethical behavior in the presence of wealth. 109, 142-155. Retrieved from <https://bit.ly/2KUPxVh>
- Hanson, W. E., Creswell, J. W., Clark, V. L. P., Petska, K. S., and Creswell, J. D. (2005). "Mixed Methods Research Designs in Counseling Psychology", *Journal of Counseling Psychology*, 52(2), 224–235. Retrieved from <https://bit.ly/32fGjiP>
- Hofstede, G. (1993). Cultural Constraints in Management Theories. *The Executive*, 7(1), 81-94. Retrieved from <http://www.jstor.org/stable/4165110>
- Hofstede, G. (2015) "Culture's causes: the next challenge", *Cross Cultural Management*, 22(4), 545 – 569. Retrieved from <https://bit.ly/2ZnM0CY>
- Hui-Chun, Yu and Miller, P. (2003). 'The generation gap and cultural influence: a Taiwan empirical investigation', *Cross Cultural Management: An International Journal*, 10(3), 23-41. Retrieved from <https://bit.ly/2ZkFkKu>
- Index mundi. Kuwait Religions. (2018). Retrieved from <https://bit.ly/349dAY2>
- Israel, G. D. (1992). Sampling the Evidence of Extension Program Impact. *Program Evaluation and Organizational Development*, IFAS, University of Florida. Retrieved from <https://bit.ly/30BP6o5>
- Kaptein, M. (2007). *Developing and Testing a Measure for the Ethical Culture of Organizations: The Corporate Ethical Virtues Model*. Erasmus Research Institute of Management. Retrieved from <http://hdl.handle.net/1765/10770>
- Kaptein, M. (2008). The relationship between ethical culture and unethical behavior in work groups: Testing the corporate ethical virtues model. Erasmus Research Institute of Management. Retrieved from <http://hdl.handle.net/1765/12783>
- Kaptein, M. (2011). Understanding unethical behaviour by unraveling ethical culture. *Human relations*, 64(6), 843–869. Retrieved from <https://bit.ly/2NyDoHn>
- Karande, K., Rao, C. and Singhapakdi, A. (2002), "Moral philosophies of marketing managers", *European Journal of Marketing*, 36 (7/8), 768-791. Retrieved from <https://bit.ly/349qO7j>
- Krauss, S. E. (2005). Research Paradigms and Meaning Making: A Primer .*The Qualitative Report*, 10(4), 758-770. Retrieved from <https://bit.ly/2HqzpZs>
- Kuwait constitution (1962). Retrieved from <https://bit.ly/2PesSaI>
- Mayer, D., Aquino, K., Greenbaum, R. and Kuenzi, M. (2012). Who Displays Ethical Leadership and Why Does it Matter? An Examination of Antecedents and consequences of Ethical Leadership, *Academy of Management Journal*, 55(1), 151-171. Retrieved from <https://bit.ly/2PkDrcc>
- Mohamed, A. and Mohamad, M.(2011). The effect of wasta on perceived competence and morality in Egypt, 18(4): 412-425. Retrieved from <https://bit.ly/3228ScX>
- Nwaigbo, F. (2005). Tribalism versus evangelization in sub-Saharan africa. *African Ecclesial Review*, 47(3): 131-159
- Obeidat, B., Shannak, R., Masa'deh, R. and Jarrah, I.(2012). To better understanding for Arabian culture: Implications based on Hofstede's cultural model, *European Journal of Social Sciences*, 28(4): 512-522. Retrieved from <https://bit.ly/2Hoa1DR>
- Qur'an, 4:29 (2018). Retrieved from <https://bit.ly/34bLpYs>
- Rawwas, M., Swaidan, Z. and Al-Khatib, J. (2006). Does Religion Matter? A Comparison Study of the Ethical Beliefs of Marketing Students of Religious and Secular Universities in Japan, 65(1), 69-86. Retrieved from <https://bit.ly/2Pnfa5c>

- Rees, C. and Althakhri, R. (2008). Organizational change strategies in the Arab region: A review of critical factors, *Journal of Business Economics and Management*, 9(2), 123-132. Retrieved from <https://bit.ly/2U0oHOz>
- Sanou, B. (2015). Ethnicity, tribalism and racism: A global challenge for the Christian church and its mission, 9(1), 94-104. Retrieved from <https://bit.ly/2KVTWY5>
- Schumann, P. L. (2001). A moral principles framework for human resource management ethics. *Human Resource Management Review*, 11, 93-111. Retrieved from <https://bit.ly/2Zvegrf>
- Shariff, A.F. (2015). Does Religion Increase Moral Behavior? *Current Opinion in Psychology*, 6, 108-113. Retrieved from <https://bit.ly/2KY4rdt>
- Seuntjens, T., Zeelenberga, M., Vena, N. and Breugelmansa, S. (2019). Greedy bastards: Testing the relationship between wanting more and unethical behavior, 138, 147-156. Retrieved from <https://bit.ly/2ZxWqUA>
- Shore, B., and Cross, B. (2005). Exploring the role of national culture in the management of large-scale international science projects. *International Journal of Project Management*, 23(1), 55-64. Retrieved from <https://bit.ly/30EQ6Ii>
- Sidani, Y.M. and Thornberry, J. (2010). The current Arab work ethic: Antecedents, Implications, and potential remedies. *Journal of Business Ethics*, 91(1), 35-49. Retrieved from <https://bit.ly/2Ua4GF9>
- Sower, V. E. and Sower, J. C. (2005). Moderator variables in cultural values and business ethics research: Important to external validity. *Southwest Business and Economics Journal*, 1-18. Retrieved from <https://bit.ly/2PpTIfY>
- Sunders, M., Lewis, P., and Thornhill, A. (2009). *Research Methods for Business Students* (5th Ed), Financial Times, Prentice Hall, UK
- Tayeb, M. 1997. Islamic revival in Asia and Human Resource Management, *Employee Relations*, 19(4), 352-364. Retrieved from <https://bit.ly/2HqrBH6>
- Tellis, W.M. (1997). Introduction to Case Study, *The Qualitative Report*, 3(2), 1-14. Retrieved from <http://www.nova.edu/ssss/QR/QR3-2/tellis1.html>
- Tlaiss, H., and Kauser, S. (2011). The importance of wasta in the career success of Middle Eastern managers. *Journal of European Industrial Training*, 35(5), 467-486. Retrieved from <https://bit.ly/2NvnI7L>
- Trevino, L.K. and Brown, M.E. (2004). Managing to be ethical: Debunking five business ethics myths. *Academy of Management Executive*, 18(2), 69-81. Retrieved from <https://bit.ly/2NB65TW>
- Yu, HC and Miller, P. (2003). 'The generation gap and cultural influence: a Taiwan empirical investigation', *Cross Cultural Management: An International Journal*, 10(3), 23-41. Retrieved from <https://bit.ly/30LAWRL>

APPENDIX

Model summary for overall ethical behaviour in the workplace

Model Summary				
Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.784a	.615	.601	.744

a. Predictors: (Constant), Wasta, Sanctions, Utilitarianism, Ethical leadership, Greed, Congruence of management, Congruence of supervisors, Relativistic tendencies, Faith toward religious beliefs, Supportability, Feasibility, Idealistic tendencies, Discussability

The model summary for overall ethical behaviour in the workplace is depicted in the above table. The reported R square indicates that the independent variables of the regression model can predict 61.5 % of the variance leading to the dependent variable.

Hypothesis 1: Ethical behaviour through the organizational culture orientation is significantly influenced by sanctions, congruence of supervisors, congruence of management, feasibility, supportability, discussability and ethical leadership.

Table: Coefficients for ethical behaviour through cultural orientation.

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.527	.318		-4.805	.000
	Sanctions	.358	.057	.299	6.226	.000
	Congruence of supervisors	.278	.056	.197	4.922	.000
	Congruence of management	.038	.043	.032	.891	.373
	Feasibility	.133	.048	.127	2.805	.005
	Supportability	.140	.042	.137	3.362	.001
	Discussability	.290	.073	.228	3.985	.000
	Ethical leadership	.132	.050	.096	2.666	.008

a. Dependent Variable: Ethical behaviour

The above table indicates that six variables of organizational ethical culture directly influence ethical behaviour through cultural orientation significantly. These independent variables are sanctions, congruence of supervisors, congruence, feasibility, supportability, discussability, and ethical leadership, because the reported P value for each of them is less than .05.

Accordingly, Hypothesis (1) is supported partially.

Hypothesis 2 : Ethical behaviour in the school is significantly influenced by faith in religious beliefs and wasta, disseminated through the national culture.

Table: Coefficients for ethical behaviour through national culture.

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.744	.254		10.821	.000
	Faith toward religious beliefs	.445	.061	.363	7.312	.000

	Wasta	-.184-	.048	-.188-	-3.792-	.000
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a. Dependent Variable: Ethical behaviour

The above table indicates that two variables such as faith to religious beliefs and wasta directly influence the ethical behaviour through national culture significantly, because the reported P value for each of them is less than .05.

Accordingly, Hypothesis 2 is supported.

Hypothesis 3: Ethical Behaviour in the school, in terms of personal ethical tendencies is significantly influenced by idealistic, relativistic tendencies and utilitarian tendencies.

Table: Coefficients for ethical behaviour through personal ethical tendencies.

Coefficientsa						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.580	.314		5.036	.000
	Idealistic tendencies	.624	.052	.509	11.959	.000
	Relativistic tendencies	-.203-	.040	-.215-	-5.044-	.000
	Utilitarianism	.090	.042	.090	2.134	.034

a. Dependent Variable: Ethical behaviour

The above table indicates that three variables such as idealistic tendencies, relativistic tendencies and utilitarianism directly influence the ethical behaviour through personal ethical tendencies, because the reported P value for each of them is less than .05.

Accordingly, Hypothesis (3) is supported.

Hypothesis 4:

Ethical Behaviour in the school is significantly influenced by the greed of teachers.

Table: Coefficients for ethical behaviour through the variable "Greed".

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.187	.209		19.990	.000
	Greed	-.150-	.058	-.134-	-2.585-	.010

a. Dependent Variable: Ethical behaviour

The above table indicates that the variable "greed" directly influences the ethical behaviour significantly because the reported P value for "Greed" is less than .05, the same table also indicates that the contribution of the independent variable influence ethical behavior is "Greed" with (B= -.134), which means that "greed" affects ethical behaviour negatively.

Accordingly, Hypothesis (4) is supported.

Hypothesis 5:

Overall ethical behaviour in the workplace is significantly influenced by the organizational ethical culture orientation and its elements, national culture and its elements, greed, and personal ethical tendencies and their elements.

Table: Coefficients for overall ethical behaviour in the workplace

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.874-	.452		-1.932-	.054
	Sanctions	.256	.058	.214	4.395	.000
	Congruence of supervisors	.247	.054	.175	4.540	.000
	Congruence of management	.028	.042	.023	.655	.513
	Feasibility	.128	.046	.122	2.804	.005
	Supportability	.116	.041	.114	2.864	.004
	Discussability	.174	.074	.136	2.335	.020
	Ethical leadership	.107	.048	.078	2.242	.026
	Idealistic tendencies	.208	.056	.170	3.696	.000
	Relativistic tendencies	-.102-	.034	-.108-	-3.031-	.003
	Utilitarianism	.080	.034	.080	2.346	.020
	Greed	-.080-	.038	-.072-	-2.109-	.036
	Faith to religious beliefs	.097	.047	.079	2.086	.038
Wasta	-.076-	.034	-.077-	-2.190-	.029	

a. Dependent Variable: Ethical behaviour

The above table indicates that (12) independent variables such as elements of organizational ethical culture , elements of national culture, greed, and elements of personal ethical tendencies directly influence the ethical behaviour because the reported P value for each of them is less than .05. On the other hand, the same table indicates that the independent variable "congruence of management" does not affect ethical behaviour significantly because thee reported P values is greater than .05. Accordingly, Hypothesis (5) is supported partially.

Hypothesis 6:

There are significant differences between genders when it comes to organizational ethical culture, personal ethical tendencies, greed, national culture and overall ethical behaviour.

Table of Group statistics for genders indicates that the mean of males gender (3.76) is higher than females gender mean (3.56) which leads to conclude that males perceiving a higher ethical behaviour than females.

Table: Group statistics for genders

Group Statistics					
	Gender	N	Mean	Std. Deviation	Std. Error Mean
Ethical behaviour	Male	198	3.76	1.216	.086
	Female	171	3.56	1.128	.086

Table 7.26 Genders independent samples t-test

Equal Variances	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper

Organizational Ethical Culture	Assumed	18.286	.000	2.862	367	.004	.17371	.06069	.05436	.29306
	Not assumed			2.824	332.039	.005	.17371	.06150	.05273	.29469
National Culture	Assumed	1.776	.183	.644	367	.520	.05712	.08864	-.11719-	.23142
	Not assumed			.650	366.680	.516	.05712	.08788	-.11570-	.22993
Personal Ethical Tendencies	Assumed	.831	.362	-.287-	367	.774	-.01827-	.06357	-.14328-	.10673
	Not assumed			-.286-	348.914	.775	-.01827-	.06395	-.14405-	.10750
Greed	Assumed	.315	.575	-.870-	367	.385	-.095-	.110	-.311-	.120
	Not assumed			-.869-	358.272	.385	-.095-	.110	-.311-	.120
Ethical behaviour	Assumed	.521	.471	1.606	367	.109	.197	.123	-.044-	.439
	Not assumed			1.615	365.132	.107	.197	.122	-.043-	.437

The above table of genders Independent samples t- test indicates that there are significant differences between genders when perceiving organizational ethical culture because the reported P value is less than 0.05 but there are no significant difference when perceiving national culture , personal tendencies, greed and overall ethical behaviour because the reported P value for each of them is greater than 0.05.

Therefore hypothesis 6 is Partially supported.

Hypothesis 7: There are significant differences between age groups when perceiving organizational ethical culture, personal ethical tendencies , greed, , national culture and overall ethical behaviour.

Table: Age groups ANOVA

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Organizational ethical culture	Between Groups	9.312	3	3.104	9.641	.000
	Within Groups	117.509	365	.322		
	Total	126.821	368			
Personal ethical tendencies	Between Groups	9.607	3	3.202	9.239	.000
	Within Groups	126.506	365	.347		
	Total	136.113	368			
Greed	Between Groups	.549	3	.183	.165	.920
	Within Groups	405.333	365	1.111		
	Total	405.882	368			
National culture	Between Groups	10.360	3	3.453	4.953	.002
	Within Groups	254.517	365	.697		
	Total	264.877	368			
Ethical behaviour	Between Groups	51.283	3	17.094	13.563	.000
	Within Groups	460.028	365	1.260		
	Total	511.311	368			

The table of Age Groups ANOVA indicates that there are significant differences between age groups when perceiving organizational ethical culture, personal ethical tendencies, national culture and overall ethical behaviour, because the reported P value for each of them is less than 0.05.

Moreover, the same table indicates that there is no significant differences between age groups when perceiving greed.

Based on these results, Hypothesis 7 is supported partially.

Hypothesis 8:

There are significant differences between working experiences in the organizational ethical cultural, personal ethical tendencies, greed, national culture, and overall ethical behaviour.

Table: Working experience ANOVA

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Organizational ethical culture	Between Groups	1.585	2	.792	2.316	.100
	Within Groups	125.236	366	.342		
	Total	126.821	368			
Personal ethical tendencies	Between Groups	8.891	2	4.445	12.788	.000
	Within Groups	127.222	366	.348		
	Total	136.113	368			
Greed	Between Groups	.080	2	.040	.036	.965
	Within Groups	405.802	366	1.109		
	Total	405.882	368			
National culture	Between Groups	2.251	2	1.125	1.568	.210
	Within Groups	262.626	366	.718		
	Total	264.877	368			
Ethical behaviour	Between Groups	12.114	2	6.057	4.441	.012
	Within Groups	499.197	366	1.364		
	Total	511.311	368			

The table of working experience ANOVA indicates that there are significant differences between working experience when perceiving personal ethical tendencies and overall ethical behaviour, because the reported P value < 0.05, and there are no significant differences between working experience when perceiving organizational ethical culture, greed and national culture because the reported P value > .05.

Based on these results, Hypothesis 8 is supported partially.

DOES IT TAKE TWO TO TANGO? ACQUIRER'S MANAGEMENT BEHAVIOUR AND ACQUIRED EMPLOYEES' ATTITUDES IN EXPLAINING START-UP ACQUISITION PERFORMANCE

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ABSTRACT

The acquisition of start-ups is an essential strategy by which many established firms develop their technological base. Given the frequent failure of many acquisition deals, the question of success factors of acquisitions is a critical one. Still, in existing literature there is a visible emphasis on the perspective of the acquiring firm and its characteristics in securing acquisition performance. The present paper builds on quantitative and qualitative data from Israeli start-ups acquired by international firms to shed light on the interplay between both acquiring and acquired company success factors, with a particular emphasis on behavioural factors. With regard to the key findings, on the side of the acquiring company variables, knowledge transfer turns out to be significant. On the acquired company side, it turns out that trust is a key variable for acquisition performance.

Keywords: mergers & acquisitions, performance, start-ups, post-merger integration, knowledge transfer, employee attitudes

INTRODUCTION

The acquisition of start-ups is an essential strategy by which established firms develop their technical capabilities and products, enhance their market power, and achieve strategic renewal (Agarwal and Helfat, 2009; Santos and Eisenhardt, 2009). The literature on mergers and acquisitions (M&A) relies upon a few common assumptions. Most acquisition studies focus on the acquirer as the key decision maker (Beckman and Haunschild, 2002) and his success (Becker et al., 2016; Cheng & Yang, 2017). The seller implicitly has little discretion over the acquisition decision, as being acquired is in addition regarded as a sign of weakness. Organisational behaviour researchers often describe acquisitions as leading to negative outcomes for acquired employees (Buono and Bowditch, 1989). Organisational theorists tend to characterise acquired companies as misfits or even failures (Carroll et al., 1996).

Moreover, M&A have traditionally been explained by motives such as corporate growth & diversification, internationalisation, or shareholder value enhancement (Lim and Lee, 2016). While these motives had been valid until the 1990s, they do not equally apply to recent M&A in hi-tech sectors marked by rapid technological change, shortening product life-cycles and intensive global competition (Ferreira et al., 2015). Thus, continuous innovation constitutes a focal source of value creation and long-term growth (Cheng & Yang, 2017). Firm performance in competitive environments relies on its ability to continuously introduce new products and services (Cafis and Marsili, 2006). Therefore, more mature buyers often pursue technology acquisitions to tap into the innovative potential of young, entrepreneurial firms, which are an increasingly important engine of new knowledge (Kortum and Lerner, 2000).

Yet, despite their strategic relevance, many technology acquisitions fail to create value (King, Slotegraaf, and Kesner, 2008). The knowledge that high-tech buyers hope to gain through acquisition is often complex, tacit and embedded in relationships. These characteristics amplify the strategic advantage that knowledge can provide (Eisenhardt and Martin, 2000), but at the same time they make it difficult to transfer knowledge through more arm's-length relationships. Moreover, most acquired companies nowadays are small and medium-sized enterprises (SMEs), with a preference for creative and entrepreneurial start-ups. The reasons for acquiring such firms are numerous, ranging from the ability to adopt a flexible approach for strategic and operational needs, to the integration of a culture characterised by entrepreneurship and innovation.

The human side of M&A, which arguably explains a significant part of the challenges entailed, has been examined according to a variety of perspectives and theories, including the psychological perspective which looks at the individual and how the merger affects stress levels, coping and commitment (Amiot et al., 2006), the micro-foundations of organizational behaviour affecting the pre-acquisition stage (Angwin et al., 2015), the social perspective focusing on group dynamics, social comparison, and status (Terry, Callan, and Sartori, 1996), as well as the cultural perspective considering culture clashes to be at the core of decreased performance in M&A (Veiga, Lubatkin, Calori, and Very, 2000). However, much of the research into M&A to date remains fragmented (Seo and Hill, 2005).

In light of the above, this paper aims to examine how variables related to the acquired company's management behaviour influence acquisition success, as well as how variables related to the acquired company's employees' behaviour influence M&A success. In order to address these research questions, acquired Israeli start-ups were chosen as the empirical setting. Over the past few decades large companies have been scouting Israel for their technology acquisitions and for innovative ideas. Since the beginning of the 1990s, Israel has experienced an impressive growth in

numbers of start-ups and the venture capital (VC) industry accompanying high tech sectors. Moreover, Israel is well known for its entrepreneurial culture, its strong technological capabilities and its dynamic start-up-intensive high-tech cluster (Avnimelech and Schwartz, 2009).

THEORY AND HYPOTHESES DEVELOPMENT

The acquiring company's management approach

Extant literature indicates that post-acquisition assimilation success is significantly dependent upon individual leadership reaction to changes in authority and decision-making privileges (Bezrukova, et al., 2012; Stahl and Voigt, 2008). Discontinuity with former roles, decision-making allocations and perceived status amongst peers often leads to dysfunctional or unsuccessful outcomes (Krug and Aguilera, 2005). In spite of a large body of literature on the subject, we still know very little about approaches that lead to a successful organisational change prompted by an acquisition (Hitt, Harrison and Ireland, 2001). Nadler, Thies and Nadler (2001) suggest that, for effective change to occur, and in particular cultural change, there is no substitute for the active engagement of the CEO and executive team. Top leaders must assume the role of 'chief architects' of the change process. Cartwright and Cooper (1995) take this one step further, suggesting that it is important for employees at all levels to become involved in the integration or change process.

The effects of an acquisition on employees' levels of stress and anxiety, furthermore, often persist over time (Schweiger and DeNisi, 1991). Nevertheless, frequent and honest communication during the merger process helps minimise the stress and anxiety felt by employees (Marks and Mirvis, 1986). The quality and intensity of communication is a significant factor in managing M&A effectively. Communication is expected to focus on employees' concerns, such as layoffs, changes in work rules or procedures, compensation, pensions, etc. (Ivancerich, Schweiger and Power, 1987). When communication and information are not sufficient or consistent, rumour mills may develop to 'fill in the blanks', lending worst case meanings to the acquiring company's behaviour (Marks, 1982).

Different studies suggest that high quality communication has positive effects for employee outcomes such as satisfaction, commitment and the decision to stay in the organisation (Brahma and Srivastava, 2007). Realistic, supportive and effective communication during a process of change is associated with several positive reactions, such as greater change acceptance and support for the change (Axtell et al., 2002). Correspondingly, the lack of communication during the change process can lead to uncertainty, which may become a key source of change recipients' difficulties during change implementation (Schweiger and DeNisi, 1991). Hence, we propose:

H1: The managers' level of communication with acquired company's employees will have a positive influence on acquisition success.

Apart from the layer of communication, extant literature has also discussed the role of knowledge transfer from the parent company to the subsidiary as its performance driver (Zollo and Meier; 2008). Bresman et al. (1999) argue that acquisition knowledge transfer is a two-dimensional construct that consists of two types of transfers: from the acquiring firm to the target and from the target to the acquiring firm. The first dimension is that of motivation and it relates to the degree of energy and effort organisational members are willing to devote in order to learn from the partner and utilise its knowledge (Minbaeva, 2007). The second, ability dimension of absorptive capacity, relates to the knowledge bases of organisational members (e.g., their skills, competencies, and educational backgrounds), reflecting employees' prior related knowledge which allows them to understand and utilise the partner's knowledge (Juni and Sarala, 2013; Ahammad et al., 2014).

We argue that while the latter dimension has been more closely associated to start-up acquisitions, the former one is less evident as the role of parent knowledge in supporting the acquired firm may result in a higher post-acquisition performance (Oberg and Tarba, 2013; Juni et al., 2015). Scholars have identified a number of factors affecting the success or failure of knowledge transfer, including the individual's perception of the quality of the merging partner which influences the willingness to exchange knowledge with other members of the organisation, the social relationships between the employees of both firms, which can influence their willingness to engage in knowledge transfer; and finally, bi-directional transfer of knowledge between the acquiring and target firms which can enhance the innovativeness, and improve the processes, of both firms (Vaara et al., 2012).

Overall, it appears that the 'give and take' mechanisms of mutual learning transactions are particularly complex. Even though the importance of generating synergy is important to both parties, usually the activation and performance of knowledge transfer 'suffers' from mutual expectancies. Thus, we argue that:

H2: The knowledge transfer level will have a positive influence on acquisition success

The acquired company's employees' behaviour

Readiness and openness to change is extremely important for achieving positive change outcomes (Armenakis et al., 2012). Employee reactions to change can be positive (e.g., expressions of commitment and receptivity to change), or negative (e.g., expressions of resistance, stress, or cynicism regarding change). It is also not entirely uncommon for employees to feel ambivalent, experience conflicting emotions regarding the change (Piderit, 2000), and for the attitudes toward change to vary over time, across the different stages of change implementation. The degree to which employees are

able to offer informed input for the change strategy is largely contingent on whether organisations share information through a variety of communication channels; whether they enable workforce participation at the planning and implementation stages (Elving, 2005); and whether they provide opportunities to raise issues that the staff finds concerning.

In order to understand the employee's adjustment to acquisitions, it is necessary to consider how they cognitively construe and interpret the situation and which emotions are likely to be triggered by the acquisition (Kiefer, 2002). The findings of several studies suggest that committed change recipients tend to report higher levels of readiness to change and change acceptance (Madsen et al., 2005). Organisational commitment, furthermore, serves as a buffer, balancing the detrimental influence of change-related stress regarding change recipients' job satisfaction, intentions to remain in the organisation and work-related irritations (Begley and Czajka, 1993). Unfortunately, with only a few exceptions (Datta, 1991), the notion that negative employee reactions help account for unsuccessful M&A has historically been based on evidence that is more anecdotal than empirical (Larsson and Finkelstein, 1999). Hence, we argue that:

H3: Employees' commitment to change will have a positive influence on acquisition success.

M&A often lead to a change in ownership for acquired firms, which often leads to changes in their organisational and management practices. Hence, inspiring employees and instilling them with a sense of trust appear to be the most effective strategy for avoiding resistance to change.

In relation to M&A, the term 'trust' is usually applied to two partners (i.e., between the acquirer/buyer's firm and the acquired/target/seller's firm). There is a large body of anecdotal evidence in the form of case studies (Chua, Stahl and Engeli, 2005) suggesting that the period following the announcement of an M&A is one of intense risk assessment, when trust is easily damaged and is then difficult to restore. A new organisation, a new top management team and a new superior tend to be accompanied by a lack of trust, whereby employees are left wondering what the next wave of changes will bring and whether they should leave the organisation or not (Hurley, 2006). Some of the most difficult issues faced by employees when confronted with change are uncertainty, ambiguity, complexity and stress associated with the change process and its outcomes (Stanley, Meyer, and Topolnytski's, 2005). Trust can reduce these negative feelings, as it is a resource for managing risk, dispersing complexity and explaining the unfamiliar through the help of others (Van Dam 2005). Conversely, readiness for change will be strongly undermined when the behaviour of important role models (i.e. leaders) is inconsistent with their communication towards employees (Simons, 2002). In other words, management provides an important behavioural example for facilitating employee adjustment during organisational change. Hence, we propose:

H4: Employees' trust in management will have a positive influence on acquisition success.

MIX-METHODS RESEARCH DESIGN

We employed a two-phased, sequential mixed-methods research design with a key role of quantitative results, followed up with qualitative semi-structured interviews. The reason for the qualitative follow-up is to better understand the quantitative results (Creswell and Plano-Clark, 2007). More specifically, the purpose of using qualitative analysis was to obtain frontal and "live" information from TMTs concerning their attitudes, drive, interest and arguments. The interviews allowed us to analyse the processes along the strategic milestones decisions to sell their start-up. Also, the mixed-method design aimed at enhancing the validity and reliability of the study.

Quantitative data

Data Collection and Sample

The sample was comprised of TMT members of Israeli high-tech start-ups that were acquired over a six years' time period (2009-2014). Data analysed by the IVC-research centre (IVC-Meitar Exits Report, 2014) indicates that 547 transactions were executed in Israel during this time period. The research sample was gathered from several sources. Most participants were pulled out of lists containing entrepreneurs' and TMT members' names and positions in Israeli start-up companies which have gone through a process of M&A during a six year's period time (2009- 2014). The survey invitations, including a link to the web-based survey, were e-mailed to current leaders and top managers of acquired companies through Qualtrics^{TM1}. 53 respondents completed the survey, reflecting a 58% response rate.

Table 1 presents the sample characteristics.

Characteristics		# (N=53)	%
Management presence	No	5	9.4
	Yes	48	90.6
Management presence (during the merger process)	No	6	11.3
	Yes	47	88.7
Number of employees (in the acquired company)/size	5-50	24	45.3
	51-200	13	24.5
	201-	16	30.2
Previous experience in M&A	0	25	47.2
	1	14	26.4
	2+	14	26.4
Age (group)	20-39	6	11.3
	40-59	42	79.2
	60+	5	9.4
Education	Bachelor degree	19	35.8
	Master degree +	34	64.2
	1-4	16	30.2

¹ QualtricsTM is a web-based service platform designed for organisations and researchers to manage surveys.

Tenure (years)	5-9	19	35.8
	10-	18	34.0
Time since the merger announcements (years)	-2	16	30.2
	-4 less	22	41.5
	4+ more	15	28.3

Table 1: Sample characteristics *Variables operationalisation*

Dependent variable. Perceived performance was used an indicator of acquisition success. Managers from the acquiring and acquired firms tend to have extensive knowledge about the transaction, as well as the integration phase. Furthermore, numerous studies found clear evidence indicating that the ratings provided by managers correlate with objective success measures (Homburg and Bucerius, 2006).

Secondly, satisfaction with the acquisition can be defined as the extent to which the employee anticipates feeling content after the acquisition. Participants were asked to indicate their satisfaction with the acquisition process, their satisfaction with their involvement in the implementation of the acquisition and their satisfaction with management performance

Independent variables. The first variable, communication during the integration period, can be defined as the process of informing organisational members about the strategic and practical aspects of the integration process (Haspeslagh and Jemison, 1991).

Further, consistent with Schoenberg's (2006) research, in this study knowledge transfer was embodied by the degree to which knowledge has been transmitted from, and to, the acquired firm, after the acquisition was completed, in the following 11 areas: Product and service design, R&D, service manufacturing operations, purchasing/supplier relation, distribution/outlets, personnel/HRM, marketing and sales, strategic planning, customer service, investment appraisal, and financial reporting. Respondents were asked to specify the degree to which transfer skills-based gains were achieved

Readiness for change was measured using a combination of two types of scales: the first to assess readiness at an individual level and the second to assess affective organizational commitment. With regard to trust, the questions pertained to employees' beliefs regarding management's trustworthiness and fairness.

Control variables. Several variables were used to help control for alternative explanations of the findings. Acquired Company's Size, Previous Experience with M&A was binary. Respondents were additionally asked to indicate how many M&A they have experienced.

Qualitative data collection and analysis

The data was gathered from ten acquired firms' managers by means of in-depth interviews. Interviews were carried out between March 2015 and June 2015. In the analysis of the scripts obtained from the recorded interviews we followed the approach of Shkedi (2003). Accordingly, we focused on the inductive connections between the sub-texts as units of analysis, which are referred to as 'Themes'.

A phenomenon can usually only be fully understood within its own nature and culture. Therefore, after interviews with informants were conducted, the data was analysed by splitting the information into categories and by re-arranging the different categories into a specific meaningful analytical order. A 'categories tree', a data driven schematic presentation of the themes, was another tool used in the analysis.

FINDINGS

Quantitative results

Table 2 includes descriptive statistics for the key research variables.

* $p < .05$. ** $p < .01$. *** $p < .001$

Variable	Min	Max	Mean	S. D	1	2	3	4	5	7	8
Retained autonomy (1)	1.00	5.00	2.61	.88							
Knowledge transfer1 (2)	1.00	5.00	3.15	1.03	.038						
Knowledge transfer2 (3)	1.00	5.00	3.44	1.03	.002	.366**					
Trust (4)	1.33	5.00	3.27	.88	.267*	.184	.445**				
Readiness & commitment (5)	1.80	4.80	3.75	.68	.188	.144	.285*	.516**			
Communication (6)	1.00	5.00	3.31	.86	.221	-.003	.462**	.709**	.586**		
Performance (7)	1.00	5.00	3.00	.95	.058	.362**	.204	.524**	.245*	.398**	
Satisfaction with acquisition (8)	1.00	5.00	2.99	1.12	.150	.382**	.426**	.704**	.327**	.519**	.834**

Table 2: Statistical distribution of the research variables

Next, a series of Pearson correlation tests were conducted between all research variables in order to achieve indications regarding the relationships between them. As shown in Table 2, Pearson correlations are generally consistent with the research hypotheses.

For both dependent variables, on the side of the acquiring company variables, knowledge transfer turns out to be significant. On the acquired company side, it turns out that trust is the key variable, as it is positively significant in both analyses. Surprisingly, communication did not turn out to be significant. While the readiness and commitment to change did not turn out to be significant, one of our control variables, the intention to leave, was negative and significant, partly supporting the relevance of commitment of the acquired firm for acquisition success.

Qualitative results

The aim of this section is to understand that research hypothesis that were denied or found to be non-significant or partly supported (in the analysis of quantitative data), and to look for in-depth explanations. M&A success factors were measured according to two variables, 'perceived performance' and 'satisfaction from merger'. Hypothesis 3, assuming that employees' readiness for change will have a positive influence on merger success and hypothesis 2, assuming that knowledge transfer levels will have a positive influence over merger success, were only partly (or indirectly) supported by the quantitative data gathered. Failure, as might be expected, was described with pessimistic and cynical narratives. For example, one informant asserted: *"when a CEO is replaced, that's a crisis point for an Israeli start-up and [...] the acquirers, which were business unit managers, for them to invest in a product, that they didn't know what to do with, is a waste of energy. Therefore, they prefer to do what they do best - to get their bonuses instead of being smart about it"*. Therefore, amongst those who experienced M&A as a failure, performance was emotionally perceived as disappointing. However, those who experienced M&A as a success did discuss the positive influence of readiness and commitment to change on performance: *"The acquisition was a great success – they [the buyers] got excellent people and the product itself ran and gave the company its unique added value"* and *"The merger is a great success and the same goes for employees who can see it as a tremendous achievement. Almost all of them continue to work there, some as a career path, some as an opportunity and some will slowly leave for other start-ups"*. Thus, it seems that the qualitative data gathered was able to explain the reasons behind why Hypothesis 3 was not fully supported by the quantitative data.

Thus, the continuity of the product development seems to be more important to TMTs than other considerations such as retaining autonomy, revenues from exit, self-reputation etc.: *"as a start-up, our target is to bring 2-3 potential customers and to build the product accordingly. After the merger a change in scalability of development methods and customers orientation is imposed"*. Another interviewee summarised: *"We won a lot of advantages from working according to the American system but we lost elasticity, bastardy and corner rounding"*.

DISCUSSION AND CONCLUSION

Contribution

In general, the findings support the notion that the success factors of start-up acquisitions are rooted both in the acquiring and the acquired firm. In fact, we provide support for the positive role of knowledge transfer by the parent, as well as trust by the acquired firm, for acquisition success, as measured by perceived performance and satisfaction with the acquisition. Conversely, the quantitative findings suggest that readiness and commitment to change have no significant influence

over managers' perceived performance. However, during the post-merger integration period managers tend to adopt a logical and pragmatic attitude, rather than an emotional one. In the absence of operational figures (due to the expected assimilation of the start-up into one or more business units), managers tend to under-estimate their performance evaluation. Another explanation lies in the composition of the sample which included both success and failure cases, start-ups in different stages of maturity, different levels of exposure to effective communication and different levels of employees' involvement in decision making during the pre-acquisition phase.

The findings of this study coincide with previous studies examining trust in that it found congruent behaviour, consensus building, providing feedback and delivering accurate communication to be important tools for developing trustworthiness. The interviewed managers emphasised the significance of two aspects of trust: trust in the management of the start-up itself and trust in the management of the acquiring firm. Moreover, although the acquirers of our sample of start-up managers were all foreign companies, national cultural clashes were not reported as a hurdle for the development of mutual trust. A mutual premise was that: "*it is good for the company, for the technology and for the employees*". This consensus formed a shared vision with enough transparency for all M&A participants. Once a highly credible acquired leader communicates to his or her employees that the TMT of the acquiring organisation is trustworthy, and that it is likely to keep its promises (during and after the integration process), the employees will usually believe their leader.

When the acquiring company is a foreign one, both parties, the acquirer and the acquired, feel more uncertain about the integration process. This, in turn, increases tensions when attempting to build relationships between the employees of the acquired and the acquiring firms (Nikandrou, Papalexandris, and Bourantas, 2000). Most Israeli start-ups are established with an international orientation and can be viewed as 'technology-based born global' firms (Almor, 2013). Nevertheless, this current research found that Israeli start-up managers are not often confronted with resistance caused by national cultural differences.

Further, previous research into M&A implementation has often focused on the challenge of balancing integration and autonomy. While post-acquisition integration and resource reconfiguration may be necessary in order to exploit potential synergies between the acquired and acquiring firms (Larsson and Finkelstein, 1999), the loss of autonomy that typically accompanies integration can itself be detrimental to acquisition performance. In particular, the dilemma between integration and autonomy may be important in acquisitions of technology firms. However, integration may ultimately lead to the destruction of the acquired firm's knowledge-based resources through employee turnover and the disruption of organisational routines. In conclusion, even though autonomy is expected to be

a subject of great importance to start-ups, before, during and after M&A, Israeli TMTs treat retained autonomy as one of many items listed on their negotiation checklist.

A growing body of research aims to explain knowledge transfer in the context of acquisitions. Most studies focus on knowledge characteristics, such as the degree to which knowledge is teachable (Junni, 2011), ambiguity (Junni and Sarala, 2011), and social embeddedness (Ranft and Lord, 2002). Fewer studies address the ways in which sociocultural aspects impact knowledge transfer in acquisitions (Junni and Sarala, 2012; Vaara et al., 2012). Scholars generally point to a positive relationship between post-acquisition performance and effective knowledge transfer (Oberg and Tarba, 2013). Several factors were identified as affecting the success or failure of knowledge transfer: the individual's perception of the quality of the merging partner which influences the willingness to exchange knowledge with other members of the organisation (fear of contamination phenomenon); whether the individual feels that the sharing of knowledge might translate into losing power in the organisation (leading to a fear of exploitation); The social relationships between the employees of both firms, which can influence their willingness to engage in knowledge transfer (communities of practice); and finally, bi-directional transfer of knowledge between the acquiring and target firms which can enhance the innovativeness, and improve the processes, of both firms (Björkman, Stahl, and Vaara 2007). Overall, it seems that the 'give and take' mechanisms of mutual learning transactions are particularly complex. Even though the importance of generating synergy is important to both parties, usually the activation and performance of knowledge transfer 'suffers' from mutual expectancies (especially if the acquired is sensitive and acquirer is heavily progress).

This study concentrates on reactions of high-tech employees to M&A transactions in SMEs and, more specifically, in start-ups. It goes without saying that hi-tech employees are highly aware of the central role they perform in start-ups and of the ways in which the close, friendly and human relationships they develop help preserve passion. They are also aware of the culture of entrepreneurship ambition to invent or create new products, applications or technologies. All of above may play a part when intentions to leave are considered.

Informants asserted that identification with the merger, coincident with the successful formation of a new entity, can act to moderate the effects of M&A cultural clashes over acquired management attitudes and behaviour and thus reduce high levels of key talents' and top management's turnover. Effectively selected and well-trained managers can also improve communication between the two management groups (acquired and acquirer) and, therefore, reduce stress, uncertainty and behavioural problems such as low commitment, poor cooperation and high turnover (Weber and Drori, 2011). This study found that effective acquired leaders may help limit

negative emotions and turnover by engaging in mitigating actions that address employees' problems and concerns.

REFERENCES

- Agarwal, R., & Helfat, C. E., 2009. Strategic renewal of organizations. *Organization Science*, Vol. 20, no. 2: 281–293.
- Becker, J., Clement, M., & Nöth, M., 2016. Start-ups, incumbents, and the effects of takeover competition. *Journal of Business Research*, Vol.69, Iss. 12: 5925–5933.
- Ferreira, M.P., Santos, J.C., Almeida, M.I.R., Reis, N.R., 2014. Mergers & acquisitions research: A bibliometric study of top strategy and international business journals, 1980–2010, *Journal of Business Research*, Vol. 67, Iss. 12: 2550–2558.
- Cheng, C., & Yang, M., 2017. Enhancing performance of cross-border mergers and acquisitions in developed markets: The role of business ties and technological innovation capability. *Journal of Business Research*, Vol. 81: 107–117.
- Lim, M.-H., & Lee, J.-H., 2016. The effects of industry relatedness and takeover motives on cross-border acquisition completion. *Journal of Business Research*, Vol. 69, Iss. 11, 4787–4792.
- Angwin, D.N., Paroutis, S., Connell, R., 2015. Why good things Don't happen: the micro-foundations of routines in the M&A process, *Journal of Business Research*, Vol. 68, Iss. 6: 1367-1381.
- Ahammad et al., 2014, Knowledge transfer and cross-border acquisition performance: The impact of cultural distance and employee retention, *International Business Review*: 1-10 (Article in press) <http://dx.doi.org/10.1016/j.ibusrev.2014.06.015>
- Almor, T., 2013, Conceptualizing Paths of Growth for Technology-Based Born-Global Firms Originating in a Small-Population Advanced Economy, *Int. Studies of Mgt. & Org.*, vol. 43, no. 2, Summer 2013: 56–78.
- Amiot, C., Terry, D., Jimmieson, N., & Callan, V., 2006. A longitudinal investigation of coping processes during a merger: Implications for job satisfaction and organizational identification, *Journal of Management*, Vol. 32: 552-574.
- Armenakis, A. A, Jimmieson, N. L., & Rafferty, A. E., 2012, Change Readiness: A Multilevel Review, *Journal of Management* Vol. 39, No. 1: 110-135.
- Avnimelech, G., & Schwartz, D., 2009, Structural changes in mature venture capital industry: Evidence from Israel. *Innovation, Management, Policy & Practice*, Vol. 11: 60–73.
- Axtell, C., Wall, T., Stride, C., Pepper, K., Clegg, C., Gardner, P., & Bolden, R., 2002, Familiarity breeds content: The impact of exposure to change on employee openness and well-being, *Journal of Occupational and Organizational Psychology*, Vol.75: 217-231.
- Beckman, C. M., & Haunschild, P. R., 2002, Network learning: The effects of partners' heterogeneity of experience on corporate acquisitions, *Administrative Science Quarterly*, Vol.47: 92–124.
- Begley, T. M., & Czajka, J. M., 1993, Panel analysis of the moderating effects of commitment on job satisfaction, intent to quit, and health following organizational change. *Journal of Applied Psychology*, Vol.78: 552-556.
- Benson, D., & Ziedonis, R. H., 2009, Corporate venture capital as a window on new technologies: Implications for the performance of corporate investors when acquiring startups. *Organization Science*, Vol. 20 no.2: 329-351.
- Bezrukova, K., Thatcher, S. M. B., Jehn, K. A., & Spell, C. S., 2012, The effects of alignments: Examining group fault lines, organizational cultures, and performance. *Journal of Applied Psychology*, Vol. 97 no. 1: 77-94.
- Björkman, I., Stahl, G. K., & Vaara, E., 2007, Cultural differences and capability transfer in cross-border acquisitions: The mediating roles of capability complementarity, absorptive capacity, and social integration. *Journal of International Business Studies*, Vol. 38 no. 4: 658-672.
- Brahma, S.S., & Srivastava, K.B., 2007, Communication, executive retention, and employee stress as predictors of acquisition performance: An empirical evidence. *ICFAI Journal of Mergers & Acquisitions*, Vol. 4, no. 4: 7–26.
- Buono A.F., Bowditch J.L., 1989, *The Human Side of Acquisitions*. Jossey-Bass: San Francisco, CA.
- Cafis, E., & Marsili, O., 2006, Survivor: The Role of Innovation in Firm's Survival, in: *Research Policy* Vol.35, no. 5, S. 626-641.
- Carroll, G. A., Bigelow, L. S., Seidel, M. D., & Tsai, L. B., 1996, The fates of de novo and de alio producers in the American automobile industry 1885-1981, *Strategic Management Journal*, Vol. 17: 117-138.
- Cartwright, S., & Cooper, C., 1995, Organizational marriage: "Hard" versus "soft" issues? *Personnel Review*, Vol. 24, no.3: 32-42.

- Chua, C. H., Engeli, H. P., & Stahl, G., 2005, Creating a new identity and high-performance culture at Novartis: The role of leadership and human resource management. In G. K. Stahl & M. E. Mendenhall (Eds.), *Mergers and acquisitions: Managing culture and human resources*: 379-398. Stanford, CA: Stanford University Press.
- Creswell, J. W., & Clark, V. L. P., 2007, *Designing and conducting mixed methods research*.
- Datta DK., 1991, Organizational fit and acquisition performance: effects of post-acquisition integration, *Strategic Management Journal*, Vol. 12, no.4: 281-297.
- Elving, W. J. L., 2005, The role of communication in organisational change. *Corporate Communications, An International Journal*, Vol.10, no.2: 129-138.
- Haspeslagh, P., & Jemison, D., 1991. *Managing acquisitions*. New York: Free Press.
- Hitt, M. A., Harrison, J. J., & Ireland, R. D., 2001, *Mergers and acquisitions: A guide to creating value for stakeholders*. Oxford: Oxford University Press.
- Homburg, C., & Bucerius, M., 2006, Is speed of integration really a success factor in acquisitions and acquisitions? An analysis of the role of internal and external relatedness, *Strategic Management Journal*, Vol.27: 347-367.
- Hurley, R. F., 2006, The Decision to Trust. *Harvard Business Review*. September: 55-62.
- Ivancevich, J. M., Schweiger, D. M., & Power, F. R., 1987, Strategies for managing human resources during M&A, *Human Resource Planning*, Vol.10, no.1: 19-35.
- Jimmieson, N., Terry, D., & Callan, V., 2004, A longitudinal study of employee adaptation to organizational change: The role of change-related information and change-related self-efficacy. *Journal of Occupational Health Psychology*, Vol. 9: 11-27.
- Junni, P., & Sarala, R.S., 2013, The roles of cultural learning and collective teaching initiatives in M&A knowledge transfer, *European Journal of Cross-Cultural Competence and Management*, Vol. 2:275-298.
- Junni, P. & Sarala, R., 2012, The role of cultural learning and collective teaching initiatives in M&A knowledge transfer, *European Journal of Cross-Cultural Competence and Management*, Vol.2: 275-298.
- Kiefer, T., 2002, Understanding the emotional experience of organizational change: Evidence from a merger, *Advances in Developing Human Resources*, Vol. 4: 39-61.
- Kortum, S., & Lerner, J., 2000, Assessing the contribution of venture capital to innovation. *RAND Journal of Economics*, Vol.31, no.4: 674-692.
- Krug, J.A. and Aguilera, R.V., 2005, Top management team turnover in mergers and acquisitions, in Cooper, C. and Finkelstein, S. (Eds), *Advances in Mergers and Acquisitions*, Vol. 1, JAI, New York, NY.
- Larsson, R., & Finkelstein, S., 1999, Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization. *Organization Science*, Vol.10: 1-26.
- Madsen, S. R., Miller, D., & John, C. R., 2005, Readiness for organizational change: Do organizational commitment and social relationships in the workplace make a difference? *Human Resource Development Quarterly*, Vol.16: 213-233.
- Marks M.L., 1982, Merging human resources: a review of current research, *Mergers & Acquisitions*, Vol. 17: 38-44.
- Minbaeva, D., 2007, Knowledge transfer in multinational corporations, *Management International Review*, Vol.47: 567-593.
- Nadler, D. A., Thies, P. K., & Nadler, M. B. (2001). *Culture change in the strategic enterprise: Lessons from the field*. CL Cooper, S. Carwright and PC Earley, *The International Handbook of Organizational Culture and Climate*. John Wiley & Sons Ltd, Chichester.
- Nikandrou, I., Papalexandris, N., & Bourantas, D., 2000, Gaining Employee trust after acquisition *Employee Relations*, Vol.22, no. 4: 334-355.
- Oberg, C., & Tarba, S. Y., 2013, What do we know about post-merger integration following international acquisitions? *Advances in International Management*, Vol. 26: 471-494.
- Piderit, S. K., 2000, Rethinking resistance and recognizing ambivalence: A multidimensional view of attitudes toward an organizational change, *The Academy of Management Review*, Vol. 25: 783-794.
- Santos, F., & Eisenhardt, K. M., 2009, Constructing markets and shaping boundaries: Entrepreneurial power in nascent fields. *Academy of Management Journal*, Vol. 52, no.4: 643-671.
- Schoenberg, R., 2006, Measuring the performance of corporate acquisitions: an empirical comparison of alternative metrics, *British Journal of Management*, Vol. 17, No. 4: 361-370.
- Schweiger, D.M. and DeNisi, A.S., 1991, Communication with employees following a merger: a longitudinal field experiment, *Academy of Management Journal*, Vol. 34 No. 1: 110-135.
- Seo, M., & Hill, N. S., 2005. Understanding the human side of merger and acquisition: An integrative framework, *Journal of Applied Behavioral Science*, Vol. 41: 422-443.
- Shkedi, A. (2003). *Words of meaning: Qualitative research-theory and practice*. Tel-Aviv: Tel-Aviv university Ramot. (Hebrew).

- Simons, T., 2002, Behavioral integrity: The perceived alignment between managers' words and deeds as a research focus, *Organization Science*, Vol. 13: 18-35.
- Stahl, G. K. & Voigt, A., 2008, Do cultural differences matter in mergers and acquisitions? A tentative model and meta-analytic examination, *Organization Science*, Vol.19: 160-176.
- Stanley, D. J., Meyer, J. P., & Topolnytsky, L., 2005, Employee cynicism and resistance to organizational change, *Journal of Business and Psychology*, Vol. 19: 429-459.
- Terry, D. J., Callan, V. J., & Sartori, G., 1996, Employee adjustment to an organizational merger: Stress, coping and intergroup differences, *Stress Medicine*, Vol.12: 105-122.
- Vaara, E., Sarala, R., Stahl, G., & Bjorkman, I., 2012, The impact of organizational and national cultural differences on social conflict and knowledge transfer in international acquisitions. *Journal of Management Studies*, Vol.49, no.1:1-27.
- Van Dam, K., 2005, Employee attitudes toward job changes: An application and extension of Rusbult and Farrell's investment model, *Journal of Occupational and Organizational Psychology*, Vol.78: 253-272.
- Veiga, J., Lubatkin, M., Calori, R., & Very, P., 2000, Research note measuring organizational culture clashes: A two-nation post-hoc analysis of a cultural compatibility index. *Human Relations*, Vol. 53 no.4: 539-557.
- Weber, Y., & Drori, I., 2011, Integrating organizational and human behavior perspectives on mergers and acquisitions: Looking inside the black box. *International Studies of Management and Organization*, Vol. 41: 88-112.
- Zollo, M., & Meier, D., 2008, What is M&A performance? *Academy of Management Perspectives*, Vol.22, n o.3: 55-77.

THE IMPLICATIONS OF ICT USE IN TOURISTS' TRAVEL PATTERNS: CASE OF ZADAR

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ABSTRACT

The intense development of modern ICT has induced significant changes in the ways of communication and general behavior of tourists in all stages of tourist travel. Still, the most prominent changes in the patterns of behavior of tourists have occurred in the pre-travel phase and during their stay in a tourist destination. Respectively, ICT facilitates new levels of connectivity between all of the stakeholders involved in tourism, while at the same time alleviating processes related to travel planning, organization and traveling. The use of ICT is in the function of creating rich and sustainable tourism experiences through personalization of services and creation of added values in the destination. Destinations worldwide are investing significant efforts in the implementation of smart tourism applications and enabling access to wireless Internet (Wi-Fi), as well as the development of other digital infrastructure to enable the comprehensive mobile connectivity of "digital" tourists to a physical location.

For the purpose of writing this paper, primary research was conducted to determine whether there is a connection between the tourists' use of modern information and communication technologies and other specific indicators and patterns related to their travel. The tendency of tourists to use technology has been determined using the Technology Readiness Index (TRI) scale, which was adapted for use in tourism. The research was carried out during the high tourist season in 2018 in the Zadar city area, with a special emphasis on Zadar as a destination.

Keywords: ICT, tourism, tourists' travel patterns, tourism destination, Zadar.

INTRODUCTION

Tourism is a complex global phenomenon with different multiplier effects on the entire economy. Incorrect definitions of tourism as an industry or business activity are often found in the literature. Many experts have tried to define tourism, and some of the most famous or most widely used definitions are: "Tourism is the sum of the phenomena and relationships arising from the travel and stay of non-residents, in so far as they do not lead to permanent residence and are not connected with business activity." (Hunziker & Krapf, 1942; according to Čavlek et. al., 2011), and the official one of the World Tourism Organization (UNWTO): "Tourism is a social, cultural and economic

phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes." (UNWTO, 2015). Common to both definitions is that tourism is not connected with any kind of business activity but is defined as "the sum of phenomena and relationships" or "activity". The first travels date back a very long time, more precisely in ancient times. Those were privileged class travels and cannot be considered as classic tourism as this contemporary one we know today is. Much later the famous Grand Tour travels begin which some consider the predecessor of tourism. The characteristic of these travels is that they were intended for the privileged class. The first organized travel tour is the journey of Thomas Cook in 1841, which is also considered to be the beginning of tourism. The rapid development of tourism occurs after the Second World War, parallel to the development of transport.

Technology development contributes to innovations in the market and causes a huge increase in tourism. Technology enables universal globalization and allows people around the world to get closer to every corner of the world. Globalization directly and to a great extent affects the development of tourism and transforms it from the foundation. It also allows the elimination of restrictions of information, goods and services flow. Today, tourism is unimaginable without the use of technology. Tourism development is followed by technology development, both globally and locally. With the help of technology, tourist destinations adapt to trends and tourists' demands. Tourism is extremely complex and dynamic and takes place more directly through the environment.

Attractiveness plays a key role in tourism and is often the main reason for choosing a specific destination. This creates unity in the collision and interaction of tourists' wishes and motives within sophisticated tourist offers. The choice of a tourist destination as a product is considerably less based on rationality and reason, and much more on a unique, unrepeatable and subjective experience that, together with well-known attractions, makes a specific destination desirable. When assessing the attractiveness of a destination, the wealth of experience of the indigenous environment through dimensions of gastronomy, infrastructure, destination security, and natural and cultural heritage should be taken into consideration. All of these elements differentiate tourist destinations according to the degree of attractiveness.

THE ROLE OF ICT IN TOURISM

Information technology enables the collection, distribution, storage and exchange of information. When organizing the travel it is essential to collect as much information as possible, regardless of the form in which the information is collected. ICT plays a major role in the development of tourism in general, and the extremely rapid flow of information on services and products in the

segment of tourism contributes to quality decision-making. Tourist service providers require a constant inflow of information, so it is necessary to estimate the relationship between information delivery and processing, the cost of collecting that information, and the value that the information may have. The extensive application of ICT in tourism enables better information quality and availability of services and, at the same time, increases destination competitiveness. Destinations can be promoted globally, and with the help of ICT, there is much more information on tourist movements and habits available. The methods of presenting tourist destinations and tourist attractions become more diverse and more sophisticated. The customer has the possibility of booking accommodation from the comfort of his own home. Today, that same technology monitors tourists during all stages of booking and consumption of tourist services and products: Information and choice of destinations, decision-making, preparation of travel, and both during and after the travel. Information technology helps to find information and gives value to the information as a business element. Up to 80% of potential tourists seek motivation for tourist travels on the Internet. Tourists get ideas for traveling from media that are popular today such as social networks, tourism portals, blogs about tourist destinations, etc. After initial motivation and decision-making for travel, with the information available on the Internet, a trip is planned and organized. The Internet becomes increasingly important in the presentation of tourism offers and activities.

ICT USE IN TOURISM IN THE REPUBLIC OF CROATIA

ICT is the most dynamic driver of globalization processes and the development of the world economy in all economic sectors. Tourism, as one of the most important and fastest-growing economic sectors worldwide, relies heavily on the use of ICT. The application of new technologies and innovative ICT solutions facilitate adaptation to contemporary trends and an individualized approach to meeting tourist demands. Existing mobile and stationary applications, as well as existing software solutions, are continually and systematically upgraded and the number of new software solutions and applications is also growing significantly. Although according to UHY (an international consultancy network) research, which covered 34 countries around the world, the share of tourist consumption in the GDP of the Republic of Croatia is about 19% (which exceeds the global average of 1.2% by more than 15 times) tourism in Croatia is insufficiently dependent on the support and application of new technologies. There are exceptional potentials of Croatian tourism as well as possibilities for its development in the context of stimulating the overall economic development of Croatia. The tourist consumption growth rate in Croatia was 9.1% in 2017, or USD 9.6 billion, compared to the previous year, when it amounted to USD 8.8 billion. Tourist consumption (together with the cost of the travel)

is presented as a percentage of GDP for the past two years, and Croatia has taken the first position in that category (Poslovni.hr, 2018).

World Tourism Day is traditionally held each year on September 27th, with this year's theme being "Tourism and the Digital Transformation". By choosing the topic, the intention was to raise awareness of the importance of digital technologies in tourism development. The Minister of Tourism of Croatia Gari Cappelli emphasized the great importance of digital transformation in tourism, especially in connecting stakeholders in the tourism industry and in the promotion and establishment of efficient business. Upon the announcement of World Tourism Day, Croatian Minister of Tourism Gari Cappelli stated that "...nowadays the world can be seen in the palm of a hand at any time. Today's tourists are looking for new experiences and the Internet has become the platform for the choice of destination, the travel planning and the creation of experiences (Rihelj, 2018). Similarly, innovations and digitization have also become an important part of the business of every tourist system". He also added the following: "Aware of the importance of digital transformation, we have started the Croatian Digital Tourism project by which we will make our system more efficient and connected. Our wish is that we are not only one of the most popular tourist destinations, but also a leader in tourist innovations". Through these words he announced the project called "Croatian digital tourism: e-tourism" which aims to further connect the user and public administration in tourism through shortening of the time necessary for the processing of requests of citizens, the reduction in the costs of providing public services and the provision of updated tourist information to citizens and e-services. The project will be implemented in several phases and will, via newly-developed public e-services that will upgrade already globally awarded eVisitor system that provides insight into tourist traffic and accommodation capacities, connect the processes of several public administration bodies into one integrated information system. In 2018, the eVisitor system won UNWTO's third prize in the category of innovation and technology in tourism. It is an award that represents great acknowledgment for Croatian tourism, as well as proof that today Croatia is recognized as one of the leaders in the global tourism industry. Croatian Digital Tourism project has the potential to lift the whole tourism system of the Republic of Croatia to an even higher level of efficient business operations and serve as an example of good business practice to tourist employees of other countries.

MARKETING IN TRAVEL AND TOURISM

Marketing becomes a very important economic branch as market competition in the promotion area is tightened. In tourism, marketing must respond to human needs and meet tourists' needs whilst constantly adjusting to new market trends (Gregorić & Vrkljan Muraj, 2017). Tourist destinations should understand and anticipate tourists' needs, and offer them unique and personalized

experiences. Access to tourism service offer should be of high quality and must include informing tourists about the events, the destination, and the possible experience through the activation of different senses. Employees in the tourism sector make the placement of their offers while understanding the outbound markets, limits and reactions of tourists. Contemporary marketing focuses on content marketing and digital media as the main communication channels. Content marketing is a series of activities and techniques aiming to make a destination attractive to tourists. In traditional marketing, it was important to present the destination to tourists, and in contemporary content marketing, the tourist easily finds information about the destination. In the presentation of the destination through content marketing, the starting point is an idea that turns into content which is then used for promotion. Along with the destination promotion, additional interesting content that is relevant to the destination is also created. If the content is created according to the expectations of tourists, the tourists “follow” the content, leave their data, seek additional information and ultimately become visitors. By creating interesting content for tourists, they are better connected to the destination that they are about to visit. In this type of marketing, the application of ICT in destination promotion is no longer a matter of choice but has become mandatory.

Today, in the usual methods of marketing we notice a great influence of information technology. We can often find a brand new name for modern marketing - Electronic marketing. The definition of modern marketing has been proposed by Panian: “Electronic marketing (e-marketing) is a way for effectuating marketing activities of the company by intensive use of information and telecommunication (Internet) technology” (Panian, 2000). Electronic marketing to a large extent depends on the websites of certain locations that provide consumers with concrete information on tourist facilities. They also provide additional information such as details on accommodation capacities, rates, amenities, and accompanying facilities. The Internet is designed as a tool for individuals to be able to publish all kinds of content and thus be at the service to interested users who will view and possibly spread the content.

SOCIAL MEDIA IN TOURISM

More and more in recent years in prominent world media, articles describing beauties of the Republic of Croatia as a tourist destination are being published, while different media publish scales of the best tourist destinations in the Republic of Croatia based on research. On these scales created upon the opinions of readers, the most commonly mentioned Croatian cities are Dubrovnik, Zadar, Mljet, Korčula, Hvar and Zagreb. However, the question of estimating direct benefits for Croatian tourism from the appearance of destinations on such scales arises. The Croatian National Tourist Board points out that “while choosing the destination, modern tourists are paying special attention to

personal recommendations, which is why the posts based on personal experience are the best motive for all potential tourists to come to Croatia.”

European Best Destination organization is a European organization based in Brussels- and aims to promote culture and tourism in cooperation with tourist offices (Potočnik Topler & Zekanović-Korona, 2018). At the global and European level, in cooperation with the EDEN organization, it promotes cultural diversity and lifestyle in the European destinations. The EBD's portal features more than 2.5 million visitors and several thousand followers at various social networks as well. Advent in Zagreb was voted the best in Europe in 2016 thanks to the EBD organization, with exactly 29,901 out of a total of 101,703 votes. Portal readers from 176 countries worldwide voted in ten days. Lagging behind Zagreb on the list, there were Vienna, whose Advent celebration tradition goes as far back as the 13th century, as well as Strasbourg and Brussels. Thanks to this award, Zagreb was placed on the list of the best tourist destinations by various media. A few months before Zagreb, Zadar won the title of the best European destination. With only two mouse clicks at www.birajzadar.com, one could vote for Zadar as the best destination. The campaign included a total of 13 million profiles on social networks and Zadar won the award ahead of renowned European destinations, winning a total of 288,992 votes thanks to the social networks and the *#birajzadar* (eng. *hashtag*) *Vote for Zadar* campaign that lasted for 20 days and was implemented by a volunteering group of young enthusiasts. The campaign was joined by numerous renowned citizens of Zadar who motivated and invited their friends throughout Croatia and the world to vote for Zadar.

RESEARCH METHODOLOGY AND THE ANALYSIS OF RESEARCH RESULTS

The research was conducted by a questionnaire in the city of Zadar during July and August in the 2018 summer tourist season. The questionnaire consisted of 35 open and closed-type questions that sought to determine the profile, satisfaction, and attitudes of guests of the city of Zadar as well as their willingness to use ICT and ways of using technology for planning, organization, and implementation of tourist travels. Prior to conducting a survey on tourists, the survey questionnaire was tested and validated by the employees of the Zadar Tourist Board. A total of 209 tourists from various countries around the world who visited the old city center of Zadar during that period were randomly selected and surveyed. Given the method of selecting the respondents, this sample may be considered as random, but not necessarily representative, as it does not reflect the actual structure of Zadar tourist visitors. Research results were processed using various statistical methods, with some of the more significant results being visualized using MS Excel and the Tableau program package.

Respondents were, for the most part, of younger age, which (given their almost inborn tendency to use technology) could have had a significant impact on the results of this research. Specifically, 140 of them were under the age of 35 (66.99%), more than a quarter of respondents were under the age of 25 (26.79%), and there were only 21 respondents older than 45 (10.05%). As far as gender structure is concerned, nearly equal numbers of male and female respondents (50.24% versus 49.76%, respectively) participated in the research. More than half of respondents (58.85%) were in some kind of a relationship and traveled with their partner or family (53.33%), while more than one-third of respondents (37.8%) were single (traveling alone (14.35%) or with friends (23.45%)). Most of the respondents were employed (72.73%) and earned more than EUR 2000 (55.98%). Also, most of the respondents were from Germany (16.27%), Italy (10.05%), Great Britain (7.18%) and Slovenia, the USA and Poland (5.74% each), which somewhat corresponds to the actual statistical structure of outbound tourist markets of the Republic of Croatia. More than two-thirds of respondents (71.29%) visited the Republic of Croatia earlier, but almost half of them were in Zadar for the first time (35.41%). Respondents, among other things, evaluated the satisfaction with certain components of the city of Zadar as a tourist destination, having to choose between grades from 1 to 5 (grade 1 meant "not satisfied at all" and grade 5 meant "completely satisfied"). Regarding their satisfaction with Zadar as a destination, it was found that they were most satisfied with safety (avg=4.45, st.dev=0.76), natural attractions (avg=4.25, st.dev=0.83), cultural and historical heritage (avg=4.18, st.dev=0.84) and gastronomic offer (avg=4.07, st.dev=0.84), while they were least satisfied with the variety and quality of entertainment events (avg=3.74, st.dev.=0.95) and the amount and quality of information available in paper (offline) form (avg=3.62, st.dev=1.05). Regarding the availability and quality of information about Zadar on the Internet, respondents rated them by average grades 3.85 (st.dev=1.02) and 3.88 (st.dev=1.01), respectively. The average grades and the corresponding standard deviations of the satisfaction ratings of the respondents with main components of Zadar as a tourist destination are shown in Figure 1. There was no significant statistical correlation between the age of respondents and their grade of availability of online information about Zadar ($r=0.09$) and the quality of available information ($r=-0.07$), although younger respondents gave slightly lower grades to the quality of available information.

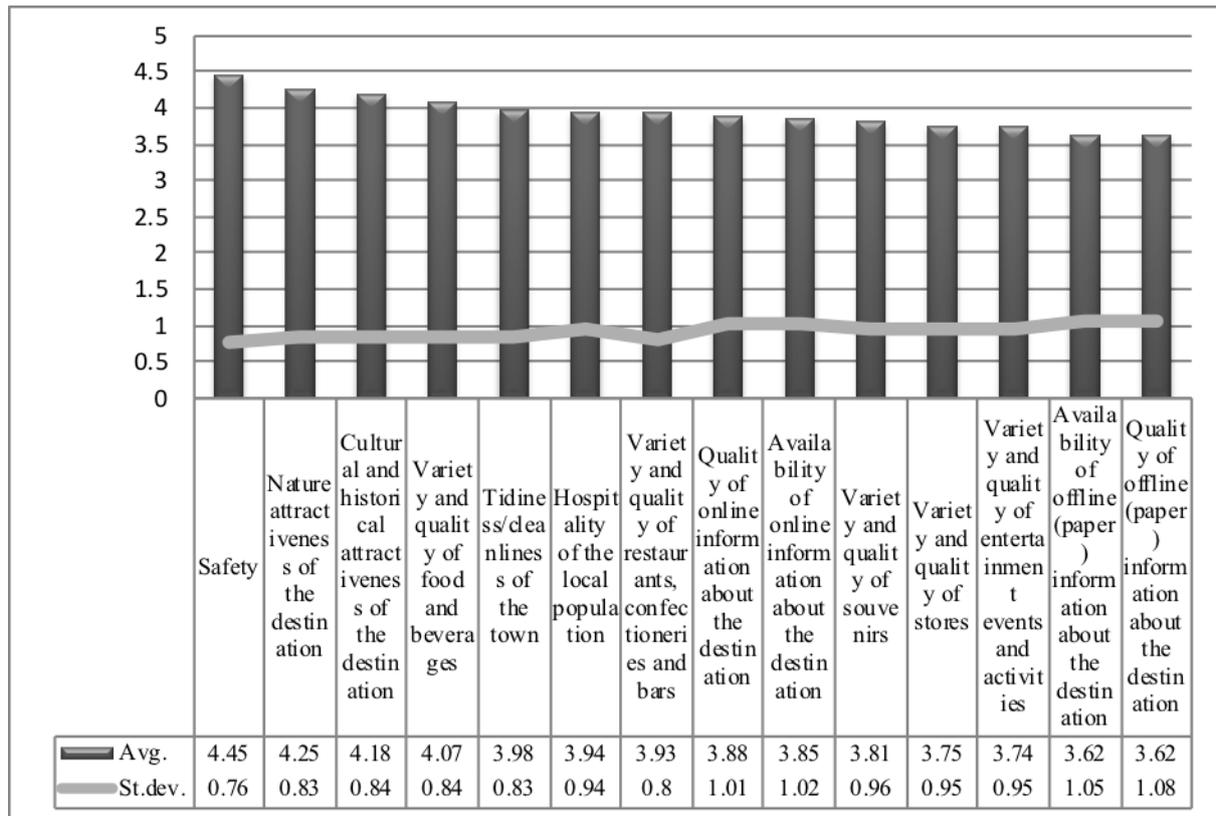


Figure 4. The average grades and the standard deviations of tourist satisfaction with the main components of Zadar as a tourist destination (source: author's work)

In order to get a better insight into the respondents' readiness to use and adapt to new technologies, the Technology Readiness Index¹ (TRI) was used in the questionnaire. The TRI is based on examining an individual's attitudes and feelings (optimism, discomfort, and insecurity) regarding the use of new technologies. According to the results obtained, it is determined in which of five different categories (laggards, paranoids, skeptics, pioneers, researchers) every respondent belongs to. Respondents with the lowest TRI index (laggards) have extremely negative attitudes towards using new technologies and use them only when that is necessary, while respondents with the highest TRI index (researchers) have extremely positive attitudes toward using new technologies and are happy to adopt and use these technologies as soon as they appear on the market (Parasuraman, 2000). With respect to the calculated TRI indices in the context of the conducted research, the highest number of the respondents were skeptics (67.46%) and pioneers (22.49%), followed by a smaller number of respondents who belonged to the category of researchers (5.26%) and paranoids (4.78%). In the chart below (Figure 2.), it can be seen that almost all of the researchers in this sample are in the age group between 26 and 35, which is somewhat understandable given the fact that this generation (born at the

¹ These questions comprise the Technology Readiness Index 2.0 which is copyrighted by A. Parasuraman and Rockbridge Associates, Inc., 2014. This scale may be duplicated only with written permission from the authors.

end of the 20th century) testified the intensive development of new technologies from the early age, and therefore understands the course and dynamics of that development.

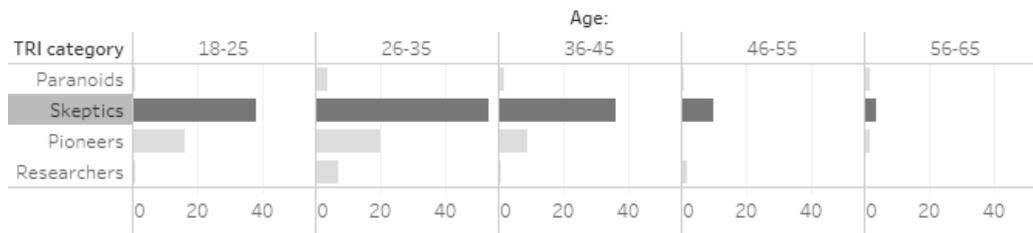


Figure 5. Number of respondents according to their age given the calculated TRI (source: author's work)

Despite the inadequate number of elderly respondents involved in this research, a mild negative correlation between age and the TRI index ($r=-0.1$) has been observed, which is somewhat contrary to the general opinion and public attitudes that younger people are prone to using new technologies.

The next set of questions in the questionnaire related to the use of ICT in the context of decision-making regarding the choice of destination and organization and implementation of travel. When asked about which primary source of information about Zadar as a tourist destination they used before the travel, respondents mostly stated the Internet (37.32%) followed by personal recommendations of friends and relatives (27.75%), while a significant part of respondents (21.05%) stated that they have not been additionally informed since they are already familiar with the destination due to their previous stays. The structure of the responses was similar on how they found out about Zadar as a potential tourist destination, where almost one third of respondents stated the Internet as the primary source (30.14%), followed by friends and relatives (27.27%), while only a small number of respondents stated tourist agencies (5.74%), brochures and posters (4.31%), films and series (4.31%), tourism fairs and exhibitions (3.35%) and other offline sources. It should also be emphasized that almost a quarter of respondents (22.49%) stated that they were not sure where they got the first information about Zadar. When asked about the use of online sources of information (where multiple responses were available) as the most common online source of information respondents stated the Internet search engines (55.98%) such as Google, Yahoo, etc., followed by social networks (32.06%) such as Facebook, Instagram, etc. A smaller number of respondents also used Travel forums (12.92%), Travel guides (11.96%), online booking services (10.53%) and Travel blogs (10.05%), while 11.96% responded that they have not used the Internet as a source of information when planning and organizing the travel. Among those who used the Internet as a source of information, as the primary device used for information seeking on the Internet, respondents mostly stated smartphone (47.85%),

and to a lesser extent a laptop (17.7%) and a tablet (12.92%), while the smallest number was of those who used a desktop computer (6.22%) or some other device (2.39%). Such results confirm already well-known trends of increasing number of tourists who, in order to find information about tourist destinations, use almost exclusively online sources of information (such as Internet search engines and social networks) and access them by using lightweight portable devices such as smartphones and tablets (Kim et al., 2015).

In the context of Internet search, respondents were asked about how they used the search engines to find information about Zadar. Specifically, an open type question was raised where respondents had to indicate which search phrase they would most likely use when seeking information about Zadar. Respondents offered 130 different phrases on this question, while 99 of them contained the keyword Zadar. Specifically, most respondents (16.75%) answered that they would only enter the keyword Zadar while the rest used it in combination with other search terms, such as accommodation, apartments, attractions, beaches, camping, clubs, sea organ, history, info, hotels, best European destination, etc. In addition to the previous question, four photos were offered to respondents, depicting some of the most famous natural and cultural sights of Zadar and its surroundings. Respondents had to select the photo they consider the most attractive in terms of choosing Zadar as tourist destination and the highest number of respondents (41.63%) selected the photo depicting a typical Zadar sunset at a location containing one of the most famous modern installations in the city of Zadar called "Greetings to the sun". Interestingly, this percentage did not vary significantly with respect to the different age groups, from the youngest to the oldest respondents (41.07%, 42.86%, 43.75%, 30.77%, 37.50%, respectively), which in some way suggests that this installation (combined with the Sea organs located at the same location) is one of the most important tourist attractions of the city of Zadar. The second most attractive site, according to the number of selections (24.88%), was represented by a photo depicting the church of St. Donatus which is one of the historical symbols of the city of Zadar.

The remaining two photos, depicting the surrounding islands and the geographical position of Zadar close to the sea and the Velebit mountain, were selected by a slightly smaller number of respondents (13.4% and 19.14% respectively), indicating that in the sense of Zadar's tourism promotion, it is more important to focus on specific tourist attractions than on natural beauty and geographical position of the city. These results could be significant in the context of content marketing and creating online advertising campaigns, with the particular importance of choosing keywords and visuals to target potential guests.

In the next part of the questionnaire, respondents answered questions related to the organization of accommodation and transport for tourists travel to Zadar. Nearly half of respondents (47.52%) booked their accommodation on the Internet via various channels of sale, with the largest number of respondents who used online booking services (29.21%) or e-mail (16.34%), and only a very small number of respondents used social networks (1.49%) or a private renter's website (0.5%) for booking accommodation. Regarding other methods of reserving the accommodation, respondents used tourist agencies (27.72%), telephone bookings (14.36%) or booked personally upon arrival at the destination (6.44%). These data point to the growing influence of new online media in the total share of the sale of accommodation facilities once dominated by travel agencies. Given the omnipresence of social networks and their practicality and simplicity, it is to be expected that they will be more oriented towards the tourism market in the future and take on a more significant share in the total number of tourist accommodation reservations. In support to this, some of the leading online service providers for private accommodation rentals (e.g. Airbnb and TripAdvisor) have been gradually transforming their accommodation booking apps in the past year or two by introducing various functionalities inherent to social networks (e.g., sharing experiences with acquaintances, various interest groups, etc.). The possibility of direct booking via the Internet has also affected the shortening of the period in which the reservation was made, which is visible from respondents' responses. More than half (50.26%) of them booked their accommodation less than a month before the travel, while only a very small number of respondents made reservations more than three months before arrival (6.16%). Of those respondents who booked the accommodation via online booking services, 53.03% used Booking.com, one of the most popular online accommodation reservation platforms, that offers several types of accommodation (hotels, hostels, private accommodation, etc.). The second most used accommodation booking service among the respondents was Airbnb (25.76%). As opposed to the Booking.com, Airbnb offers only private accommodation and therefore has a slightly smaller market share. Respondents also used TripAdvisor (8.33%), Expedia (4.55%), HomeAway (3.79%) and Wimdu (3.79%).

The next set of questions was related to reviews and travel guides. Particularly, 81.12% of respondents answered that they did not use any travel guides, while only a few said they used online (10.71%) or paper/offline (8.16%) guides. The structure of the answers to the question "Did you read any reviews prior to visiting the destination?" was somewhat similar. Almost two-thirds of respondents (65.31%) responded negatively to this question, while just over a quarter (27.04%) stated they read online reviews or used another (offline) review source (7.65%). Respondents who positively responded to the previous question were asked to qualify (using grade from 1= "negative" to 5= "excellent") the reviews in the context of the reputation of the destination, and an average rating of

3.88 was obtained (st.dev=0.75). In addition to that, almost 70% of the ratings were above the average, which suggests the positive connotation of the reviews. Along with the qualification of the reviews in terms of their value, respondents could also answer the question as to how these reviews influenced their decision to finally choose Zadar as a destination. More than half of the respondents (57.43%) stated that the read reviews encouraged them to choose Zadar, while just under one-third of them (31.76%) were made to reconsider. Finally, only one out of ten respondents stated that the reviews they read did not affect their decision at all.

In the final set of questions, respondents could assess the extent to which the award for the Best European Destination that Zadar won in 2016 affected their choice. More than three-quarters (75.62%) responded "very much", while only 6.78% stated that this information did not affect them. Finally, regarding their general satisfaction with Zadar as a destination, respondents mostly gave high positive grades (avg=4.02, st.dev=0.8) as well as to the question assessing their attitude toward coming back to Zadar (avg=4.14, st.dev=0.82) and whether they would recommend Zadar to friends and relatives (avg=4.16, st.dev=0.82).

CONCLUSION

The main objective of this paper was to identify the implications of ICT use to the travel-related behavior of the tourists, with a special emphasis on the city of Zadar as a destination. There is no doubt that the development of ICT, and social media, in particular, has introduced significant changes in the way tourists seek, evaluate and utilize information, products, and services related to travel. However, the extent and the profoundness of these changes are very difficult to measure and categorize in terms of their causative relation with ICT development. Having that in mind, the results presented in this paper can be considered a small contribution to the overwhelming area of research related to the impact of ICT on human behavior.

Some of the main outcomes of the presented research are connected with general technology adoption and the way tourists seek and evaluate travel information. Because most of the respondents were young people, it can be considered noteworthy that their technology readiness index was relatively low. Besides, there were no statistically significant correlations between their TRI and their age or their (mediocre) subjective grades on the quality and quantity of online information about Zadar, which implies that the available information is not necessarily more accessible to those who have an aptitude for ICT use. Likewise, it comes as no surprise that almost all of the respondents used the Internet to some degree to find and/or purchase travel-related information, products or services. Moreover, in doing so, most of them used smartphones as the most accessible and widespread mobile technology present. Considering the pace at which ICT is still developing, and the ubiquitous ways it

is being utilized in tourism, one can easily envision the future in which technology will evolve into an integral part of traveling experience.

REFERENCES

- Čavlek, N., Bartoluci, M., Prebežac, D. & Kesar, O., (2011), "Tourism – economic fundamentals and organisational structure", Školska knjiga, Zagreb.
- Gregorić, M., Vrkljan Muraj, M., (2017), "Primjena suvremenih komunikacijskih tehnologija u promociji turističkih zajednica Republike Hrvatske". *Obrazovanje za poduzetništvo* 7(2).
- Hunziker, W., Krapf, K., (1942), "Grundriss der Allgemeinen Fremdenverkehrslehre" [The Outline of General Tourism Science]. Zürich: Polygraphischer Verlag.
- Kim, H., Xiang, Z. & Fesenmaier, D.R., (2015), "Use of the internet for trip planning: a generational analysis", *Journal of Travel & TourismMarketing* 32 (3), pp. 276-289.
- Panian, Ž., (2000), "Internet i malo poduzetništvo". *Informator*, Zagreb, pp. 87.
- Parasuraman, A., (2000), "Technology Readiness Index (TRI): A multiple-item scale to measure readiness to embrace new technologies". *Journal of Service Research* 2 (4): pp. 307-320.
- Poslovni.hr, (19th June 2018.), <http://www.poslovni.hr/trzista/udio-turisticke-potrosnje-u-bdp-u-republike-hrvatske-deseterostruko-vedi-od-svjetskog-prosjeka-342121> (accessed on 12th April 2019)
- Potočnik Topler, J., Zekanović-Korona, Lj., (2018), "Digital media, perception and selection of the 2016 best European destination: the case of Zadar". *Annales-Anali za Istarske in Mediteranske studije-Series Historia et Sociologia* 28 (2): pp. 343-354.
- Rihelj, G. (2018), "Predstavljen projekt digitalizacije turističkog sustava "hrvatski digitalni turizam - e-turizam" . Downloaded from <http://hrturizam.hr/predstavljen-projekt-digitalizacije-turistickog-sustava-hrvatski-digitalni-turizam-e-turizam/> (accessed on April 1st, 2019)
- UNWTO, (2015), "Understanding Tourism: Basic Glossary". Downloaded from <http://cf.cdn.unwto.org/sites/all/files/docpdf/glossaryenrev.pdf> (accessed on April 3rd, 2019)

BOOK OF CONFERENCE ABSTRACTS

THE EFFECTIVENESS OF COMMUNITIES OF PRACTICE FOR SUSTAINABLE AGRICULTURAL DEVELOPMENT

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ABSTRACT

INTRODUCTION

Nowadays increasingly high importance is given to agricultural activities. The need of the effectiveness and sustainability of the agri-food sector is becoming more and more crucial issue as it is facing the global challenges. Precisely, issues such as depletion of natural resources, limited usability of land, environmental and climate changes, constant increment of world population in need of nourishment and required improvement of the quality products that can simultaneously reduce the harmful impact on the environment. Therefore, sustainability keeps to be one of the principles of agricultural practices (Fischer, et al., 2012).

Agriculture is one of the fastest growing sectors. So, movement towards sustainable development requires strong knowledge bases that will be constantly updated. Lubell, et al. (2011) underlines the role of farmers' knowledge in successful decision-making process that leads to economic, environmental and social benefits simultaneously. Farmers need to be aware of different practices. The necessary information and correct analysis, the cases and experience of other farms are the key factors of right decisions. Similarly, Šūmane, et al. (2018) demonstrates the crucial importance of farmers' education level and learning methods in order to reach the sustainable development of agriculture and its resilience.

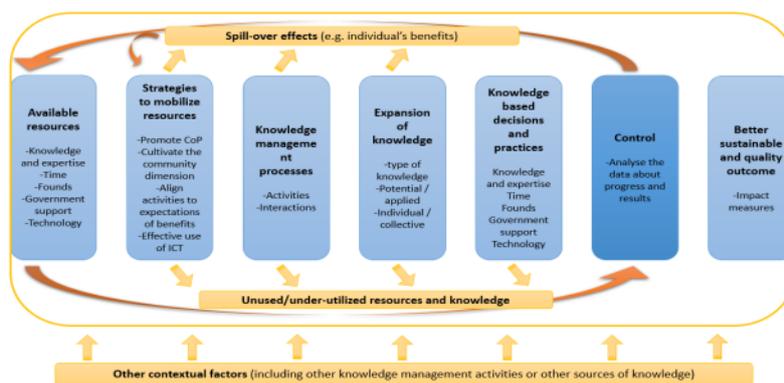
Aim: This tendency poses a question about the ways of knowledge sharing. There are many different methods on how to exchange information and knowledge. Current advances in technologies makes this process easier. In the modern word, Information and Communication Technologies (ICTs) reduce the information gap between people and have a remarkable effect on agricultural activities as well. According to Patii, et al. (2018), transparent peer-to-peer system for information sharing strengthens the networks of all farmers and experts and help them to exchange knowledge in their field. The outcome of the system will be increased efficiency, productivity and sustainability of processes.

METHODOLOGY

In this paper, we introduce the Community of Practice (CoP) as a useful tool to share knowledge, experience and to work together in order to develop new ways for solving different problems and achieving a common goal. It is a group of people with similar interest who meet regularly, share a concern or passion for tasks they work about and learn new ways to do their business better by interacting with each other continuously. In addition, we describe the model of Community of Practice created on base of best practices collected under the project SKIN (Short Supply Chain Knowledge and Innovation Network), and propose additional feature of the application to control progress and results of the community.

RESULTS

After studying different models of CoPs, it is obvious that the models based on the using of ICTs should be more efficient. ICTs make the opportunity to construct the Communities of practice virtually (Herrera, et al., 2017) that simplify the planning of meetings, communication, sharing participants practices and get informed about results as well (Haagensen, et al., 2018). To be complete, CoP should have the part of education. In virtual CoP it is possible to include e-learning courses on the related topics. It will deepen participants' knowledge and provide them with theoretical background, together with practical cases. Lastly, the feature for controlling the progress and results of CoP shows the outcome and makes easier to identify weaknesses in the process and to resolve them as soon as possible. Therefore, considering these all, by the figure 1 we propose new model of CoP created on the basis of Bertone et al.'s (2013) model.



CONCLUSION

To summarize, nowadays the sustainability of agricultural processes is the most important issue. On its side, its main goal is to foster the farmers to adopt best practices for economic, environmental and social wellbeing that will be reached if farmers make right decisions about innovation and cooperation (Lubell, et al., 2011). In this context the importance of information is increasing gradually in today's

agricultural activities (Miller et al., 2018). The multiple information and knowledge sharing, together with good rural infrastructure and networks, can play a remarkable role in sustainable intensification practices (SIPs) and increase farmers' income as well (Kotu et al. 2017). So, we are in the era where knowledge is power, and sharing it is the basis of success (Liu & Chen, 2018). For this process, creating the communities of practice is very helpful tool. Moreover, CoPs are much more effective if there is a support of ICTs that give the opportunity to collect, share, and analyse the data easier, faster and effectively.

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Keywords: Sustainable agriculture, CoP, knowledge, collaboration, ICTs.

REFERENCES

- Bertone M.P., Meessen B., Clarysse G., Hercot D., Kelley A., Kafando Y., Lange I., Pfaffmann J., Ridde V., Sieleunou I., Witter S. 2013, "Assessing communities of practice in health policy: a conceptual framework as a first step towards empirical research", *Health Research Policy and Systems*, <https://doi.org/10.1186/1478-4505-11-39>.
- Fischer, A., Beers, P.J., Van Trijp, J.C.M., Jacobsen, E., Mommaas, H. & Veldkamp, A. 2012, "Forward: Sustainability in agrifood chains and networks", *Journal on Chain and Network Science*, vol. 12, no. 2, pp. 95-97.
- Haagensen, I.S., Helland, E.K. & Nesheim, T. 2018, "Enhancing knowledge articulation in communities of practices: The role of the community leader", *International Journal of Knowledge Management Studies*, vol. 9, no. 1, pp. 18-30.
- Herrera, O.A., Mellado, A. & Mejias, P. 2017, "ICT and virtual communities of practice. A collaborative strategy for developing generic skills", *Proceedings of the 2016 42nd Latin American Computing Conference, CLEI 2016*.
- Kotu, B. H., Alene, A., Manyong, V., Hoeschle-Zeledon, I., & Larbi, A. (2017). Adoption and impacts of sustainable intensification practices in Ghana. *International Journal of Agricultural Sustainability*, 15(5), 539-554. <https://doi.org/10.1080/14735903.2017.1369619>.
- Liu, B. & Chen, H. 2018, "Exploring continued knowledge sharing motivation in virtual communities of practice", *Proceedings of the International Conference on Intellectual Capital, Knowledge Management and Organisational Learning, ICICKM*, pp. 180.
- Lubell, M., Hillis, V. & Hoffman, M. 2011, "Innovation, cooperation, and the perceived benefits and costs of sustainable agriculture practices", *Ecology and Society*, vol. 16, no. 4.
- Miller, N., Griffin, T., Ciampitti, I., & Sharda, A. (2018). Farm adoption of embodied knowledge and information intensive precision agriculture technology bundles. *Precision Agriculture*.
- Patil, U., Saxena, P. & Sidnal, N. 2018, "Peer-To-peer knowledge sharing platform for farmers with auto-recommendation feature", *Proceedings of the 2017 International Conference On Smart Technology for Smart Nation, SmartTechCon 2017*, pp. 879.
- Squires, S. & Van De Vanter, M.L. 2012, "Communities of Practice" in *A Companion to Organizational Anthropology*, pp. 289-310.
- Šūmane, S., Kunda, I., Knickel, K., Strauss, A., Tisenkopfs, T., Rios, I.D.I., Rivera, M., Chebach, T. & Ashkenazy, A. 2018, "Local and farmers' knowledge matters! How integrating informal and formal knowledge enhances sustainable and resilient agriculture", *Journal of Rural Studies*, vol. 59, pp. 232-241.

THE IMPACT OF MORAL EMOTIONS AND PERSONALITY TRAITS ON CONSUMER INTENTION TO BUY COUNTERFEIT PRODUCTS IN LITHUANIA AND UKRAINE

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ABSTRACT

The advancement of counterfeit products has become a global concern over the last few decades, affecting world trade in different ways. The range of brands, especially luxury and worldwide famous, have become main objectives of counterfeit production. This results in consumer misbehavior, which has been widely discussed by researchers (Basu et al., 2015; Tang et al., 2014; Vida, 2007; Albers-Miller, 1999). Despite modern technologies, which significantly simplify recognition of fraudulent goods, and the governments' actions toward counterfeiting, the companies keep losing profits and are being damaged due to this phenomenon (Vida, 2007). The manufacturing of fictitious goods provides a solid motivation for counterfeiters, since they avoid investment in marketing research as well as brand management expenses (Stottinger and Penz, 2003).

Numerous studies review antecedents of conscious counterfeit purchasing and consumption, bringing up new affecting factors every time and identifying these factors under different circumstances, therefore the universal and structural approach is yet to be developed (Vida, 2007; Wang and Song, 2013; Tang et al., 2014; Bian et al., 2016). This research focuses on the moral emotions (guilt and pride) and personality traits (materialism and price consciousness) influencing non-deceptive purchasing and consumption of counterfeits, such as luxury brand watches. On the basis that predominant literature indicates singularities inherent to different countries which cause consumer misbehavior through diverse legal restrictions, ethical norms and personal beliefs (Stottinger and Penz, 2003), this study attempts a cross cultural comparison between two selected countries, namely Lithuania and Ukraine.

The purpose of this paper is to examine the impact of moral emotions and personality traits on consumer intention to buy counterfeit products. The study included two steps: a pilot study and the main quantitative study. Online survey and non-probability (convenience) sampling were used for the main study. This study is based on a survey of 346 respondents from Lithuania and Ukraine.

This study provides new insights into the knowledge about the similarity and differences between two countries, namely Lithuania and Ukraine, confirming the importance of moral emotions and personality traits in both instances. It was confirmed that pride had positive impact on intention to purchase counterfeit products in both countries, however the negative impact of guilt was confirmed

only in Lithuania. This allows managers to appeal to different group of emotions in the communications and advertisements as well as applying different approaches for identifying target audiences. Proper and well executed advertisements with emotional appeal may have a higher chance to be noticed, remembered and even discussed among consumers preventing them from the negative consequences coming from the use of counterfeit products.

Analysis of the personality traits revealed, that materialism had no impact on consumer intention to buy counterfeit products, which is compatible with previous studies of Wee et al., (1995), but contradicting to the research of Furnham and Valgeirsson (2007). Such controversial results might be caused by different values across the countries showing that in each particular case materialism affects purchase intentions differently and generalizations are problematic to be made. However, it was confirmed that price consciousness had an impact on intention to purchase counterfeit luxury watches. These results are consistent with previous research of Alford and Biswas (2002), Kim and Karpova (2010) and Poddar et al. (2012) confirming that price is the main trigger to purchase counterfeits, consequently the price conscious consumers are more likely to have intention to buy counterfeits. Despite the fact that personality traits may be influencing the intention to purchase counterfeits and companies are unable to alter human beings, yet businesses might develop quality improvement strategies and also think of preventive actions in order to fight counterfeiters. Hereby, companies might start taking actions and fall back upon intricate manufacturing processes, hologram security images, watermarks, exclusive materials and fabrics, expensive manufacturing equipment.

Keywords: counterfeit product, moral emotions, guilt, pride, materialism, personality traits.

REFERENCES

- Albers-Miller, N. D. (1999), "Consumer misbehavior: Why people buy illicit goods", *Journal of Consumer Marketing*, Vol. 16, No. 3, pp. 273–287.
- Alford, B. L. and Biswas, A. (2002), "The effects of discount level, price consciousness and sale proneness on consumers' price perception and behavioral intention", *Journal of Business Research*, Vol. 55, No. 9, pp. 775 – 783.
- Basu, M. M., Basu S. and Lee J. (2015), "Factors influencing consumer's intention to buy counterfeit products", *Global Journal of Management and Business Research*, Vol. 15, No. 6, pp. 50 – 65.
- Bian, X., Wang, K.Y., Smith A. and Yannopoulou, N. (2016), "New insights into unethical counterfeit consumption", *Journal of Business Research*, Vol. 69, No. 10, pp. 4249–4258.
- Furnham, A. and Valgeirsson, H. (2007), "The effect of life values and materialism on buying counterfeit products", *The Journal of Socio-Economics*, Vol. 36, No. 5, pp. 677 – 685.
- Kim, H. and Karpova, E. (2010), "Consumer attitudes toward fashion counterfeits: application of the theory of planned behavior", *Clothing and Textiles Research Journal*, Vol. 28, No. 2, pp. 79–94.
- Poddar, A., Foreman, J., Banerjee, S. and Ellen P. S. (2012), "Exploring the Robin Hood effect: moral profiteering motives for purchasing counterfeit products.", *Journal of Business Research*, Vol. 65, No. 10, pp. 1500 – 1506.
- Stöttinger, B. and Penz, E. (2003), "The demand for counterfeits: are consumer across borders triggered by the same motives?", *Akademija MM*, Vol. 6, No. 10, pp. 81-90.
- Tang, F., Tian V.I. and Zaichkowsky J. (2014), "Understanding counterfeit consumption", *Asia Pacific Journal of Marketing and Logistics*, Vol. 26, No. 1, pp. 4–20.
- Vida, I. (2007), "Determinants of consumer willingness to purchase non-deceptive counterfeit products", *Managing Global Transitions*, Vol. 5, No. 3, pp. 253–270.

Wang, Y. and Song Y. (2013), "Counterfeiting: friend or foe of luxury brands? an examination of Chinese consumers' attitudes toward counterfeit luxury brands" *Journal of Global Marketing*, Vol. 26, No. 4, pp. 173-187.

Wee, C.-H., Tan, S.-J. and Cheok, K.-H. (1995), "Non-Price Determinants of Intention to Purchase Counterfeit Goods", *International Marketing Review*, Vol. 12, No. 6, pp. 19-46.

THE RELATION OF STRESS MANAGEMENT AND LEADERSHIP EFFECTIVENESS IN THE HOTEL INDUSTRY OF CYPRUS

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ABSTRACT

The research aims to investigate the relation of stress management and leadership effectiveness through the evaluation of decision making, negotiation and conflict solving competences. The research focuses on the challenges faced by middle-level managers in the hotel industry of Cyprus. Job demands and conflicts among work and non-work priorities are major sources of job-related stress for employees. A large and increasing number of occupational challenges affect the level of stress at the workplace and as a consequence employee well-being, health and performance as well. Stress management is described as employing work and life routines that help manage everyday stresses, maintain work-life balance and ensure time for relaxation (Winwood, Colon, and McEwen, 2013, p.1207; McEwen, 2012, p.156). Questionnaires as a quantitative method and interviews as a qualitative method will be applied to middle-level managers of four-star and five-star hotels in Cyprus. The questionnaires use the likert scale and contain one hundred and ten questions of which twenty five refer to stress management, twenty eight to decision making, twenty seven to negotiation and thirty to conflict resolution. The questionnaire, which takes between thirty and forty minutes to complete, will be given directly by the researchers to eighty three participants. The analysis of the data will be conducted with the use of SPSS software. The interview contains eight questions that cover stress management, decision making, negotiation and conflict resolution. The interview session is expected to last between thirty and forty minutes. The analysis of the interview data will be conducted with the use of Nvivo software. According to the Cyprus Statistical Service (2019), the country's revenues were €7,599.2 mn and the national income from tourism during the period of January through to December 2017 was estimated at €2,639.1 mn. In perspective, the tourism industry contributed 34.7% to the national revenues in 2017. The 2017 tourism revenues showed an increase of 11.7% compared to €2,363.4 mn for the corresponding period in 2016 (Cystat, 2017). This study makes an important contribution by examining such relationships within the managerial work environment in the hotel industry and by identifying specific job demands and requirements for employee selection and training processes.

Keywords: Stress management, leadership effectiveness, hotel industry, decision making, negotiation, conflict solving, job demands.

REFERENCES

- Becker, T. and Ferry, D. (2016), "Profiles as a way of learning more about resilience", *Industrial and Organizational Psychology*, Vol. 9(2), pp. 503-508.
- Bryman A. and Bell E. (2015), *Business research methods*, Oxford University Press, UK.
- Chung-Herrera, B.G., Enz, C.A., & Lankau, M. J. (2003), "Grooming future hospitality leaders: A competencies model. *Cornell hotel and Restaurant*", *Administration Quarterly*, Vol.44(3), pp. 17-25.
- Cooper C.L., Biron C., Burke R. J. (2014), *Creating healthy workplaces: stress reduction, improved well-being, and organizational effectiveness*, Gower Publishing Limited.
- Creswell J. and Creswell D. (2018), *Research design*. SAGE Publications, Thousand Oaks, California, USA.
- Fang L.C. et al., (2016), "Mapping the relationships between high-performance work systems, employee resilience and engagement: a study of the banking industry in China", *The International Journal of Human Resource Management*.
- Hobfoll S.E., Stevens N.R., Zalta A.K. (2015), "Expanding the Science of Resilience: Conserving Resources in the Aid of Adaptation", *Psychology Inquiry*, Vol. 26, pp.174-180.
- Kansky, J., and Diener, E. (2017), "Benefits of well-being: Health, social relationships, work, and resilience", *Journal of Positive Psychology and Wellbeing*, Vol. 1(2), pp. 129-169.
- MacEachen E., Polzev J. and Clarke J., (2008), "You are free to set your own hours: Governing worker productivity and health through flexibility and resilience", *Social Science & Medicine*, Vol. 66, (5), pp.1019-1033.
- Mintzberg, H. (1973), *The nature of managerial work*, New York: Harper and Row.
- Mumford, M. D., Zaccaro S. J., Connelly M. S., Marks M. A. (2000), "Leadership skills: conclusions and future directions", *The Leadership Quarterly*, Vol.11(1), pp.155-170.
- Petrides, K. V. (2010), "Trait emotional intelligence theory", *Industrial and Organizational Psychology*, Vol.3, pp.136-139.
- Robertson I. and Cooper C. (2011), *Well-being productivity and happiness at work*, Palgrave Macmillan, London.
- Shum C., Gatling A., Shoemaker S. (2018), "A model of hospitality leadership competency for frontline and director-level managers: which competencies matter more?" *International Journal of Hospitality Management*, Vol. 74, pp.57-66.
- Thomas W. B., Winny S., Robert R. S., Matthew R. G. and Klieger D. (2016), "How Much Do We Really Know About Employee Resilience?" *Industrial and Organizational Psychology*, Vol.9, pp.378-404.
- Weerakit, N., Beeton, R. J. S. (2018), "Leadership competencies for hospitality management staff in Thailand", *Journal of Human Resources in Hospitality & Tourism*, Jul-Sep, Vol. 17, Issue 3, pp.314-339.
- Yukl, H. (2012), "Effective leadership behavior: what we know and what questions need more attention", *Academy of Management Perspectives*, Vol. 26, No.4, pp. 66-85.
- Zenger J., Folkman J., Steel B., Sherwin R. H. (2012), *How to be Exceptional: Drive Leadership Success by Magnifying Your Strengths*, McGraw-Hill.

LINKAGE BETWEEN MODERATE WINE CONSUMPTION AND WELL-BEING: ANALYSIS OF ITALIAN CONSUMERS BY REGIONS OVER TIME

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ABSTRACT

INTRODUCTION

Italy has an old experience in wine production and consumption. Indeed, it is one of the most famous European and worldwide producer together with France and Spain. The country's share on the world market is 20% and 33% on the European one (Romano & Natilli, 2009). As for wine consumption, it depends on different factors including geographical features (Villanueva et al., 2017). Wine characteristics, consumers' preferences and consumption habits as well as wine culture vary territorially. The origin of the wine has a crucial importance for consumers' decisions, sometimes they are willing even to travel for distanced areas with the aim to taste particular products of concrete wine producing regions (Antonazzo et al., 2015).

Wine culture of the region somehow defines also consumers' perception how the consumption of wine affects on their health and wellbeing. For instance, French policies advocate the restriction of wine consumption that indirectly influence on consumers' perception of negative impact of wine on their health (Vecchio et al., 2017). However, firstly the importance has to be given to consumption frequency. Usually, heavy wine consumers decrease consumption in later years for health purposes (Stockley et al., 2017). Though, wine is a healthy product when it is consumed moderately; its impact on health depends on wine characteristics and attributes as well, whether it is red or white, variety of grapes and other variables (Artero et al., 2015).

AIM

The purpose of this work is to investigate and prove the connection among wine consumption, health and well-being. We intend to analyze also how this link varies over time and territory on the example of Italian 21 regions, so to compare these regions in two different years, 2010 and 2017, based on different variables.

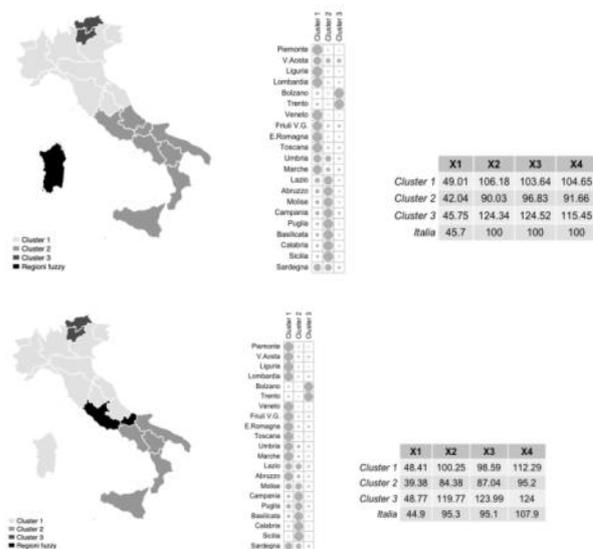
METHODOLOGY

In order to meet the paper objectives, we analyze data of the Italian National Institute of Statistics – ISTAT (2018 a and b) that gathers the statistical surveys. The research is based on the following variables: (1) Moderate wine consumption; (2) Health composite index; (3) Social relationship composite index; (4) Subjective wellbeing composite index.

We have used the cluster analysis and a set of statistical unsupervised methods for classifying the units into homogeneous groups. More precisely, we have used fuzzy clustering instead of classical method that does not allow units to belong to more clusters simultaneously. As for cluster validity, we decided to use different cluster validity methods to have different meters of comparison to evaluate our procedure. They are as follows: (1) Xie-Beni index – XBI (Xie & Beni, 1991; Pal & Bezdek, 1995); (2) the modified partition coefficient – MPC (Dave, 1996) and fuzzy silhouette index – FSIL (Campello and Hruschka, 2006).

RESULTS

With regard of the quantity of clusters, all three indices show the same result of three clusters as optimal solution. Nevertheless, they have different consistent of regions in 2010 and 2017 years (fig. 1 a and b). However, it is possible to make comparisons, taking into account for each year the link between the centroids describing the different clusters and the Italian values in the variables considered. In this way, we can characterize the 3 clusters: Cluster 1 as the one with the best values, Cluster 2 as the one with the worst values and Cluster 3 as the one with peculiar values compared to the national data, in both years considered.



a - Year 2010

b - Year 2017

Figure 1 – Wine consumption, hedonism style and health: clusters composition; membership degrees; centroids.

We can observe the so-called *North-South gap*, with the Northern and Central Regions with values higher than those of the Southern ones in all indicators (except in the Health composite index, in which the differences are less marked). The moderate wine consumption shows almost similar values in 2010 and 2017.

CONCLUSION

In general, both the 2010 and 2017 analysis in all regions of the country confirm the existence of a relationship between moderate wine consumption and composite indicators of health, social relations and subjective wellbeing. Results showed North-South gap meaning the strong difference between the different areas of the country. In fact, northern and middle regions entered in a Cluster 1, described as having best values while in southern Italy the situation is worse than average of the country so they entered in second Cluster with the worst values.

After cluster analysis. It is possible to conclude that the overall situation in the country is improved over time since Cluster 1 increased from 10 to 12 regions with Sardegna and Abruzzo in addition and Cluster 2 decreased from 8 to 5 regions from 2010 to 2017.

Keywords: Wine consumption, wellbeing and health, fuzzy cluster analysis, Italy

REFERENCES

- Antonazzo, A.P., Fiore, M., La Sala, P. & Contò, F. 2015, "Assessing perceptions of wine tourists on organic wine", *Economia Agro-Alimentare*, vol. 17, no. 2, pp. 57-76.
- Artero, A., Artero, A., Tarín, J.J. & Cano, A. 2015, "The impact of moderate wine consumption on health", *Maturitas*, vol. 80, no. 1, pp. 3-13.
- Campello, R.J.G.B. and Hruschka E.R. (2006), "A fuzzy extension of the silhouette width criterion for cluster analysis", *Fuzzy Sets and Systems*, Vol. 157, pp. 2858–2875.
- Dave, R.N. (1996), "Validating fuzzy partitions obtained through c-shells clustering", *Pattern Recognition Letters*, Vol. 17, pp. 613–623.
- ISTAT (2018a), Indicators for the Measurement of Equitable and Sustainable Well-being. <https://www.istat.it/en/well-being-and-sustainability/the-measurement-of-well-being/indicators>
- ISTAT (2018b), Multipurpose Survey on Households: Aspects of Daily Life. <https://www.istat.it/en/archive/129934>
- Romano, M.F. & Natilli, M. 2009, "Wine tourism in Italy: New profiles, styles of consumption, ways of touring", *Tourism*, vol. 57, no. 4, pp. 463-475.
- Stockley, C.S., Taylor, A.W., Montgomerie, A. & Dal Grande, E. 2017, "Changes in wine consumption are influenced most by health: Results from a population survey of South Australians in 2013", *International Journal of Wine Research*, vol. 9, no. 1, pp. 13-22.
- Vecchio, R., Decordi, G., Grésillon, L., Gugenberger, C., Mahéo, M. & Jourjon, F. 2017, "European consumers' perception of moderate wine consumption on health", *Wine Economics and Policy*, vol. 6, no. 1, pp. 14-22.

Villanueva, E.C., Sebastián Castillo-Valero, J. & García-Cortijo, M.C. 2017, "Wine consumer profiles from producing and importing countries in Europe are different", *Ciencia e Técnica Vitivinícola*, vol. 32, no. 2, pp. 115-125

Xie, X.L. and Beni G. (1991), "A validity measure for fuzzy clustering", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, Vol. 13, pp. 841-847.

**AN INVESTIGATION OF THE IMPACT OF PERCEIVED MANAGER'S
EMOTIONAL INTELLIGENCE ON TURNOVER OF EMPLOYEE IN SAUDI
SMALL- AND MEDIUM-SIZED ENTERPRISE (SMES)**

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ABSTRACT

In today's competitive and increasingly internationalised business environment, the Small and Medium Enterprise (SME) sector contributes prominently to most national economies by creating a wide pool of employment opportunities and by introducing micro-innovation and entrepreneurship skills (Ardic, Mylenko, & Saltane, 2011). However, in this somewhat unstable area, employee turnover is considered to be one of the most pressing challenges facing these small organizations.

This study will focus on Saudi Arabia, where the role of the SMEs in Saudi Arabia is still in its development stage given the economy has been controlled predominantly by the oil sector. In these kinds of enterprises, leaders and managers play a significant role in the decision-making process that involves the adoption of crucial decisions that can significantly contribute to the development of such organizations and within an entrepreneurial orientation that can make such processes more efficient and profitable.

The study aims to investigate to what extent Emotional Intelligence (EI) of managers of SMEs can be shown to affect (indirectly via job satisfaction), employee turnover in Saudi SMEs. The focus of this study is to investigate the impact of employee perception of leader's EI on their job satisfaction. Furthermore, it will be examined how employee view of their managers' EI differs from managers' objective self-rating.

The research methodology applied in this study will be quantitative approach attempting to verify the theory of the role of EI in the workplace and exploring the degree of the relationship between the EI of managers and employee turnover via job satisfaction. The findings of the study will benefit the SME sector by helping managers of SMEs to increase employee's job satisfaction and retention of skilled employee.

Keywords: Emotional Intelligence, Small Medium Enterprises, job satisfaction, Turnover intention

REFERENCES

Ardic, O.P., Mylenko, N. and Saltane, V., 2011. Small and medium enterprises: A cross-country analysis with a new data set. The World Bank.

THE EFFECT OF RELIGIOSITY AND DEMOGRAPHIC VARIABLES ON ARAB WOMEN CONSUMERS' SELF-EXPRESSION THROUGH LUXURY BRANDS: A MIXED METHODS STUDY

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ABSTRACT

This mixed methods study focuses on one category of luxury female consumer products and investigates its relationship with Muslim consumer religiosity and other demographic variables to provide greater understanding of the consumer behaviour of this largely unknown consumer segment. Building on the recommendations of two related earlier studies, this paper tests the four key propositions of complexity theory. Symmetrical testing was done using correlation, cross-tabulation and contrarian case analysis to examine the association among the constructs of Religiosity, Demographics and Self-Expression. Then, Asymmetrical fsQCA data analyses were done to test major tenets of the theory of complexity. Findings provide further support that utilising a combination of complexity theory, fsQCA and pattern research in service dominant logic is a proper fit for advancing theory, method and practice in service research. The results show that relationships in the emotions-brand domain are not as straightforward as previously thought.

Keywords: Complexity theory, nuanced theory, self-expression, religiosity, luxury brands, Arab women consumers.

ONLINE MARKETING CHANNELS: A SYSTEMATIC LITERATURE REVIEW OF MARKETING MODELS FOR INTERNET ADVERTISING AND A NEW COMPARATIVE APPROACH

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ABSTRACT

Digital marketing offers entrepreneurs a variety of alternatives and opportunities to market globally and improve their revenues. The complexity of digital advertising also creates new challenges and it explains the increased research interest in developing marketing models for supporting managers in making decisions. A systematic overview of recent studies on marketing models allows to appreciate the remarkable progress in knowledge about what is required to improve firm profits. However, since most of those studies consider specific advertising forms in isolation, they offer little guidance for driving budget allocation decisions. For this reason, the present research proposes a new model to adequately account for a variety of digital channels that firms usually rely upon to increase their profits. Despite their different models, the search engine Google and the e-commerce platform Amazon can be seen as competing in the same market when they are targeting the same set of consumers. Shoppers often use search engines and e-commerce platforms in a very similar way. The aim and sequence of actions consumers perform on Google or Amazon are very similar, but for the potential sellers each online channel presents different prices and attributes. Under budget constraints, one of the first problems a company may encounter is determining resource allocation to different channels. Assuming a trade-off between different online marketing channels, the present study compares the two models, suggesting the maximum cost per click that a firm should pay to benefit from Google AdWords as much as from Amazon.

Keywords: Advertising, Amazon, Cost per click, E-commerce, Google AdWords, Intermediaries, Marketing models, Online marketing channels, Search engine marketing, Small and medium-sized enterprises.

HOW GLOBALIZATION INFLUENCES THE DEVELOPING COUNTRIES' HUMAN RESOURCES STRATEGIC POLICY

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ABSTRACT

The globalization process is, in fact, a part of a historical process of social evolution and, in the opinion of some economist, it is due to the nature and essence of capital growth, the effort to survive and acquire new and profitable markets and the need to export capital from saturated markets to potential markets. While these funds and capital transfer has many positive and negative consequences for the underdeveloped and developing countries. In general, we can say that the economic basis of the globalization phenomenon is the neoliberalism economic. The social and cultural dimension is the main aspect of conflict and opposition at the process of globalization because the migration and brain drainage will increase, which leads to demographic deformation of many countries of the world. There is no consensus, among those who have addressed the issue of globalization from the social dimension and culture, some people have considered it a plausible phenomenon and all have to submit that sooner or later and they should give up and accept it. Development of human resources is one of the key issues of today's economics and management scholars. In this research at first, the definition of human resource development and its related indicators under three components: education, life expectancy and gross domestic product per capita has been studied and then, according to the data on the ranking of countries in terms of globalization index [1] and The UN Human Development Index (HDI) was calculated with the STATGRAF statistical software, the Spearman correlation coefficient was calculated and correlation intensity was calculated between the two variables ($R=76\%$), it is indicating that there is a close relationship between the Globalization Index and Human Resource Development. That is, as much as the countries developing in the direction of globalization, they can be more successful in the development of human resources.

Keywords: Human resource, Globalization, Human Resource Development

REFERENCES

- Axel, D., Noel, G., Pim, M., & Lotte, V. (2019). Measuring globalization opening the black box. A critical analysis of globalization indices. Retrieved from <https://cyberleninka.ru/article/n/measuring-globalization-opening-the-black-box-a-critical-analysis-of-globalization-indices>
- Analoui, F. (2000). Human resource management issues in developing countries. Aldershot: Ashgate.

- Dwivedi, O. P., Khaton, R., & Nef, J. (2007). *Managing development in a global context*. Basingstoke: Palgrave Macmillan.
- Global Internet usage. (2019). Retrieved from https://en.wikipedia.org/wiki/Global_Internet_usage
- Hallak, J. (1999). *Globalization, human rights and education*. Paris: UNESCO, International Institute for Educational Planning.
- Human Development Index - Infogalactic: the planetary knowledge core. (2019). Retrieved from https://infogalactic.com/info/Human_Development_Index
- Human development report 1999. (1999). New York: Oxford University Press.
- Huntington, S. P., & Harrison, L. E. (2000). *Culture matters: How values shape human progress*. New York: Basic Books.
- International Conference on Corruption, Democracy, and Development report. (2000). Bangkok, Thailand: FORUM-ASIA.
- Kornai, J., Mátyás, L., & Roland, G. (2009). *Corruption, development and institutional design*. Basingstoke: Palgrave Macmillan.
- Lundby, K. M., & Jolton, J. (2010). *Going global: Practical applications and recommendations for HR and OD professionals in the global workplace*. San Francisco: Jossey-Bass
- Marquardt, M. J., & Engel, D. W. (1993). *Global human resource development*. Engelwood Cliffs, NJ: Prentice Hall.
- Owens, E. (1987). *The future of freedom in the developing world: Economic development as political reform*. New York: Pergamon Press.
- Payne, S. (2019). Gross Domestic Product. Retrieved from <http://theinfolist.com/php/SummaryGet.php?FindGo=Gross%20Domestic%20Product>
- Press Release: 2007 A.T. Kearney/Foreign Policy Magazine Globalization Index™. (n.d.). Retrieved from <https://carnegieendowment.org/2007/04/26/press-release-2007-a.t.-kearney-foreign-policy-magazine-globalization-index-pub-16832>
- Sodagary, M. (2019). - How to invest in Iran. Retrieved from <http://www.howtoinvestiniran.com/review-of-latest-human-development-index-report-hdi-for-iran/>
- Todaro, M. P., & Smith, S. C. (2006). *Economic development*. Boston: Pearson Addison Wesley.

DEVELOPMENT OF EFFECTIVE RELATIONS BETWEEN LEADERSHIP STYLES AND ORGANIZATIONAL CULTURE'S GROWTH

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ABSTRACT

Leadership performance is intricately uptight with the organizational culture (Bell *et al*, 2014).

It is the leadership processes and leaders' behaviour that can create the culture in any organization, change the culture and attitude of people or simply reinforce the existing norms and actions in the right, future direction of movement. The effective leadership style is one of the main factors for achievement, resuming at the full success of organizational goals.

In the organization with a different culture, the leader is exposed to various kinds of performance and behaviours for leading and managing the employees. Therefore, the main purpose of this study is to discover and investigate the dimensions of organizational culture and its impact on the leadership style to better contribute to the development and growth of their effective relations.

Correlated to this research, 550 leaders and employees of the power plants and headquarters were selected from the operation and Maintenance Company of MAPNA (Q&M).

Data and information have been collected within designed questioners, MLQ leadership style questionnaire and Denison's Organizational Culture Questionnaire, and the responses analysed with SPSS and Smart Plus software.

The findings result demonstrates substantial and significant relationship between the leadership style and the organizational culture in the selected company. According to the result, we can simply conclude that the leaders who use transformational style and those who have changed or have a tendency to change performance and behaviours from transactional style to transformational style put their mark on the organization style and future. Companies also moves to the culture of adaptability, mission, and to the top of the Denison model, based on the external focus. In this state, the organization additionally will settle faster and easier the existing changes within the system and more synergistic with the community, which it 'll make a positive change in the organizational culture and developing the leaders' behaviours and performance of employees in the organization.

Keywords: Transformational Leadership, Leading Interaction, Institutional Culture, Transactional Leadership

REFERENCES

- Belcher, J. (1996), *Transformational Leaders Meeting the Challenges of a Changing Society*. S.I.: Distributed by ERIC Clearinghouse.
- Dwivedi, O.P., Khator, R., and Nef, J., (2007), *Managing development in a global context*, Basingstoke: Palgrave Macmillan.
- Fullan, M., (2006), *Turnaround leadership*, San Francisco, Calif.: Jossey-Bass
- Hiebert, M., and Klatt, B. (2001), *The encyclopedia of leadership: A practical guide to popular leadership theories and techniques*, New York: McGraw-Hill.
- Marković, M.R., (2012), *Impact of globalization on organizational culture, behavior and gender roles*, Charlotte: Information Age Pub.
- Masoomzadeh, A., (2013), *Leadership style and performance*, Saarbrücken, Germany: LAP Lambert Academic Publishing.
- Owens, E., (1987), *The future of freedom in the developing world: Economic development as political reform*, New York: Pergamon Press.
- Papa, R., and English, F.W., (2016), *Educational leaders without borders: Rising to global challenges to educate all*, Cham: Springer.

EDUCATIONAL IMPACT ON OLDER ADULTS' WELL-BEING: A LOCAL CASE FOR GENERAL CONCLUSIONS

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ABSTRACT

INTRODUCTION

The prolongation of life expectancy has opened unprecedented opportunities for the growth of aggregate resources, accumulation of human capital, and the use of individual human potential. Moreover, as the measure of human responsibility for personal development throughout life increases (Blair and Schroeder 2000), the importance of education level increases, especially with regard to ensuring the continued social, economic, psychological, and emotional well-being of older adults. The focus on the association between education level and the subjective perception of well-being among older adults is motivated by the fact that this is currently the fastest growing age group in the world. Regarding Russia, the number of people past retirement age is 24% of the population now. An aging society requires fundamental changes in socioeconomic policies, especially those that focus on the needs of senior citizens. However, it is important to consider regional differences. In particular, the Tomsk region has been recognized as one of the country's top producers of university students. In fact, the region exceeds the Russian average by more than one-and-a half. In addition, one in five citizens is in the older age group while the proportion of those aged 60 years and above is steadily increasing.

THE PRESENT STUDY

International studies on the well-being of older adults have been generally based on international/national databases or multi-year statistical samples (international/national). For example, the Gallup Institute conducts annual surveys and analyzes the subjective assessments of well-being among citizens in more than 160 countries. The factors associated with the risk of hospitalization among the elderly have been investigated by using a multifactorial regression model (Hallgren et al. 2016). Moreover, comparative statistical analyses have been conducted to assess the well-being of

older adults in Thailand (Sobieszczyk et al. 2003) and determine the impact of nursing home staff on the quality of care (Kjellström and Sjölander 2014). Finally, it has been shown that the role of education has a direct impact on older adults and their risk of Alzheimer's disease (Letenneur et al. 1999). Subsequently, the study by Huisman et al. (2004) used the statistical model of Poisson to identify the differences in European mortality rates on the basis of the socioeconomic status of certain individuals and their education levels. In addition, Darin-Mattsson et al. (2017) examined education levels in their statistical analysis of older adults' socioeconomic status. The present study continues and develops a similar approach, including a focus on regional specifics.

THE PURPOSE

The purpose was two-fold: 1) to use a specially designed questionnaire that assesses the educational background of the older generation, which can be replicated in other regional studies of different countries, and 2) to conduct a regional case study about the correlation between the education level and subjective aspects of older adults' well-being, which can be used in similar studies for international comparisons and generalizations.

METHOD

The authors interviewed 400 individuals who reached (in accordance with Russian legislation) retirement age, i.e., 55 years for women and 60 years for men. The participants provided informed consent for the study. The survey included 78 questions related to demographics, social and economic conditions, and physical and psychological indicators. Taking into account the limited knowledge about the factors that (directly/indirectly) characterize the quality of life of Russian senior citizens, this study aims to identify the association between education level and various aspects of older adults' well-being in the Tomsk region, Russia. The sample in this study comprised 400 individuals at retirement age (i.e., 55 years for women and 60 for men) and living in five settlements and three districts in the Tomsk region. The survey included 78 questions reflecting the social, economic, psychological, and physiological characteristics of retired individuals. Some of the questions also included up to nine sub-questions.

STATISTICAL ANALYSES

Nominal (categorical) variables (gender, names of settlements, etc.), the following statistical operations were used: the calculation of frequencies (specific weights); the defining mode of the studied characteristics; the use of different statistical analysis methods on the basis of operating

frequencies (contingency tables); and the x-squared criterion for analyzing the links between the nominal characteristics. Regarding the ordinal variables, this study used medians and percentiles as measures of variation, Spearman's rank correlations, the Mann-Whitney U test, and the Kruskal-Wallis test. Finally, for the interval scale variables, this study used arithmetic average, variance, Pearson's linear correlation coefficient, the t-student test, the f-test parametric analysis of variance, and cluster and factor analyses.

CONCLUSION

This study examined the impact of education level on the well-being of older adults in the Tomsk region (Siberia, Russia). In addition, a comparative analysis of the distribution of older adults in the Tomsk region was conducted by comparing the findings of this regional study with those of the "Comprehensive Survey of Living Conditions" for the Tomsk region, which was conducted under the Federal Complex Statistical Observation Program in October 2014. The results of the regression analysis showed that education level is significantly correlated with subjective aspects of older adults' well-being such as the ability to use a computer, the sense of optimism, involvement in social activities, and financial capacity. It is important to use the generated database to statistically analyze the specific characteristics of working pensioners, to determine the level of trust between the elderly and the government, and to conduct a variance analysis that compares the statistical data regarding the well-being of older adults based on different databases (e.g., federal and regional).

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Keywords: older adults, education level, social indicators, impact, well-being, regression analysis

REFERENCES

- Blair, T., & Schroeder, G. (2000). The Third Way / Due Neue Mitte: A Manifesto. *Dissent* (Spring 2000), 51–65.
- Darin-Mattsson, A., Fors, S., & Kareholt, I. (2017). Different Indicators of Socioeconomic Status and Their Relative Importance as Determinants of Health in Old Age. *International Journal for Equity in Health*, 16(1), 173.
- Hallgren J., Fransson, E. I., K areholt, I., Reynolds, C. A., Pedersen, N. L., & Aslan, A. K. D. (2016). Factors associated with hospitalization risk among community living middle aged and older persons: Results from the Swedish Adoption/ Twin Study of Aging (SATSA). *Archives of Gerontology and Geriatrics*, 66, 102–108.
- Huisman, M., Kurst, A., Andersen, O., Bopp, M., Borgan, J., Borrel, C., et al. (2004). Socioeconomic Inequalities in Mortality among Elderly People in 11 European Populations. *Journal of Epidemiology & Community Health*, 58(6), 468–475.

- Kjellström, S., & Sjölander, P. (2014). The level of development of nursing assistants' value system predicts their views on paternalistic care and personal autonomy. *International Journal of Ageing and Later Life*, 9(1), 35–68.
- Letenneur, L., Gilleron, V., Commenges, D., Helmer, C., Orgogozo, J., & Dartigues, J. G. (1999). Are Sex and Educational Level Independent Predictors of Dementia and Alzheimer's Disease? Incidence data from the PAQUID project. *Journal of Neurology, Neurosurgery & Psychiatry*, 66(2), 177–183.
- Sobieszczyk, T., Knodel, J., & Chayovan, N. (2003). Gender and Wellbeing among Older People: Evidence from Thailand. *Ageing & Society*, 23(6), 701–735.

WINE, ART AND INNOVATION: A MATTER OF PROCESS AND PRODUCT?**Begalli, D.¹; Lazzaro, E.²; Sidali, K. L.¹**¹Dept. of Business Economics, University of Verona, Verona, Italy²University of Arts, Utrecht**ABSTRACT**

The globalization of the markets and the standardization of products reduce the visibility of small entrepreneurs also in the wine sector. While this situation has endangered the existence of many, it is also true that many producers of high quality wines have been able to react in an innovative way, for example by using or integrating the promotion of their products through artistic craftsmanship. What are the characteristics of this agro-artistic marketing? Is it applicable only to a product or can it be extended to other agri-food sectors? What are the artistic innovations of process and of product that best visualize the cultural bond of the product with the territory? Through which channels can artistic craftsmanship co-create value with the consumer? The present study therefore wants to answer these questions by using an exploratory approach that involves a qualitative experimental design. Specifically, we interviewed 12 wine entrepreneurs located in the Italian region of Veneto who use their company as an experiential stage and that have developed partnerships with art and artistic craft intermediaries. The expected results are the following 1) creation of a taxonomy of entrepreneurial figures specialized in the promotion of wine through artefacts and / or artistic practices 2) presentation of a conceptual grid functional to the mapping of these case studies in order to start a discussion in view also of possible policies for the protection of quality craftsmanship applied to culinary (see current proposal of the European Commission for extending the PDO to local traditional handicraft products) also through the promotion of artistic certifications strongly linked to the terroir.

Keywords: wine experience, experience economy, cultural marketing, wine tourism

THE ROLE OF SUSTAINABLE HRM IN THE CONTEXT OF EMERGING TECHNOLOGIES: THE CASE OF INDUSTRIAL ROBOTS

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ABSTRACT

RELEVANCE AND THE AIM OF STUDY

Robotics as one of the emerging technologies has led to successful innovations as well as economic growth within modern societies. The adoption of robots is increasing worldwide with 23% to 37% of firms (depending on industry) planning robot implementation for 2018–2022 period (WEF, 2018). New technologies disrupt work processes, change job design and impose new forms of work organization (Moniz and Krings, 2016), which in turn may generate some negative effects on employees (Hollan and Bardoel, 2016; Murashov *et. al.*, 2016). Thus, emerging technologies raise new challenges for human resources management (HRM) in organizations. However, both theoretical and empirical research on these transformations in organizations is scant (Fleming, 2018). In this research, we seek to explore how robotics changes work processes and operating systems, and what is the role of HRM in the implementation of new technology.

METHODS

The study is based on a large scale qualitative data from two respondent groups (robot users and experts). First, we interviewed robot operators, other production line employees, their supervisors, top managers, and main shareholders (56 interviews in total) at a large furniture company operating in Lithuania which recently adopted industrial robots and successfully competes in the global market. Second, we interviewed robotics experts and robot developers representing academia and a leading manufacturing company of industrial robots in Germany.

FINDINGS

Our findings portray a paradoxical situation: although the main objective of robotization is to eliminate humans from manufacturing processes in order to increase efficiency, yet, the role of employees becomes even more critical after robots are installed. Highly skilled and committed employees

guarantee an effective exploitation of robots to obtain their maximum value, leading to financial outcomes as well as to sustainability of a company.

Industrial robots' adoption leads to higher work intensity (what increases strain and stress at work), night shifts, as well as other risk factors affecting employee health (noise, dustiness, etc.) and safety at work. Thus, maintaining employee health, safety, and commitment becomes the main objective of HRM in organizations implementing industrial robots. Companies need to reconsider people management practices in order to sustain their human resources. The neutralization of negative work-related outcomes and balancing of social and economic issues of a company are main objectives of Sustainable HRM (Ehnert and Harry, 2012; Ehnert et al. 2014). Our study discloses HRM practices related to sustainable management of workforce and showcases that sustainable HRM and corporate sustainability are vitally interconnected.

CONTRIBUTIONS

Our study contributes to HRM research in several ways. First, we explore the changes in organizations related to implementation of industrial robots and the role of HRM in assuring companies' sustainability. Hereby, we further enrich the existing HRM literature with the context of emerging technologies. Second, we reveal Sustainable HRM practices in the context of robotization and, in this way, add empirical evidence to Sustainable HRM theory, which is still under development.

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Keywords: Sustainable HRM, Industrial robots, Emerging technologies

REFERENCES

- Ehnert, I. and Harry, W. (2012), "Recent developments and future prospects on sustainable human resource management: Introduction to the special issue", *Management Revue*, Vol.23 No. 3, pp. 221-238.
- Ehnert, I., Harry, W. and Zink, K.J. (2014), "Sustainability and HRM", in *Sustainability and Human Resource Management*. Springer: Berlin, Heidelberg, pp. 3-32.
- Fleming, P., (2018), "Robots and Organization Studies: Why Robots Might Not Want to Steal Your Job", *Organization Studies*, Vol. 40 No 1, pp. 23-38.
- Holland, P., and Bardoel, A., (2016), "The impact of technology on work in the twenty-first century: exploring the smart and dark side". *The International Journal of Human Resource Management*, Vol. 27 No.21, pp. 2579-2581.
- Moniz, A.B., and Krings, B.J. (2016), "Robots working with humans or humans working with robots? searching for social dimensions in new human-robot interaction in industry". *Societies* Vol.6 No.3, pp. 23.
- Murashov, V., Hearl, F. and Howard J. (2016), Working safely with robot workers: Recommendations for the new workplace, *Journal of Occupational and Environmental Hygiene*, Vol.13 No 3, D61-D71.

World Economic Forum (WEF), (2018), "The Future of Jobs. Insight Report". World Economic Forum. Centre for the New Economy and Society. http://www3.weforum.org/docs/WEF_Future_of_Jobs_2018.pdf (accessed 10 January 2019).

IMPACT OF THE INTERNAL AND EXTERNAL CONTEXT ON THE INTERNATIONALIZATION TRAJECTORIES OF MULTINATIONALS

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ABSTRACT

In a context of globalization and uncertainty, many companies affected by these challenges are choosing the international development. This choice is often justified either by the potential growth of the targeted international market or by the local competition and low benefit of domestic market. It's the case of several American multinationals such as Apple, Avon, Boeing, IBM, Intel, Johnson & Johnson, and Mondelēz, more than fifty percent of their benefits from foreign market and demonstrate strong potential development (Casteora, Gilly, Graham & Money, 2016).

When considering the international business (IB) field and particularly the studies dealing with the internationalization of multinational companies and SMEs, the Uppsala model is dominating (Johanson & Vahlne, 1977, 1990, 2003). The U model describes the internationalization process of SMEs as "*a gradual acquisition, integration and use of knowledge about international markets and operations... and a growing and successive engagement with foreign markets*" (Gankema, Snuiff, & Zwart, 2000, p. 16). The U model assumes that the internationalization process is strongly linked to the level of knowledge held and related to the target market. The level of corporate engagement changes gradually and proportionally to the quality of knowledge about the foreign market.

Uppsala remains, however, the most cited and criticized model for its determinism, linearity and non-reversibility. The literature on international small businesses (Born Globals and International NewVentures, INV) questions the relevance of the gradual and staged approach and believes that companies are able to fit into a faster internationalization model, avoiding all the steps proposed by the Uppsala model, thanks to the integration of the intensive knowledge dimension (Oviatt & McDougall, 1994, 2005). Another criticism of the model is linked to the lack of explanation regarding the initiating circumstances and the evolution circumstances of the internationalization process, especially that the speed of internationalization can be neither linear nor constant (Coviello & McAuley, 1999; Forsgren, 2002; Turnbull, 1987).

To be able to deepen the understanding of international business movements and explain their success and diversity, several dimensions can be integrated, including the strategic dimension, the networks size and the profile of internal resources, the quality of inter-firm collaboration (information exchange-commitment and trust) and the quality of the external environment (economic-political and social

stability). The nature of commitment, trust, reciprocity of foreign partners and the ability to adapt to new situation are considered as the main drivers of success in the internationalization process (Kalinic and Forza, 2012).

Despite the abundance of literature on the internationalization process of companies, there are still some discrepancies, with limited understanding, between what can be observed and what the literature indicates. This research aims to explore the internationalization process of multinationals in a new context: Tunisia. Few empirical studies has been conducted on this subject. In fact, to our knowledge, the understanding of the internationalization process in the context of North African countries, is still very limited, in particular regarding the factors that can influence the trajectory of the internationalization process. Sarasvathy (2001) points out that, particularly in the early stages of the internationalization process, policy makers focus more on the costs involved, act in an opportunistic way, and follow their intuitions rather than rational calculations. This type of behavior can affect the quality of collaboration with local partners and hinder the evolution of the internationalization process. Sarasvathy (2001) notes the lack of research discussing and analyzing the emergence of new internationalization models that can provide a better insight into the international behavior of companies in such a context (Sarasvathy et al. 2014). In a similar vein, Dominiguez and Mayrofer (2017) emphasize the usefulness of perceiving the internal and external factors that change internationalization patterns over time, leading to new trajectories.

To bridge this gap and understand/explain the diversity of internationalization trajectories, we choose to explore the influence of internal and external environment on the internationalization process of Western multinationals operating in Tunisia under a collaboration process with local partners. This paper will focus mainly on two dimensions: the quality of inter-firm collaboration (information exchange-commitment and trust) and the quality of the external environment (economic, political and social stability). The aim is to answer the following research question : *how the internal and external environment impact the multinational's initial internationalization process, leading to new trajectories?*

To meet this research objective and the recommendations of Kalinic and Forza (2012), we conducted a longitudinal study (2006-2016) within 6 cases of companies from different nationalities (German, Swedish, French, American and Dutch) operating in different sectors of activity (pharmaceutical, agri-food, maintenance, hygiene and chemical). The case-based methodology is particularly useful in research contexts where previous theory appears inadequate or incomplete and where further theoretical development is needed (Eisenhardt, 1989a; Yin, 1984). A longitudinal study makes it possible to highlight the evolution of the internationalization process over time, to identify the factors that may affect it and to distinguish the differences between trajectories and their diversity. Data

collection is mainly based on 60 semi-directive interviews conducted with a range of interviewees within local and Western companies in order to reduce the bias of unilateral appreciations, and to generate more reliable conclusions (Linwei & al, 2017). These interviews include Chief Executive Officer, General Manager, Manager belonging to different departments and Head of the region responsible of company local partnership. For data analysis, we used the qualitative data processing software Nvivo12. The analysis of the results showed the existence of four trajectories resulting from the crossover between the quality of inter-firm collaboration and the quality of the external environment. The first contribution of our research is related to the exploration of a new geographical area rarely studied by previous research, especially on the internationalization process of multinationals through a longitudinal study. The second added value of our research is linked to the identification of new internationalization form used by multinationals operating in high level of environment uncertainty and characterized by a high quality of inter firm collaboration. This new form of internationalization is not included within the Uppsala steps model.

REFERENCES

- Cateora, P. R., Gilly, M. C., Graham, J. L., & Money, R. B. (2016). *International marketing* (seventeenth edition). New York, NY: McGraw-Hill Education.
- Coviello, N. E., & McAuley, A. (1999). Internationalisation and the smaller firm: A review of contemporary empirical research. *Management International Review*, 39(3), 223–256.
- Dominguez, N., & Mayrhofer, U. (2017). Internationalization stages of traditional SMEs: Increasing, decreasing and re-increasing commitment to foreign markets. *International Business Review*.
- Eisenhardt, K. M. (1989b). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal*, 32, 543–576.
- Forsgren, M. (2002). The concept of learning in the Uppsala internationalization process model: A critical review. *International Business Review*, 11(3), 257.
- Gankema, H. G. J., Snuif, H. R., & Zwart, P. S. (2000). The internationalization process of small and medium-sized enterprises: An evaluation of stage theory. *Journal of Small Business Management*, 8(4), 15–27.
- Kalinic, I., & Forza, C. (2012). Rapid internationalization of traditional SMEs: Between gradualist models and born globals. *International Business Review*, 21(4), 694–707.
- Johanson, J., & Vahlne, J. E. (1977). The internationalization process of the firm – a model of knowledge development and increasing foreign market commitment. *Journal of International Business Studies*, 8(1), 23–32.
- Johanson, J., & Vahlne, J. E. (1990). The mechanism of internationalization. *International Marketing Review*, 7(4), 11–24.
- Johanson, J., & Vahlne, J. E. (2003). Business relationship learning and commitment in the internationalization process. *Journal of International Entrepreneurship*, 1, 83–101.
- Oviatt, B. M., & McDougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, 25(1), 45–64.
- Oviatt, B. M., & McDougall, P. P. (2005). Defining international entrepreneurship and modelling the speed of internationalization. *Entrepreneurship Theory & Practice*, 29(5), 537–553.
- Turnbull, P. W. (1987). A challenge to the stages theory of the internationalization process. Praeger.
- Sarasvathy SD (2001), Causation and effectuation: toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Acad Manage Rev* 2001;26(2):243–88.
- Sarasvathy, S., Kumar, K., York, J. G., & Bhagavatula, S. (2014). An effectual approach to international entrepreneurship: overlaps, challenges and provocative possibilities. *Entrepreneurship Theory and Practice*, 38(1), 71–93.
- Yin, R. K. (1984). *Case study research: Design and methods*. Beverly Hills, CA: Sage.

APPLYING A SELF-DETERMINATION THEORY PERSPECTIVE TO UNDERSTAND THE IMPACT OF STUDENT LEIFEWORLD ON STUDENT ATTENDANCE

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ABSTRACT

PAPER'S IMPORTANCE

Student attendance is reported as an important factor in student academic performance (Levshankova et al 2018, Thatcher et al 2007, Paisey & Paisey 2004) and this makes intuitive sense as class attendance enables tutors to engage directly with students, get to know them individually, monitor their progress and support their learning needs. It enables students the opportunity to understand their topic, check the requirements for their assessment and to learn from other students in class. However, increased pressure to miss classes has increased with the increased pressure on the 'lifeworld' (Edmund Husserl, 1970) of students today. In particular, time pressures that come from the financial need to take up employment (Dennis et al 2018, Paisey & Paisey 2004) and the energy pressures that paid employment produces. It is not only students who miss class who suffer but those who, sometimes at great sacrifice, do attend. Part of the preliminary research for this paper, carried out by the author, has shown that lack of attendance from some students impacts negatively on those students who *do* attend. The latter report they become anxious if low attenders are in their assessment group and do not attend group meetings resulting in the attenders doing extra work or accepting a lower grade for the groupwork. Non-attendance is seen by the attenders as negatively impacting their circa £60k investment and the 3 or 4 years of their life taken doing their degree and they feel the university should take responsibility for this. Attenders also complain that they are plagued with messages from non-attenders asking them what they have missed (despite it being available on learning platforms) and what they need to do etc. They also complain non-attenders take up most of the tutor support times, using the tutor times to catch up on their missed learning etc, leaving the good attenders with less time with the tutor.

THEORETICAL BASE

Self-determination Theory (SDT), an empirically based motivational theory, (Deci and Ryan 1985, Ryan and Deci 2017) was first developed by Professor Edward Deci and Richard Ryan, with some

other associates along the way. In a Henry Stewart Talks video in 2010 he describes his original work as from 30 years ago (Deci 2010) which means in 2019, with continuous research being produced, the theory is nearly 40 years strong. The theory explains the relationship of the human needs of autonomy, competence and relatedness to self-determined motivation and self-regulated behaviour and wellbeing (Deci and Ryan 2008, Hu & Zhang 2017). The important of SDT is the concept of 'regulation' and the ascribing of different types of regulation in a continuum (external regulation, introjected regulation, identified regulation, integrated regulation and intrinsic regulation) (Vansteenkiste et al 2017) to a person's approach to learning. These are useful in distinguishing types of student motivation to attend class.

Intrinsic regulation is the tutor's dream where students are motivated purely by their intense interest of their topic so the tutor's enthusiasm and skill may be enough for the student to be motivated to learn. The next level is *Integrated regulation* when students believe the learning in class has value in terms of their sense of personal meaning. *Identified regulation* is when students can appreciate there is a reason they need to learn something but there is no real interest and no sense of it linking to personal meaning. An example of this might be learning how to Harvard reference their work. Tutors' would need to motivate the students by emphasising the importance of learning the skill to gain higher marks. *External regulation* and *introjected regulation* are controlled motivation where the student is attending class because it is compulsory or they would feel guilty not doing so. There is also the concept 'perceived instrumentality' which is defined as 'the connection between successfully completing a present task and reaching a long term future goal' (Husman and Hilpert, 2007, p230 cited in Vansteenkiste et al 2018)

A variety of variables affecting class attendance have been researched eg classroom management (Al-Shammari 2016), types of student (Dulcinar 2005), which subject is being studied (eg pragmatic business topic encouraging pragmatic approach to learning or richer discipline encouraging discovery), availability of transport (Kottasz 2005) and closeness of living accommodation and difficulties with employment (Kottasz 2005) is another factor. Khong et al (2016), key researchers on which this work builds, have looked at reasons why students attend lectures and report: availability of class materials online tempting students to miss class (citing Lundgren and Nantz 2003), whether the module is a chosen one or a compulsory one (citing Devadoss & Foltz 1996), the size of the class (citing Friedman et al 2001), the student perceived quality of the lecture (citing Massingham & Herrington 2006), the students' past academic performance (citing Friedman et al 2001, kottasz 2005, Massingham & Herrington 2006 and Romer 1993) all of which comprise or impact the 'lifeworld' of the student as they experience the learning and teaching they are offered at their university.

For the purpose of the paper the variables are explored as groupings:

- Government led HE changes
- student demographics
- pedagogical approach
- classroom management
- employment obligations
- financial obligations
- responsibility for dependants
- university IT systems
- individual difference (personality, previous academic performance etc)
- student type (approach to learning Greasley and Ashworth, 2007)
- university timetabling
- type of subject being studied (relating to 'deep' and 'surface' learning: Marton and Saljo, 1976)

RESEARCH PURPOSE

The research purpose is to find out to what extent a SDT perspective can support student attendance. In order to do this, it scopes all the factors that have been found to affect student attendance alongside an analysis of the complexity of today's 'student lifeworld' and how this impacts attendance. Following this it considers how SDT provides understanding of ways tutors can improve teaching and learning strategies and students can increase their motivation to attend classes. In turn and alongside, enabling students to reach their potential, make the most of their investment in their degree and protect and support their wellbeing. It will provide a theoretical model for tutors and students (based on the understanding of the 'lifeworld' and application of SDT) and practical co-created and co-developed (by tutors with students) exercises for students.

RESEARCH QUESTION

How can the application of the Self-Determination Theory perspective support an understanding of and address the impact of the university student Lifeworld on student attendance?

IMPLICATIONS

Implications are that:

- a) Students can understand their own 'lifeworld' and how this impacts their attendance, learning and wellbeing

- b) tutors can better understand the 'lifeworld' of their students and be encouraged to show empathy and legitimacy, rather than disaffection, of student lifestyle choices and even incorporate employment skill development into their teaching and learning strategy.
- c) SDT can provide an underpinning support framework to improving student attendance, learning and wellbeing
- d) universities need to consider their moral obligations to be procedurally fair to standard students, who take up employment due to poverty, as to apprenticeship students who are financially secure with employer sponsorship. On the one hand student's employment is seen as a nuisance and on the other hand the employment is revered.

Keywords: self-determinatoin theory, student attendance, student lifeworld, university student, university attendance

REFERENCES

- Al-Shammari, Z.N. (2016), Enhancing higher education student attendance through classroom management, *Cogent Education*, 3, 1, 1-11
- Ashworth P. and Greasley K. (2009) The phenomenology of 'approach to studying': the idiographic turn. *Studies in Higher Education*, 34, 5, 561-576.
- Catriona L., Hirons D., Jennifer K. A., Knighting K., Jinks A. M., (2018) Student nurse non-attendance in relation to academic performance and progression, *Nurse Education Today*, 60, 151-156
- Deci (2010), Henry Stewart Talks, London electronic resource available at www.hstalks.com accessed 1 January 2019
- Deci E.L. and Ryan R. M., (2008), *Self-Determination theory: A Macrotheory of Human Motivation, Development and Health*, *Canadian Psychology*, 49, 3, 182-185
- Deci, E. L., & Ryan, R. M. (1985), *Intrinsic motivation and self-determination in human behaviour*, New York: Plenum
- Denis C.A., Lemon J. and Louca V. (2018), Term-time Employment and Student Attainment in Higher Education, *Journal of Perspectives in Applied Academic Practice*, Vol 6, Iss 1, 28-38, available at aura.abdn.ac.uk
- Devadoss, S and Foltz, J 1996, 'Evaluation of factors influencing student class attendance and performance', *American Journal of Agricultural Economics*, vol. 78, no.3, pp. 499-507. cited in Khong et al (2016)
- Dolnicar, S, Kaiser, S, Matus, K and Vialle, W 2009, 'Can Australian universities take measures to increase the lecture attendance of marketing students?' *Journal of Marketing Education*, vol. 31, no. 3, pp. 203-211.
- Dolnicar, S. (2005). Should we still lecture or just post examination questions on the web? The nature of the shift towards pragmatism in undergraduate lecture attendance, *Quality in Higher Education* 11(2), pp.103-115
- Friedman, P, Rodriguez, F and McComb, J 2001, 'Why students do and do not attend classes: Myths and realities', *College Teaching*, vol. 49, no. 4, pp. 124-133. cited in Khong et al (2016)
- Kay Greasley K. and Ashworth P., (2007), The phenomenology of 'approach to studying': the university student's studies within the lifeworld, *British Educational Research Journal*, 33, 6, 819-843, Routledge
- Khong R.W.L., Dunn J.S., Lim C-M., Yap W.S.P., Why do students attend lectures? Exploring justifications for attendance among undergraduate students from a British university in Asia, *The Journal of Developing Areas*, 50, 5, 497-506
- Kottasz, R 2005, 'Reasons for student non-attendance at lectures and tutorials: An analysis', *Investigations in University Teaching and Learning*, vol. 2, no. 2, pp. 5-21. cited in Khong et al (2016)
- Hu P. and Zhang J., (2017), A pathway to learner autonomy: a self-determination theory perspective, *Asia Pacific Education Review*, 18, 147-157, Springer
- Husman and Hilpert, (2007), The intersection of students' perceptions of instrumentality, self-efficacy and goal orientation in an online mathematics course, *Zeitschrift fur Padagogische Psychologie*, 21, 3-4, 229-239 (quote p 230) cited in Vansteenkiste et al 2018

- Husserl, E., (1970), *The Crisis of European Sciences and Transcendental Phenomenology*, Northwestern University Press, first published as part-finished in 1936 and 1954
- Kottasz R., (2005), *Reasons for Student Non-Attendance at Lectures and Tutorials: an analysis*, *Investigations in university teaching and learning*, 2, 2
- Levshankova C., Hirons D., Kirton J.A., Knighting K. and Jinks A.M., (2018), *Student nurse non-attendance in relation to academic performance and progression*, *Nurse Education Today*; 60, 151-156
- Lundgren, TD and Nantz, KS 2003, 'Student attitudes towards internet courses: A longitudinal study', *Journal of Computer Information Systems*, vol. 43, no. 3, pp. 61-66. cited in Khong et al (2016)
- Marton, F. & Saljo, R. (1976a) *On qualitative differences in learning I—Outcome and process*, *British Journal of Educational Psychology*, 46, 4–11.
- Marton, F. & Saljo, R. (1976b) *On qualitative differences in learning II—Outcome as a function of the learner's conception of the task*, *British Journal of Educational Psychology*, 46, 115–127.
- Massingham, P and Herrington, T 2006, 'Does attendance matter? An examination of student attitudes, participation, performance and attendance', *Journal of University Teaching and Learning Practice*, vol. 3, no. 2, pp. 82-103. cited in Khong et al (2016)
- Paisey C., and Paisey N.J., (2004), *Student attendance in an accounting module – reasons for non-attendance and the effect on academic performance at a Scottish University*, *Accounting Education* 13 (Supplement 1), 39 – 53, Routledge
- Romer, D 1993, 'Do students go to class? Should they?', *The Journal of Economic Perspectives*, vol. 7, no. 3, pp. 167-174. cited in Khong et al (2016)
- Ryan R.M. and Deci E.L. (2017), *Self-Determination Theory: Basic Psychological Needs in Motivation, Development and Wellness*
- Thatcher A., Fridhon P., and Cockcroft K, (2007) *The relationship between lecture attendance and academic performance in an undergraduate psychology class*, *South African Journal of Psychology*, 37, 3, 656-660
- Vansteenkiste M., Aelterman N., De Muynck G-J., Haerens L., Patall E. and Reeve, J., (2018), *Fostering Personal Meaning and Self-Relevance: A Self-determination Theory Perspective on Internalization*, *The Journal of Experimental Education*, 86:1, 30-49 et al 2017

CHALLENGES TO KNOWLEDGE TRANSFER WITHIN A BUSINESS INCUBATOR: THE ROLE OF NETWORKS

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ABSTRACT

Start-ups have been widely recognized as an important contributor to the growth and development of national economies. For instance, in the UK alone it has been reported that start-ups account for more than three million jobs (12% of the country's employment) and contribute 196 billion £ to the country's economic output as measured by gross value added (GVA) (Cebr, 2016). Despite such positive contribution, however, it is well-known in the literature that start-ups face unique challenges which can be summarized by the concepts of liability of newness and smallness (Aldrich and Auster, 1986; Stinchcombe, 1965). More specifically, mentoring, marketing expertise, contact with investors and legal advice are among the issues that start-ups typically face in the early stages of their life cycle. Access to valuable resources is often difficult since co-founders typically lack a vast and heterogeneous pool of people on whom they can rely to overcome such obstacles.

One solution to address some of these obstacles is the establishment of a supportive environment which in the start-up context has often coincided with the creation of business incubators (BI) (Bollingtoft, 2012). Given their role, business incubators have been attracting significant attention in the last decades from both academics and practitioners alike although a single definition of what BIs are is still lacking (Hausberg and Korreck, 2018). According to a recent study, between 2007 and 2013 the number of European accelerators and incubators has increased by nearly 400% (Telefonica, 2013). Their widespread diffusion can be ascribed to four main reasons (Smilor and Gill, 1986). First, incubators are often tied to a university or a corporate therefore benefiting from brand reputation which ultimately leads to a higher credibility of those who reside in them. Second, they allow start-ups to get access to useful knowledge and information which can be useful to shorten start-ups' learning curve. Third, incubators often rely on a wide array of mentors as well as tenants with heterogeneous levels of experience which can help entrepreneurs get quicker access to solutions of the problems they face. Finally, physical proximity within the BI is generally associated with networking which is a crucial activity for any entrepreneur (Rubin *et al.*, 2015). Yet, despite the acknowledgement that BIs play a relevant role for the establishment of ties between entrepreneurs which in turn facilitate knowledge transfer, there is surprisingly limited empirical evidence on how and why networks develop within business incubators (Bollingtoft, 2012), and how in turn they affect knowledge transfer.

Therefore, the main goal of this study is to identify the drivers of and the obstacles to knowledge tie formation within a business incubator located in Portugal. The premise is that while individuals belong to different entrepreneurial initiatives that identify tasks, objectives, reporting lines and expected patterns of collaboration, much of what allows them to leverage knowledge to run their projects and to generate innovation hinges upon the existence of networks that are facilitated by spatial proximity. Previous research has found that boundary-spanning relationships allow individuals to mobilize knowledge and information more effectively, and to identify possible synergies in the type and nature of knowledge necessary to accomplish the objectives of development and growth of different initiatives (e.g. Tortoriello *et al.*, 2012). Following these intuitions, we collected data on knowledge networks by conducting 25 face-to-face interviews with co-founders of start-ups located in the same BI. The interview protocol was designed to gather information about the motivations behind entrepreneurs' decision to interact with other tenants, the content of such interactions as well as any obstacles that they faced while sharing knowledge and information within the BI. This type of interview format gave interviewees more control over the discussion and allowed for more description by the participants (Lindlof and Taylor, 2002). Data were analyzed through an inductive approach (Gioia *et al.*, 2013) following an open coding procedure. An iterative process between theory and evidence led to the identification of specific drivers and obstacles to knowledge tie formation.

The preliminary findings of the study offer some interesting insights on the relationship between networking and knowledge transfer within a BI. In contrast with previous studies highlighting physical co-location as a facilitator of knowledge spill-overs (Monge *et al.*, 1985), our data showed that the concentration of start-ups within a geographically constrained space was not a sufficient condition for knowledge sharing ties to be created. Our interviews revealed that several obstacles, both tangible and intangible, were often preventing the possibility to successfully exchange knowledge. A major barrier was represented by the configuration of the building itself. Contrary to the traditional layout of incubators characterized by open spaces and lack of physical barriers, the BI we studied resembled the architectural design of a large corporate building. The majority of start-ups had their own office space with restricted access doors through which entry was possible via a code available only to the start-up's employees. As most of our interviewees revealed, this was a major barrier to communication. Other barriers included the lack of awareness of the activities conducted by other tenants, the size of the incubator, and the lack of time by entrepreneurs to dedicate to networking and knowledge-sharing. Interestingly, culture was also mentioned as a barrier to communication which contrasts with the expectation that entrepreneurs are generally more inclined than other individuals to share ideas openly. Social networks have often been identified as a solution to compensate for communication obstacles (e.g. Reagans and McEvily, 2003). In our setting, both formal and informal networks

influenced the communication processes within the BI. Formal networks were usually made of dyadic interactions between tenants and were initiated by the BI's management who acted as a connector. However, our data provide evidence that the BI's tenants often initiated ties on an informal basis through a referral from a common acquaintance, a casual meeting in one of the BI's events or while waiting in the queue at the BI's cafeteria. These informal networks often resulted in the formation of small cliques within the BI. More importantly, both formally-initiated and informal networks were instrumental to overcoming knowledge transfer barriers resulting in knowledge transfer of three types: 1) product-related knowledge, 2) business development knowledge (e.g. access to relevant contacts) and 3) administrative knowledge (e.g. information related to legal issues).

Based on the findings above, this study contributes to the growing research on business incubators by exploring how processes of interaction between co-founders shape the ability of these actors to exchange knowledge despite existing impediments within the incubator. The ability to successfully transfer knowledge between individuals has been indicated as a critical issue for several organizational outcomes including an organization's ability to be innovative (Tortoriello and Krackhardt, 2010). In reality, however, the successful exchange of knowledge has proven to be a difficult task. Our study indicates that social networks can be a good solution to overcome the obstacles that incubated firms face when exchanging knowledge. By so doing, this study also contributes to the business incubators literature by adopting a tenant perspective to assess the value of being in an incubator, therefore addressing a recent call to study business incubators not solely from the perspective of incubator managers (Bollingtoft, 2012).

Keywords: Business incubators, start-up, knowledge-sharing, networks.

REFERENCES

- Aldrich, H. and Auster, E.R., (1986). "Even dwarfs started small: Liabilities of age and size and their strategic implications". Research in organizational behavior.
- Bøllingtoft, A., (2012). The bottom-up business incubator: Leverage to networking and cooperation practices in a self-generated, entrepreneurial-enabled environment. *Technovation*, 32(5), pp.304-315.
- Cebr (2016), The start-up low down: how start-ups are changing Britain, available from https://www.virginstartup.org/sites/startup.virgin.com/files/start_up_low_down_-_how_start-ups_are_changing_britain_-_final.pdf
- Gioia, D.A., Corley, K.G. and Hamilton, A.L., (2013), Seeking qualitative rigor in inductive research: notes on the Gioia Methodology. *Organizational Research Methods*, 16 (1), pp. 15-31.
- Hausberg, J.P. and Korreck, S., (2018). Business incubators and accelerators: a co-citation analysis-based, systematic literature review. *The Journal of Technology Transfer*, pp.1-26.
- Monge, P.R., Rothman, L.W., Eisenberg, E.M., Miller, K.I. and Kirste, K.K., (1985). The dynamics of organizational proximity. *Management Science*, 31(9), pp.1129-1141.
- Reagans, R. and McEvily, B., (2003). Network structure and knowledge transfer: The effects of cohesion and range. *Administrative Science Quarterly*, 48(2), pp. 240-267.
- Rubin, T.H., Aas, T.H. and Stead, A., (2015). Knowledge flow in technological business incubators: evidence from Australia and Israel. *Technovation*, 41, pp.11-24.

- Stinchcombe, A.L., (1965), "Social structure and organizations", in J. March (Ed.) Handbook of Organizations, Chicago, IL: Rand McNally, pp.142-193.
- Smilor, R., and Gill, M., (1986). The new business incubator: Linking talent, technology and know-how. Massachusetts: Lexington Books.
- Telefonica (2013). The accelerator and incubator ecosystem in Europe, available from <https://lisboncouncil.net/component/downloads/?id=897>
- Taylor, B.C. and Lindlof, T., (2002). Qualitative communication research methods. Sage Publications, Thousand Oaks.
- Tortoriello, M. and Krackhardt, D., (2010). Activating cross-boundary knowledge: The role of Simmelian ties in the generation of innovations. *Academy of Management Journal*, 53(1), pp.167-181.
- Tortoriello, M., Reagans, R. and McEvily, B., (2012). Bridging the knowledge gap: The influence of strong ties, network cohesion, and network range on the transfer of knowledge between organizational units. *Organization Science*, 23(4), pp.1024-1039.

FOOD EVENTS AND CULTURAL HERITAGE: COOPETITION STRATEGIES TO INNOVATE SLOW FOOD'S TERRA MADRE SALONE DEL GUSTO FORMULA

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ABSTRACT

UNESCO defines heritage "our legacy from the past, what we live on today, and what we pass on to future generations. Our cultural and natural heritage are both irreplaceable sources of life and inspiration". According to Barney *et al.* (2001), heritage is valuable, rare, inimitable, non-substitutable resource that calls for a preservation and to be used as a driver for sustainable economic growth, employment and social cohesion (Council of Europe, 2015; UNWTO, 2015; OECD, 2009; Elkington, 2013; 1997).

Heritage conservation requires a steady flow of financial resources, not always available and often not allocated on this topic. Therefore, a more systemic view of the heritage is necessary, both talking about resources key to maintain it, and about its conception as a resource *per se*. Stressing this second aspect means turning the heritage into a lever that generates the financial resources for its maintenance and, by extension, to create value for its territory. Thus, the potential paradox of the lack of resources to exploit a source of enormous potential is resolved autonomously: heritage is a form of investment with a very high and often unsuccessful return on investment. In this sense, the most obvious and immediately perceived use of the heritage – that generates an economic impact and therefore produces resources – is tourism (Wuepper and Patry, 2017; Richards, 2011; Urry, 2011, 2002, 1990; Briedenhann and Wickens, 2004; Timothy and Boyd, 2003; Pine and Gilmore, 1999).

Tourism events are, in this sense, a particular tourist declination representing, for a destination, a triple opportunity, as animators of the attraction on the territory; key moments in the local programming (Getz and Page, 2016); incremental opportunities to money spending at the local level, thanks to the flows of intercepted visitors (Chhabra *et al.*, 2003; Dwyer and Forsyth, 2009). Events are representative of tourists' desire to directly experience and consume cultural performances, foods, participatory activities: an opportunity to feel authenticity (MacCannell and Lippard, 1999; Cohen and Cohen, 2012). They are, therefore, a relevant source to generate resources for the sustainability of the local heritage. Events related to food are a relevant trend in this regard: the need for a neo-localism has contributed to the success of international food events such as Terra Madre Salone del Gusto, the biennial initiative of the International Association Slow Food.

This paper is based on a comparison of the economic impact of three editions of Terra Madre Salone del Gusto (2014, 2016, 2018). There is a clear alignment between heritage and food as cultural elements in the perception of and in the need for tourists participating to the event. Food is, in fact, a cultural element as well as the most important tourist driver, generating a flow of visitors to the city of Turin (Italy) – which hosts the event – up to about 1 million people in five days of the event during the 2016 edition, which took place in the whole city (not in the fairgrounds). Conversely, the previous (2014) and the following (2018) editions, both indoor, lead to a result of around 200,000. The average expenditure and the budget allocation of the tourists are almost comparable, but the formula definitely affects the number of visitors reached. This translates into a much larger impact – for hotels, restaurants, shops and local cultural attractions – if and when it takes place outside the exhibition grounds. The total economic impact fluctuates, for example, from 9 (for indoor edition) to 38 million euros (for outdoor edition), with an added value that goes from 3.5 to 11 million euros.

This specific tourism event, stable and mature, with an unchanged and typically local visitors' profile and an inability to attract people from abroad during the editions, could therefore focus on a variation of the formula, returning to the outdoor one. This can generate a remarkable result on the territory, helping to maintain its heritage, not only in its eno gastronomic form. In this sense, it is fundamental that all the actors of the local tourism system cooperate for the creation, promotion and cross-fertilization of a new event formula: a local coopetition that maintains the competitiveness of the event, the destination and stimulates the generation of resources for its heritage thanks to the growth of fundamental knowledge to its development (Fong *et al.*, 2018; Anderson and Hardwick 2017; Haugland *et al.*, 2011).

Broadly, this formula variation, as an innovation in the fruition of heritage, is easily extendable to other forms of heritage and this makes the emerging strategies extendable and replicable – contributing both to the academic and the managerial point of view – to other sectors. Stimulating the participation of the whole local touristic system, making clear the return of investment through the assessment of economic impact is a good strategy to leverage the participation of public and private organizations. This can lead to an innovation in the tourism offer and, consequently, to a more competitive destination territory, based on the valorization of its heritage (Liu *et al.*, 2017; Briassoulis, 2017; Novani *et al.*, 2015; van der Zee and Vanneste, 2015; McCabe *et al.*, 2012).

Keywords: cultural heritage, food event, valorization, innovation, coopetition, economic resources

REFERENCES

Anderson, A.R. and Hardwick, J. (2017), "Collaborating for innovation: the socialized management of knowledge", *International Entrepreneurship and Management Journal*, Vol. 13 No. 4, pp. 1181-1197.

- Barney, J., Wright, M. and Ketchen Jr, D. J. (2001), "The resource-based view of the firm: Ten years after 1991", *Journal of management*, Vol. 27 No. 6, pp. 625-641.
- Briassoulis, H. (2017), "Tourism destinations as multiplicities: The view from Assemblage Thinking", *International Journal of Tourism Research*, Vol. 19 No. 3, pp. 304-317.
- Briedenhann, J. and Wickens, E. (2004), "Tourism routes as a tool for the economic development of rural areas – vibrant hope or impossible dream?", *Tourism management*, Vol. 25 No. 1, pp. 71-79.
- Chhabra, D., Healy, R. and Sills, E. (2003), "Staged authenticity and heritage tourism", *Annals of tourism research*, Vol. 30 No. 3, pp. 702-719.
- Cohen, E. and Cohen, S. A. (2012), "Authentication: Hot and cool", *Annals of Tourism Research*, Vol. 39 No. 3, pp. 1295-1314.
- Council of Europe (2015), *Namur Declaration*, Namur.
- Dwyer, L. and Forsyth, P. (2009), "Public sector support for special events", *Eastern Economic Journal*, Vol. 35 No. 4, pp. 481-499.
- Elkington, J. (1997), *Cannibals with forks: the triple bottom line of twenty-first century business*, Capstone, Oxford.
- Elkington, J. (2013), "Enter the triple bottom line", Henriques, A., Richardson, J., *The triple bottom line: Does it all add up*, Routledge, pp. 23-38.
- Fong, V.H.I., Wong, I.A. AND Hong, J.F.L. (2018), "Developing institutional logics
- Getz, D. and Page, S. J. (2016), "Progress and prospects for event tourism research", *Tourism Management*, Vol. 52, pp. 593-631.
- Haugland, S.A., Ness, H., Grønseth, B.O. and Aarstad, J. (2011), "Development of tourism destinations: An integrated multilevel perspective", *Annals of tourism research*, Vol. 38 No. 1, pp. 268-290.
- in the tourism industry through coopetition", *Tourism Management*, Vol. 66 No 1, pp. 244-262.
- Liu, B., Huang, S.S. and Fu, H. (2017), "An application of network analysis on tourist attractions: The case of Xinjiang, China", *Tourism Management*, Vol. 58 No. 1, pp. 132-141.
- MacCannell, D. and Lippard, L. R. (1999), *The tourist: A new theory of the leisure class*, University of California Press, Oakland.
- McCabe, S., Sharples, M. and Foster, C. (2012), "Stakeholder engagement in the design of scenarios of technology-enhanced tourism services", *Tourism Management Perspectives*, Vol. 4, pp. 36-44.
- Novani, S., Putro, U.S. and Hermawan, P. (2015), "Value orchestration platform: promoting tourism in batik industrial cluster solo", *Procedia-Social and Behavioral Sciences*, Vol. 169 No. 1, pp. 207-216.
- OECD – Organisation for Economic Co-operation and Development (2009), "The impact of Culture on Tourism", Paris.
- Pine, B.J. and Gilmore, J.H. (1999), *The experience economy: work is theatre & every business a stage*, Harvard Business Press.
- Richards, G. (2011), "Tourism trends: tourism, culture and cultural routes. Cultural tourism trends in Europe: a context for the development of Cultural Routes", Khovanova-Rubicondo, K., *Impact of European Cultural Routes on SMEs' innovation and competitiveness*, Council of Europe Publishing, pp. 21-39, Strasbourg.
- Timothy, D. J. and Boyd, S. W. (2003), *Heritage tourism*, Pearson Education, Edinburgh Gate.
- UNWTO – United Nations World Tourism Organization (2015), "Tourism and the Sustainable Development Goals", available at <https://www.e-unwto.org/doi/book/10.18111/9789284417254>.
- Urry, J. (1990), *The Tourist Gaze. Leisure and Travel in Contemporary Societies*, Sage Publications, London.
- Urry, J. (2002), *The Tourist Gaze. Second Edition*, London, Sage Publications.
- Urry, J., Larsen, J. (2011), *The Tourist Gaze 3.0*, London, Sage Publications.
- Van der Zee, E. and Vanneste, D. (2015), "Tourism networks unravelled; a review of the literature on networks in tourism management studies", *Tourism Management Perspectives*, Vol. 15 No. 1, pp. 46-56.
- Wuepper, D. and M. Patry (2017), "The World Heritage list: Which sites promote the brand? A big data spatial econometrics approach", *Journal of Cultural Economics*, Vol. 41 No. 1, pp. 1-21.

RECONFIGURING STAKEHOLDER RELATIONSHIPS AND SOCIAL INNOVATION: THE RISE OF COLLABORATIVE ENGAGEMENT BETWEEN HEINEKEN AND LOCAL ENTREPRENEURS IN DEVELOPING COUNTRIES

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ABSTRACT

One of the main arguments raised to increasing the applications of stakeholder theory (Freeman, 1984; Freeman, 2010; Freeman et al., 2007) and shedding light on its broader meaning (Crane and Ruebottom, 2011; McVea and Freeman, 2005) is that a stakeholder thinking that transcends from the mere economic role of the actors relating to the company through a firm-centrism model should be developed. That is because an economic-firm centric view of stakeholder groups might overlook key factors, mechanisms, identities and needs that can enable higher stakeholder participation, proactive actions, and higher value creation (Hond and de Bakker, 2007; Rowley and Moldoveanu, 2003). This is particularly true when large multinational companies establish relationships with stakeholders in contexts that can favour the spread of unfair practices, such as powerless communities in developing countries where the MNC outsources some of its production, partners with local entrepreneurs for products or services development or extracts key resources for its business. In this specific case, it is most likely that the relationships between the company and the vulnerable stakeholder are seen as unbalanced and merely based on resource dependency by as well underestimating the potential of collaborations for greater value creation. In such a context, it is typical for large multinationals to implement Corporate Social Responsibility (CSR) and Social Innovation (SI) projects with the intent of improving the wellbeing of local communities and contribute to the business enhancement as well, in a philanthropic logic key to develop certain competitive advantages (Van Cranenburgh and Arenas, 2014; Porter and Kramer, 2011).

To provide an opposite view to such residual way of creating value in key developing contexts for the business, we propose a reconfiguration of stakeholder relationships as a result of more integrated view of CSR and SI practices by an MNC toward vulnerable stakeholders in developing countries. For clarity, we consider vulnerable stakeholders being in a given situation of inequality linked to their geographical context (Mongelli and Rullani, 2017), who suffer from: low income (Ahen, 2017); inequality in business power (Dawkins, 2014; 2015); vulnerability and unfairness in relationships with other stakeholders, even local (Candelo et al., 2018; Dawkins, 2015); lower power in decision making (Dawkins, 2015); incapacity to replicate business rules and models on the local

territory and exert influence (Greenwood & Van Buren III, 2010); marginalized and vulnerable conditions (Derry, 2012); poorer structural condition (Mena et al., 2010); lower access to basic needs (Mena et al., 2010) and sometimes denied human rights (Mena et al., 2010); inability to autonomously develop whatever they think is valuable (Sen, 1992); impossibility to transform ideas into successful business practices (Greenwood & Van Buren III, 2010).

Social innovation refers to practices conducted within the broader CSR strategy or belongs to the Social Entrepreneurship model (Dees & Anderson, 2006) to reach: financial performances; social performances; environmental performances. Some scholars talk about Corporate Social Innovation (Mirvis et al., 2016; Mirvis et al., 2012) to outline activities that involve deeper collaboration (and not just partnerships) “across functions within a firm and with external parties to co-create something new that provides a sustainable solution to social ills” (Mirvis et al., 2016; p. 5014). In this view, Corporate Social Innovation differs from Corporate Social Responsibility initiatives that are residual and mainly centred on philanthropy and are, still, dichotomous *à la Porter* (Freeman et al., 2018; Civera et al., 2018). If managers of organizations are to deliver more value from CSR, they need to understand how they can better incorporate social innovations into their CSR agendas, by managing the duality of applying a business approach to create a social outcome (Phillips et al., 2015). To this end, we argue that Integrated CSR (Freeman et al., 2010) is the framework for allowing a more effective social innovation and reconfigure fairer and more balanced stakeholder relationships. In particular, we put the focus on the creation of entrepreneurial activities in developing countries, favoured by MNCs within their CSR and social innovation projects, since as Zahra and Wright (2016) argue, entrepreneurship can create positive impact when “connecting entrepreneurial activities to other societal efforts aimed at improving the quality of life, achieving progress, and enriching human existence” (p. 610).

We keep up with the argument that stakeholder identification and stakeholder relationships should be configured in a way that goes beyond their economic role and their dependency on the company to include the moral personhood of stakeholders (McVea and Freeman 2005; Werhane 2008) as well as their multiple roles, identities, interests, and interdependencies in relation to a variety of environments rather than just the company economic-based (Freeman et al., 2010; Civera et al., 2018). We, therefore, argue that models and frameworks aimed at categorizing stakeholders based on the urgency, power, and legitimacy of their claims with respect to the economic relationship with the company (Mitchell et al., 1997) might eventually risk to underestimate the broader role that stakeholders can play as identities in the society and might lead to the failure of social innovation projects, CSR actions, and even lower performances in trade (McVea and Freeman 2005). As Derry et al. (2012) underline, prioritizing stakeholders’ claims and interests based on an economic assumption

of dependency on the company, might as well detract the company and all other actors to consider the voices of stakeholders that are not deemed to be legitimate or powerful and, therefore, deny the possibility of valuable collaborations leading to effective societal changes and improvements.

Our study stems from such egalitarian and identity-based stakeholder approach and amalgamates it with the literature of Integrated CSR and Social Innovation, in the attempt to predict which practices by an MNC can enable stakeholder relationships reconfiguration in the interest of higher value creation. Our discourse begins, still, with the perspective of the multinational company, but not in a centric-view; instead, we focus on an integrated approach of multi-stakeholder interdependency based on joint-ness of interest, strategic collaborations, empowerment, collaborative engagement, and value co-creation (Desai, 2018; Freeman et al., 2010; Montiel, Husted, & Christmann, 2012; Sampson, 2005; Shams, 2016; Strand and Freeman, 2015).

The idea is that there are some key company approaches toward stakeholders that, more effectively than others, contribute to shape the way CSR and social innovation projects are set up in developing countries and prevent the paternalistic and centric company-vulnerable stakeholders' relationship to create a new autonomous identity to local stakeholders. We argue that the new autonomy of stakeholders expressed in new local enterprises creation, as a result of integrated CSR and social innovation, is key to enhance the effectiveness of value co-creation outcomes in local communities.

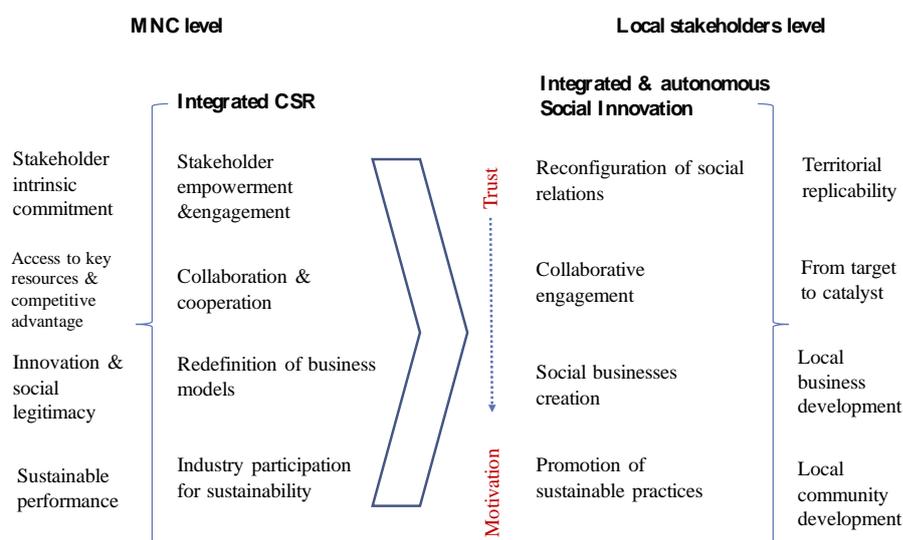
Our aim is to advance theory on how social innovation and CSR initiatives by a large multinational company can allow a reconfiguration of stakeholder relationships through a shift of responsibility and increased autonomy of new enterprises in developing contexts, which are created out of the large MNC's strategic plans, but are grown by local stakeholders under a new perspective: to become themselves the catalysts of social innovations with a stronger motivation to contribute to local development and autonomy of their communities.

We developed an illustrative case study (Eisenhardt and Graebner, 2007; Yin 2013) around Heineken, the second largest group of beer producers with more than 78 ongoing CSR and social innovation projects globally, conducted under the label of "Brewing a Better World" (Reinhardt et al., 2016). Out of the 78 projects, we carefully selected 14 cases within the "Growing with Communities" project that are relevant to our topic: stakeholder relationships' reconfiguration through new business creation in developing countries. We conducted semi-structured interviews with the Director of Communication and Institutional Affairs, Corporate Affairs manager, Digital PR manager, Media relations manager, Sustainability manager, Senior Corporate Affairs specialist, three local entrepreneurs in Africa and Indonesia. Furthermore, we observed reports and data available on the institutional website and the HEINEKEN Africa Foundation's set of available documents around the 14 projects of social innovation.

Data triangulation among primary and secondary sources and the literature review allowed the identification of key company's integrated approaches that have successfully favoured a widespread autonomous local stakeholder identity and guaranteed that vulnerable stakeholders had access to entrepreneurial projects designed around their capabilities. This allowed the increase in their self-initiatives, productivity, profits, facilitated integration (and re-integration), established a societal role (Mongelli and Rullani, 2017) and, ultimately, increased motivation to achieve greater goals and be the drivers of social improvement.

Table 1 summarizes our findings and outlines the key mechanisms within integrated CSR to foster an integrated and autonomous social innovation locally and therefore enable reconfigured stakeholder relationships that are not based on an economic firm-centric logic anymore. Instead, relationships stem from a new stakeholder identity that is itself catalyst of social innovation to deal with grand local societal challenges autonomously.

Table 1: Conceptual contribution



Through our study, we provided a new perspective of stakeholder relationships and social innovation, by changing the dominant business-owned projects argument into a logic of vulnerable stakeholders changing from being the target of the projects to being catalysts and owners of further social innovations; This concept has only been applied to employees so far (Mirvis and Googins, 2018).

Keywords: Stakeholder theory; Integrated CSR; Social innovation; Vulnerable stakeholders; Heineken

REFERENCES

- Ahen, F. (2017). Responsibilization and MNC-Stakeholder engagement: Who engages whom in the pharmaceutical industry?. In: Freeman R.E., Kujala, J. & Sachs, S. (Eds.), *Stakeholder Engagement: Clinical Research Cases*, Springer
- Candelo, E., Casalegno, C., Civera, C., & Mosca, F. (2018). Turning Farmers into Business Partners through Value Co-Creation Projects. Insights from the Coffee Supply Chain. *Sustainability*, 10(4), 1018.

- Civera, C., de Colle, S., & Casalegno, C. (2018). Stakeholder engagement through empowerment: The case of coffee farmers. *Business Ethics: A European Review*.
- Crane, A., & Ruebottom, T. (2011). Stakeholder theory and social identity: Rethinking stakeholder identification. *Journal of business ethics*, 102(1), 77-87.
- Dawkins, C. E. (2014). The principle of good faith: Toward substantive stakeholder engagement. *Journal of Business Ethics*, 121(2), 283-295.
- Dawkins, C. (2015). Agonistic pluralism and stakeholder engagement. *Business Ethics Quarterly*, 25(01), 1-28.
- Derry, R. (2012). Reclaiming marginalized stakeholders. *Journal of Business Ethics*, 111(2), 253-264.
- Desai, V. M. (2018). Collaborative Stakeholder Engagement: An Integration between Theories of Organizational Legitimacy and Learning. *Academy of Management Journal*, 61(1), 220-244
- Freeman E. 1984. *Strategic Management: A Stakeholder Approach*. Pitman: Boston, MA.
- Freeman RE. 2010. Managing for stakeholders: trade-offs or value creation. *Journal of Business Ethics* 96: 7–9.
- Freeman RE, Harrison JS, Wicks AC. 2007. *Managing for Stakeholders: Survival, Reputation and Success*. Yale University Press: New Haven, CT.
- Freeman RE, Harrison JS, Wicks AC, Parmar B, de Colle S. 2010. *Stakeholder Theory: The State of the Art*. Cambridge University Press: Cambridge, UK.
- Freeman, E. R., Civera, C., Cortese, D., & Fiandrino, S. (2018). Strategising stakeholder empowerment for effective co-management within fishery-based commons. *British Food Journal*.
- Greenwood, M., & Van Buren III, H. J. (2010). Trust and stakeholder theory: Trustworthiness in the organisation–stakeholder relationship. *Journal of Business Ethics*, 95(3), 425-438.
- Mena, S., de Leede, M., Baumann, D., Black, N., Lindeman, S., & McShane, L. (2010). Advancing the business and human rights agenda: Dialogue, empowerment, and constructive engagement. *Journal of Business Ethics*, 93(1), 161-188
- McVea, J. F., & Freeman, R. E. (2005). A names-and-faces approach to stakeholder management: How focusing on stakeholders as individuals can bring ethics and entrepreneurial strategy together. *Journal of Management Inquiry*, 14, 57–69.
- Mirvis, P. H., Googins, B., & Kiser, C. (2012). *Corporate social innovation*. Wellesley, MA Lewis Institute, Social Innovation Lab, Babson University.
- Mirvis, P., Herrera, M. E. B., Googins, B., & Albareda, L. (2016). Corporate social innovation: How firms learn to innovate for the greater good. *Journal of Business Research*, 69(11), 5014-5021.
- Mirvis, P., & Googins, B. (2018). Engaging Employees as Social Innovators. *California Management Review*, 0008125618779062.
- Mongelli, L., & Rullani, F. (2017). Inequality and marginalisation: social innovation, social entrepreneurship and business model innovation: The common thread of the DRUID Summer Conference 2015. *Industry and Innovation*, 24(5), 446-467.
- Phillips, W., Lee, H., Ghobadian, A., O'Regan, N., & James, P. (2015). Social innovation and social entrepreneurship: A systematic review. *Group & Organization Management*, 40(3), 428-461.
- Porter, M. E., & Kramer, M. R. (2011). Creating shared value. *Harvard Business Review*, 89(1/2), 62–77.
- Reinhardt, Forest L., José Alvarez, and Tonia Junker (2016). "HEINEKEN—Brewing a Better World (B)." *Harvard Business School Supplement* 717-001.
- Shams, S. R. (2016). *Entrepreneurial challenges in the 21st century: Creating stakeholder value co-creation*. Springer.
- Strand, R., & Freeman, R. E. (2015). Scandinavian cooperative advantage: The theory and practice of stakeholder engagement in Scandinavia. *Journal of business ethics*, 127(1), 65-85.
- Van Cranenburgh, K. C., & Arenas, D. (2014). Strategic and moral dilemmas of corporate philanthropy in developing countries: Heineken in Sub-Saharan Africa. *Journal of business ethics*, 122(3), 523-536.
- Zahra, S. A., & Wright, M. (2016). Understanding the social role of entrepreneurship. *Journal of Management Studies*, 53(4), 610-629.

THE POWER OF PEOPLE: WHEN PEOPLE AND CULTURE ARE THE KEY TO ORGANISATIONS SUCCESS

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ABSTRACT

INTRODUCTION

This study intends to analyse the impact of people and culture's management through engagement and employee experience towards the organisation's success. In fact, after some research the data demonstrate that organisations understand the importance of retain and create happiness at work. The same organisations are starting to create a journey for their workforce: since the first day people have contact with the brand until the last day when they decide to leave or they go on the retirement and they take with them all the memories and experience, heritage with them. Organisations want and understand the need of having employees engaged, attract new talent, and retain team members, especially high performers and key people. This study reveals that when employees are more committed to be happier at work, they tend to take part of the ownership of their organisations. Today organisations are more focused on people and the value that they can add to every single product and/or service they design, create and deliver. Organisations want to feed a better and healthier culture founded on an inside-out mission and real values. All this investment on internal management is taking the consumer experience to a higher level. Happy and committed employees will create happier and more loyal clients.

THEORETICAL DEVELOPMENT

The main goal is to verify how the people and culture management is attaining more importance on both sides: employee and employer. Employee experience and engagement is gaining more space and impact on the organisations' strategies. From the transactional economy, organisations are walking to an emotional, experience economy. In the customer-centric dynamics, organisations are putting employees first because these, once deep involved with the mission and goals of the organisation, will be more devoted to customers. People "who love going to work are more productive and more creative. They go home happier and have happier families. They treat their colleagues and customers better. Inspired employees make stronger economies." (Sinek, 2009, p.14). Every single company "can (should) focus on its value creators – the frontline employees. (...) in his or her knowledge, creativity

commitment to tasks, and capacity to collaborate. In fact, (...) “the true value is created in the interface between the customer and the employee. (...) When a company puts its employees first, the customer actually does ultimately come first and gains the greatest benefit.” (Nayar, 2010, p.7). The way people are engaged, internally, will impact the way people see the organisation externally. This will influence companies’ reputation, brand/service perception and ultimately the business survival and its future: “Employees who are dispositionally self-efficacious and proactive are likely to use their initiative, engage in proactive service performance, take charge to bring about change, proactively solve problems and implement ideas.” (Patterson *et al.*, 2009). When people and culture are the spine, the nuclear atom of an organisation, the service, the product and their customers are the most advantaged elements.

RESEARCH DESIGN

On our research we have decided to apply the model from Kumar and Pansari. According to the authors “we define engagement as the attitude, behaviour, the level of connectedness among customers, between customers and employees and of customers and employees with the firm.” (Kumar and Pansari, 2016, p. 498). This was the trigger for our study. With this in mind we have started our interviews. To complete this exploratory study, we’ve decided to follow a qualitative research by creating a script and interviewed 4 people in 10 organisations based in Lisbon. “Qualitative research starts from and returns to words, talk, and texts as meaningful representations of concepts.” (Pratt, 2009, p.856). The original script was written in English, then translated to Portuguese to be applied on the organisations. Each interview was fully transcript in Portuguese and the main findings and relevant content were enlightened in English to produce this paper. On each organisation, four employees were chosen: two women and two men from different departments and positions - board management, executive leadership, line managers and individual contributors. All interviewed people have Portuguese nationality and have a labour contract with their employer organisation. None outsourced employees have been selected to this study. All employees have between 25 and 50 years old. Interviews were done individually on the headquarters of each organisation. Interviews took between 45 and 60 minutes each. All conversations have been recorded with the individual’s authorisation. The note of confidentiality was explained and applied to all of them. The interviews followed the same script: three main blocks on a semi-structure script. Participants were asked to think about engagement and experience and share their thoughts and examples. Different organisations were chosen, multinational companies, agencies, national companies, private funds. The diversity of the organisations was accepted and taken as an added value to our work. To convert all audio into text, we’ve applied the google audio tool and a Huawei

phone app that can transform audio into text. A final check was done in order to verify all sentences and avoid mishaps. After all transcription, a content analysis has been done and the most relevant facts, insights and details have been listed. The content analysis was done using the MAXQDA software.

RESULTS AND CONCLUSIONS

The main purpose of this exploratory study was to understand how engagement and experience, people and culture, are taking such a crucial role on organisations' success. Today employees are more committed and accountable as they want to be more recognised, happy and part of something bigger than themselves as individuals. In the same equation, and to attract and retain more talent, organisations are more focused on employees, on their people and culture, and how to design and deliver a better internal experience - since the beginning until the end of team-member's journey. According to our content analysis, the principal finding confirm that happier and recognised employees work better, work more and have the ownership of the organisations they work for. Once people are happy and have good work conditions – financial, physic and technological – they will go further and beyond to complete their tasks, deliver their inputs, data, information and when needed they will internally collaborate with their teammates or with other departments. To raise this good environment and to keep workforce aligned with them, employers are changing and investing on the future of work. Nevertheless a few organisations are not applying this or taking these questions as a priority. Below the list of the most important and highlighted findings extracted from the content analysis done:

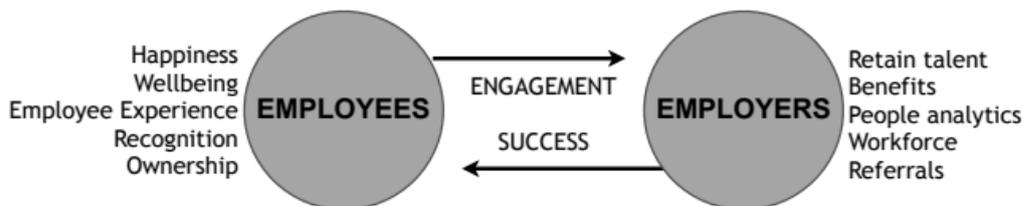
- 1) Most of the interviewees say they like their jobs and they are happy at work. They feel that they are part of something: family, team, organisation, culture.
- 2) The feeling of belonging was mentioned multiple times – the emotional link and the human aspect of being accepted and valuable inside the organisation.
- 3) All interviewed people, despite the job and the position they have, spoke about the power of recognition and the importance of this aspect to retain talent.
- 4) All interviewed people raised the importance of happiness at work, the wellbeing variable and the crucial aspect of work/life balance.
- 5) All interviewed employees agreed that their organisations value more the individual, their soft skills, than the job position and the tasks that there are committed and designated to do.
- 6) From the point of view of organisations, as leaders and builders of a strategy, we could note that only a few are planning and designing a structured employee experience. Nevertheless, all companies have a list of benefits and create events to get together their employees and

promote a better life for them. Following a more structured or more informal way, all interviewed organisations implement a list of actions to create a good work environment: flexibility on the work hours, the possibility to work from home, the team/company dinners and parties; the physical structure with infrastructures to have lunch or to have a break; the empowerment of the employees by asking them to be part of the decisions.

- 7) Only a few of the interviewed claim that their organisations are promoting situations of work mobility and career progression. Most of the people explained that is difficult to grow or to move from departments.
- 8) Both, organisations and employees, understand that the salary is not an imperative condition to work or to retain people. Employees value more other work conditions and benefits.

More than ever organisations understand that taking care of their people and on the importance of retain their employees is key. People and culture are two of the hot topics on organisation's strategies, missions and visions. After more than 40 employees interviewed, aside their gender, ages, under all circumstances and positions, every single individual want the same: recognition, to be happy and to balance, the best way possible, their work and their life. People want to be treated as people, as an unique human being. These people will create and found the best of the cultures and the values they will read, feel, live and believe. This is the key for the success of employers and employees. People and Culture are the key for organisation's success. It's all about people (see figure 1).

Figure 1: People and Culture: employees and employees on organisations dynamic



Keywords: engagement, employee, people, culture, organisation, happy

REFERENCES

- Kumar, V and Pansari, A. (2016), "Competitive Advantage Through Engagement", *Journal of Marketing Research*, Vol. 53, 497-514.
- Medeiros, E. (2017), *Welcome to the Experience Economy*, Uirtus Academy, Lisbon.
- Nayar, V. (2010), *Employees First, Customer Second*, Harvard Business Press, Boston, 2010.
- Patterson, F., Kerrin, M., Roissard, G. (2009), *Characteristics & behaviours of Innovative People in Organisations*, London.
- Pratt, M. G., (2009), "From the editors, For the lack of a boilerplate. Tips on writing up (and reviewing) qualitative research", *Academy of Management Journal*, Vol. 52, 856-862.
- Sinek, S. (2009), *Start with Why*, Portfolio Penguin.

INTERGENERATIONAL COMMUNICATION IN THE WORKPLACE: RECOMMENDATIONS FOR MORE EFFECTIVE LEADERSHIP COMMUNICATION

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ABSTRACT

Effective leadership communication that is relational in nature is a prerequisite for successful organizational functioning (De Lange 2017). One of the many challenges that contemporary leadership are faced with, is the large number of generational cohorts who are currently present in the workplace. Intergenerational diversity affects the organization in many ways, but is experienced acutely in internal communication as different generational cohorts interact (Mc Elfresh & Stark 2018). Existing literature often indicates that communication between different generations are problematic in the workplace and that especially the communication between leadership and the centennial generation requires attention (Rudolph, Rauvola & Zacher 2018). The assumption is made that leadership communication needs to be approached differently if leaders wish to successfully engage with this generation.

To address this issue, a qualitative approach was employed and the research comprised four phases. Phase I entailed Rodgers' (2000) evolutionary concept analysis of leadership communication to discover what the conceptual foundation of leadership communication was. Phase II comprised a hermeneutic phenomenological study. During this phase in-depth phenomenological interviews were conducted with respondents from different generations who are regularly exposed to leadership communication. An adapted version of Groenewald's (2004) five step explication process was employed during this phase.

The third phase entailed a literature review of the communication behavior of the centennial generation in order to gain insight into this generation. This was followed by phenomenological interviews with 10 respondents from the centennial generation regarding their experiences and expectations of leadership communication (Phase IV).

To conclude this study, the guidelines for effective leadership communication identified during Phase I and II were compared with the outcomes of Phase IV to develop recommendations for leadership on how to communicate more effectively with the centennial generation in the workplace.

It was concluded that most of the guidelines concerning effective leadership communication that were referred to by participants in Phase II of the research, also addressed generation Z's expectations of leadership communication. They also emphasized the importance of relational communication. The

centennial generation expect leadership to trust in their abilities, and they prefer communication that engages them personally. Extra emphasis was placed on the fact that communication from leadership should create a culture that allows room for individual expression and face-to-face interaction.

Keywords: Leadership communication, intergenerational communication, generation Z, qualitative paradigm, evolutionary concept analysis, hermeneutic phenomenological study, relational communication

REFERENCES

- De Lange, L. (2017), "A leadership communication value chain model", (PhD Thesis), University of the Free State, Bloemfontein, South Africa.
- Groenewald, T. (2004), "A phenomenological research design", *International Journal of Qualitative Methods*, Vol. 3 No. 1, pp. 1-26.
- Mc Elfresh, J. and Stark, R.K. (2019), "Communicating across age lines: A perspective on the state of the scholarship of intergenerational communication in the health sciences libraries," *Journal of Hospital Librarianship*, Vol. 19 No. 1, pp.
- Rodgers, B.L. (2000), *Concept analysis: An evolutionary view*. In *Concept development in nursing: Foundations, techniques and applications* (2nd ed.), edited by B.L. Rodgers & K.A. Knafl. Philadelphia: W.B. Saunders Company. pp. 77-117.
- Rudolph, C.W., Rauvola & Zacher, H. (2018), Leadership and generations at work: A critical review. *The Leadership Quarterly*, Vol. 29, pp. 44-57.

THE BUSINESS MODEL FROM A SMALL AND MEDIUM-SIZED ENTERPRISES PERSPECTIVE – A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

INTRODUCTION

The Business Model (BM) and the Small and Medium-sized Enterprises (SMEs), whether considered individually, are two issues deeply investigated in scientific literature. Many authors have analysed the BM of big firms (e.g., Matzler *et al.*, 2013) or developed frameworks (e.g., Osterwalder and Pigneur, 2010) and theories (e.g., Markides and Sosa, 2013) in order to drive large companies towards the adoption of a BM.

Large companies are generally considered to be the heart of the economy, whilst SMEs are only “little big companies” (Tilley, 2000, p.33). Nevertheless, several articles have concentrated their attention on the peculiarities, weaknesses, and strengths of the SMEs, since they are an important economic force that contributes to the value creation of most countries. In particular, SMEs are heterogeneous in size, resources and management style (Jenkins, 2004). It is worth noting that in SMEs, ownership and management are not separated since the control remains in the hands of owner, who has a direct and personal relationship with the local communities. In this way, SMEs build and enhance their reputation and competitiveness. Moreover, since small firms are independent, multitasking, flexible and adaptive, they are less bureaucratic and more capable of enduring change and providing an innovation (Jenkins, 2009; Arbussa *et al.*, 2017). In this context, the BM theory cannot be simply scaled down to fit SMEs, given that the way in which SMEs generate, capture and deliver value may be very different from large companies.

Recently, the theme of BM in SMEs has been receiving increasing attention within academic literature but, to the best of the authors’ knowledge, a systematic examination of this topic is still lacking. For these reasons, this paper attempts to answer a recent call when it comes to extending the BM research agenda to SMEs (Nielsen *et al.*, 2019).

METHOD

A systematic literature review was carried out following the method proposed by Tranfield *et al.* (2003).

The questions to which this review seeks to reply are:

RQ1: What is the current state of the art of the literature on the Business Model in the Small and Medium-sized Enterprises?

RQ2: What issues have emerged in the literature on the Business Model in the Small and Medium-sized Enterprises?

As far as the review is concerned, the terms “Business model” and “SMEs” were searched in the fields of article title, abstract, and keywords, by selecting article, article in press, review, and conference papers as document type. Since “Business, Management and Accounting” is the “Subject Area” with the most contributions, this was the only one that was chosen. For this search both Scopus database and ISI Web Of Science search engines were used, thus including papers published in different Journals. After excluding the contributions that were present in both databases, 126 articles were selected. All the abstracts were studied and some of them that mentioned one of the keywords only once, or addressed the topic marginally, or were not in English, were discarded. Therefore, 55 articles were considered for the literature review.

FINDINGS

The findings were obtained through a descriptive and thematic analysis. The descriptive analysis provided the first insights for the topic and was performed by following the criteria used in Seuring *et al.* (2005) (e.g., applied methods, the distribution of publications across the time period), whereas the thematic analysis identified the key emerging issues. Through the descriptive analysis, it was noted that the theme of the BM in the SMEs has experienced increasing attention starting from 2014, whilst in the previous period, interest appeared to be intermittent. As far as the methods are concerned, the most popular include survey (20) and case study (17), whilst there were fewer conceptual papers (11). Finally, the empirical papers focused on specific countries, such as the UK, China, and Australia.

In the thematic analysis, four recurring themes were observed in the literature on the BM in the SMEs: collaboration, innovation, corporate sustainability, and internationalisation.

The analysis highlighted that a distinguished element is certainly the SMEs’ entrepreneur who, at the same time, is also owner and manager. Control remains in the hands of the owners and this somehow legitimates their personal choices on how to use company resources. Informal and interpersonal relations and communication are predominant. Literature also noted that SMEs are very adaptive. The specificities of SMEs affect their BM. The BM “elucidates how an organization is linked to external stakeholders, and how it engages in economic exchanges with them to create value for all exchange partners” (Zott and Amit, 2007, p. 181). The position of the single owner-manager is ideal for interacting with stakeholders and seizing new opportunities. The dominance of informal and interpersonal relations between SMEs and stakeholders of the local communities may be considered an

important value added for the construction, along with the stakeholders, of an SMEs business network. In this way, an SME can effectively exploit opportunities and capture value (Zott and Amit, 2013). Moreover, the owner-manager has the decision authority, a position useful for a flexible organisational structure and for the creation of a transformation in a rapid and radical way. Consequently, SMEs have “structural” advantages when it comes to introducing innovation in their BM (Chesbrough, 2010) so as to capitalise on recognised opportunities (Guo *et al.*, 2016). As several researchers have shown, SMEs experience a lack of resources, which impedes investment in innovation. The solution to these obstacles might be the creation of clusters that are characterised by the collaboration amongst companies operating in the same geographic area (Lepoutre and Heene, 2006). Moreover, the interactions between the SMEs and the network could encourage the pursuit of socio-environmental issues (Murillo and Lozano, 2009; Avram *et al.*, 2018) and the establishment of internationalisation strategies (Child *et al.*, 2017).

CONCLUSION

The review shows that there are only a few papers in literature in order to help enhance our understanding of SMEs’ BM. Indeed, much of the academic literature on BM focuses on large corporate organisations. In addition, there is a clear need for more research that will promote knowledge in this research area. Finally, the four topics identified through this review may provide guidance for the owner-manager of SMEs to understand BM in the context of their business, in order to seize opportunities and reduce barriers deriving from SMEs peculiar characteristics.

Keywords: SMEs; Business Model; systematic literature review; innovation; collaboration; internationalisation; corporate responsibility.

REFERENCES

- Arbussa, A., Bikfalvi, A. and Marquès, P. (2017), “Strategic agility-driven business model renewal: the case of an SME”, *Management Decision*, Vol. 55 No. 2, pp. 271-293.
- Avram, D.O., Domnanovich, J., Kronenberg, C. and Scholz, M. (2018), “Exploring the Integration of Corporate Social Responsibility into the Strategies of Small-and Medium-Sized Enterprises: A Systematic Literature Review”, *Journal of Cleaner Production*, Vol. 201, pp. 254-271.
- Chesbrough, H. (2010), “Business Model Innovation: Opportunities and Barriers”, *Long Range Planning*, Vol. 43, pp. 354-363.
- Child, J., Hsieh, L., Elbanna, S., Karmowska, J., Marinova, S., Puthusserry, P., Tsai, T. Narooz, R. and Zhang, Y. (2017), “SME international business models: The role of context and experience”, *Journal of World Business*, Vol. 52, pp. 664-679.
- Guo, H., Tang, J., Su, Z. and Katz, J.A. (2017), “Opportunity recognition and SME performance: the mediating effect of business model innovation”, *R&D Management*, Vol. 47 No. 3, pp. 431-442.
- Jenkins, H. (2004), “A critique of conventional CSR theory: an SME perspective”, *Journal of General Management*, Vol. 29 No. 4, pp. 37-57.

- Jenkins, H. (2009), "A "business opportunity" model of corporate social responsibility for small and medium-sized enterprises", *Business Ethics: A European Review*, Vol. 18 No.1, pp. 21–36.
- Lepoutre, J. and Heene, A. (2006), "Investigating the impact of firm size on Small Business Social Responsibility: A critical review", *Journal of Business Ethics*, Vol. 67 No. 3, pp. 257-273.
- Markides, C. and Sosa, L. (2013), "Pioneering and first mover advantages: The importance of business models", *Long Range Planning*, Vol. 46, pp. 325-334.
- Matzler, K., Bailom, F., von den Eichen, S.F. and Kohler, T. (2013), "Business model innovation: coffee triumphs for Nespresso", *Journal of Business Strategy*, Vol. 34 No. 2, pp. 30-37.
- Murillo, D. and Lozano, J.M. (2008), "Pushing forward SME CSR through a network: an account from the Catalan model", *Business Ethics - A European Review*, Vol. 18 No.1, pp. 7-20.
- Nielsen, C., Lund, M., Montemari, M., Paolone, F., Massaro, M. and Dumay, J. (2019), *Business Models. A research overview*, Routledge, London and New York.
- Osterwalder A. and Pigneur Y. (2010), *Business model generation: A Handbook for visionaries, game changers and challengers*, John Wiley and Sons, New Jersey.
- Seuring, S., Müller, M., Westhaus, M. and Morana, R. (2005), "Conducting a Literature Review – The Example of Sustainability in Supply Chains", In: Kotzab, H., Seuring, S., Müller, M. and Rainer, G. (Eds.), *Research Methodologies for Supply Chain Management* (pp. 91-106), Physica-Verlag, Heidelberg, New York.
- Tilley, F. (2000), "Small firm environmental ethics: how deep do they go?", *Business Ethics: A European Review*, Vol. 9 No. 1, pp. 31-41.
- Tranfield, D., Denyer, D. and Smart, P. (2003), "Towards a methodology for developing evidence-informed management knowledge by means of systematic review", *British Journal of Management*, Vol. 14, pp. 207-222.
- Zott, C. and Amit, R. (2007), "Business model design and the performance of entrepreneurial firms", *Organization Science*, Vol. 18, pp. 181–199.
- Zott, C. and Amit, R. (2013), "The business model: a theoretical anchored robust construct for strategic analysis", *Strategic Organization*, Vol. 11, pp. 403-411.

THE VALUE OF CREATING A HEALTHY FRAMEWORK FOR SUSTAINABLE LIFE

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ABSTRACT

The present study is focused on the results of a pilot survey about the influence of different styles of living on the people's health. The results were extrapolated to identify specific socio-economic benefits of people healthy lifestyle meant to increase savings for healthy activities and make people competitive at work, etc.

This paper outlines the relation between the healthy lifestyle and the decrease of associative diseases development, with accents on the connections between the healthy living style and the socio-economic effects on the individual and society budgets (savings of health expenditures, improving the perspective of returning at work). The research has been limited to quantify the consequences of heart problems, diabetes and depression - the most influential diseases generated by lack of consideration for own body and lack of caringness for the health safe keeping because of bad behaviours adopted: smoking, drinking alcohol, over-using coffee, over-eating, lack of physical activity

The conclusion is that people from rural areas working physically in open air, sunlight and nature, no matter how difficult their work is, are less stressed and suffer less from cardiovascular and nutritional diseases compared to urban people larger exposed to over-working programs and pollution.

Keywords: life style, healthy framework, economic effects

REFERENCES

- Berkman, Lisa F. and Lester Breslow, (1983), Health and Ways of Living. The Alameda County Study, NY: Oxford University Press, <https://www.amazon.com/Health-Ways-Living-Alameda-County/dp/0195032160>.
- Bond F.W. and Bunce D., (2001), Job control mediates change in a work reorganization intervention for stress reduction. Journal of Occupational Health Psychology, 6 (4), Oct., pp: 290-302, <https://www.ncbi.nlm.nih.gov/pubmed/11605824>.
- Hicks, Doris T., Lori F. Pivarnik, Ryan McDermott, Nicole Richard, Dallas G. Hoover and Kalmia E. Kniel, (2009), Consumer Awareness and Willingness to Pay for High-Pressure Processing of Ready-to-Eat Food, Food Science Education Research, Vol.8,pp: 32-38, <http://www.programamoscamed.mx/EIS/biblioteca/libros/articulos/Hicks,D.T%20et%20al%202009.pdf>.
- Popkin B.M, (2008), Will China's Nutrition Transition Overwhelm Its Health Care System And Slow Economic Growth?, Health Affairs, Vol.27, (Millwood), Sep-Oct;27(5), pp: 1064-1076, PMID: 18607042, PMCID: PMC2447919, DOI: 10.1377/hlthaff.27.4.1064.
- Reeder R.J. and Dennis M.Brown, (2005), Recreation, Tourism and Rural Well-Being. A Report from the Economic Research Service, USDA-ERS, https://www.ers.usda.gov/webdocs/publications/46126/15112_err7_1_.pdf?v=0.

Russell L.B., (2009) Preventing Chronic Disease: An Important Investment, But Don't Count On Cost Savings, *Health Aff (Millwood)*, Jan-Feb;28(1),pp:42-5, doi: 10.1377/hlthaff.28.1.42., PMID: 19124852 DOI: 10.1377/hlthaff.28.1.42.

Sturm R., (2002), The Effects Of Obesity, Smoking, And Drinking On Medical Problems And Costs, *Health Aff (Millwood)*, Mar-Apr, 21(2), pp:245-53, PMID: 11900166 DOI: 10.1377/hlthaff.21.2.245.

Topiwala A., (2017), Moderate alcohol consumption as risk factor for adverse brain outcomes and cognitive decline: longitudinal cohort study, *British Medical Journal*, 357;j2353, pp: 1-20, <https://doi.org/10.1136/bmj.j2353> (Published 06 June 2017).

Vijayakumar, T.Vignasha, A.Murugesan and N.Bavana, (2015), Effect of Erroneous In Ergonomics and Its Remedies to Workers in Industries-A Literature Survey, *International Journal on Recent and Innovation Trends in Computing and Communication*, Vol.: 3 Issue, pp: 368 - 377, ISSN: 2321-8169.

Woolf, Steven H., Corinne G. Husten, Lawrence S. Lewin, James S. Marks, Jonathan E. Fielding and Eduardo J. Sanchez, (2015), The Economic Argument for Disease Prevention: Distinguishing Between Value and Savings, A Prevention Policy Paper Commissioned by Partnership for Prevention, <https://iogt.org/wp-content/uploads/2015/03/economicargumentfordiseaseprevention.pdf>.

THE COMPETITIVE ADVANTAGE ACQUIRED THROUGH EMPLOYEES' HEALTHCARE: ACTIONABLE HEALTH CARE STRATEGIES CREATING COMPETITIVE EDGE

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ABSTRACT

The employees' safety and welfare are conditions for higher quality and improved productivity – as socio-economic levers of development. Healthy employees have higher motivation, greater job satisfaction, better contribution at work.

The correct identification of occupational hazards and their supervision at workplace, as employers' responsibility, are the labour medicine's drivers. Compulsory by law, organized medical services serve occupational safety and health as part of general improvement in working conditions. A related strategy is necessary not only to ensure employees' security, but to increase productivity too. It is proved that healthy employees have higher motivation to work, greater job satisfaction and better contribution to delivering products and services, favouring the quality of their work and life's satisfaction.

The correct identification of occupational hazards and their monitoring at the workplace as employers' responsibility, allow the identification of potential damages of individuals - physical capacities and capabilities as physical capital, the relational capacity to develop relations within the society, and the professional valuable capital of the company (Karasek, 1998).

The health principles, built on behaviours and attitudes (Warr, 1990), sustain that healthy lifestyle and help creating the competitive advantages for employee's care. A sustainable environment, individuals' attractive skills development and logistic support for employees increase the interest in productivity, work enjoyment and build a friendly environment (Bond, 2001).

Highlighting plans and strategies for a healthy lifestyle for employees plays an important role (Giga, 2003). Consequently, some directions are highlighted, starting with the state-of-the-art of health policies, plans and strategies, to later address new directions to achieve the expected results.

Keywords: life style, healthy solutions, economic effects, business administration

REFERENCES

Bond F.W., (2001), Job control mediates change in a work reorganization intervention for stress reduction, *Journal of Occupational Health Psychology*, 6(4), pp: 290-302.

Sabir I. Giga, Andrew J. Noblet, Brian Faragher and Cary L. Cooper, (2003), The UK perspective: a review of research on organisational stress management interventions, *Australian Psychologist*, 38(2), pp: 158-164, DOI: 10.1080/00050060310001707167.

Karasek, Robert, Quintal Brisson, Norito Kawakami, Irene Houtman, Paulien Bongers and Benjamin Amick, (1998), The Job Content Questionnaire (JCQ): An Instrument for Internationally Comparative Assessments of Psychosocial Job Characteristics, *Journal of Occupational Health Psychology* 3(4), pp: 322-355.

Warr P., (1990), The measurement of well-being and other aspects of mental health, *Journal of Occupational Psychology*,: 193-210, DOI:10.1111/j.2044-8325.1990.tb00521.x, <https://www.semanticscholar.org/paper/The-measurement-of-well%E2%80%90being-and-other-aspects-of-Warr/9348bdbf6c98e73e4152416fb8e44a553e40ff38>

COMPETITIVE INTELLIGENCE IN THE DIGITAL AGE: NEUROTECHNOLOGIES FOR HUMAN COGNITIVE AUGMENTATION

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ABSTRACT

The early period of Competitive Intelligence - the 80's - was the pre-internet period and was characterized mostly by analogue systems. Most of the data and information were gathered from primary sources. The data and information that were collected from secondary sources needed the intervention of the human factor to process, analyse and extract meaning from them. As technology evolved, most of today's data and information is generated and stored in digital format - this period known as Digital Age. Digitized

ion is a process that generates a huge amount of data that cannot be analysed in real-time by human users. This context has led to the accelerated development of solutions that process and analyses a huge volume of data that bears the generic name of "cognitive solutions". 'Cognitization' was a logical step in the digitization advancement and expansion of gobbling. IBM's Cognitive Business (IBM, 2015), as an application of the Watson platform, revolutionizes how to obtain, analyse, store and use digital information for economic and financial decisions. The Microsoft Brainwave (Microsoft, 2017) project promises access to real-time artificial intelligence (AI) services, especially in the financial and research environment. Immersive cognitive systems allow corporations to lead from a veritable "cockpit" or "bridge" with situational assessment rooms, cognitive boardrooms, immersive classes etc. in which human staff will constantly interact with artificial cognitive agents. For smaller businesses (national, regional), it is estimated that in the coming years, access to AI services over the internet (InternetDeliver AI) will be the standard for the civil business domain (Mary, 2015).

In the field of Competitive Intelligence, the goal of practitioners is to collect data and information that they process and analyse, then transform them into intelligence suggesting actions, strategies or decisions. To respond rapidly to the urgent need to collect relevant data and information from an increasingly volatile, uncertain, complex and ambiguous environment, as characterized by the current economy, Competitive Intelligence practitioners need to build fast and efficient work systems such as those described above. At the same time, they need to develop new skills, such as agility and attention. Attention is a mandatory condition for Competitive Intelligence practitioners while agility often depends on the ability to maintain a high level of attention (focus) and at the same time the

rapid response to the stimulus (alertness). The ability of analysts to remain focused on a particular goal is what ensures their success or failure.

For the Intelligence Competitive practitioner to remain relevant, efficient and to keep up with an environment that contains a large volume of information, while the field of Artificial Intelligence develops, it needs to enhance his cognitive abilities through optimization, stimulation and augmentation. Among these three methods, the one that represents the subject of this paper is augmentation.

Augmentation implies enhancing the cognitive abilities within while optimizing and stimulating the factors of intervention. For optimization, intervention can be done through pharmacological means such as nootropic drugs or smart drugs. Stimulation can be obtained through neuro-technology: electrical and magnetic transcranial stimulation (Wingeier, 2017). Another way to classify brain stimulation methods is to divide them into two broad categories: invasive methods and non-invasive methods. Invasive methods involve direct brain intervention such as Deep Brain Stimulation (DBS) and have been used for learning enhancement (Clark & Parasuraman, 2014; Suthana & Fried, 2014). The most popular non-invasive brain-stimulation technologies are transcranial electrical stimulation (TES), transcranial magnetic stimulation (TMS), and focused ultrasound (FUS). While the three of them – optimization, stimulation, augmentation – are means of brain enhancement, augmentation is non-invasive, risk-free and it is the only one that is based on neuroplasticity – which means the ability of the brain to learn new things. Much recent research (Edmonds & Tenenbaum, 2012) has led to amazing understandings about the relationship between pleasure, learning and motivation in the brain. It is now known that there is a centre of pleasure in the medial part of the prefrontal cortex, right in the middle of the forehead, a part that is involved in the process of focus attention, alertness, learning and that motivates us to go forward.

Pleasure and happiness are the basic motivators for our lives. We want to expand happiness and pleasure develops momentum. We learn to associate many types of events with these feelings. Living in a sense of happiness, we change our vision of life, the reaction to events and situations, our memory, our learning and our general well-being. When we are happy, we connect much more easily to others. As we know, the maintenance of positive emotions stimulates health while maintenance of the negative benefits of the disease.

Mental training is based on biofeedback – it is a method that uses the mind to control a function of the body that is normally regulated automatically, such as body temperature, heart rate, happiness and pleasure etc. to increase the production of high-frequency (gamma) brainwaves from the medial part of the prefrontal cortex. In short, people can teach their brains how to raise their attention, alertness happiness and other positive feelings that are associated with the production of chemicals

(endorphins and dopamine). Based on a device that measures the frequency of brain waves and software that interprets this information, we can tell when the brain (based on the fact that certain activities and certain states are associated with certain types of waves) is concentrated when it secretes dopamine when it is happy and other. This type of training is called neuro-feedback.

Advances in neuroscience and the development of neuro-technologies have progressively raised new and unique ethical issues (“neuroethics”), in addition to the more traditional aspects related to human participation in research studies.

The most important ethical issues are related to: Mind Reading and Privacy; Agency, Responsibility and Liability; Safety and Invasiveness of Brain Enhancement, Society

Keywords: Competitive Intelligence, Digital Age, neurotechnology, cognitive business, strategy, artificial intelligence, cognitive augmentation, decision-making.

REFERENCES

- Clark, V. P., and Parasuraman, R. (2014). Neuroenhancement: enhancing brain and mind in health and in disease. *Neuroimage*, 85, pp: 889–894.
- Edmonds, W.A. and Tenenbaum, G. (2012), *Case Studies in Applied Psychophysiology - Neurofeedback and Biofeedback Treatments for Advances in Human Performance*, John Wiley & Sons.
- Martialay, M.L., (2015), IBM Research and Rensselaer Polytechnic Institute Pioneer Next-Generation Cognitive Environments for Business Decision Making. RPI news, published [online] on 18.12.2015 <https://news.rpi.edu/content/2015/11/17/ibm-research-and-rensselaer-pioneer-next-generation-cognitive-environments>.
- Wingeier, Brett,(2017), Qué es la neuroimpronta?, <https://www.halosport.es/ciencia/https://www.ibm.com/watson/>
<https://www.microsoft.com/en-us/research/blog/microsoft-unveils-project-brainwave/>.

RE-EXAMINING THE LEARNING PROCESS IN SMALL FIRMS: MULTI-CASE ANALYSIS ON THE USE OF SOCIAL MEDIA

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ABSTRACT

This paper is aimed at exploring the merits of an organisational learning perspective as a framework for analysing the continuous use of social media (SM) technology in small firms. Despite the scholarly call for building entrepreneurial learning theory, the entrepreneurial literature remains highly individualistic, ad hoc and fragmented, calling for both theoretical and empirical development (Wang and Chugh, 2014). Wang and Chugh (2014) argue that despite the insights from entrepreneurship and organizational learning on the integration of individual and collective learning, several questions deserve more attention in future research: for example, 'How do small firms learn to use Social media?' 'How do small firms manage the risks associated with the use of social media?' This study is intended to provide empirical evidence to fill these gaps.

There is also a gap in the literature with regards to the lack of a longitudinal study in this area and a deeper understanding of behaviour and beliefs. In their study of how a social venture forms reference points for social performance, Andre et al. (2018) used a longitudinal qualitative case study and suggest that a longitudinal study would provide more conclusive evidence as to the process through which beliefs, attitudes, norms, and intentions are formed and temporally evolve. They suggest that further research should look into how individuals receive, make sense of and assess feedbacks, while Mathias and Williams (2018) encourage future longitudinal exploratory studies.

A longitudinal multiple case studies approach is chosen because extant literature indicates that it is an appropriate method for having a clear understanding of observable phenomena (Gummeson, 2005; Yin, 2014). The case study firms were purposively selected to provide data pertinent to understanding the research objective (Shaw, 1999). The ten case study firms were drawn from different business sectors. To be included in the study the firms had to be in existence for five years; be independently owned; and have adopted social media for at least a year. Each firm had to meet the EU's (2008) definition of SMEs. A case material is built up on each company. In the UK, the majority of businesses are engaging with social media in some form. However, in certain sectors there is a huge lack of proper integration of social media to the business as a whole and limited value on offer to the consumer (McGrory, 2016).

The findings in the study suggested that small firms only learned to manage risks after things have gone wrong and either caused embarrassments or reputational damage. They learned through

experience/mistakes and the experiences of others to manage risks through a number of ways such as providing staff guidelines, creating social media policy for staff, monitoring and listening to customers' complaints, keeping record of passwords and establishing ownership of social media accounts.

The study contributes to the broader body of literature by providing evidence to illustrate the learning process involved in the use of social media by small firms, thus helping to advance entrepreneurial research. It contributes to knowledge by identifying the key learning features in relation to social media technology and SMEs and how they evolve around the managers. Finally, it discusses how organizational factors in small firms influence the aspect of learning and relearning from past and potential future behaviors. Simply put, how learning takes place and when learning takes place are fundamental to the understanding of entrepreneurial process (Wang and Chugh, 2014). Thus, this study illustrates how small firms learn to develop a social media competence. The paper suggests that conceptualizing the use of social media in small firms within the context of organizational learning holds promise as an explanatory framework.

Keywords: Enterprise social media; technology entrepreneurship; entrepreneurial learning; organisational learning; qualitative methodology

REFERENCES

- Andre, K., Cho, C. H., Laine, M., 2018. Reference points for measuring social performance: Case study of a social business venture. *Journal of Business Venturing*, 33, 660-678.
- Gummesson, E., 2005. Qualitative research on marketing: road-map for a wilderness of complexity and unpredictability. *European Journal of Marketing* 2005, 39 (3/4), 309-27.
- Mathias, B. D., Williams, D. W., 2018. Giving up the hats? Entrepreneurs' role transitions and venture growth. *Journal of Business Venturing*, 33(2018), 261-277.
- McGrory, R. 2016. UK Social Media User Statistics 2016, available at: <http://www.rosemcgrory.co.uk/2016/01/04/social-media-statistics.2016/> Access 27/02/16.
- Shaw, E., 1999. A guide to the qualitative research process: evidence from a small firm study. *Qualitative Market Research: An International Journal*, 2 (2), 59-70.
- Wang, C. L., Chugh, H., 2014. Entrepreneurial Learning: Past Research and Future Challenges. *International Journal of Management Reviews*, 16, 24-61.
- Yin, R., 2014. *Case Study Research: Design and Methods*. (5th ed.). Sage, London.

CRITICAL SUCCESS FACTORS AND RISKS FOR INTERNATIONALIZATION OF SMES: COMPARISON BETWEEN DEVELOPED AND DEVELOPING COUNTRIES

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ABSTRACT

In the past, international business researchers have predominantly engaged their research upon multinational companies, mainly in the developed countries. Then over the years as the importance of SMEs grew in general, internationalization of SMEs grew as a topic as well, more in developed countries, but also in emerging markets or newly industrialized economies as well (Chiao et al., 2006). This abstract is part of a current research that analyzes the most significant successful factors and barriers for internationalization of SMEs in general, making a comparison between the ones from developed and developing countries. In the dissertation the author gives a detailed literature review of development of internationalization theories of SMEs throughout the years, while in this abstract, the authors provide short literature review with examples of some of the most significant factors and barriers for success. In addition to this as the dissertation is work in progress, the abstract concludes with discussion about the future development of the dissertation, with its methodology, data analysis and contributions to be gained by it.

One of the most important factors for successful internationalization of small and medium sized companies if compared to multinational companies has been networking. Many scholars have researched the networking occurrence, that is, the inter-connection of the firm with its foreign partners, customers and suppliers, as the most significant success determinant in internationalization (Sekliuckiene et al 2016, Johanson & Vahlne 2009). Several opportunities are created with the international networking incremental for success: foreign market possibility identification, potential partners, reductions of foreignness and newness on the market, etc. Networking can have different forms, such as strategic alliances, joint ventures, licensing agreements, subcontracting, joint R&D, joint marketing activities, etc. (Shirec and Bradach, 2009). Incorporating the customers, suppliers, higher education institutions, research laboratories, public organizations, clusters, public groups and communities in the innovation process (called open innovation strategy) is another form of networking that can greatly assist the internationalization process (Sekliuckiene et al, 2016). Therefore, various forms of international networking exist and SMEs should be open minded and embrace as many forms as possible in order to successfully enter in foreign markets.

Another significant factor of successful internationalization is outsourcing some of the activities, especially lately offshore outsourcing. Companies are struggling to gain innovative ideas and products in order to be able to compete against multinationals and low-priced competition coming from the emerging economies. (Tiwari et al., 2007). Especially for SMEs it is very difficult to be in line with the new trends and new technologies, because of several reasons, out of which most important are limited resources. SMEs have the opportunities with the globalization to hire companies internationally and engage them in some of their core activities, such as even R&D activities as many industrialized countries have shortages of skilled labor (Tiwari et al., 2007; Di Gregorio et al, 2009). Research done by the Fraunhofer Institute for Systems and Innovation Research upon 13295 German SMEs in 2003 confirms positive trends in almost one third of companies doing offshoring outsourcing (Kinkel et al, 2008). Therefore, offshore outsourcing should be evaluated as one of the valuable success factors for internationalization of SMEs.

The literature review will continue with investigating further success factors such as entrepreneurial skills of the owners, training of people in international business, cultural closeness, international market monitoring, governmental funding programs and other assisting mechanisms, financial managerial skills, technology levels and investments in technology, niche markets specialization, imitating successful competition, etc.

To continue with the search for all important factors of success, one needs to study not only the success positive factors, but also the difficulties when companies internationalize. Shortages of capital and limitations of banking support have been a major difficulty for going abroad, for all companies in general, but especially for small and medium sized enterprises. SMEs have been viewed as weak and insecure enterprises when compared to bigger companies and crediting organizations are not very willing to finance exporting activities of SMEs (Ruiz and Perez, 2017). Internationalization means confronting unknown markets, new competitors, unknown institutions and banks do not like to credit such uncertainties or usually would charge SMEs bigger interest rates if compared to MNEs (Ruiz and Perez, 2017; OECD, 2009). Therefore, lack of capital and shortages of working capital to finance exports has been one of the major challenge for internationalization of SMEs and SMEs should invest in better financial managerial knowledge and expertise in order to efficiently manage the scarce resources and become successful in the international markets.

The next significant barrier that has emerged from current research is limited managerial internationalization knowledge (OECD, 2009). Managerial risk perceptions were one of the major reasons why companies did not go abroad. Human capital, the founders international background and global network and his/her entrepreneurial characteristics were biggest challenges for the success of the companies abroad (Filatotchev et al, 2009). Further research will analyze additional difficulties

and barriers such as limited information to markets, the inability to contact potential overseas customers, difficulties of finding the right distribution channels and representation distributors, bureaucracy and local legislation, differences in product and service range, language barriers and cultural differences, lack of government incentives, etc.

The methodology of the research will be a case study approach done upon 20-30 companies from 4 countries evenly distributed among countries. Two countries will be developed ones, that is Germany and Austria; and two countries will be developing ones, Serbia and North Macedonia. Interviews and questionnaires will try to depict the most significant success factors and difficulties of internationalization of SMEs and comparison between developing and developed countries will be searched for. SMEs will be selected that have over 5 years of experience in international markets and that successfully export or invest in 3 foreign markets. In addition to this data, the research will try to gain qualitative valuable information from interviews done with local experts in internationalization of SMEs, professors from local universities in this sector, public chiefs of export departments of local ministries or chambers of commerce, etc. After the analysis of both data, the author will try to gather all information in a valuable roadmap for successful internationalization of SMEs from both developed and developing countries. This roadmap will contribute to the academic knowledge of internationalization of SMEs, especially from developing countries. In addition, this research will be very significant for the SMEs that are speculating going abroad and of course to the governmental relevant institutions that aim to increase exports of local companies. Limitations could be limited number of countries and companies, coming all from the EU market. The author is considering to limit the research upon 2 industries, because differences among sectors have been evident. In addition, the author is considering to analyze factors and barriers at entrance in a foreign market, but also factors and barriers after 3 to 5 years of existence in the foreign markets, as differences have been evident here as well.

Keywords: internationalization of SMEs, success factors, barriers, developed and developing countries, networking, offshore outsourcing, shortages of working capital, limited managerial internationalization knowledge

REFERENCES

- Chiao, Y.-C., Yang, K.-P. and Yu, C.-M. J. (2006) 'Performance, Internationalization, and Firm-Specific Advantages of SMEs in a Newly-Industrialized Economy', *Small Business Economics*, 26(5), pp. 475-492. doi: <https://link.springer.com/journal/volumesAndIssues/11187>
- Di Gregorio, D., Musteen, M. and Thomas, D. E. (2009) 'Offshore Outsourcing as a Source of International Competitiveness for SMEs', *Journal of International Business Studies*, 40(6), pp. 969-988. doi: <https://link.springer.com/journal/volumesAndIssues/41267>

- Filatotchev, I. et al. (2009) 'The Export Orientation and Export Performance of High-Technology SMEs in Emerging Markets: The Effects of Knowledge Transfer by Returnee Entrepreneurs', *Journal of International Business Studies*, 40(6), pp. 1005–1021. doi: <https://link.springer.com/journal/volumesAndIssues/41267>
- Johanson, J. & Vahlne, JE. *J Int Bus Stud* (1977) The internationalization Process of the Firm- A Model of Knowledge Development and Increasing Foreign Market 8: 23. <https://doi.org/10.1057/palgrave.jibs.8490676>
- Kinkel, S., Lay, G. and Maloca, S. (2008) 'Patterns of Internationalization of German SMEs: Surveying Manufacturing Offshoring', in Dana, L.-P. et al. (eds) *Handbook of Research on European Business and Entrepreneurship: Towards a Theory of Internationalization*. Cheltenham, U.K. and Northampton, Mass.: Elgar, pp. 246–262. Available at: <http://search.ebscohost.com/login.aspx?direct=true&db=eoh&AN=1042280&site=ehost-live> (Accessed: 11 May 2019).
- OECD (2009), "Top Barriers and Drivers to SME Internationalisation", Report by the OECD Working Party on SMEs and Entrepreneurship, OECD, <https://www.oecd.org/cfe/smes/43357832.pdf>.
- Ruiz, J. L. G. and Pérez, P. F. (2017) 'Financing the Internationalization of Spanish Industrial SMEs, 1980-2000: The Case of the Grifols Group', *Universia Business Review*, (55), pp. 64–79. doi: 10.3232/UBR.2017.V14.N3.03
- Sekliuckiene, J., Sedziniauskiene, R. and Viburys, V. (2016) 'Adoption of Open Innovation in the Internationalization of Knowledge Intensive Firms', *Engineering Economics*, 27(5), pp. 607–617. doi: 10.5755/j01.ee.27.5.15371
- Tiwari, Rajnish and Buse, Stephan, Barriers to Innovation in SMEs: Can the Internationalization of R&D Mitigate Their Effects? (October 1, 2007). Proceedings of the First European Conference on Knowledge for Growth: Role and Dynamics of Corporate R&D - CONCORD 2007, October 8-9, 2007, Seville, Spain. Available at SSRN: <https://ssrn.com/abstract=1583446>
- Širec, K. and Bradač, B. (2009) 'How does Networking Impact the SMEs Growth', *Organizacija*, 42(2), pp. 59–66. doi: 10.2478/v10051-009-0003-4.

EFFECTS OF INDIVIDUAL DIFFERENCES ON EVALUATING TECHNOLOGICAL PRODUCTS

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ABSTRACT

Individual differences influence motives for interacting with products and in turn preference for these products. Human-computer interaction (HCI) experts overlook these differences when suggesting general guidelines for a fruitful interaction. One evidence to the gap between what people want and what design experts advocate for, is evident in the complexity crisis business experts warn against. While HCI experts advocate for simplicity in interactive product designs, people want more complexity, as stated by the paradox of simplicity. In this paper we suggest that unravelling differences between individuals is crucial for technology management because the understanding of preference formation, can help in resolving paradoxes such as the paradox of simplicity. Our model explains how demographic variables (age and gender) and trait-related individual differences influence product evaluation process.

INTRODUCTION

Product visual design provides information for potential users and consumers about the product (Eytam et al., 2017). While Human Computer Interaction (HCI) researchers' have identified the impact of the design on product perception, there is still a gap between the conceptual models of designers and users in relation to interactive products. Experts advocate for simple designs, but users and consumers often choose complex product designs, which brings about a complexity crisis. Complexity crisis in technological products is caused because people want more features and manufacturers are often tempted to supply overly complex products, to meet market demand. It is important to understand how visual simplicity level (VSL) effects product perception and preference because inclusion of too many features in products, potentially decreases customer lifetime value (Thompson et al., 2005). The paradox of simplicity states that although simplicity is supposed to help people in achieving their goals efficiently and effectively, it may not always be chosen over the complex overladen alternatives (Eytam et al., 2017). Several explanations were suggested to resolve this paradox, such as goal-oriented versus experiential motivations (Nadkarni and Gupta, 2007). The effect of individual differences on the perception of VSL was neglect from this analysis. Still, previous research has identified the moderating effect of age, level of education, and prior experience on technology use (e.g., Agarwal and Prasad, 1999). Social factors were found to influence intentions to use information technology (e.g. Thompson

et al., 2008). Finally, trait-related individual differences such as novelty seeking, technological self-efficacy, self-consciousness, and the need for interaction influence technology-based self-service. In this paper we argue that including individual differences in models explaining the paradox of simplicity may provide a more comprehensive understanding of how VSL influences product perception and interactive product preference. Some researchers introduce demographic characteristics as factors influencing perceived interactive product attributes (e.g., Venkatesh, 2000). Age was widely studied in relation to the technology acceptance model (TAM) (for a complete review see Chen and Chan, 2011). Age differences were found to influence various factors in technology adoption. Researcher report that older people are likely to accept technologies that are easy to use and have a simple interface design because of lower computer self-efficacy and a higher degree of anxiety about technology, compared to younger adults. Segmentation to gender influences interactive product judgments and preference. Specifically, women have lower confidence in their computer-related abilities and are more risk averse compared to men and thus they may be less willing to explore and adopt new features. Men give greater weight to practical utility than do women (Friedmann and Lowengart, 2013).

METHOD

HCI literature suggests that characteristics of the beholder moderate the relationships between perceived design attributes and preference. In an experiment 16 participants were interviewed (median age: 35; range 5–70; 56% females) about their attitudes and preferences of technology. A following literature review helped identify traits that may influences the perceptions and preference of interactive products. Five trait-related individual differences were included in the analysis: personal innovativeness and technological self-efficacy (measured by PIIT, ICSE scales respectively), social factor (measured by SCO scale) and general personality traits (measured by maximization and CVPA scales). Then Three hundred participants from a convenience sample (age: $M = 29.86$; $SD = 8.09$, range 14-66; 49% female) took part in filling out a survey assessing three different designs of the same technological product, and five measures taken from the literature assessing the five trait-related individual differences.

RESULTS AND CONCLUSION

Exploratory factor analyses with maximum likelihood analysis extraction (eigenvalue > 1) method using direct oblimin for oblique rotation (Kaiser Normalization) were applied to all individual differences measures. Items were loaded on their initially hypothesized factor. Cronbach's Alpha reliabilities of were adequate (between .74 and .89). Correlations between individual differences scales were relatively low, indicating their discriminant validity of those scales. Exploratory factor analysis

with maximum likelihood analysis extraction method (three factors specified for retention) and oblique rotation (direct oblimin with Kaiser Normalization) was applied to the responses of the nine items at each VSL tested. Items were loaded on three distinct factors according to their original categorization: ease-of-use, functionality, and aesthetics. The three factors explained between 66% and 70% in, and between 68% and 71% of the variance in the simple and complex design analysis, respectively. The item loadings on each factor ranged from .50 to .99, and from .58 to .99 in the simple and complex design analysis, respectively. The results reveal that differences between individuals influence the evaluation process in two manners: high social comparison orientation and maximization scores exert a positive effect on perceived functionality, aesthetics, and product preference; age and all recorded individual differences effect the saliency of major product attributes in the evaluation models of the different groups.

Keywords: User interface; individual differences; preference; ease-of-use; functionality; aesthetics.

REFERENCES

- Agarwal R., Prasad J. (1999). "Are individual differences germane to the acceptance of new information technologies?" *Decision Sciences* 30(2), pp. 361–391.
- Chen K., and Chan, A. H. S. (2011). "A Review of Technology Acceptance by Older Adults". *Gerontechnology* 10 (1): 1-12.
- Eytam E. Tractinsky N. and Lowengart O., (2017). "The Paradox of Simplicity: Effects of Role on the Preference and Choice of Product Visual Simplicity Level". *International Journal of Human - Computer Studies*. 105C, 43-55.
- Friedmann, E., and Lowengart, O. (2013). "Gender Differences in the Effects of a Product's Utilities and Identity Consumption on Purchase Intentions." *Journal of Business and Management* 19 (2): 5-19.
- Nadkarni S., Gupta R. (2007). "A task-based model of perceived website complexity". *MIS Quart.* 31(3), 501-524.
- Thompson R., Compeau D., Higgins C. and Lupton, N., (2008). "Intentions to use information technologies: An integrative model", in S. Clarke, ed. *End User Computing Challenges and Technologies: Emerging Tools and Applications*. New York: Information Science Reference, 79-101.
- Thompson D. V., Hamilton, R. W., & Rust, R. T., (2005). "Feature Fatigue: When Product Capabilities Become Too Much of a Good Thing", *Journal of Marketing Research*, 42 (November), 431-442.
- Venkatesh V., (2000). "Determinants of Perceived Ease-of-use: Integrating Perceived Behavioral Control, Computer Anxiety and Enjoyment into the Technology Acceptance Model", *Information Systems Research* 11:4, 342-365.

ACQUISITIONS IN THE FOOD FAMILY BUSINESS CONTEXT: EFFECTS ON PRODUCTS AND PROCESS INNOVATION

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ABSTRACT

RESEARCH GAP AND AIM

The food sector represents one of the most relevant pillars within the European Union, with an important effect on growth and employability as well as companies' revenues (Bigliardi & Galati, 2013; FoodDrinkEurope, 2016; Menrad, 2004).

A rich literature on the food sector examined different typologies of innovation applied (Baregheh et al., 2012; Capitano et al., 2010) and correlated business models (Giacosa et al., 2017). Also, the innovation literature within the food industry is quite well developed and established, highlighting even more the need to adopt an effective innovation process and opening it also to external stakeholders in order to speed up the successful introduction of new products and processes with the aim to be continuously competitive (Bresciani, 2010; Vrontis et al., 2016).

However, the introduction of new or improved products and processes in the food sector is still vague if we consider the impact of a merger and acquisition (Giacosa, 2012). This because most of the studies on innovation in this sector traditionally focused on the role of firm internal activities and skills (Chandler, 1990) and market driven factors (Arora et al., 2001).

Nevertheless, acquisitions in this industry increase in the last decades making interesting and intriguing to understand which are the effects on firm innovations. While much more studies have been developed in high tech sector, there is an emerging need to address this phenomenon in the food industry.

METHODOLOGY

Based on literature review, we proposed the following two main RQs of this study that aims at fill up the above research gap:

- What are the main changes in product development after the acquisition process?
- How the acquisition process changed the company's business model?

We adopted a qualitative methodology (single case study) methodology. As stated by Leppäaho et al. (2016), a single explanatory case study is a prominent methodological approach for making qualitative analysis of the family business phenomenon, as this is a particular area that allow the researcher to analyse the investigated phenomenon from numerous and different perspectives.

The subject of the case study under analysis is an Italian fine food company based on the production of typical Italian food, such as chocolate and panettone. This is a company established after a M&A between two local Italian family food: the first one focused on the production of panettoni, while the second one on chocolate. The acquisition has been made in 2014. This case study is prominent as it permits to identify how an acquisition in food industry is a strategy for developing product and processes innovativeness and sustaining competitiveness.

In particular, multiple information sources have been used. Primary data came from semi-structured interviews conducted in 2016, 2017 and 2018 to the founder, to the managers and to the employees involved in the products and processes innovation, for a total of twenty interviews. The interviews lasted two hours and they have been conducted by the authors. Then, we transcribed the answers and analysed autonomously. In the end, each interpretation has been compared.

MAIN FINDINGS AND IMPLICATIONS

In terms of products, the birth of the new company permitted a complete offer to customers, thanks to a varied range of typical Italian products, such as panettone, chocolate and delicacies. Tradition values have been preserved with regard to the raw materials selection as well as productive process. Nevertheless, an innovative approach has been followed, permitting to improve production efficiency within the respect of traditional values.

Also in terms of processes (such as research and development, production and commercialization), some benefits emerged. First, a combination between tradition and innovation happened, thanks to the reinforcement of attitudes, skills and productive infrastructures and machineries. It permitted to reach relevant economies of scale, without reducing the product quality. Indeed, manufacturing processes is still developed in the traditional way but with a great attention to new technologies and a deep focus on an effective combination between products and processes. Therefore, the familiness factor is so strong (Arregle et al., 2007; Carnes and Ireland, 2013; Sirmon and Hitt, 2003). At the same time, innovation involves the production processes. In particular, some innovative raw materials have been used, safeguarding the customers wealth. In addition, new production process methods have been used for achieving high productivity, but respecting a high-quality level. Innovative strategy is conducted internally (Chesbrough, 2003). It is usual for small and medium family firms in which R&D is not typically formalized (De Massis et al., 2013; Bresciani and Ferraris, 2014; Dias and Bresciani,

2006). Secondly, a creation of the new company permitted several benefits in terms of relevant economies of scale in production, sales and administration. This is due to the complementariness of the companies involved (Ahuja and Katira, 2001; Bower, 2001). In particular, employees are able to operate on different lines, if needed, while promotion is handled by the same team on all the products. Also in terms of administration processes, the creation of the new company led to significant cost reductions, thanks to a reorganization of activities.

In terms of the theoretical implications, the research emphasized the role of the combination between tradition and innovation in the case of an acquisition of a family business characterized by a strong familiness factor. In terms of practical implications, several categories of stakeholders may be identified. First, the owners and the management, as the research permits to handle the impacts and opportunities becoming from the acquisition of a new food company both in the short and long term. Second, the investors, as the study may guide their decision-making process in terms of their investment policy. Third, entities, institutions, politicians and local authorities involved in the territorial promotion; indeed, the cooperation with food companies could develop the territory opportunities, valorise its commons and also favour the tourism phenomenon.

Keywords: food sector, innovation, acquisitions, family businesses

REFERENCES

- Adner, R. and Levinthal, D. (2001). "Technology Evolution and Demand Heterogeneity: Implications for Product and Process Innovation", *Management Science*, Vol. 47 No. 5, pp. 611-628.
- Ahuja, G., & Katila, R. (2001). "Technological acquisitions and the innovation performance of acquiring firms: A longitudinal study". *Strategic management journal*, 22(3), 197-220.
- Arora, A., Fosfuri, A., & Gambardella, A. (2001). "Markets for technology and their implications for corporate strategy". *Industrial and corporate change*, 10(2), 419-451.
- Arregle, J. L., Hitt, M. A., Sirmon, D. G. and Very, P. (2007). "The development of organizational social capital: Attributes of family firms", *Journal of Management Studies*, vol. 44, no. 1, pp. 72-95.
- Baregheh, A., Rowley, J., Sambrook, S., & Davies, D. (2012). "Food sector SMEs and innovation types". *British Food Journal*, 114(11), 1640-1653.
- Bigliardi, B., & Galati, F. (2013). "Innovation trends in the food industry: the case of functional foods". *Trends in Food Science & Technology*, 31(2), 118-129.
- Bigliardi, B., & Galati, F. (2013). "Innovation trends in the food industry: the case of functional foods". *Trends in Food Science & Technology*, 31(2), 118-129.
- Bresciani S. and Ferraris, A. (2014), "The localization choice of multinational firms' R&D Centers: a Survey in the Piedmont Area", *Journal of Promotion Management*, Vol. 20 No. 4, pp. 481-499.
- Bresciani, S. (2010). Innovation within firms: a survey in the Piedmont area. *International Journal of Quality and Innovation*, 1(2), 138-152.
- Capitanio, F., Coppola, A., & Pascucci, S. (2010). "Product and process innovation in the Italian food industry". *Agribusiness*, 26(4), 503-518.
- Carnes, C. M. and Ireland, D. R. (2013). "Familiness and Innovation: Resource Bundling as the Missing Link", *Entrepreneurship Theory & Practice*, vol. 27, no. 6, pp. 1339-1419.
- Chandler, A. D. (1990). *Strategy and structure: Chapters in the history of the industrial enterprise* (Vol. 120). MIT press.

- Chesbrough, H., (2003), "Open Innovation, The New Imperative for Creating and Profiting from Technology", Harvard Business School Press, Boston.
- De Massis, A., Frattini, F., & Lichtenthaler, U. (2013). Research on technological innovation in family firms: Present debates and future directions. *Family Business Review*, 26(1), 10-31.
- Dias, R.T. and Bresciani, S. (2006), "R&D and knowledge: a theoretical assessment of the internationalisation strategies", *International Journal of Technology, Policy and Management*, Vol. 6 No. 1, pp. 1-32
- FoodDrinkEurope (2016), Annual Report, FoodDrinkEurope, Brussels
- Giacosa, E. (2012). *Mergers and Acquisitions (M&As) in the Luxury Business*, McGraw-Hill, Milano.
- Giacosa, E., Ferraris, A., & Monge, F. (2017). How to strengthen the business model of an Italian family food business. *British Food Journal*, 119(11), 2309-2324.
- Menrad, K. (2004), "Innovations in the food industry in Germany", *Research Policy*, Vol. 33 Nos 6-7, pp. 845-78.
- Sirmon, D. G. and Hitt, M. A. (2003) "Managing Resources: Linking Unique Resources, Management, and Wealth Creation in Family Firms", *Entrepreneurship Theory and Practice*, vol. 27, no. 4, pp. 339-359.
- Vrontis, D., Bresciani, S., & Giacosa, E. (2016). Tradition and innovation in Italian wine family businesses. *British Food Journal*, 118(8), 1883-1897.

AN EMPIRICAL STUDY ON THE IMPLEMENTATION OF PROJECT RISK MANAGEMENT IN SPANISH SMES

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ABSTRACT

INTRODUCTION

Risk management (RM) is a fundamental knowledge area of Project Management (PM), essential to execute a project successfully and widely discussed in PM guides such as the Project Management Body of Knowledge (PMI, 2017). A risk is an uncertain event that, if occurs, will affect positively or negatively the achievement of one or more of the project's objectives. RM is adopted to face these threats as well as to pursuit opportunities (Bartlett et al., 2004). The objective of Project Risk Management (PRM) is to systematically identify, analyse, treat and monitor & control project-related risks during the project lifecycle (Borge, 2002; PMI, 2017). Risks and uncertainties are inherent to projects since a project is always unique venture and therefore faces unknown factors (Carvalho & Rabechini, 2015).

The positive effects of PRM have widely been acknowledged in PM literature (de Bakker et al., 2011), but little has been studied in the specific context of SMEs. In Europe, and also specifically in Spain, nine out of ten enterprises are SMEs and they generate two out of every three jobs (European Commission, 2015; Spanish Ministry of Industry, 2018). The PRM studied and developed in large companies, must be adapted to the SMEs, so that they can efficiently implement it, but little attention has been devoted to this purpose so far.

Asking Scopus and Web of Science databases using different combinations of the keywords "risk management", "SMEs" and "small business", and excluding proceedings, editorial materials, non-English language papers and non-pertinent articles, the obtained papers were classified into the different RM streams, resulting only six papers about PRM in SMEs.

These were all empirical studies, being half of them case studies and the other half model proposals with model testing. The applications regarded specific industrial sectors and, in most of the cases, not all PRM phases or project risk types were considered. Given the importance of the theme and the abovementioned results, it can be affirmed that there is a significant gap in the literature. To contribute into filling in this gap, the main objective of this research is to analyse how is it possible for

SMEs to adopt PRM with a positive cost-benefit ratio. More specifically, PRM phases, activities, tools, techniques, procedures and organizational aspects implemented will be investigated.

METHODOLOGY

To investigate the characteristics of the adoption of PRM in SMEs, an exploratory and explanatory research through case studies was conducted, as it is a coherent methodology to be followed when facing “how” research questions (Yin, 1994). To conduct the case studies, a robust research protocol was built, and an empirical framework of analysis was created. To construct the framework defining the fundamental dimensions, books and articles about research methodologies (Eisenhardt, 1989; Yin, 1994; Voss, 2002), and about PM and PRM were consulted, and empirical papers regarding PRM in SMEs were examined (Alquier and Tignol, 2006; Leopoulos et al., 2006, Tang et al., 2010; Neves et al., 2014, Marcelino-Sádaba et al., 2014; Pereira et al., 2015).

The final questionnaire, obtained after the testing and refinement through a pilot case, includes close-ended and open-ended questions divided into 9 sections regarding the company, the project, the PRM organization and roles, phases, activities, tools, procedures and outcomes. The case studies were conducted in eight Spanish SMEs located in the Navarre region, which has highly invested on innovation, especially for SMEs. In order to cover a wide range of project types, the projects were selected based on the size of the company, the production organization, the type of industry and the PRM experience of the respondents. Using these selection criteria, it was possible to cover a breadth of perspectives regarding PRM in SMEs.

The interviews, with multiple respondents, were always conducted in person by at least one of the researchers and integrated with documents related to the PRM plan, in order to ensure the project’s internal validity, using triangulation, and increase data reliability (Voss, 2002). A two-step analysis was then conducted: within case, to analyse the pattern of data within the case, and cross-case, to search for patterns among the cases (Eisenhardt, 1989; Voss, 2002).

PRELIMINARY RESULTS AND CONTRIBUTIONS

The companies selected for the research were: two micro-sized manufacturing companies (one organized by project and one by process), three small-sized companies (two manufacturing ones organized by process and one of services organized by project) and three medium-sized companies (a manufacturing one organized by process and a consultancy one organized by project). In every company, it was asked to talk about a successful project in which the PRM had been adopted. In all the cases, the entire PRM process had been followed, and usually the CEO or the PM were responsible for the PRM implementation.

During the identification phase, the companies carried context analysis, risk identification, and applied several tools, being brainstorming, checklist and risk register the most used ones. The technical-operative and the organizational risks were always considered and identified, while other types of risks were considered only in the service firms. Many risks of the manufacturing companies were related to the material and the design of the product, which was expected since all projects involved the development of a new product or a new machine. Besides the risks, 63% of all the firms have also identified (and pursued) the opportunities. These were mainly the services companies, since only 40% of the process-manufacturing ones, which projects had a lower managerial complexity, have identified opportunities.

As for the risk analysis phase, in all companies many project meetings took place, and most of the companies used the risk matrix, risk ranking and risk register tools. No quantitative analyses were performed, and the measurements of the probability and effects of the risk were subjectively based on experience and feelings. In seven of the eight cases the risks were prioritized based on the results of the risk matrix or of the risk ranking.

During the risk treatment, the risk mitigation technique was applied by all companies, while risk avoidance, risk transfer and risk retention were used by most but not all of them. Generally, the risk treatment was partially planned: the tools were used, and the activities were carried on depending on the emergence of the risk triggers. As for the manufacturing firms, the treatment phase has involved designing and prototyping; these activities were repeated until the testing satisfied the product quality requirements; their development has allowed the companies to avoid potential failures in the final product.

In the last PRM phase, monitoring & control, while facing difficulties such as lack of time and lack of knowledge, in all projects the risks were constantly reevaluated and periodic monitoring meetings were organized, impacting positively on the PRM results.

Overall, the PRM adoption by these firms in these projects was successful. In 63% of the cases, the adoption was motivated by the fact that these projects were subsidized by the government of Navarre, which requires periodic reports about the project progress. All interviewees affirmed that there was a positive cost-benefit ratio in the PRM implementation and that it should be adopted in all strategic projects. According to their perception, the benefits provided by PRM were mainly high, especially in terms of lower risk impact, greater probability of project success and improvement of the decision-making process.

It has also emerged that the projects of manufacturing companies with a high level of both technology and market innovativeness have carried on similar activities using similar tools since they have identified similar types of risks and, finally, the perceived benefits were also similar. On the other hand,

when the project complexity is low, the simplest PRM tools tend to be adopted. Lessons learned from previous projects have also played an important role in the analyses, both in the manufacturing and in the service companies.

These results offer a significant contribution to the academic literature, given the over-mentioned gap of studies, and to practitioners highlighting how, with simple tools and constant monitoring, it is possible to implement PRM in different types of SMEs with a positive cost-benefit ratio.

Keywords: Project management, risk management, SMEs, case studies

(References are available on demand)

BUSINESS MODEL INNOVATION: THE ROLE OF INTERNAL AND EXTERNAL DRIVERS

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ABSTRACT

Many contributions examine the concept of Business Model Innovation (BMI), underlying that BMI enhances a firm's competitive advantage (Mitchell and Coles, 2003) exploiting both newly and already existing internal/external resources without investing significantly in R&D (Amit and Zott, 2010), and rethinking the firm's purpose, value creation and value perception (Bocken *et al.*, 2014). Moreover, when dealing with BM and its innovation, the literature suggests a linkage with new technologies or existing technologies applied to other purposes (Casprini *et al.*, 2014), and the appearance of new business models (Baden-Fuller and Haefliger, 2013; Zott *et al.*, 2011). From the internal perspective, many scholars described the key role of internal drivers (Achtenhagen *et al.*, 2013; Zhang *et al.*, 2016), highlighting that new and distinctive resources can not only reconfigure the BM (Morris *et al.*, 2005), but also enhance efficiency and efficacy of value creation, provision, and capture (Pucci *et al.*, 2013; Pucci *et al.*, 2017). However, the ability to choose, integrate and adapt new resources determines the level of efficacy and efficiency in terms of value creation (George and Bock, 2011). Since Process Innovation (PI) acts as a crucial driver to obtain the sought efficiency and productivity improvement and effective competitive advantage (Terjesen and Patel, 2017; Trantopoulos *et al.*, 2017), we aim to test the following hypothesis: (Hp.1) *PI increases the probability to have BMI*. From the external perspective, the literature showed the ability of external drivers to change BMs (De Reuver *et al.*, 2009). Indeed, co-creation and co-innovation networks (Romero and Molina, 2011), with higher Supply Chain (SC) integration (Atti, 2018), and social innovation (Alegre and Berbegal-Mirabent, 2016), may offer new opportunities and BMs re-configuration. Focusing on SC, since collaborations within SC are fruitful for any player involved (Chen and Paulraj, 2004), we identified and investigated three set of external stimuli, namely: upstream (e.g. suppliers), downstream (e.g. customers) and horizontal (e.g. universities). Thus, we tested the following hypothesis: (Hp.2) *stimuli coming from SC increase the probability to have BMI*. Furthermore, since proximity can be viewed as a pre-condition for innovation especially because of its role in fostering knowledge and technology transfer among actors (Knoben and Oerlemans, 2006), we investigated the impact of the following proximity dimensions on BMI: geographical (GP), technological (TP), organisational (OP), and social proximity (SP) (Geldes *et al.* 2017; Marrocu *et al.*, 2013). Our analysis does not investigate: institutional proximity, as differences in formal institutions are not relevant on this research contest and informal institutions are likely to overlap the

notion of OP (Knobben and Oerlemans, 2006); cognitive proximity, since we are investigating specific technologies and their related knowledge. Thus, our last hypothesis is: (Hp.3) *GP, TP, OP, and SP increase the probability to have BMI*. Data collection has been performed through a structured survey, submitted to 107 Italian manufacturing firms between July and October 2018. In particular, since BMI (Foss and Saebi, 2017) has been defined and measured in several ways (Casprini, 2015), we rely upon a definition considering the firms' own perception about their innovations and BMI. For what concerns Hp. 1, PI shows a positive and significant effect on the probability of having BMI, thus Hp. 1 is supported. This shades the light on the possibility of a double positive effect of PI for firms. Not only PI is directly beneficial for firms, it also has additional positive effects by increasing the probability of having BMI. On the other hand, Hp. 2 is partially supported since only Downstream Stimuli show a positive and significant effect on the likelihood of having BMI. Conversely, for Hp. 3, while the effect is positive and significant for TP, it is negative and significant for SP and not significant for OP. A peculiar result comes from GP which shows a significant curvilinear effect, therefore both a too high or a too low GP is detrimental to the probability of having BMI. Hence, only an adequate distance fosters BMI. Therefore, Hp. 3 is partially supported. This research contributes both to academical and practical understanding of factors fostering, or hindering, BMI. It underlines that firms may innovate their business model not only relying on internal resources, but also taking advantage of stimuli coming from different SC actors at the right geographical distance and with whom they share technological affinity.

Keywords: Business Model, Process Innovation, Supply Chain, Proximity.

REFERENCES

- Achtenhagen, L., Melin, L. and Naldi, L. (2013), "Dynamics of business models - strategizing, critical capabilities and activities for sustained value creation", *Long Range Planning*, Vol. 46 No. 6, pp. 427-442.
- Alegre, I. and Berbegal-Mirabent, J. (2016), "Social innovation success factors: hospitality and tourism social enterprises", *International Journal of Contemporary Hospitality Management*, Vol. 28 No.6, pp. 1155-1176.
- Amit, R. H. and Zott, (2010), "Business model innovation: Creating value in times of change", working paper [870], IESE Business School, Barcelona, 2 July.
- Atti G. (2018), "La supply chain digitale e gli acquisti del futuro", in Atti, G. (Ed.), *La quarta rivoluzione industriale: verso la supply chain digitale. Il futuro degli acquisti pubblici e privati nell'era digitale. Casi e studi d'impresa*, Franco Angeli Edizioni, Milan, pp. 30-48.
- Baden-Fuller, C. and Haefliger, S. (2013), "Business Models and Technological Innovation", *Long Range Planning*, Vol. 46, No. 6, pp. 419-426.
- Bocken, N. M., Short, S. W., Rana, P. and Evans, S. (2014), "A literature and practice review to develop sustainable business model archetypes", *Journal of cleaner production*, Vol. 2014 No. 65, pp. 42-56.
- Casprini, E., Pucci, T. and Zanni, L. (2014), "Business model shifts: a case study on firms that apply high-technology to cultural goods", *Technology Analysis & Strategic Management*, Vol. 26 No. 2, pp. 171-187.
- Casprini, E. (2015), "Business model innovation: a typology", *Sinergie*, Vol. 33 No. 97, pp. 181-197.
- Chen, I. J. and Paulraj, A. (2004), "Towards a theory of supply chain management: The constructs and measurements", *Journal of Operations Management*, Vol. 22 No. 2, pp. 119-150.

- De Reuver, M., Bouwman, H. and MacInnes, I. (2009), "Business model dynamics: a case survey", *Journal of theoretical and applied electronic commerce research*, Vol. 4 No. 1, pp. 1-11.
- Foss, N.J., Saebi, T. (2017), "Fifteen Years of Research on Business Model Innovation: How Far Have We Come, and Where Should We Go?", *Journal of Management*, Vol. 43, No. 1, pp. 200-227.
- Geldes, C., Heredia, J., Felzensztein, C. and Mora, M. (2017), "Proximity as determinant of business cooperation for technological and non-technological innovations: a study of an agribusiness cluster", *Journal of Business and Industrial Marketing*, Vol. 32 No. 1, pp. 167-178.
- George, G. and Bock, A. J. (2011), "The Business Model in Practice and its Implications for Entrepreneurship Research", *Entrepreneurship: Theory and Practice*, Vol. 35 No. 1, pp. 83-111.
- Knoben, J. and Oerlemans, L. A. G. (2006), "Proximity and inter-organizational collaboration: A literature review", *International Journal of Management Reviews*, Vol. 8 No. 2, pp. 71-89.
- Marrocu, E., Paci, R. and Usai, S. (2013), "Proximity, networking and knowledge production in Europe: What lessons for innovation policy?", *Technological Forecasting and Social Change*, Vol. 80 No. 8, pp. 1484-1498.
- Mitchell, D. and Coles, C. (2003), "The ultimate competitive advantage of continuing business model innovation", *Journal of Business Strategy*, Vol. 24 No. 5, pp. 15-21.
- Morris M., Schindehutte M. and Allen J. (2005), "The entrepreneur's business model: toward a unified perspective", *Journal of Business Research*, Vol. 58 No. 6, pp. 726-735.
- Pucci, T., Nosi, C. and Zanni, L. (2017), "Firm capabilities, business model design and performance of SMEs", *Journal of Small Business and Enterprise Development*, Vol. 24 No. 2, pp. 222-241.
- Pucci T., Simoni C. and Zanni L. (2013), "Modelli di business e strategie di marketing nelle medie imprese. La gestione della crisi tra continuità e cambiamento", *Mercati & Competitività*, Vol. 2013 No. 3., pp. 25-45.
- Romero, D. and Molina, A. (2011) "Collaborative networked organisations and customer communities: Value co-creation and co-innovation in the networking era", *Production Planning and Control*, Vol. 22 No. 5-6, pp. 447-472.
- Terjesen, S. and Patel, P.C. (2017), "In Search of Process Innovations: The Role of Search Depth, Search Breadth, and the Industry Environment", *Journal of Management*, Vol. 43, No. 5, pp. 1421-1446.
- Trantopoulos, K., von Krogh, G., Wallin, M.W. and Woerter, M. (2017), "External knowledge and information technology: implications for process innovation performance", *MIS Quarterly*, Vol. 41, No. 1, pp. 287-300.
- Zhang, Y., Zhao, S. and XU, X. (2016), "Business model innovation: an integrated approach based on elements and functions", *Information Technology and Management*, Vol. 17 No.3, pp. 303-310.
- Zott, C., Amit, R. and Massa, L. (2011), "The business model: recent developments and future research", *Journal of management*, Vol. 37 No. 4, pp. 1019-1042.

LINKING HRM IMPLEMENTATION, PERCEPTION AND EMPLOYEE OUTCOMES VIA PSYCHOLOGICAL CONTRACT FULFILMENT

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ABSTRACT

This study aims to investigate the indirect impact of HRM on employee outcomes. The novelty of this study is to adopt a linkage model and to examine the relationships between implemented HRM by line managers, experienced HRM by employees, psychological contract fulfilment and employee outcomes. Using data collected from 1810 employees working in professional service context including accounting, consulting, ICT, law, marketing etc., a double mediation model with the studied variables was tested using Hayes's (2013) PROCESS syntax. Support was found for proposed linkage model where implemented HRM is positively associated with experienced HRM, which increases psychological contract fulfilment, ultimately reducing employees' intention to leave.

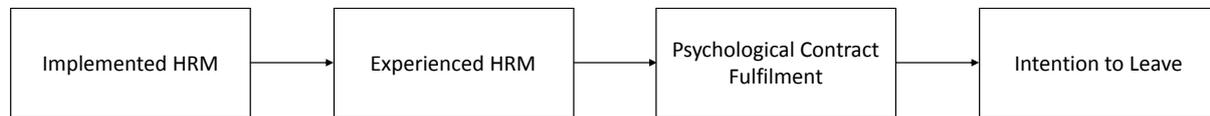
This study contributes to the strategic human resource management research by systematically investigating the linkage model of implemented HRM, perceived HRM and employee experience (psychological contract fulfilment) and outcome (intention to leave). By doing so, this study answers the call by Jiang, Takeuchi and Lepak (2013) and Fu *et al.* (2017) for exploring how SHRM influences organizations at different levels.

Human resource management practices have been found to be positively associated with organisational outcomes such as financial performance (Huselid, 1995; Guthrie, 2001), and innovation (Chen and Huang, 2009; Fu *et al.*, 2015). According to Wright and Nishii (2013), these HRM practices are categorized as the "intended" HRM, which are not necessarily translated to employees in most of cases. In order to enable the "intended" HRM to be effective, these HRM practices need to be implemented by line managers and translated to employees to have experienced HRM expected by the organisations (Jiang, Takeuchi and Lepak, 2013; Wright and Nishii, 2013). This suggesting a link between implemented HRM and experienced HRM. Based on this, McDermott and her colleagues have theorized the implemented and experienced HRM influences employees' attitude and behaviours, e.g. intention to leave, via the mediating role of psychological contract fulfilment (McDermott *et al.*, 2013). In the context of employment, psychological contract refers to an employee's beliefs regarding mutual expectations and obligations between that person and their employer (McDermott *et al.*, 2013). When employees experience the HRM practices positively, they feel their

employers have fulfilled their psychological contract. Employees who feel their psychological contract being fulfilled will less likely to leave their employer.

Figure 1 presents our research model which links the implemented HRM, experienced HRM by employees, psychological contract fulfilment and intention to leave.

Figure 1. Research Model



An online survey was sent to 43,478 professionals who have registered their details with one agency organisation based in Ireland. Overall, 2734 responses were received with a response rate of 6%. After deleting missing data as well as the responses who were not working at the survey time, 1903 respondents (4%) were used in this study. The key variables in this study were measured based on the well-established scale from literature and were found with high reliability in this study. Results provide support for the impact of implemented HRM on experienced HRM ($\beta = .71, p < .001$), experienced HRM on psychological contract fulfilment ($\beta = .43, p < .001$), and psychological contract fulfilment on intention to leave ($B = -.59, SE = .08, p < .001$). Using Hayes' (2013) PROCESS, the indirect effect of implemented HRM on intention to leave via experienced HRM on psychological contract fulfilment was $-.18$ with 95% of confidence interval between $-.23$ and $-.13$, supporting hypothesis 4.

This study set to reveal how HRM influences employees' attitude by proposing and testing a linkage model where implemented HRM by line managers increases employees' experienced HRM, which in turn develops their psychological contract fulfilment, ultimately reducing their intention to leave. Using data collected from 1903 professional workers in the accounting, consulting, ICT, law, marketing etc., support was found for the above linkage model. This study empirically tests the theoretical model proposed by McDermott et al. (2013). It contributes to our understanding of the line manager HRM implementation as a key driver for employees' positive experience with organisational HRM practices, fulfilling their psychological contract and retaining them in the organisation. Organisations need to invest in their managers to be able and motivated to implement organisational HRM practices effectively.

Keywords: Implemented HRM; Experienced HRM; Psychological Contract Fulfilment; Intention to Leave; Linkage Model; Professionals

REFERENCES

- Chen, C.-J. and Huang, J.-W. (2009) 'Strategic human resource practices and innovation performance - The mediating role of knowledge management capacity', *Journal of Business Research*, 62(1), pp. 104-114.
- Fu, N. et al. (2015) 'How do high performance work systems influence organizational innovation in professional service firms?', *Employee Relations*, 37(2), pp. 209-231.

- Fu, N. et al. (2017) 'High-performance work systems in professional service firms: Examining the practices-resources-uses-performance linkage', *Human Resource Management*, 56(2), pp. 329–352.
- Guthrie, J. P. (2001) 'High-involvement work practices, turnover, and productivity: Evidence from New Zealand', *Academy of Management Journal*, 44(1), pp. 180–190.
- Hayes, A. (2013) 'Introduction to mediation, moderation, and conditional process analysis', New York, NY: Guilford, pp. 3–4.
- Huselid, M. A. (1995) 'The impact of human resource management practices on turnover, productivity, and corporate financial performance', *Academy of Management Journal*, 38(3), pp. 635–672.
- Jiang, K. F., Takeuchi, R. and Lepak, D. P. (2013) 'Where do we go from here? New perspectives on the black box in strategic human resource management research', *Journal of Management Studies*, 50(8), pp. 1448–1480.
- McDermott, A. M. et al. (2013) 'Promoting Effective Psychological Contracts Through Leadership: The Missing Link Between HR Strategy and Performance', *Human Resource Management*. John Wiley & Sons, Ltd, 52(2), pp. 289–310.
- Wright, P. M. and Nishii, L. H. (2013) 'Strategic HRM and organizational behavior: Integrating multiple levels of analysis', in Guest, D., Paauwe, J., and Wright, P. (eds) *Human Resource Management and Performance: Progress and Prospects*. Oxford, U.K.: Blackwell Publishing.

HEALTH PREVENTION UNDER LENS: PRINCIPLES, BEHAVIORS, NEW APPROACHES OF RISKS AND STRATEGIC POLICIES

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ABSTRACT

Health prevention is linked to specific sets of measures designed to promote the individuals and populations' health. Starting from the World Health Organization's definitions of health prevention and rigor of implementation to be assumed by all governments, the aim of this paper is to emphasize the health risks' typology and related behaviors to prevent individuals, based on sustainable approaches of prevention and adequate strategic policies.

The originality consists in the *modus operandi* and the way concepts are addressed to jointhe societal issues. Several theories have been developed on the implementation of preventive programs, but the views of experts in the field are still divided; we agree that only in time a consensus will be reached on this issue.

Strategies and implementation models often integrate components of different theories and determinants as tools to be used to develop better strategic policies for global health promotion programs and disease prevention. Thus, communities use the last models to implement programs that allow people to better manage their health capital. If correctly understood, such models can serve as a framework for the organization of health promotion and disease prevention activities.

Thus the aim of this paper is to emphasize the health risks' typology and related behaviors, in close connection with individuals' duty to recognize the need to build their preventative health, rooted in sustainable public knowledge and profit oriented policies.

INTRODUCTION

Health prevention is linked to both the fundamental of the health systems and different sets of measures designed to promote the individuals and populations' health. They are also related to those risk factors engendering behaviors, diseases' transmission and pandemics' apparition. Prevention has, first and foremost, two main purposes: to make people aware of the importance of their health as an individual capital of incalculable worth and price (Grossman, 2000) and to maintain and develop their health as the most precious societal asset.

The World Health Organization (WHO) distinguishes three main types of health risk prevention.

Primary prevention aims to raise the awareness of the risks of certain behaviors before they exist to reduce the incidence of a disease. It addresses to people who have no symptoms at all, to reduce the likelihood of any health problem. Primary prevention includes medical and non-medical actions (eg. immunization against infectious diseases, health education and road safety such as the use of safety belts and cycling helmets). Dietary counseling and hygiene advice during a medical consultation, vaccination and screening campaigns are also part of primary prevention.

Secondary prevention includes the actions to be taken by ill people; it is meant to prevent the worsening of the underlying disease and to limit the extent of the progression through early diagnosis. Secondary prevention aims to detect the disease or the lesion that precedes it, at a stage where it is possible to effectively intervene and avoid the development of clinical symptoms or biological markers. This type of prevention can lessen the severity of the disease or stop it before it develops. As examples we mention rehabilitation exercises or various controls after treatment of a heart problem, mammograms for breast cancer detection. Treatments like vaccination postexposure or diagnostic tests such as mammography for breast cancer detection, for example.

Finally, *tertiary prevention* reduces chronic disease associated disabilities (Kenkel, 1994). It refers to prevention activities that avoid relapse. For example, chronic disease programs (for diabetes, arthritis, depression and others), support groups that allow members to learn strategies to improve quality of life, professional rehabilitation programs to retrain workers for new jobs when they -recurred after a professional accident.

Risk factors encompass those elements that trigger a condition or disrupt a person's health at any given time. A priority in the field of public health is represented by all actions and decisions (policies) aimed at improving (nurturing) or protecting the health of the general population. Three types of risk factors have been identified: • individual (endogenous): age, gender, ethnicity, heredity, immunity; • non exogenous factors: pollution, income level, cultural level, psychosocial influences (stress), and ultimately, • behavioral factors: smoking, sports, nutrition. Recently, many opinions issued in the medical world argue over which place prevention should occupy in the global health system, parallel with the advancement of curative medicine research that becomes more and more important. Since the primary goal remains still open to care and to a better access to treatment services, the present context turned efforts away from building a strong culture of preventive behavior. In the past years, the health systems of developed countries were rather curative, than preventive. The need for immediate results and improvements, together with the emergence of technological and medical innovations brought the switch that the health systems needed enacting the knowledge and sanogenic behaviors' implementation, for individual and societal sake (Kryzhanovsky , 2004).

ABOUT DIFFERENT ATTITUDES AND RISKS IN APPROACHING/SHAPING PREVENTION

There are untold dimensions of attitudes towards a known health risk; therefore, individual attitudes of declared preferences (risk aversion, prudence, temperance, exaggeration, panic attacks and others) arise. Scientific researches distinguish between different types of health risks (at individual or large-scale population level, with irreversible or reversible evolution) and describe people's behaviors depending on the field in question and contextual effects.

Risk aversion is the basic concept of risk theory, a concept developed by Pratt (1964), which claims that a person is afraid of a risk that he considers important. This theory reflects an attitude of denying the risk and of privileging certain situations. Accepting that people can be grouped according to their attitude to risk, three attitudes are then possible: • affinity for risk (risk-seeking), • risk aversion (risk fear) or • indifference to risk. In fact, the introduction of the uncertainty in many situations affecting health and medical decisions, where risks are poorly understood can help understanding how people are confronted with uncertainty beyond the choice of, public information, communication, and of prevention programs for maintaining health.

Technological innovations of the recent decades, together with the climate changes occurred in the last years brought about health effects that are not yet fully studied. In fact, people's existence is constantly changing through technology innovation; more automation, fewer people in effective production, versatile work team, many-sided jobs, more passivity, more loneliness despite the development of online communication, more responsibility. As a result of these changes in the scientific community, it has become imperative to analyze more objectively the real progress of today's society through man's activity versus the skills of machinery on one side and machinery versus the health risks on the other side.

First of all, people are better at perceiving patterns, detecting small visual or acoustic signals, improvising, are more flexible in approaching and exercising judgment while machines are better at reacting quickly to control signals, applying a precise and constant force in performing repetitive tasks in handling extremely complex situations is based on a standard error whose threshold is known.

This analysis exercise reveals the need to introduce the concept of "human factor" and to explain its implication in the state of health. Why are the humans important? Up to 80% of the causes of accidents can be attributed to humans and this shows that the human factor is the most important risk factor for human health, given the contemporary lifestyle springing in new behaviors at work and outside it.

All major accidents involve a series of human failures. Human factors are concerned about understanding the causes of human failures. Human errors' causes are work-related factors, individual factors and organizational and management factors. They come along with: • incompatible

equipment, • disruptions and interruptions in the course of activity, • incomplete or unclear instructions, • inadequate or damaged instruments, • a high volume of work or noisy and • unpleasant working conditions.

At work, individuals can reveal inadequate skills or competences, exhausted staff, discouraged working team or without a clear motivation, lack of a concrete work plan, individual personal problems.

Organizational and management factors include lack of safety at work, lack of standards to deal with emergencies, poor work planning leading to high work pressure on employees, poor health and safety culture.

All of these risk factors act on the mature, active population that is in full swing. This category of population is the best represented, globally. In addition to the active population, special categories of people have the right to be considered: children and adolescents, seniors, pregnant women, all usually being known as vulnerable categories. Although not subject to the health risks caused by the human factor influenced by the time spent at the workplace, all those category of people can have special health risks that may cause the onset of illness. However, clear delimitations between risks' categories hardly operate. Knowing that they can exist, the main role goes to health prevention and management to be improved by adequate measures to reduce the incidence of severe cases of illness.

The recent years brought to general attention various dramas generating others even bigger: • organ donor shortages in the absence of population information programs, • lack of incubators for infants born in hospitals, • lack of blood needed for hospital transfusions, • climate change, • genetically modified food, • epidemics of disease and inappropriate vaccinations. All this generated the concept of "health security" in order to identify measures to raise awareness of preventive medicine issues.

Citizens' demand for a right to health, which extends even beyond the health security framework, cannot be achieved by ignoring the medical school that has been protected so far by its technical and curative health systems, which unfortunately have no capacity to anticipate the consequences of globalization or counteract pathologies generated by contemporary lifestyle. In such situations, it is difficult to accurately quantify and analyze possible interactions between risk factors given the uncertainty of evolution in the modern society.

To eradicate health risks people and specialists need firstly to know them. It is quite difficult to demonstrate their interdependences and effects on health status in order to adopt appropriate prevention behavior. Confusions are sustained by the incomplete knowledge, irrational manipulation of news and contradictory medical information on the likelihood of health risks. Thus, we aimed at identifying the determinants of risks and factors, as seen in table 1, to act against negative effects by preventive measures.

Table 1. The Risk Factors and the Health Problems' Causality

I. Determinants linked to Society, Family, Environment	II. Prevalent Risk Factors
<ul style="list-style-type: none"> o Globalization o Urbanization o Population aging o Social determinants 	<ul style="list-style-type: none"> o Smoking o Detrimental diet and food regime o Lack of motivation towards work; inactivity o Chronic alcohol and other drugs' consumption o Environmental pollution o Cultural and religious traditions o Age and congenital characteristics
III. Transitional Risk Factors	IV. Health Fields with High Benefits from Prevention Programs
<ul style="list-style-type: none"> o Prohibitive figures of blood pressure and glucose o Abnormal blood lipids o Corpulence, obesity/ morbid obesity 	<ul style="list-style-type: none"> o Cardiovascular disease and stroke o Cancer o Diabetes o Chronic respiratory disease

Source: Adaptation after OMS (2005) *The Chronicle disease Prevention: A vital investment*

The medical researches present different probabilities for patients who are in similar situations with the same underlying condition, and this can be explained by the peculiarities of the subject groups, for example the geographical area where they originate, the type of diet, the genetic predisposition, the associated comorbidities, and many others.

The theories developed on the implementation of preventive programs brought out different new views; however, specialists are still looking for a consensus to reach on this issue. Strategies and implementation models often integrate components of different theories and determinant factors to be used as tools to develop better strategic policies for global health promotion programs and disease prevention.

CONCLUSIONS

Applying appropriate policies of prevention through viable and sustainable programs designed to foster preventive behavior allows the members of a society to control their health risks and take appropriate measures to maintain or improve their health. If the likelihood of being ill is uncommon, people tend to change their daily behavior by taking less precautionary action in all their actions; in fact they can underestimate the effects of risk factors exposing themselves to their health.

Communities can use the last theories, realistic strategies and new models to develop and implement sustainable programs that allow people to improve and better manage their health capital. The models can serve as a framework for the organization of health promotion and disease prevention activities.

Keywords: health, prevention, risks, behaviors, strategy, policy

REFERENCES

- Grossman, Michael, (2000), The Human Capital Model (Chpt.7) in A. J. Culyer and J. P. Newhouse (ed.), Handbook of Health Economics, Volume 1, Part A, pp: 347-408, Elsevier.
- G.N. Kryzhanovsky, (2004), Some categories of general pathology and biology: health, disease, homeostasis, sanogenesis, adaptation, immunity. New approaches and notions Pshichology, 11, pp:135-138, [https://www.pathophysiologyjournal.com/article/S0928-4680\(04\)00101-4/pdf](https://www.pathophysiologyjournal.com/article/S0928-4680(04)00101-4/pdf)
- Kenkel D., (1994), The demand for preventive medical care, Applied Economics, 26, pp: 313-325
- Ministère des Affaires Sociales du Travail et de la Solidarité, de la Famille et des Personnes Handicapées, (2003), Rapport annuel 2003 Santé, pour une politique de prévention durable, Inspection générale des affaires sociales, ISBN 13: 9782110054173, <https://www.ladocumentationfrancaise.fr/rapports-publics/034000331/index.shtml>.
- Pratt M., (1964), Risk Aversion in the Small and in the Large, Econometrica, 32, No. 1/2 (Jan. - Apr., 1964), pp: 122-136, <https://aae.wisc.edu/aae706/References/Pratt-1964.pdf>.
- Ville d'Antony et Bon Sens Conseil (2019), Rapport annuel développement durable 2018: préservation de l'environnement, vivre ensemble, ancrage territorial, santé, www.liensgraphiques.fr

CONTEXTUAL EFFECTS ON PERFORMANCE APPRAISAL PROCESS OUTCOMES: A SOCIAL EXCHANGE PERSPECTIVE

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ABSTRACT

Performance appraisal process (PAP) is considered to be one of the most important human resource management tools. Besides being an assessment tool, PAP provides a way of involving employees in the appraisal through goal setting, development of the employees, evaluation, feedback, and rewards. Hence, due to its strategic importance, the effective execution of PAP plays an important role in bringing about valuable organizational outcomes.

Research indicates that the contextual settings, within which performance appraisal takes place, significantly affect the socio-psychological processes through which individuals make sense of the appraisal process. Hence, the context plays an important role in shaping employees' experiences regarding the appraisal process (Elamin & Tlaiss, 2015). However, thus far, this area has received significantly less research attention. There are only a handful of studies that theorised and empirically tested the effects of contextual factors on the relationship between PAP and important organizational outcomes. This is particularly true for developing countries, which are less represented in contemporary research.

The current study aims to fill these gaps by investigating the relationship of PAP with three important outcomes, i.e., voice behavior (VB), organizational citizenship behavior (OCB), and turnover intention (TOI) by using a three source data (employee, supervisor, and organization) to have a well-rounded knowledge of PAP and associated outcomes. For this, the study followed the line of arguments presented by Murphy et al., (2003), who suggested that VB, OCB, and TOI are the key job behaviors and intentions which are affected by the appraisal process. However, these authors didn't aim at identifying the contextual processes that affect the PAP – outcome relationship.

Acknowledging the immense importance of appraisal process in enhancing the competitive position and performance of an organization and heeding the calls of researchers to explore the important contextual factors in this process, we investigate the effects of three theoretically relevant contextual factors, i.e., LMX, justice perceptions, and trust as important boundary conditions for outcomes associated with PAP. Since the exchange relationships between employee and organization take place within a social context, understanding the elements that constitute and affect their social

milieu is of utmost importance to predict how PAP affects employees' attitudes and behaviors. Thus, we take a social exchange perspective to theorise and explain these relationships.

The results of this study revealed that the effects of PAP are positive only for employees that are high on LMX, organizational trust, and perceived fairness of appraisal process. For employees with low LMX, trust, and perceived fairness, the effects of PAP are either insignificant or even negative. This suggests the presence of a synergistic interplay between PAP and contextual factors. Hence focusing on PAP while ignoring contextual factors may result in undesirable outcomes.

The current study claims significant contributions for scholars and practitioners in the organizational and behavioral science domains. Firstly, under the framework of social exchange theory as an overreaching framework, this study examines three important contextual factors (LMX, justice perceptions, and trust) as they are socially constructed and hold a central position in the social interface of appraisal process. Thus, by using a different theoretical lens, the study provides new insights for PAP research.

Secondly, this is amongst the earliest studies to empirically verifying the role of contextual factors in PAP – outcome relationship. This shows that PAP – outcome relationship doesn't operate in a vacuum, and the contextual factors have a significant effect on the outcomes of the appraisal process. These findings have significant implications for research and practice.

Finally, the study extends the work of Murphy et al. (2003) by studying the relationship between appraisal – employee intentions and behaviors (i.e., OCB, VB, & TOI) in a different context, i.e., in Pakistan. Hence, it holds promise for HR practitioners to direct their attention to different cultural dynamics in terms of their effects on performance appraisal as a socio-emotional process.

Keywords: Performance appraisal process; Organizational citizenship behavior; Voice behavior; Turnover intentions; Perceived fairness; Trust, LMX

REFERENCES

- Elamin, A. M., & Tlaiss, H. A. (2015). Exploring the relationship between organizational citizenship behavior and organizational justice in the Islamic Saudi Arabian context. *Employee Relations*, 37(1), 2–29.
- Murphy, Susan M, Wayne, Sandy J, Liden, Robert C, & Erdogan, Berrin. (2003). Understanding social loafing: The role of justice perceptions and exchange relationships. *Human relations*, 56(1), 61-84.

**EXPLORING TECHNOLOGICAL ADVANCEMENTS DILEMMAS & RELATIONSHIP
MARKETING PRACTICES IN THE PHARMACEUTICAL INDUSTRY OF GREECE**

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ABSTRACT

Increased use of technology has an immediate effect on established business operations (Li, 2010). Marketing over the last years, has been heavily remodeled and contemporary literature correlates these alterations to the proliferated use of digital means (Baird & Parasnis, 2011). Consequently, this paper intends to investigate the marketing environment as applied in the pharmaceutical sector of Greece, focusing on the emerging phenomenon of integrating digital tools within the heavily regulated marketing strategies of the field.

This study takes an interpretivist research stance and it conducts elite interviews with high managerial executives of the field. It is through the use of this approach that the study seeks to reflect the current status of what is today called digital marketing and understand its effect on traditional marketing tactics.

Preliminary findings indicate an overall positive, yet indecisive perception for the under-investigation topic, highlighting the importance of digital mediums in the new marketplace model. Regardless of the aforementioned, managers still appear to be hesitant with the level of understanding within pharmaceutical organizations and specifically regulatory departments and executives of past generations (Panigyrakis & Veloutsou, 1999). Finally, the use of digital initiatives, remains limited as the research presented a number of challenges. Particularly, the concept of digital marketing is yet misconceived within the Greek pharmaceutical firms, an assumption further established when compared to perceptions of multinational organizations. Although the investigation set the basis of understanding an emerging phenomenon, the assumptions drawn lead to even bigger questions regarding the under explored topic.

Overall, the legal environment of this new marketplace lacks a clear regulatory framework. The lack of such a framework creates a great risk for the industry as regulatory departments hold a crucial role in the successful implementation of digital marketing in this market. On top of that, regulatory departments prevent the use of new channels and they even promote a sense of fear. On the other hand, HCPs (Health Care Professionals) understand the positive outcome of using such channels.

They, nevertheless, are not familiar enough with the use of such means and neither can they fully understand how to capitalize on it.

Additionally, the study explored in-depth the main differences among national and multinational firms' views on the usage of digital marketing. There exists a huge gap between the national and multinational business environment and it is still expanding. Greek managers are still driven by the amount of the budget and they do not take advantage of new opportunities, such as the use of digital channels. Nevertheless, they agree that the integration of digital channels plays a crucial role in the internal environment and commercial operations of an organization. In general, this study suggested deploying immediate training on the digital landscape among pharmaceutical businesses, and it recommended managers to incorporate digital initiatives in financial planning.

Keywords: Marketing, Digital Marketing, Pharmaceutical Marketing, Relationship Marketing, Pharmaceuticals, Greece, Innovation, Digital Tools, Social Media

REFERENCES

- Charlene Li, (2010) "Groundswell. Winning in a World Transformed by Social Technologies", Strategic Direction, Vol. 26 Issue: 8, <https://doi.org/10.1108/sd.2010.05626hae.002>
- Carolyn Heller Baird, Gautam Parasnis, (2011) "From social media to social customer relationship management", Strategy & Leadership, Vol. 39 Issue: 5, pp.30-37
- George G. Panigyrakis, Cleopatra Veloutsou, (1999) "Brand managers in the pharmaceutical industry: are they any different?", Journal of Product & Brand Management, Vol. 8 Issue: 6, pp.497-512

ASSESSING THE RESPONSIVENESS OF OUT OF POCKET HEALTHCARE SPENDING TO MACROECONOMY AND DIFFERENT HEALTH FINANCING SCHEMES: EVIDENCE FROM 49 EUROPEAN AND OECD COUNTRIES.

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ABSTRACT

AIM OF THE STUDY

This study aims to examine the responsiveness of out of pocket (OOP) healthcare spending to macroeconomic factors, as well to tax-based, compulsory-social health insurance (SHI), mixed health systems and Private Health Insurance (PHI) financing, by elaborating fixed-random effects and dynamic panel data methodology to a dataset of 49 European and OECD countries over the period of 2000 to 2015.

RATIONALE

Enhancing knowledge about the potential impact of several macroeconomic and health financing factors on OOP healthcare expenditures is an important tool for policy-makers, when designing national health systems reforms aiming at accelerating financial protection towards Universal Health Coverage (UHC). So far, the recent financial crisis and its deep fiscal recession for several European and OECD countries, provide an opportunity for further empirical examination concerning the potential effect of public and private pre-paid financing schemes on OOP spending.

Previous empirical work has already well documented the responsiveness of OOP healthcare payments to a multitude of explanatory macroeconomic parameters (e.g. GDP, government debt, unemployment) and health financing disaggregated components (e.g. aggregate public and PHI funding) (Grigorakis et al., 2018; Younsi et al., 2016; Fan and Savedoff, 2014; Keegan et al., 2013; Xu et al., 2011; Clemente et al., 2004; Musgrove et al., 2002). Nevertheless, there is no empirical consensus on the effect of macroeconomy, the existence of different public health systems arrangements associated with the voluntary PHI institution funding on OOP expenditure, by using a large sample of countries.

BACKGROUND OF THE STUDY

Health financing objective is to provide equitable access of population to needed healthcare alongside with ensuring efficient safe-nets against the risk of financial hardship (WHO, 2008).

Offsetting high households' OOP payments as a result of seeking care is regarded by the World Health Assembly (WHA) as a core indicator of health systems performance assessment (WHA, 2011).

The concept of financial protection implies to health systems to ensure risk pooling among the population in order to reduce the reliance on OOP spending and thus to diminish households' exposure to financial hardship due to health care use (Saksena et al., 2014; Moreno-Serra et al., 2011).

WHO's, WHA's and United Nations' health financing agenda suggest that countries have to promote financial protection against OOP payments for healthcare. Nevertheless, government decision making in several European and OECD countries proceeded on fiscal stability measures rather than ensuring state health funding post to the 2008 crisis era (WHO and World Bank, 2017; WHA, 2011).

Health systems worldwide make remarkable progress towards UHC by raising the share of domestic general government health expenditure (GGHE-D) in their current health expenditure (CHE). At the same time countries' reliance on OOP healthcare payments follows a downward trend (Xu et al., 2018). According to WHO's official database (WHO, 2019), public health spending corresponds almost to an average of 52% of per country CHE, whereas 32% derives from OOP payments in 2015, respectively. Nevertheless, the phenomenon of households' financial hardship, catastrophe or even impoverishment due to OOP healthcare spending is borderless, irrespective of region or national income level classification (Wagstaff et al., 2018; Xu et al., 2003).

Given that the majority of population in European and OECD countries is compulsorily or privately health insurance covered, the reasonable situation that everyone should expect is OOP payments to be accounted for low proportion to CHE. Nevertheless, OOP payments over the time range from 25% to almost 50% of CHE for several European and OECD economies, such as Cyprus, Bulgaria, Chile, Greece, Hungary, Korea Republic, Latvia, Lithuania, Mexico, Portugal and Spain (WHO, 2019).

METHODOLOGY

We elaborate both fixed and random effects, as well as dynamic panel data methodology to examine several macroeconomic and different health systems financing arrangements associated with OOP expenditures, using data for 49 European and OECD countries from 2000 to 2015. Our analysis uses annual data for several explanatory variables that have been evinced by the existing literature to have a statistically significant impact on determining OOP spending, gathered from three international databases (IMF, 2019; World Bank, 2019a; WHO, 2019).

Moreover, we test for validation of our findings by using several econometric diagnostic tests (Hausman test, panel unit root tests, panel co-integration tests, cross-sectional dependence tests, serial correlation testing, Wald's and Sargan's tests). Furthermore, we apply robustness check to test our econometric approaches in several additional ways.

KEY FINDINGS

Except of unemployment rate, macroeconomic drivers, such as national income and general government debt do not have a significant effect on OOP payments variation, based on our study econometric results. OOP spending is significantly influenced by a country's fiscal capacity to raise general government expenditure to GDP only in tax-based health schemes. Additionally, we find that public associated with voluntary PHI financing has a remarkable negative impact on OOP spending in tax-based and mixed health insurance systems. Our findings are robust since different changes in specifications and samples are implemented in our models.

CONTRIBUTIONS

To Theory

The proposed study contributes to the existing literature on the topic in several ways; a) by extending the empirical knowledge concerning the effect of several macroeconomic drivers on OOP spending and b) by filling the gap in the literature concerning the impact of different compulsory national health systems financing supplemented by voluntary PHI on OOP expenditures, based on a macro-level explanation modeling.

To Policy-making

Gaining more insight on factors associated to households' healthcare payments might help policy-makers to revise their fiscal adjustment planning in order to reduce the reliance of total health financing on OOP spending for several countries.

Our findings indicate that governments have to desist from total commitments for decreasing public health funding in order to exclusively comply with severe structural reforms for achieving fiscal stability objectives. Furthermore, voluntary PHI provides as an additional funding option to national compulsory health system schemes, especially for countries with tight restrictions on their social-welfare budgets.

ORIGINALITY

To the best of our knowledge, there is no an empirical study for examining the potential responsiveness of OOP expenditure to our proposed explanatory parameters nearly to the majority of European and OECD countries based on WHO's region taxonomy. Against this empirical background, we assess the effect of macroeconomy, as well of different national health systems and PHI financing on OOP healthcare spending, for countries with population 1.52 billion (World Bank, 2019b).

Keywords: *OOP healthcare expenditures/spending; Macroeconomy; Public and Private health insurance financing; Panel data analysis*

REFERENCES

- Clemente, J., Marcuello, C., Montañés, A., Pueyo, F. (2004). On the international stability of health care expenditure functions: are government and private functions similar? *Journal of Health Economics*, Vol.23(3), pp. 589-613.
- Fan, V. Y., & Savedoff, W. D. (2014). The health financing transition: a conceptual framework and empirical evidence. *Social Science & Medicine*, Vol.105, pp. 112-121.
- Grigorakis, N., Floros, C., Tsangari, H., Tsoukatos, E. (2018). Macroeconomic and financing determinants of out of pocket payments in health care: Evidence from selected OECD countries. *Journal of Policy Modeling*. Vol.40(6), pp. 1290-1312.
- International Monetary Fund (2019). *World Economic Outlook Database*. Available: <https://www.imf.org/external/pubs/ft/weo/2018/02/weodata/weoselgr.aspx>
- Keegan, C., Thomas, S., Normand, C., & Portela, C. (2013). Measuring recession severity and its impact on healthcare expenditure. *International journal of health care finance and economics*, Vol.13(2), pp: 139-155.
- Moreno-Serra, R., Millett, C., Smith, P. C. (2011). Towards improved measurement of financial protection in health. *PLOS Medicine* Vol.8(9): e1001087. DOI: 10.1371/journal.pmed.1001087
- Musgrove, P., Zeramdini, R., & Carrin, G. (2002). Basic patterns in national health expenditure. *Bulletin of the World Health Organization*, 80(2), pp. 134-146.
- Saksena P., Hsu J., Evans, D.B. (2014) Financial Risk Protection and Universal Health Coverage: Evidence and Measurement Challenges. *PLoS Med* 11(9): e1001701. doi:10.1371/journal.pmed.1001701
- Wagstaff, A., Flores, G., Hsu, J., Smitz, MF., Chepynoga, K., Buisman, LR., et al. (2018). Progress on catastrophic health spending in 133 countries: a retrospective observational study. *Lancet Glob Health*. Vol.6(2), pp. e169-79.
- World Bank (2019a). *World Bank national accounts data, and OECD National Accounts data files: Data from database: World Development Indicators* (<http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators#>).
- World Bank (2019b). *World Bank population data: Data from database: Climate Change Knowledge Portal (CCKP)*: <https://data.worldbank.org/indicator/SP.POP.TOTL>
- World Health Assembly (2011). 64.9 Resolution: Sustainable health financing structures and universal coverage. Sixty-fourth World Health Assembly, Geneva, 24.
- World Health Organization (2008). *Health financing policy: a guide for decision-makers*. Copenhagen, WHO Regional Office for Europe. Available:http://www.euro.who.int/__data/assets/pdf_file/0004/78871/E91422.pdf
- World Health Organization (2019). *WHO Global Health Expenditure Database, National Health Accounts (NHA) Indicators*. <http://apps.who.int/nha/database/Select/Indicators/en>.
- World Health Organization, World Bank (2017). *Tracking Universal Health Coverage: 2017 Global Monitoring Report*. Available:<http://apps.who.int/iris/bitstream/handle/10665/259817/9789241513555eng.pdf>
- Xu, K., Evans, D. B., Kawabata, K., Zeramdini, R., Klavus, J., & Murray, C. J. et al. (2003) Household catastrophic health expenditure: a multi-country analysis *Health Affairs*, Vol. 26(4), pp. 972-983.
- Xu, K., Saksena, P., & Holly, A. (2011). *The Determinants of Health Expenditure: a Country-Level Panel Data Analysis*. WHO Working Paper December (2011). Center for Global Development, Washington, DC

Xu, K., Soucat, A., Kutzin, J., Brindley, C., Vande Maele, N., Hapsatou, Touré H., et al. (2018). Public Spending on Health: A Closer Look at Global Trends. Geneva: World Health Organization (WHO/HIS/HGF/HFWorkingPaper/18.3). Licence: CC BY-NC-SA 3.0 IGO.

Younsi, M., Chakroun, M., & Nafla, A. (2016). Robust analysis of the determinants of healthcare expenditure growth: evidence from panel data for low-, middle-and high-income countries. *The International Journal of Health Planning and Management*, Vol.31(4), pp. 580-601.

INTER-ORGANIZATIONAL COMMUNITIES OF PRACTICE: NEED FOR THEORY?

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ABSTRACT

THE PHENOMENON

Communities-of-practice (CoPs) have been acknowledged as a fruitful area for research, spanning several fields, ranging from knowledge management at one end and strategy-as-practice at the other. CoPs are characterized by a shared identity and values, apart from building on a common body of knowledge (Wenger and Snyder, 2000). Understood as informal and interstitial groups of people working together towards a common goal or endeavor, CoPs could be conceptualized as communities within an organization/ firm or transcending organizational boundaries. Yet, the latter conceptualization is scarce in comparison to the former.

THE MOTIVATION

A search for papers on CoPs on Google Scholar throws up several empirical studies that deal with inter-organizational CoPs. This is not surprising, since at least three different types of inter-organizational CoPs can be found thriving: (a) via self-interest communities; (b) through industry bodies and (c) as part of an organization's network with its suppliers, customers and the like. While (c) has been prominent over a period of time and (b) so, in the context of standard setting and lobbying, there have been increasing examples of (a) as well of late, with communities hosted on the likes of Kaggle and GitHub. Yet, each of these types of inter-organizational CoPs is very different from any intra-firm or intra-organizational CoP due to factors such as lower levels of hierarchy and lesser pressures of immediacy. Arguably, these differences are more a matter of distinction than a degree. This calls for theorization of and conceptualization for inter-organizational CoPs.

THE CONTOURS OF THE THEORY

Apart from the above conceptualization of inter-organizational CoPs that deals with issues such as hierarchy, urgency of decision-making and types of inter-organizational CoPs, the extant literature on CoPs itself provides us contours for a theory on inter-organizational CoPs.

Brown and Duguid (1991) suggest that canonical practices should not impede emergence of CoPs – their weakened state in an inter-organizational or extra-organizational setting is an indicator for emergence of inter-organizational CoPs.

However, there still remains a coordination challenge in such CoPs; yet, availability of ICTs such as discussion boards and groupware can double up as knowledge management systems, thus alleviating this concern (cf. Alavi & Leidner, 2001).

Wenger and Snyder (2000) suggest that CoPs emerge due to passionate members committed towards a particular area coming and working together in informal ways – in a world increasingly dominated by professionals and white collar workers, it is not unconceivable that professionals with common interests can be found outside the organization as well. Further, as knowledge is embedded in practice, it stands to reason that professionals engaging in similar technologies may view themselves as members of an interstitial community (cf. Brown and Duguid, 1991).

The lack of immediacy in the context of most inter-organizational CoPs may play a beneficial role in the sustenance of the CoP as well. Becoming a member of a CoP takes time due to the process of socialization – LPP (legitimate peripheral participation), a term suggested by Lave and Wenger (1991) indicates that participants become central to a CoP by starting at the periphery but gradually increasing participation.

Finally, building on Granovetter (1977), one could believe that inter-organizational CoPs maybe most suitable for information (and by extension, knowledge) transfer due to the weak ties that abound as opposed to much stronger ties in a firm-specific CoP.

Going further in this conceptual study, an attempt would be made to also differentiate between the different types of inter-organizational CoPs: (a) via self-interest communities; (b) through industry bodies and (c) as part of an organization's network with its suppliers, customers and the like. Terming them as extra-organizational, supra-organizational and multi-organizational CoPs respectively, we look at differences within these different types of inter-firm CoPs and what drives these differences – professionalism, industry structure and goal congruence. A key objective in this paper would be to develop the inter-firm CoPs as a distinctive class of CoPs and to propose a typology of different inter-firm CoPs. It is believed that this would lead to an overall better understanding of CoPs, especially those of the inter-firm variety, apart from clarifying the conceptualization of CoPs itself.

Keywords: Communities-of-Practice, CoPs, Inter-organizational Communities-of-Practice, Inter-firm CoPs, Replication, Imitation, Inter-firm Communities of Practice, Online Community, Collaborative Projects, LPP.

REFERENCES

- Alavi, M. and Leidner, D.E., 2001. Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, pp.107-136.
- Brown, J.S. and Duguid, P., 1991. Organizational learning and communities-of-practice: Toward a unified view of working, learning, and innovation. *Organization Science*, 2(1), pp.40-57.
- Granovetter, M.S., 1977. "The strength of weak ties." in *Social Networks* (pp. 347-367). Academic Press.
- Lave, J. and Wenger, E., 1991. *Situated learning: Legitimate peripheral participation*. Cambridge university press.
- Wenger, E.C. and Snyder, W.M., 2000. Communities of practice: The organizational frontier. *Harvard Business Review*, 78(1), pp.139-146.

FUNDING INNOVATIVE SMES OPERATING IN TRADITIONAL SECTORS

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ABSTRACT

The growing interest in SMEs stems from the fact that they are perceived as a main engine of economic growth and job creation. Still, these companies face obstacles in the form of inaccessibility to financing, especially those companies that are based on knowledge and innovation and whose primary assets are intangible in nature.

The present study is a continuation of the research of Harel and Kaufmann, who investigated the funding difficulties of Innovative SMEs in Traditional Sectors (ISTS) from the supply side, focusing on existing funding sources in the market. The current research aim is to assess the earlier study's ISTS funding market-failure argument, from the demand side as well, that is, from the perspective of the relevant businesses.

This work is based on an analysis of case studies conducted in Israel in 2016. The study findings show similar reports of lack of funding access, despite the great diversity and variety of the companies in the sample, as manifested in their activities across an array of industrial sectors, their levels of innovation, their present lifecycle stages, and their broad size and age range.

The present study contributes to an understanding of the existing market failure from the personal perspective of the company executives. The in-depth interviews provided a first-ever opportunity to obtain sensitive, seldom-revealed information and data, and afforded the opportunity to shed light from a different perspective on the difficulties ISTS face in obtaining financing for innovation. The study also has a practical application. In view of the importance of these businesses to the economy on one hand, and the funding difficulties presented on the other, the findings suggest that a solution to this market failure should be based on government intervention in developing new financing tools suitable for those companies.

Keywords: SME, funding, innovation, traditional sectors, market failure

REFERENCES

Asheim, B. T., Isaksen, A., Nauwelaers, C., & Tödting, F. (2003). *Regional Innovation Policy for Small-Medium Enterprises*. Northampton, MA: Edward Elgar Publishing.

- Avnimelech, G. and Teubal, M. (2006). Creating venture capital industries that co-evolve with high tech: Insights from an extended industry life cycle perspective of the Israeli experience. *Research Policy*, 35(10), 1477-1498.
- Avnimelech, G. & Teubal, M. (2008). From direct support of business sector R&D/Innovation to targeting venture capital/private equity: A catching-up innovation and technology policy life cycle perspective. *Economics of Innovation and New Technology* 17(1-2), 153-172.
- Ayyagari, M., Demirguc-Kunt, A. & Maksimovic, V. (2005). How Important Are Financing Constraints? The Role of Finance in the Business Environment. World Bank memo.
- Baas, T. & Schrooten, M. (2006). Relationship banking and SMEs: A theoretical analysis. *Small Business Economics*, 27(2-3), 127-137.
- Bannier, C.E. & Grote, M.H. (2008). Equity Gap? Which Equity Gap? On the Financing Structure of Germany's Mittelstand. Working Paper Series Frankfurt School of Finance & Management 106.
- Beck, T. & Demirguc-Kunt, A. (2006). Small and medium-size enterprises: Access to Finance as a growth constraint. *Journal of Banking & Finance*, 30(11), 2931- 2943.
- Bell, J.I.M. (2003). Towards an Integrative Model of Small Firm Internationalisation. *Journal of International Entrepreneurship*, 1(4),339-362.
- Ben Oumlil, A. (2013). Warranty implementation and evaluation: A global firm's case. *Journal of Product & Brand Management*, 22(2), 161-171.
- Bianchi, M., Campodall'Orto, S., Frattini, F., & Vercesi, P. (2010). Enabling open innovation in small-and medium-sized enterprises: how to find alternative applications for your technologies. *R&D Management*, 40(4), 414-431.
- Binks, M. & Ennew, T. (1996). Financing small firms, in P. Burns & J. Dewhurst (Eds.), *Small Business and Entrepreneurship*: 2ed. Ed. (110-130) London: Macmillan.
- Birch, D. L., Haggerty, A. & Parsons, W. (1995). *Who's Creating Gobs?*. Cambridge, MA: Cognetics, Inc.
- Berger, A. & Udell, G.F. (1998). The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of Banking & Finance*, 22(6), 613-673.
- Bommer, M., & Jalajas, D. S. (2004). Innovation sources of large and small technology-based firms., *IEEE Transactions on Engineering Management*, 51(1), 13-18.
- Caputo, A. C., Cucchiella, F., Fratocchi, L., Pelagagge, P. M., & Scacchia, F. (2002) A methodological framework for innovation transfer to SMEs. *Industrial Management & Data Systems*, 102(5), 271-283.
- Carson, D. (1990) Some exploratory models for assessing small firms' marketing performance (a qualitative approach). *European Journal of Marketing*, 24(11), 8-51.
- Central Bureau of Statistic (2012). Innovation in the business sector 2006-2008, Commissioned by the National Council for Research and Development (MOLMOP) and the Ministry of Industry, Trade and Labor. Available at: [www.cbs.gov.il/publications12/1463 innovation 06 08/pdf/intro h.pdf](http://www.cbs.gov.il/publications12/1463%20innovation%2006%2008/pdf/intro%20h.pdf). (Hebrew).
- Central Bureau of Statistics (2014). The classification of industries by technological intensity. Available at: www.cbs.gov.il/publications/indust_class/sivug_eb_otsma.pdf. (Hebrew)
- Chesbrough, H. W. (2003) *Open innovation: The new imperative for creating and profiting from technology*. Cambridge, MA: Harvard Business school Press.

- Colombo, M. G., Piva, E., & Rossi-Lamastra, C. (2014). Open innovation and within-industry diversification in small and medium enterprises: The case of open source software firms. *Research Policy*, 43(5), 891-902.
- Dana, L. P. (1999). Small business in Israel. *Journal of Small Business Management*, 37(4), 73.
- Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of management review*, 14(4), 532-550.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of management journal*, 50(1), 25-32
- Freel, M.S. (2006). Are Small Innovators Credit Rationed?. *Small Business Economics*, 28(1), 23-35.
- Gereffi, G., Humphrey, J. & Sturgeon, T. (2005). The governance of global value Chains. *Review of international political economy*, 12(1), 78-104.
- Giudici, G. & Paleari, S. (2000). The provision of finance to innovation: a survey conducted among Italian technology-based small firms. *Small Business Economics*, 14(1), 37-53.
- Hammann, E. M., Habisch, A., & Pechlaner, H. (2009). Values that create value: Socially responsible business practices in SMEs—empirical evidence from German companies. *Business Ethics: A European Review*, 18(1), 37-51.
- Harel, R., & Kaufmann, D. (2016). Financing innovative SMEs of traditional sectors: the supply side. *EuroMed Journal of Business*, 11(1), 84-100.
- Harel, R., Schwartz, D. & Kaufmann, D. (2019). Open innovation in small businesses in the industry and craft sectors. *International Journal of Innovation Management*. 23(04), 1950038.
- Henrekson, M. & Johansson, D. (2010). Gazelles as job creators: a survey and interpretation of the evidence. *Small Business Economics*, 35(2), 227-244.
- Hernández-Cánovas G, & Martínez-Solano, P. (2007). Effect of the number of banking relationships on credit availability: Evidence from panel data of Spanish small firms. *Small Business Economics* 28(1), 37–53.
- Hossain, M. (2015). A review of literature on open innovation in small and medium-sized enterprises. *Journal of Global Entrepreneurship Research*, 5(1), 1-12.
- Hyytinen, A. & Toivanen, O. (2003). Do financial constraints hold back innovation and growth? Evidence on the role of public policy. *Research Policy*, 34(9), 1385-1403.
- Kaufmann, D., Schwartz, D., Bar-El, R., Harel, R., Bluer, E. & Naftali, Y. (2014). Public involvement in private funds for SMEs: Identifying local needs and policy recommendations. SBA, Israeli Ministry of Economy. (Hebrew).
- Kleinknecht, A. (1989) Firm size and innovation. *Small Business Economics*, 1(3), 215-222.
- Knight, G.A. (1997). Emerging paradigm for international marketing: The born global firms. Ph.D. Thesis. Department of Marketing and Supply Management, Michigan state University, USA.
- Knight, G.A. & Cavusgil, S.T. (2014). The Born Global Firm: A Challenge to Traditional Internationalization Theory. *Advances in International Marketing* 8, 11–26.
- Lee, S., Park, G., Yoon, B., & Park, J. (2010). Open innovation in SMEs-An intermediated network model. *Research Policy*, 39(2), 290-300.
- McDougall, P. (1989). International versus domestic entrepreneurship, New venture strategic behavior and industry structure. *Journal of Business Venturing* 4(6), 387– 400.

- Marom, S., & Lussier, R. N. (2018). Developing a small business management concentration within a business degree. *Small Business Institute Journal*, 13(2), 15-30.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770-791.
- Moen, Ø., Sørheim, R. & Erikson, T. (2008). Born global firms and informal investors: examining investor characteristics. *Journal of Small Business Management*, 46(4), 536-549.
- Narula, R. (2004). R&D collaboration by SMEs: new opportunities and limitations in the face of globalisation. *Technovation*, 24(2), 153-161.
- OECD (2005) *The Measurement of Scientific and Technological Activities: Guidelines for Collecting and Interpreting Innovation Data*. Oslo, Norway: OECD.
- OECD (2009). Part II: Policy measures to support high-growth SMEs in the western Balkans. In OECD, 2009, *Western Balkans: Progress in the Implementation of the European Charter for Small Enterprise, 2009 SME Policy Index*, 151-457.
- OECD (2013). *Perspectives on Global Development 2013: Industrial Policies in a Changing World*. Paris: OECD Publishing.
- Pena, I. (2002). Intellectual capital and business start-up success. *Journal of intellectual capital*, 3(2), 180-198.
- Pettigrew, A. M. (1990). Longitudinal field research on change: Theory and practice. *Organization science*, 1(3), 267-292.
- Prime Minister office (2014). Government Decision 2190 dated 12.8.2007, targeting assistance to small businesses.
- Savlovski, L. I., & Robu, N. R. (2011). The role of SMEs in modern economy. *Economia, Seria Management*, 14(1), 277-281.
- Schollhammer, H., & Kuriloff, A. H. (1997). *Entrepreneurship and small business management*. New York, NY: John Wiley.
- Spithoven, A., Clarysse, B., & Knockaert, M. (2011). Building absorptive capacity to organize inbound open innovation in traditional industries. *Technovation*, 31(1), 10-21
- Riding, A., Orser, B. J., Spence, M. and Belanger, B. (2012), "Financing new venture exporters", *Small Business Economics*, 38(2), 147-163.
- Thornhill, S. & Gellatly, G. (2005). Intangible assets and entrepreneurial finance: the role of growth history and growth expectations. *The International Entrepreneurship and Management Journal*, 1(2), 135-148.
- Tucker, J. & Lean, L. (2003). Small firm finance and public policy. *Journal of Small Business and Enterprise Development*, 10(1), 50-61.
- Tzadik, A. (2007). *Small and medium businesses in Israel and in developing countries*. The Knesset Research and Information Center, Jerusalem. (Hebrew).
- Van de Vrande, V., De Jong, J. P., Vanhaverbeke, W., & De Rochemont, M. (2009). Open innovation in SMEs: Trends, motives and management challenges. *Technovation*, 29(6), 423- 437.
- Vanhaverbeke, W., & Cloudt, M. (2006). Open innovation in value networks. In: H. Chesbrough, W. Vanhaverbeke & J. West (Eds.), *Open Innovation: Researching a New Paradigm* (pp. 258-281). New York, NY: Oxford University Press.

- Vázquez-Carrasco, R., & López-Pérez, M. E. (2013). Small & medium-sized Enterprises and Corporate Social Responsibility: a systematic review of the literature. *Quality & Quantity*, 47(6), 3205-3218.
- Vossen, R. W. (1998). Relative strengths and weaknesses of small firms in Innovation. *International small business journal*, 16(3), 88-94.
- West, J., Vanhaverbeke, W., & Chesbrough, H. (2006). Open innovation: a research agenda. In: H. Chesbrough, W. Vanhaverbeke, & J. West (Eds.), *Open Innovation: Researching a New Paradigm*. NY: Oxford University Press.
- Yew Wong, K., & Aspinwall, E. (2004). Characterizing knowledge management in the small business environment. *Journal of Knowledge Management*, 8(3), 44-61.
- Yin, R.K. (2013). Case study research: design and methods', *The Canadian Journal of Action Research*, 14(1), 69–71, Sage, Thousand Oaks, CA.

THE EFFECTS OF THE BOARD COMPOSITION ON TAX PLANNING STRATEGIES: AN EMPIRICAL ANALYSIS ON ITALIAN LISTED FIRMS

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ABSTRACT

INTRODUCTION

Aggressive tax planning strategies or Tax Aggressiveness (TA) represent a common feature within the corporate environment, as taxes are a critical factor in the decision-making process of a company (Lanis and Richardson, 2011). The tax planning practice is a managerial strategy adopted by a company in order to reduce its taxable income and consequently minimizing its tax burden in compliance with the country regulatory framework (Bruce, 2007). The adoption of these strategies entails some benefits for companies through the availability of more resources to invest. This enables companies to create value (Desai and Dharmapala, 2006) and to improve their performances (Hanlon and Slemrod, 2009).

The TA strategy involves two main consequences for companies: the first one is a compliance cost as a consequence of the relationship with the tax authority (Scholes et al., 2005); the second one is a reputational cost due to the increase of social and political pressure on corporate decisions (Hanlon et al., 2009; Ayers et al., 2008). The board of directors covers an important role to adopt the TA strategy, thus a good board enables a company to reach economical and financial efficiency; it helps also to ensure equal support to the stakeholders (OECD, 2015). Accordingly to the previous studies, this research aims to investigate the possible consequences that tax planning has within and outside companies. We focused our work on analyzing the consequences that a company corporate governance aiming to adopt aggressive TA - with the scope of having appropriate remuneration for the shareholders - has on the internal decision-making process.

SHORT DISCUSSION ON THE EXISTING LITERATURE

The debate on the role played by governance mechanisms in recent years is constantly growing. There are few studies that investigate the relationships between TA and the characteristics of a firm's corporate governance, in particular in the European context.

Recent empirical studies, show that some characteristics of the board of directors are negatively associated with the decision of the management of making a TA strategy, such as: board size (Lanis

and Richardson, 2011; Minnik and Noga, 2010), the presence of a BIG4 as an independent auditor (Richardson et al., 2013) and the presence of women within the board (Aliani et al., 2012). The literature shows that the presence of independent directors is positively associated with a high level of tax aggressiveness of a firm (Yeung, 2010). Accordingly with the mentioned literature, we can develop the following research hypothesis:

H1. Board's size is negatively associated with a high level of TA of a firm.

H2. The presence of independent directors is positively associated with a high level of TA of a firm.

H3. The presence of women within the board of directors is negatively associated with a high level of TA of a firm.

H4. The presence of a BIG4 is negatively associated with a high level of TA of a firm.

RESEARCH METHODOLOGY

The population under investigation and the financial data have been taken from the database *AIDA – Bureau Van Dijk* and it is made up of 149 listed firms on the Milano Stock Exchange.

In order to analyze a homogeneous group of firms, we have considered the units that hold shares in at least one foreign subsidiary in countries other than Italy in the 2017 financial year. The analysis carried out used a mixed method. We have used the research methodology "Document Analysis"; this research method is based on the evaluation of public documents characterized by stability and exactness of the data (Bowen, 2009) in order to detect the characteristics of the board of directors.

We have chosen this methodology to comply with art. 123-bis of D. Lgs n. 58/98 of the Italian legislation, which forces companies to communicate the information about the composition of the board of directors and the ownership structure. To investigate the relationships between TA and the composition of the board of directors, we adopted a panel data with fixed effects on a time interval of 6 years (2011-2017) with the determination of 894 overall observations.

REGRESSION MODEL

This study measures the Tax Aggressiveness with two dependent variables: "Effective Tax Rate" (ETR) and "Cash Effective Tax Rate" (CETR).

ETR is calculated by the ratio between the total tax expenses and the accounting income before tax.

CETR is calculated by the ratio between the current-year tax expenses and the accounting income before tax (Dyreng et al., 2008; Minnik and Noga, 2010, Richardson et al., 2013; Desai and Dharmapala, 2006; Rego, 2003). The aggressive tax planning strategy of a firm reduces its taxable income and consequentially both ETR and CETR. (Rego, 2003; Zimmerman, 1983).

This research considers the dependent variables ETR and CETR as *dummy variable*, which might take the value of 0 or 1. We consider a firm aggressive and we give to ETR and CETR value of 1 if the firm has a value of ETR o CETR lower than the Italian tax rate of 27,9%, otherwise we give value 0. The Italian tax rate of 27,9% takes into account the tax rate of 24% of the corporate income tax (IRES) and the tax rate of 3,9% of the regional production tax (IRAP).

Accordingly to the previous studies (Minnik e Noga, 2010; Lanis e Richardson, 2011, Aliani et al., 2011) the independent variables *SIZEB*, *%WOMAN*, *%INDCONS*, *CEODUALITY*, *CEOW*, *BIG4* represent the internal and external characteristics of a board of directors of a listed firm. The control variables of this study are represented by *SIZET*, *LEV*, *ROA*, *FCONTR*, *MKTB*, accordingly to the previous studies on corporate governance and tax planning (Adhikari et al., 2006, Dyreng et al., 2010; Richardson et al., 2013, Mills, 1991).

Tab. 2. Description of the variables

Codice	Previsione	Variabile	Valore
ETR		Effective Tax Rate	1= aggressive 0= no aggressive
CETR		Cash Effective Tax Rate	1= aggressive 0= no aggressive
SIZET	+/-	Totale Assets	Log
ROA	+/-	ROA	%
LEV	+/-	Leverage	%
MKTB	-	Market Value	Log
FCONTR	+/-	Foreign subsidiaries	1= >50% 0= <50%
SIZEB	-	Size Board	Log
%WOMAN	-	Percentage of woman	%
%INDCONS	+/-	Percentage of independent directors	%
BIG4	-	Independent auditor: PWC, Deloitte, KPMG, EY	1=Yes 0=NO

In order to analyze the relationship between the composition of board of directors and the tax aggressiveness, we have estimated the following logistic regression models for each dependent variable.

Model 1.:

$$ETR_{it} = \alpha_{it} + \beta_{1t} SIZET_i + \beta_{2t} ROA + \beta_{3t} LEV + \beta_{4t} MKTB + \beta_{5t} FCONTR + \beta_{6t} SIZEB + \beta_{7t} \%WOMAN + \beta_{8t} \%INDCONS + \beta_{9t} BIG4$$

Model2.:

$$CETR_{it} = \alpha_{it} + \beta_{1t} SIZET_i + \beta_{2t} ROA + \beta_{3t} LEV + \beta_{4t} MKTB + \beta_{5t} FCONTR + \beta_{6t} SIZEB + \beta_{7t} \%WOMAN + \beta_{8t} \%INDCONS + \beta_{9t} BIG4$$

RESULTS

The logistic regression analysis carried out shows a positive association between the firm size (SIZET) and a high value of TA of a firm accordingly to Dyreng et al. (2008), Richardson and Lanis (2007) and Rego (2003). Furthermore, the analysis shows a negative relationship of ROA and of the high percentage of foreign subsidiaries (FCONTR) with a high level of Tax Aggressiveness of a firm, accordingly respectively to Minnik and Noga (2010) and Mills (1991). For the independent variables, we show a positive relation between the size of board of directors and the decision of the management planning a TA. The lack of validation of the remaining research hypotheses is consistent with Minnik and Noga (2010).

MANAGERIAL IMPLICATIONS AND FUTURE PROSPECTS

This study offers important managerial implications and it contributes to the existing literature in different ways. In particular, the positive association between the firm size and the TA shows how the large firms with longer histories have greater resources to influence the economic and political process (Gupta and Newberry, 1997). This allows the large firms to engage in a tax planning strategy in order to reduce their tax burdens relative to smaller firms.

Furthermore, this work shows how the characteristics of the governance mechanisms are relevant in the study of the tax planning strategy of a firm. The analysis shows how a board made up by a large number of directors is able to invest more resources in order to adopt a tax planning strategy. This data shows how the strategic choices made by a large board of directors are more oriented to guarantee the interests of the shareholders. For the future researches might be important to know more about the role of the CEO. The literature is focused on detecting the effects of the size and composition of a board of directors on the adoption of a TA, without taking into account specific topics related the possible dual role within the board of the CEO and the gender that could characterize this figure.

Keywords: Board of directors, Corporate Governance, Tax Aggressiveness, Tax Planning

REFERENCES

1. Adhikari, A., Derashid, C., & Zhang, H., (2006), "Public policy, political connections, and effective tax rates: longitudinal evidence from Malaysia", *Journal of Accounting and Public Policy*.
2. Aliani K., Mhamid I., Zarai M., (2011), "Diversité en genre dans le Conseil d'Administration et optimisation fiscale: validation dans le contexte tunisien", *Global Journal of Management and Business Research*.
3. Aliani, K., Zarai, M. A., (2012), "Demographic Diversity in the board and corporate tax planning in American firms", *Business Management and Strategy*.
4. Ayers B. C., Laplante S. K., Mcguire S. T. (2008), *Credit Ratings and Taxes: The effect of Book-Tax Differences on Rating Changes*, *Contemporary Accounting Research*.

5. Bowen G. A., (2009) "Document analysis as a qualitative research method", *Qualitative research journal*.
6. Bruce, D., Deskins, J., & Fox, W. F., (2007) "On the extend, growth and efficiency consequences of state business tax planning, in *Taxing corporate income in the 21 century*", Cambridge university press.
7. Desai, M. A., Dharmapala, D., (2006), "Corporate tax avoidance and high-powered incentives", *Journal of Financial Economics*.
8. Dyreng S.D., Hanlon M., Maydew E.L., (2010), "The effects of executives on corporate tax avoidance", *Accounting Review*.
9. Dyreng, S. D., Hanlon, M., Maydew, E. L., (2008), "Long-run corporate tax avoidance", *The Accounting Review*.
10. Gupta S., & Newberry K., (1997) "Determinants of the variability in corporate effective tax rates: evidence from longitudinal data", *Journal of Accounting and Public Policy*.
11. Hanlon M., Slemrod, J., (2009) "What does tax aggressiveness signal? Evidence from stock price reactions to news about tax aggressiveness", *Journal of Public Economics*.
12. Jensen, M. C., (1993); *The modern industrial revolution, exit, and the failure of internal control systems*, *Journal of Finance*.
13. Lanis R., Richardson G., (2011) "The effect of board of director composition on corporate tax aggressiveness" *Journal of Accounting and Public Policy*,
14. Lisowsky P., (2010) "Seeking shelter: empirically modeling tax shelters using financial statement data", *The Accounting review*.
15. Mills L., Erickson M., Maydew E., (1991) "Investments in tax planning", *Journal of the American Taxation Association*.
16. Minnick K., Noga T., (2010), "Do corporate governance characteristics influence tax management?", *Journal of Corporate Finance*.
17. OECD, *G20/OECD Principles of Corporate Governance*, OECD Publishing, Paris, 2015
18. Rego S.O., (2003), "Tax-avoidance activities of US multinational corporations", *Contemporary Accounting Research*.
19. Richardson G., Lanis R, (2007), "Determinants of the variability in corporate effective tax rates and tax reform: evidence from Australia", *Journal of Accounting and Public Policy*.
20. Richardson, G., Taylor, G., Lanis, R., (2013), "The impact of board of director oversight characteristics on corporate tax aggressiveness: An empirical Analysis", *Journal of Accounting and Public Policy*.
21. Scholes M.S., Wolfson M.A., Erickson M., Maydew E.L., Shevlin, T., (2005) "Taxes and Business Strategy: A Planning Approach", third ed. Prentice-Hall, Upper Saddle River, NJ.
22. Yeung C.T., (2010), "Effects of Corporate Governance on Tax Aggressiveness", An Honours Degree Project, Hong Kong Baptist University.
23. Zimmerman J., (1983) "Taxes and firm size", *Journal of Accounting and Economics*.

LITERARY ENGLAND: A TOURISM DESTINATION FOR THE US TRAVELLER

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ABSTRACT

England is the birthplace of many of literature's well-known authors and their characters: be that Jane Austen and Elizabeth Bennet; Charles Dickens and *Oliver Twist*; or Beatrix Potter and *Peter Rabbit*. It is unsurprising, therefore, that the UK has been constructed as a prime literary destination for international tourists (Iwashita, 2006).

Agarwal and Shaw (2018) present literary tourism as a form of travel for the purpose of visiting sites associated with an author's writing and/or real-life. Within literary tourism research, focus has thus been given to the importance of place. Lee (2012) highlights the demand for visiting fantasy and fictional sites (i.e. Harry Potter's United (Magical) Kingdom), while van Es and Reijnders (2016) examine tourists' activities within cities (i.e. Sherlock Holmes' crime-detective tours). Elsewhere, spotlighting the tourists themselves, research has attended to literary "fans" (Herbert, 2001: 326); with studies foregrounding the demographics, motivations and experiences of what MacLeod *et. al.* (2018) label as the 'touring reader'. However, less attention has been paid to literary tourism through the lens of the non-bibliophile. The question remains as to whether the typical tourist would actively seek out, be interested in, or even aware of, English literary sites and attractions. This has important implications for the tourism industry in terms of how the literary tourism product specifically – and England as a destination more broadly – is presented to the average international traveller.

The purpose of this paper is to examine the likelihood of US tourists visiting England to engage in literary tourism. The paper employs an inductive between-subjects experimental design and compares findings from two surveys: one targeting a General Sample (GS) of the US outbound market (GS, n=2033), and the other targeting a Literary Society Sample (LSS) based in the US (LSS, n=220). The above data is supplemented with interviews undertaken with key stakeholders in the US outbound market, mostly tour operators (n=8).

Analyses from the first set of comparisons focused on whether likelihood to visit England would be affected by the experiment's manipulation variable, which heightened awareness of possible literary tourism destinations in the UK. Results from the paired sample t-tests which examined likelihood to visit, both before and after the survey, indicate that the LSS was unaffected by the manipulation [$t(219)=1.525$, $p=.129$, ($p>.05$)]. This suggests that literary society members possess significantly greater prior knowledge of English literary tourism destinations than the general US tourist, who were found to have been significantly influenced by the manipulation [$t(2032)=25.815$, $p=.000$, ($p<.01$)]. Further

unpaired t-test comparisons demonstrated that likelihood to visit a specific literary tourism destination (e.g. Brontë sisters' birthplace) was higher for the LSS compared to the GS, even when they had little knowledge of an associated book or film [$t(2251)=7.1759$, $p=.000$, $p<0.01$]. This highlights that the general US tourist's potential visit to a literary tourism attraction was more dependent on them having read/watched the associated book/film. The final round of analyses examined the preference of each sample to travel independently or with an organised tour. Results showed that both samples had an identical preference for independent travel instead of guided tours should they engage in English literary tourism in the future, with insignificant differences between the two samples [$t(2251)=0.2844$, $p>0.05$, $p=.776$]. This was supported by interview data, which highlighted that independent travel is becoming increasingly popular with American tourists.

This research contributes to a broader understanding of the US outbound market in relation to literary tourism. The experimental design allowed a closer comparison between US members and non-members of a literary society, in an attempt to understand what drives literary tourism amongst bibliophiles and non-bibliophiles. Overall, the findings suggest that literary society members will likely visit literary attractions regardless of knowledge or a tour-guide; and that non-members – when aware and/or made aware – will not only visit, but will also visit independently. This latter point highlights the importance of improved marketing efforts to better emphasise the literary attractions available in England, in order to best capitalise on the opportunities within the US outbound tourism market.

Keywords: Literary tourism, international tourism, experiment, destination, marketing

REFERENCES

- Agarwal, S. and Shaw, G. (2018). *Heritage, Screen and Literary Tourism*, Bristol: Channel View Publications.
- Herbert, D. (2001). "Literary Places, Tourism and the Heritage Experience", *Annals of Tourism Research*, Vol. 22 No. 2, pp.312-333.
- Iwashita, C. (2006). "Media Representation of the UK as a Destination for Japanese Tourists: Popular Culture and Tourism", *Tourist Studies*, Vol. 6 No. 1, pp.59-77.
- Lee, C. (2012). "'Have Magic, Will Travel': Tourism and Harry Potter's United (Magical) Kingdom", *Tourist Studies*, Vol. 12 No.1, pp.52-69.
- MacLeod, N., Shelley, J. and Morrison, A. M. (2018). "The Touring Reader: Understanding the Bibliophile's Experience of Literary Tourism", *Tourism Management*, Vol. 67, pp.388-398.
- van Es, N. and Reijnders, S. (2016). "Chasing Sleuths and Unravelling the Metropolis: Analyzing the Tourist Experience of Sherlock Holmes' London, Philip Marlowe's Los Angeles and Lisbeth Salander's Stockholm", *Annals of Tourism Research*, Vol. 57, pp.113-125.

A REVIEW OF THE ANTECEDENTS AND PERFORMANCE OUTCOMES OF INTERNATIONAL ENVIRONMENTAL MARKETING/MANAGEMENT STRATEGY

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ABSTRACT

1. INTRODUCTION, GAPS, AND OBJECTIVES

Decades of environmental degradation have contributed to transitioning the sustainability discourse from the scientific and technological (Ioannidis and Chalvatzis 2017; Pappas et al. 2018) to the public and corporate domains. Within this context, stakeholders aim to control and mitigate environmental degradation represent wide-ranging institutions and organisations (Goworek et al. 2018; Kumar 2016). Among them, corporate organisations are under pressure to implement strategies that will lead to improved environmental and business performance, which have attracted strong attention in the marketing/management field (Tollin and Christensen 2019). This is particularly true in an international business context, where due to growing globalization trends, firms have to demonstrate responsible citizenship for sustainability not only in their home market, but also in host countries. However, sustainability has been conceptualized in a relatively vague way by researchers, which, coupled with the great diversity of its drivers and outcomes (Chalvatzis et al. 2018) reported by the sizable literature in the field, causes confusion in promoting best practice and advancing theory (Eccles, Ioannou, and Serafeim 2012). In light of these problems, there is a need to systematically review and assess the extant body of research on the antecedents and performance outcomes of international environmental marketing/management strategies. In doing so, our review intends to: (a) identify and analyse the theoretical background of this line of research; (b) assess the research methodologies employed by previous empirical studies; (c) identify and assimilate the key thematic areas and specific topics addressed by prior research; and (d) identify the key variables used in the existing literature (e) develop an agenda for future research on the subject.

2. METHODOLOGY

A two-stage process was adopted for the present review: article identification and article analysis. In order to identify the initial pool of articles, we adopted the concept-driven systematic review method

approach (Webster and Watson 2002). To accumulate a complete census of relevant literature and build the initial pool of studies, articles with relevant topics were searched in various electronic databases, such as Ebsco, Scopus and Science Direct, which provide a comprehensive coverage with full access. We have used the following keywords to identify relevant articles: environmental marketing; environmental strategy; green marketing; environmentally friendly; sustainable marketing; natural environment; environmental orientation; environmental proactivity; environmental awareness; and environmental management. This was done in conjunction with international-related keywords, namely multinational firms; global corporations; global consumers; international marketing; cross-cultural marketing; and cross-national marketing. These keywords were identified from previous reviews on the subject and were refined by two established scholars in the field. We searched these pre-defined keywords in article title, author supplied keywords, and author supplied abstract. We limited our search to articles published in English in academic peer-reviewed journals, since the inception of this field of research in the early 1960s. This initial search from the various electronic databases yielded 949 articles, of which 498 had to be removed because of being duplicated while another 167 were found irrelevant after carefully screening the title and the abstract.

2.1 Article identification

We critically appraised the full text of the remaining 284 potentially relevant articles, by taking into consideration the following four criteria with regard to the studies contained: (1) to be published in an academic journal rather than a book, book chapters or conference proceedings; (2) to focus on environmental marketing/management strategies as an independent concept, rather than as a sub-dimension of Corporate Social Responsibility; (3) to be of an international nature, by examining the sustainability strategies of firms (e.g., exporters, MNEs, etc.) when crossing their national boundaries; and (4) to have empirical nature, with papers having a conceptual, methodological, review, or meta-analytical nature being excluded. Only 68 articles met these pre-defined selection criteria, which were subsequently examined by two academic experts in order to verify their appropriateness. The outcome of this process was to exclude another seven articles. We have carefully reviewed the reference lists of the 61 articles that passed the cross check, revealing another 34 articles fulfilling the eligibility criteria set, thus bringing the final sample of articles useful for the review to 95.

2.2 Article analysis

To map research on the antecedents and outcomes of environmental marketing/management strategy within the international marketing context, we proceeded with a content analysis of the selected articles. In doing so, we have designed a coding frame incorporating publication details, theories

used, time emphasis, variable association, countries involved, industry, unit of analysis, sampling design, data collection, sample size, statistical analysis, topical areas and suggested future research. Two researchers, who worked independently from each other, were involved in the data extraction process, and inter-coder reliability rates on the issues assessed ranged from 85% to 100%.

2.3 Conceptual framework of the review

Building upon stakeholder theory, Resource Based View and Natural Resource Based view of a firm theories (Barney 1991; Donaldson and Preston 1995; Hart 1995) this study proposes a conceptual framework to structure and organize the analysis. Our framework (Figure 1) suggests that internal and external forces can shape a company's environmental strategies which therefore can be categorized into sub-categories based on the nature of the strategy followed which can therefore lead to a competitive advantage.



Figure 1: Conceptual Framework for the Systematic Review.

3. FINDINGS

3.1 Overview

The general findings sourced from the systematic review analysis of 95 empirical studies revealed a strong focus on the internal drivers and the financial outcomes of environmental practices of ecological sustainable practices. The main theories identified within the systematic review were 1) the stakeholder theory 2) natural resource-based view 3) institutional theory 4) resource-based view 5) Neo-classical microeconomics. The majority of the studies employed structural equation modelling (SEM), partial least square path model PSL-PM, factor analysis and multi-regression analysis. A large number of antecedents are found to initiate environmental strategies adopted by companies. Drawing upon the stakeholder theory those can be classified into internal antecedents (such as firm demographics, firm financial resources and finally capabilities developed within the firm) and external antecedents (such as societal and regulatory pressures, sectoral pressures, mass media, Non-profit organizations pressures and Quality Assurance Systems). In terms of the fieldwork, the studies

undertaken located mainly in developed economies with less attention paid on emerging and developing economies. The majority of the reviewed studies had a particular focus on manufacturing industries where there are studies where multiple industries are included which allows for examination of industry type control effects. More recent studies start to examine other industries such as energy, tourism, transportation, and other service industries. The vast majority of the research is undertaken using primary data and few studies used secondary ESG data sourced by national or third-party institutions. The articles were classified into six broad thematic categories and multiple sub-categories such as (1) energy efficiency; (2) water conservation; (3) green supply chain management; (4) waste management; (5) product/ service eco- friendliness; and (6) emissions reduction.

3.2 Study Implications

Based on the thematic clustering undertaken, we developed an integrative framework for environmental marketing and management practices and a coherent agenda for future research directions. The systematic review confirms that managers might adopt environmentally friendly marketing/ management strategy as a means of increasing their performance. Competences such knowledge, systems and routines developed within the company are found to stimulate a proactive environmental strategy which research has shown that can enhance different performance outcomes.

Keywords: Green Marketing; Environmental Management; International Marketing; Performance

REFERENCES

- Barney, Jay. 1991. "Firm Resources and Sustained Competitive Advantage." *Journal of Management* 17(1):99–120.
- Chalvatzis, Konstantinos J., Hanif Malekpoor, Nishikant Mishra, Fiona Lettice, and Sonal Choudhary. 2018. "Sustainable Resource Allocation for Power Generation: The Role of Big Data in Enabling Interindustry Architectural Innovation." *Technological Forecasting and Social Change*.
- Donaldson, Thomas and Lee E. Preston. 1995. "The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications." *Academy of Management Review* 20(1):65–91.
- Eccles, Robert G., Ioannis Ioannou, and George Serafeim. 2012. "The Impact of Corporate Sustainability on Organizational Processes and Performance." *Management Science* 60(Working Paper):1–46.
- Goworek, Helen, Chris Land, George Burt, Mike Zundel, Mike Saren, Martin Parker, and Brendan Lambe. 2018. "Scaling Sustainability: Regulation and Resilience in Managerial Responses to Climate Change." *British Journal of Management* 29(2):209–19.
- Hart, Stuart L. 1995. "A Natural-Resource-Based View of the Firm." *Academy of Management Review* 20(4):986–1014.
- Ioannidis, Alexis and Konstantinos K. J. Chalvatzis. 2017. "Energy Supply Sustainability For Island Nations: A Study on 8 Global Islands." *Energy Procedia* 0(0).
- Kumar, Prashant. 2016. "State of Green Marketing Research over 25 Years (1990-2014) Literature Survey and Classification." *Marketing Intelligence & Planning* 34(1):137–58.
- Pappas, D., K. J. Chalvatzis, D. Guan, and A. Ioannidis. 2018. "Energy and Carbon Intensity: A Study on the Cross-Country Industrial Shift from China to India and SE Asia." *Applied Energy* 225.

Tollin, Karin and Lars Bech Christensen. 2019. "Sustainability Marketing Commitment: Empirical Insights about Its Drivers at the Corporate and Functional Level of Marketing." *Journal of Business Ethics* 156(4):1165–85.

Webster, Jane and Richard T. Watson. 2002. "Analyzing the Past to Prepare for the Future: Writing a Literature Review." *MIS Quarterly* xiii–xxiii.

OBTAINING INNOVATION THROUGH TECHNOLOGY-BASED ALLIANCES: A DEVELOPING COUNTRIES' PERSPECTIVE

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ABSTRACT

Drawing on a developing country perspective, this paper suggests that technology-based alliances serve a crucial role in influencing firms' innovative performance. Based on their specific market contexts, i.e., developing versus developed market, we categorize technology-based alliances into local, international, and combined technology-based alliances. We propose that each type of technology-based alliance has distinct effects on developing country firm's innovation output. We furthermore discuss the moderating effects of cultural distance and geographical distance on the relationship between international technology-based alliances and developing country firms' innovative performance. Our developed theoretical framework and propositions contribute not only to research on alliances but also to the larger body of literature on innovation and international management.

Keywords: technology, innovation, developing countries

DOES THE PRIMARY AGRICULTURAL PRODUCTION IMPACTS EXPORTING FIRMS' PERFORMANCE?

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ABSTRACT

The study aims to explore the factors located at the upstream side of the food supply chain, that impact food exporting firm's performance. Thus, it contributes to cover a gap in the food export performance literature. In a first step we analyse the concept of export performance as it is perceived by the staff of food exporting firms. Next, we identify the drivers and barriers of food exporting firm's performance related with primary production, searching also for differences that can be attributed to the kind of suppliers of primary agricultural products, such as cooperatives and farm businesses. Because firms' owned brands help the food suppliers to improve market penetration and internationalization (Juliá-Igual et al. 2012), we further explore the factors impacting performance in the case of firms exporting high shares of branded products. The results support actors of the supply chain (farmers, cooperatives, exporting firms) in effectively planning their export related strategies as well as public authorities, by providing them with input to facilitate exports.

Based on the findings of a previous qualitative research (Karipidis, Chrysochou, and Karypidou 2017), we adopt the Best-Worst scaling method (Marley and Louviere, 2005) for the data collection. The data are collected with the help of a questionnaire distributed electronically to food exporting firms in Greece. 83 fully completed questionnaires have been received until February of 2018.

The findings indicate that seven measures are perceived by the staff of the food exporting firms as indices of the firm's export performance in the last five years. The research reveals the most important factors related with primary production that the firms' staff perceives that impact performance. Thus, five factors identified that positively impact performance, which are related with primary product quality and food safety, certification and quality control process, as well as with farmers. The most important (six) factors that negatively impact performance are related with producers' prices and cost of product collection, product quality inconsistency as well as the geographic dispersion of production and insufficient product quantities.

The research also reveals differences between the groups of firms regarding the importance of factors impacting performance. More specifically, it is found that high involvement of agricultural cooperatives in supplying process is connected with a decrease of the drivers of the exporting firm's performance, while the barriers of performance increase. Opposite to that, it is found that when the

involvement of farm businesses in the supplying process increases the drivers of the exporting firm's performance increase, while the factors negatively impacting performance decrease. These findings could constitute indications that effective co-operations emerge between food firms and farm businesses that favour the enhancement of the export performance but not between cooperatives and exporting firms.

In regards to the food chains supplying high shares of branded products, it is found that seven drivers are considered as most important, while five barriers are considered as most important. The drivers are linked with the high quality, hygiene and certification of primary products, the controls conducted by exporting firms, the selection of suppliers (farmers), the local as well as the innovative character of the purchased primary products. The barriers are linked with the product quality uncertainties, the high cost of product collection, the high producers' prices, the geographic dispersion of production as well as the degradation of product quality. The findings of the study help farmers to properly respond to the international food supply chains requirements, the exporting firms to form their relationships with farm businesses and cooperatives and the public authorities to form an effective policy mix for food exports.

Keywords: food supply; export performance; drivers; barriers; best-worst; primary production.

REFERENCES

- Juliá-Igual, J.F., Meliá-Martí, E. and García-Martinez, G. (2012), "Strategies developed by leading EU agri-food cooperatives in their growth models", *Service Business*, Vol. 6, pp. 27–46.
- Karipidis, P., P. Chrysochou, and I. Karypidou (2017), "Does the Greek Food Supply Respond to the World Challenges?," *Advances in Management & Applied Economics*, Vol. 7 No 5, pp. 1-11.
- Marley, A.A.J., Louviere, J.J. (2005), "Some probabilistic models of best, worse, and best–worse choices", *Journal of Mathematical Psychology*, Vol. 49, pp. 464–480.

EXAMINING CONSUMERS' CONTINUOUS USAGE INTENTION OF CONTACTLESS MOBILE PAYMENT SYSTEMS

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ABSTRACT

STUDY OBJECTIVE AND BACKGROUND

Recent developments in mobile payment (m-payment) technologies have provided consumers with an innovative way to access and use information both anytime and anywhere using various handheld devices, including smartphones and tablets. M-payments have changed consumer behaviors toward payments and shopping. As a result, m-payment technology has started to occupy an important position in the everyday lives of consumers in many countries. Moreover, the resulting increasing mobility and convenience of use have disrupted the use of traditional payment channels (ATMs, Internet, POS) and instruments (cash, debit, credit cards). Literature has defined m-payment technologies as individual or business activities that involve an electronic device being connected to a mobile network to enable the successful completion of an economic transaction.

This study augments the extent literature in several ways. For example, it contributes to the debate on innovative technologies, such as contactless mobile payments (CMP) adoption and use. Prior studies have focused on factors that affect intention to use m-banking and m-payment technologies in general, and only a few have explored specific forms of m-payments, such as CMP. In addition, to understand the adoption and usage of CMP, we build our model on two theoretical premises: We test the effects of core marketing constructs, namely perceived risk (PR), consumer brand engagement (CBE), brand commitment, and overall satisfaction, on continuous usage intention of CMP, and we build our model on the UTAUT2 to obtain further insights regarding the variance of continuous usage intention. From the UTAUT2 model, we adopt performance expectancy (PE), effort expectancy (EE), hedonic motivation (HM), and habit as antecedents to continuous intention to use CMP.

Methodology and results

All the scales that were used to measure the study variables were derived from prior studies. In collecting the data, we cooperated with one national telecommunications provider in Finland and sent a survey link to 22,000 of their customers. In total 1165 responses were obtained, making the response rate 5.2%. SmartPLS 3 was utilized in assessing the measurement and structural model. Reliability and validity of the model was acceptable. The model's predictive relevance was high for brand commitment ($R^2 = 0.659$) and intention to use ($R^2 = 0.698$). The results supported either partially or

fully all the hypotheses and revealed for instance that PR has a negative effect of CBE, CBE is positive related to brand commitment, brand commitment drives overall satisfaction, and that overall satisfaction explains intention. Furthermore, of the UTAUT2 variables, habit and PE exhibits the strongest effects on intention. Finally, our results confirm that intention to use CMP has a positive effect on actual use of CMP.

DISCUSSION

This study makes three important contribution to theory. First, the main theoretical contribution is that we propose and validate an integrated model combining consumer brand engagement model with UTAUT2. Second, we add to the literature on UTAUT2 in testing and validating a modified model of it in a new context. Third, we make a contextual contribution by testing our model in the context of CMP adoption. Thus, the study adds to the literature on m-banking and m-payment adoption by examining user adoption of contactless payments.

The key managerial implication of this study is that our study reveals several specific insights on the adoption and use of CMP in a developed market context.

The key limitations of this study are the cross-sectional nature of the study and convenience sample. There is also always the possibility that other factors influence the study outcome variables than the ones proposed. Future studies should also test the research model and hypotheses in markets in which adoption is not as advanced.

Keywords: Contactless mobile payments, UTAUT2, consumer brand engagement, continuous use intention

REFERENCES

- Baptista, G., & Oliveira, T. (2016). A Weight and a Meta-Analysis on Mobile Banking Acceptance Research. *Computers in Human Behavior*, 63, 480–489.
- Chiu, C. M., Wang, E. T., Fang, Y. H., & Huang, H. Y. (2014). Understanding Customers' Repeat Purchase Intentions in B2C E-commerce: The Roles of Utilitarian Value, Hedonic Value and Perceived Risk. *Information Systems Journal*, 24, 85–114.
- Im, S., Bhat, S., & Lee, Y. (2015). Consumer Perceptions of Product Creativity, Coolness, Value and Attitude. *Journal of Business Research*, 68, 166–172.
- Kumar, V., & Reinartz, W. (2016). Creating Enduring Customer Value. *Journal of Marketing*, 80(6), 36–68.
- Oliveira, T., Faria, M., Thomas, M. A., & Popovič, A. (2014). Extending the Understanding of Mobile Banking Adoption: When UTAUT Meets TTF and ITM. *International Journal of Information Management*, 34, 689–703.
- Shaikh, A.A., & Karjaluoto, H. (2015). Making the Most of Information Technology & Systems Usage: A Literature Review, Framework and Future Research Agenda. *Computers in Human Behavior*, 49, 541–566.
- Yeh, C. H., Wang, Y. S., & Yieh, K. (2016). Predicting Smartphone Brand Loyalty: Consumer Value and Consumer-Brand Identification Perspectives. *International Journal of Information Management*, 36(3), 245–257.
- Yen, Y. S., & Wu, F. S. (2016). Predicting the Adoption of Mobile Financial Services: The Impacts of Perceived Mobility and Personal Habit. *Computers in Human Behavior*, 65, 31–42.

Zhang, Y., Weng, Q., & Zhu, N. (2018). The Relationships Between Electronic Banking Adoption and Its Antecedents: a Meta-Analytic Study of the Role of National Culture. *International Journal of Information Management*, 40, 76–87.

DEVOPS COMPETENCES FOR SMART CITIES (SMART-DEVOPS)

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ABSTRACT

Embracing a diverse range of topics, such as citizen inclusion, digitalization, sustainability and welfare creation Smart Cities (SC) are a strongly debated trend phenomenon in the present day and an essential research avenue for the future. The design of smart cities requires a diverse set of competences to improve the quality of life of their citizens in the most efficient and sustainable way. Therefore, the strategic and operational actors behind this development need to enhance competences in order to ultimately achieve their duties for the smart city ecosystem.

The research aims to bridge the currently existing research gap of integrating SC Planning and DevOps competences as well as the citizen perspective. It addresses the shortage of digital and transferrable skills that are needed for the various smart cities' sectors and the different SC administrative profiles distinguishing between Smart City Planner, Chief Digital Officer/IT Officer. Based on a wide-ranging literature review on smart city planning and DevOps competences as well as on citizen inclusion, the following research objectives were developed:

1. To investigate how the SC philosophy (citizen/identity driven, or technology driven or both) influences the competences of SC team members.
2. To investigate how the SC philosophy (citizen/identity driven, or technology driven or both) influences SC service priorities and DevOps related decisions.
3. To research to what extent different SC administrative profiles (Smart City Planner, Chief Digital Officer and IT Officer) require different IT/IoT specific and General/Transversal competences.
4. To identify to what extent different SC Service priorities (creating different SC categories) require different competences (specifically as to DevOps) and training.
6. To develop a conceptual framework explaining the nature of relationships between the three focal themes of the project via multivariate analysis.

Furthermore, from the literature review, the following research hypotheses were derived:

- a. Citizen and identity driven strategies require different competences than technology driven SC strategies.

- b. There is a relationship between a citizen and identity centered approach and DevOps related decisions.
- c. There is a relationship between different SC administrative profiles and required general/transversal and IT specific competences.
- d. There is a relationship between SC services and competences/DevOps related decisions.
- e. SC administrative competences will differ according to their level of external co-operation.
- f. Different SC services require different Software architectures and platforms.
- g. Different SC services require different general/transversal and It specific competences.

The research philosophy pursues a triangulated approach combining quantitative and qualitative research methods conducting, in the first stage, a quantitative survey on competence requirements and gaps. Two extensive questionnaires have been developed differentiating between SC Planners and Digital Chief Officers/IT Officers and distributed to respective city representative from Cyprus, Greece, Italy and Germany. The gathered data will be analyzed via multivariate analysis (Structural Equation Modeling; Partial least Square Analysis; Multiple Regression Analysis). This research is being part of the European Project Erasmus + Project number 601015-EPP-1-2018-EL-EPPKA2-SSA. The final objective of the research will be developing MOOCs courses to provide the SC representatives with the elicited set of necessary competences. The results of the research are still an ongoing process and will partially be presented at the EuroMed conference in September 2019.

Keywords: SmarAt City, IT/IoT specific competences, General/Transversal competences, SC Profiles

TITLE: WHAT WORKS FOR WHOM AND WHY FOR TEACHER FELLOW RECOGNITION?

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ABSTRACT

PURPOSE

The purpose of this paper is to conduct empirical study following a systematic literature review on standards frameworks for professional staff and the relationship between continuous professional development (CPD) and employee engagement. The literature review culminated in a conceptual model which mapped individual, team and organisational antecedents for effective competency frameworks and CPD to engagement.

This study has evaluated this change intervention using Realist Evaluation, part of a family of theory driven evaluations or white box evaluations (Suchman, 1967; Chen, 1990) to identify the underlying causal mechanisms (Astbury & Leeuw, 2010) which generate outcomes in line with the original aims of the intervention and how this affects the levels of engagement of academic staff in engaging in the teacher fellow process.

DESIGN/METHODOLOGY/APPROACH

the research review the teacher fellow scheme linking to United Kingdom Professional Standards Framework (UKPSF), a standard implemented at a post 1992 University. The work employed a Realist Evaluation (RE) (Pawson & Tilley, 1997) with a view to identifying the mechanisms at work that generate the different responses from academic staff to this CPD process. With the aim to gain a deeper and more fine-grained explanations of social phenomena" (Astbury & Leeuw, 2010) and to identify whether those staff responses indicate job or organisational engagement.

FINDINGS

The paper notes the relevance of training programme as an enabling structure, however the importance of informal peer relationships and collegial bounding played a highly significant role in supporting successful teacher fellowship applications. This observations raises the challenges the mechanistic and didactic professional process with proposing that greater focus should be given to the intersubjective nature of collegial learning and its impact on personal development and reflexive

practice and institutional cultural change. This further reinforces the value and significance of realistic evaluation as it identifies what works, for whom, in what context, and why?

ORIGINALITY/VALUE

The paper provides a critical approach in reviewing the impact of CPD and its link to professional status and thus help British university and others to understand how the mechanisms at work affect engagement levels of academic staff. Armed with this depth of understanding of how the change initiative works, with whom and under what circumstances, Universities will be better able to meet target UKPSF membership levels required by the HEA and subsequently, the HEA to meet their targets for the Government.

Keywords: Realist Evaluation; professional recognition, Teacher Fellow recognition; employee engagement; Higher Education; CPD; competency frameworks; peer relationships.

REFERENCES

- Abhyanker, P., Cheyne, H., Maxwell, M., Harris, F. and Mcourt, C. (2013) A realist evaluation of a normal birth programme. *Evidence based midwifery* 11(4) 112-119
- Barkhuizen, N., & Rothmann, S. (2006). Work engagement of academic staff in South African higher education institutions. *Management Dynamics*, 15(1), 38–48.
- Feldman, D. (1984). The development and enforcement of group norms. *Academy of Management Review*, 9, 47–53.
- Kahn, WA 1990, 'Psychological conditions of personal engagement and disengagement at work', *Academy of Management Journal*, 33(4) 692-724.
- Kular, S, Gatenby, M, Rees, C, Soane, E & Truss, K 2008, 'Employee engagement: A literature review', Kingston University, Kingston Business School.
- Fourie, L., Rothmann, S., & Van de Vijver, A.J.R. (2008). A model of work wellness for non-professional counsellors in South Africa. *Stress and Health*, 24, 35–47.
- Pawson, R and Tilley, N (1997). *Realistic Evaluation*. Sage Publications
- Pawson, R. (2003) Nothing as Practical as a Good Theory. *Evaluation* 9 471
- Rothmann, S., & Jordaan, G.M.E. (2006). Job demands, Job Resources and work Engagement if Academic Staff in Southern African Higher Education Institutions. *South African Journal of Industrial Psychology*, 32, 87–96.
- Shuck, B., Rocco, T., Alborno, C. (2011). Exploring employee engagement from the employee perspective: Implications for HRD. *Journal of European Industrial Training*, 35, 300-325.
- Sweetman, D., & Luthans, F. (2010). The power of positive psychology: Psychological capital and work engagement. In A. B. Bakker (Ed.) & M. P. Leiter, *Work engagement: A handbook of essential theory and research* (pp. 54-68). New York, NY, US: Psychology Press.
- Wandersman, A., Snell-Johns, J., Lentz, B. E., Fetterman, D. M., Keener, D. C., Livet, M., et al. (2005) The principles of empowerment evaluation. In D. M. Fetterman, & A. Wandersman (Eds.), *Empowerment evaluation principles in practice* (pp. 27–41). New York: Guilford Press.
- Wollard, KK and Shuck, B, 2011, 'Antecedents to employee engagement: A structured review of the literature,' *Advances in Developing Human Resources*, 13(4) 429-446.
- Xu, J & Thomas, HC 2011, 'How can leaders achieve high employee engagement?', *Leadership & Organization Development Journal*, 32(4) 399-416.

WHEN EMPLOYEE OWNERSHIP IS EFFECTIVE?

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ABSTRACT

Defined as “ownership of company stock by employees” (Sesil *et al.*, 2003, p. 96), employee ownership is a popular management practice. In 2015, 52.8% of large European companies had broad-based employee ownership plans, and more than eight million employees in the EU participated in such plans (Mathieu, 2015). Similarly, in the U.S., 15.1 million employees participated in employee ownership plans in 2014 (NCEO, 2016). According to Form 5500 filings in the U.S. in 2014, total assets in employee ownership plans were valued at \$1.4 trillion (NCEO, 2016). The rationale behind employee ownership plans is that they influence employee attitudes and behaviors, promote investments in firm-specific human capital, and consequently improve firm performance (e.g., Blasi *et al.*, 1996; Kim and Patel, 2017).

Employee ownership has been a prominent research topic for many management scholars as well (Dunford *et al.*, 2005; Jackson *et al.*, 1989). During the past few decades, a plethora of research has examined how employee ownership affects firm performance (e.g., Blasi *et al.*, 1996). To summarize these studies, a recent meta-analysis found that despite small effect sizes, employee ownership was indeed significantly and positively associated with firm performance ($r = .04$) (O’Boyle *et al.*, 2016). Whereas significant progress has been made in understanding the employee ownership mechanism at the firm level, little is known about how national culture influences the effectiveness of employee ownership in enhancing firm performance.

This is an important oversight to address theoretically and practically. Theoretically, according to the recent meta-analysis, a considerable amount of variance was left unexplained in the employee ownership-performance relationship, indicating the probable existence of moderators (O’Boyle *et al.*, 2016). Given that employee ownership studies have been carried out in many different countries, the heterogeneity may be related to national culture. Studies in the cross-cultural management literature suggest that national culture explains differences in efficacy of management practices such as employee ownership (Schuler and Rogovsky, 1998), as well as variations in employees’ attitudes and behaviors. Although the role of culture in the employee ownership-firm performance relationship has been suggested in the literature (e.g., Caramelli and Briole, 2007; Kim and Patel, 2017), no study has empirically examined the influence of national culture on the effectiveness of employee ownership. Practically, employee ownership positively contributes to firm

performance (O'Boyle *et al.*, 2016) and is being implemented globally. If the effectiveness of employee ownership varies depending upon national culture, as we expect, then managers should carefully consider national culture when designing employee ownership programs because it can have a significant impact on firm performance. Therefore, the main purpose of our study is to address this gap by examining how national culture influences the relationship between employee ownership and firm performance.

We test the moderating role of national culture on the relationship between employee ownership and firm performance in a sample of 1,486 firms representing 9,893 firm-years between 2006 and 2014. We find that employee ownership is positively associated with firm performance in cultures with high individualism, low power distance, or low uncertainty avoidance. These findings are noteworthy because, in drawing on instruments proposed for cultural dimensions, we control for endogeneity from firm-level adoption of employee ownership and from the influence of cultural dimensions on the employee ownership-firm performance relationship.

Keywords: Employee Stock Ownership; Employee Ownership; Shared Capitalism; National Culture.

REFERENCES

- Blasi, J., Conte, M., & Kruse, D. (1996), "Employee stock ownership and corporate performance among public companies", *Industrial & Labor Relations Review*, Vol. 50 No. 1, pp. 60-79.
- Caramelli, M., & Briole, A. (2007), "Employee stock ownership and job attitudes: Does culture matter?" *Human Resource Management Review*, Vol. 17 No. 3, pp. 290-304.
- Dunford, B., Boudreau, J., & Boswell, W. (2005), "Out-of-the-money: The impact of underwater stock options on executive job search", *Personnel Psychology*, Vol. 58 No. 1, pp. 67-101.
- Jackson, S. E., Schuler, R. S., & Rivero, J. C. (1989), "Organizational characteristics as predictors of personnel practices", *Personnel Psychology*, Vol. 42 No. 4, pp. 727-786.
- Kim, K. Y., & Patel, P. C. (2017), "Employee ownership and firm performance: A variance decomposition analysis of European firms", *Journal of Business Research*, Vol. 70, pp. 248-254.
- Mathieu, M. (2015), "Annual economic survey of employee share ownership in European countries", available at: [http://www.efesonline.org/Annual%20Economic%20Survey/2015/Survey%202015 .pdf](http://www.efesonline.org/Annual%20Economic%20Survey/2015/Survey%202015.pdf).
- NCEO. (2016). "A statistical profile of employee ownership", available at: <http://www.nceo.org/articles/statistical-profile-employee-ownership>
- O'Boyle, E. H., Patel, P. C., & Gonzalez-Mulé, E. (2016), "Employee ownership and firm performance: A meta-analysis", *Human Resource Management Journal*, Vol. 26 No. 4, pp. 425-448.
- Schuler, R. S., & Rogovsky, N. (1998), "Understanding compensation practice variations across firms: The impact of national culture", *Journal of International Business Studies*, Vol. 29 No. 1, pp.159-177.
- Sesil, J. C., Kruse, D. L., & Blasi, J. R. (2003), "Sharing ownership via employee stock ownership", in Sun, L. (Ed.), *Ownership and Governance of Enterprises*, Palgrave Macmillan, UK, pp. 96-123.

IMPACT INVESTMENT EFFECTS ON PROFITABILITY OF COMPANIES IN BRICS COUNTRIES

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ABSTRACT

Over the past 30 years, completely new concepts of social and impact investments have been introduced, which are still little studied from the standpoint of measuring the effects of their introduction. At the same time, impact-investment contributes to the stabilization of economic imbalance in both developed and developing countries. Impact investments underlie a wide “continuum of influence” that comes from philanthropy to sustainable investments that are being pursued in the modern world by companies that want to achieve not only a positive financial effect, but also a social one. The number of deals with impact investments is growing every year, and the BRICS countries are also increasing their share in the total impact investments. Impact investments are those that are deliberately aimed at achieving social goals along with financial returns.(GIIN, 2016)

The literature actively discusses the possibility of financial returns from impact investment. Part of the researches empirically confirm the presence of effect and influence on the financial results of the company. The works of other authors have revealed positive effects only in the long term. According to a number of researchers, impact investment is an innovative economic tool that allows to select priority projects with measurable added environmental social values that have the greatest potential to achieve sustainable development of the world economy.(Ankudinov,2016; Bentsion and Belyaeva, 2015; Born,2013; Bragdon,1972; Gizatullin,2016; Heinze,1976) The paper attempts to study the state of the market of impact investments in the BRICS countries characterized by a heterogeneous socio-economic environment. Large companies in the BRICS countries are already actively involved in transactions with impact investment. It is the possibility of impact investment to make a profit in emerging markets that determines the relevance of the study. The proposed methodology for assessing the level of impact investment in the BRICS countries and the database of the types of impact investment reported by the BRICS companies collected by the author has elements of scientific novelty. The initial information base is taken from the Annual and Sustainability reports of the companies - leaders of impact investments for 2013-2017, non-financial reports and a review of available literature. The collected database can serve as a foundation for further assessing the prospects for regulating impact investments in the BRICS countries. As the main methodology, econometric analysis was used based on the method of ordinary least - squares and regression with fixed effects.

On the basis of an extensive literature review that identifies key features of impact investment, not only globally, but also for companies, it would be worthwhile to consider the following variables for constructing a model: as a dependent variable, ROA is the ratio of net income to total assets involved in the company's activities, and for the study of the Social effect - Prosperity Index of the Legatum Institute. As explanatory variables: investment in education, cultural events and facilities, in the protection of the environment, in the protection of health, in R & D and in occupational safety. The control variables - revenue, company size (number of employees) and liquidity; they are not the main priority for interpretation and obtaining results, but are related to the dependent variable, so they can complement and statistically improve the sample. Lags for 4 years for both dependent variables are considered.

Impact investments have a negative impact on ROA, and are not very significant. There is a strong relationship between investment rates. This gives us the right to assume that the social areas in which such investments are made are interconnected with each other. That is, if a firm invests in health care, then it also affects culture and education, since a healthy population participates more actively in cultural events and has wider access to education. And when a firm invests in education, it turns out that it simultaneously affects culture and R & D. Broysch-Pagan test, heteroscedasticity corrected. To avoid a correlation between impact investments and eliminate multicollinearity, only impact investments in culture and investment in safety are left in the first model, the remaining investments are considered in the second model. The results are presented in Table 1.

Table 1. Results of econometric analysis

Dependent variable	Specification	Relationship	Hypothesis
ROA (model with two types investments)	$ROA = -1.333566 * TA + 1.095049 * NoEmpl - .7295319 * INVst + .6702151 * INVcult + \epsilon$	-	+
ROA (model with four types investments)	$ROA = -1.271773 * TA + 1.111121 * NoEmpl - .1051281 * INVenv - .0650278 * INVrd + .4147768 * INVeduc + .2101787 * INVhlth + \epsilon$	-	+
Prosperity Index (model with four types investments)	$ProspInd = -4.257503 * TA + 6.123199 * NoEmpl + 2.397104 * INVenv - .1557811 * INVrd + 1.0846 * + .0039213 * + \epsilon$	+	+

Investment in culture has a positive effect on the company's profits. Safety indicator has a negative value, but this can be explained by the fact that these investments do not have a financial effect in the short term. Again, it is confirmed that the indicators of impact investments give an effect only in the aggregate, since, when considered one by one, they lose their significance. The remaining

investments, namely: investments in health care, environmental protection and R & D, were not significant by the results of the regression. At the same time, a negative sign with their coefficients may indicate that if we consider the impact of these types of investments for the current period, then it will negatively affect the ROA. This can be explained by the fact that the fact of investment in the current period indicates high costs, which leads to a decrease in the ROA.

A 4-year forecast was made, which showed that investment in cultural facilities has a positive effect on ROA, that is, the higher the investment in cultural facilities, the greater the return on assets. Investments in safety have a negative effect. This can be explained by the fact that after a year the costs of these investments are still expenses of the enterprise, and despite the sign of the coefficient, the coefficient itself decreases, therefore, the negative impact weakens. Investment in cultural facilities has a positive effect, but the effect is gradually waning, and investment in safety has a negative effect. After three and four years, investment in culture and in labor safety becomes insignificant at all, therefore, the effect of them disappears. Investments in research and development in the medium term will not bring a positive effect to the company.

From the results of the regression with the Prosperity Index, we obtained the following results: the effect of investments in environmental protection lasts for 3 years; in the long term, such investments are significant, but over time, the effect of them decreases. Investment in R & D and investment in occupational safety and health remain insignificant for 3 years. But it is noteworthy that investment in education will affect the Prosperity Index only when there is an investment in R & D, as these indicators are interrelated. Labor safety investments had a negative impact, in the second year the impact becomes positive, and in the third year, the dynamics remain, but such investments do not affect the Prosperity Index.

Researchers are still arguing about the impact of impact investments on companies' financial results, since the availability of a philanthropic component in an innovative instrument makes one doubt whether it is possible to achieve a positive financial effect. As a result of the econometric study, we found that in the current year only two types of investments have a positive impact on ROA, these are investments in cultural facilities and investments in education. During the preparation of the forecast for the medium term, we found that investments in research and development and health care tend to increase the effect, which means that in the long run such investments can bring a positive effect for the company.

We also looked at the effect of impact investments on welfare in the country. The Prosperity Index from the Legatum Institute was chosen as a welfare indicator. During the econometric study, we found that the Prosperity Index is positively influenced by investments in education and investments in environmental protection. These investments also tend to increase in the medium and long term.

Thus, it can be concluded that the opinions of researchers are supported by impact - investments really have a positive effect on financial results. In the current year, at the time of investment, they have a negative impact, as they are expenses of the company. But if you look at the medium-term and long-term outlook, such investments can contribute to an increase in the company's profitability. Therefore, it can be concluded that companies from the BRICS countries need to use such a tool to increase their profitability, as well as to achieve the Sustainable Development Goals of the UN.

Keywords: impact-investment, CSR, BRICS countries, profitability, financial results, ROA

REFERENCES

- Ankudinov A.B., Gizatullin A.V. (2016) Corporate social responsibility and financial effectiveness of Russian companies. *Corporate Governance*, vol. 6/4, pp.386- 400
- Bentsion, V.D., Belyaeva, Z.S. (2015) Formation of the directions of corporate social responsibility in the BRICS countries, *UrFU Bulletin. Series: Economics and Management*, vol. 14, No. 5, p. 762-777. <https://doi.org/10.15826/vestnik.2015.14.5.042>
- Born, P. B. (2013). When Can Impact Investing Create Real Impact? available at: <https://ssir.org/upfordebate/article/impactinvesting> (accessed: 21.03.2019)
- GIIN. (2016). Annual impact investor Survey, available at: <https://thegiin.org> (accessed: 18.12.2019)
- Heinze, David C.(1976) Financial correlates of a social involvement measure, *Akron Business and Economic Review*, vol. 7, pp. 48–51.

EXAMINING THE IMPACT OF EMPLOYEE ENGAGEMENT IN MEDIUM SIZE ORGANIZATIONS IN TIMES OF CHALLENGING ECONOMIC CONDITIONS

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ABSTRACT

Internal communication evolved in the last years in an attempt to adapt to the new globalisation era, new business operational models and technology. Many companies in Cyprus recognize the importance of employee engagement, especially in times of difficulties and strategic changes. Public relations practitioners support that during strategic changes communications is the most important factor in keeping employees informed whether they request the information or not (Nicoli and Komodromos, 2013). Keeping open lines of communication is good in order to anticipate what employees want to know and any information they ask for, the management should be ready to give to them. Richmond (2010, p.18) argues that internal communication shifted from simply sharing information to “helping organisations to deliver better performance, contributing to levels of employee engagement and facilitating collaborative approach to problem solving or innovation”. Albrecht (2010, p.7) considers that “employee engagement is seen as apposite and desirable, expected with higher levels of employee well-being, increased pro-activity, increased creativity and innovation, higher productivity and better bottom-line results”.

Within an organisation, regardless dimension or industry, collaboration and internal communication in times of strategic changes is about building, maintaining, strengthening relationships. Company’s goal and objectives should team up the members of the organisation and collaboration (relationships) should be the main ingredient for achieving that. According to Hansen (2009) collaboration across organisation units, including across divisions, business units, product lines, country subsidiaries, department, functions, factories and sales offices in a company is companywide collaboration (p.15). Wamble-King (2009) suggest that for achieving its goal an organisation needs informed and engaged employees. This can be achieved by infusing and reinforcing the right communication behaviours and attitudes in the organisation’s DNA. Albrecht (2010) confirms that employee engagement contributes to achieving organisational success, and can be considered as a positive work-related psychological state (reflected in words like enthusiasm, energy, passion and vigour), concluding that engagement is also motivational toward organisational goals and success. On the other hand, internal communication practitioners become more and more innovative when engaging employees and increasing collaboration. The

globalisation and employees' dispersion enforced an evolution in internal communication approach (strategy, tactics, tools).

Mellor and Dewhurst (2009, p.18) suggest that internal communication field has more and more functions and state that an effective communication function helps to foster cross-functional collaboration and facilitates dialogue by helping to connect people across the organisation. L'Etang (2008, p.190) confirms that "organisations all require some degree of organisation and collaboration to achieve collective aims". Welch (2012, p.247) also considers that internal communication extended its role and quotes Welch & Jackson who proposed an internal communication matrix consisting of four dimensions: line management, team peer, project peer and internal corporate communication. Many authors support that building a cross collaboration culture is demanding and it is a long term process. The resource allocation is an important element when planning cross collaboration. According to Richmond (2010, p.20) engaging employees in meaningful, productive conversation takes time and effort across entire organisation (communication infrastructure, develop manager's skills, proper IT tools). Providing the complete infrastructure and building a collaborative behaviour in an organisation is not an easy job to do. First because a complex design and infrastructure is required in order to ensure an efficient cross collaboration (varying on the dimensions of the organisations: the larger organisation, the more complex and expensive infrastructure). Second, because a collaborative behaviour or a collaboration culture can only be built in time: people need to understand the overall image of the company and also their role in achieving organisational goals, to understand the benefits of collaboration and their role in collaboration process.

De Bussy and Suprawan's research (2012, p.286) provide the evidence that employee orientation makes a strong contribution to corporate financial performance. Employees, it appears, are indeed the most valuable stakeholders in business organizations". The effect that large-scale change could have on morale and engagement of employees is a major concern and potential risk for operational leaders. A decrease in morale and engagement may impact productivity and organizational productivity, which is also a significant risk. Due to the sudden financial shock over the past three years in Cyprus many employers rushed to downsize or restructure their organizations to capture possible profits. They were so focused on immediate cost cuts through layoffs, legal compliance that they failed to consider broader change management issues that might had an impact on employee engagement. The aim of this research paper is to examine the impact of employee engagement in four medium size organizations in Cyprus, in times of challenging economic conditions. This paper opens the way to building a body of literature and empirical research in this field in Cyprus and will contribute to an enriched

understanding of the impact of employees' engagement in medium size organizations in Cyprus in times of changes. This research employs a multiple-case study research design of ten in-depth individual interviews of non-managerial employees, in four medium size organizations.

Keywords: Employee engagement; internal communication; organizational change; strategic change; management of change; medium size organizations; Cyprus

REFERENCES

- Komodromos, M. (2017). Public relations and reputation in small organisations: creating identity and building reputation for success, *Global Business and Economics Review*, Vol. 19, No. 5, 536-552
- Komodromos, M., & Halkias, D. (2015). *Organizational Justice during Strategic Change: The Employee's Perspective*. Gower Publishing Ltd, UK
- Lukaszewski, J. (2006). Rethinking employee communication: A strategic analysis, No. 5. *Jim Lukaszewski Strategy*.
- Mazzei, A. (2010). Promoting active communication behaviours through internal communication. *Corporate Communications: an International Journal*, vol. 15, 221-234.
- Nicoli, N., & Komodromos, M. (2013). *Principles of Public Relations*. University of Nicosia Press.
- Richmond, V., & McCroskey, J. (2009). *Organizational communication for survival: Making work*, (4th ed.). Boston: Allyn & Bacon.
- Robbins, S. P., & Judge, T. A. (2013). *Organizational Behavior*, 15 ed. Cloth: Pearson.
- Ruck, K., & Trainor, S. (2012). Developing Internal Communication Practice That Supports Employee Engagement. Retrieved from: <http://www.pracademy.co.uk/wp-content/uploads/2012/07/Developing-Internal-Communication-Practice-That-Supports-Employee-Engagement-July-2012.pdf>, 1-25.
- Smith, L., & Mounter, P. (2008). *Effective Internal Communication (Second Edition ed.)*. London and Philadelphia: Kogan Page.
- Tench, R., & Yeomans, L. (2006). *Exploring Public Relations*, London: Pearson Education Limited.
- Welch, M. (2012). Appropriateness and acceptability: Employee perspectives of internal communication. *Public Relations Review*, 38(2), 246-254.
- White, C., Vanc, A., & Stafford, G. (2010). Internal communication, information satisfaction, and sense of community: The effect of personal influence. *Journal of Public Relations Research*, 22(1): 65-84.

THE IMPORTANCE OF USING NEW MEDIA AWARENESS STRATEGIES IN THE FIELD OF PHYSIOTHERAPY PRACTICE: THE CASE OF CYPRUS

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ABSTRACT

The use of online technologies in health professionals' practice, including physiotherapy, has been advocated as effective and well-accepted tools for enhancing professional learning and awareness (BMA, 2011). Health practitioners meet people and other health professionals via social media to share ideas and debate, using social media platforms as a great source of information for various things like news, jobs, announcements, articles, updates, etc. (Scott, 2007). Social media has become a necessity for the healthcare industry, because healthcare organizations can reach target audiences, boost patient engagement, and improve health outcomes (Gillmor, 2018). Their main target is to educate the public on innovative medical cases and more importantly, engage customers.

In the patient-physiotherapist relationship, new media is used as a tool for information, promotion and education. Social networking sites, such as Facebook, Twitter, Instagram and LinkedIn allow professionals to create profiles and become active members, and health care professionals have started incorporating social networks into their public relations strategy in Cyprus. For physiotherapy professional's new media is important to use these sites and engage more with their patients enhancing their skills and knowledge; however, little is known about the perceptions of physiotherapy professionals and students on the use of online technology (Wright, 2018).

Technology and social media affect health behaviors and decision making. With the continuous flow and discovery of health information, social media provide patients and physicians with the ability to filter available data and streamline their search (Reich & Solomon, 2008). In addition, physio practitioners suggest that new media strategies may provide ease and accessibility for knowledge translation with their patients and other health professionals through webinars, podcasts, discussion boards and video-sharing (Farnan, Snyder & Worster, 2013; Grajales, Sheps, & Ho, 2014).

SIGNIFICANCE AND PURPOSE OF THE STUDY

Social media is an effective, powerful and useful tool, that helps organizations and individuals to be innovative in the delivery of education, service provision, or in undertaking research. For the past 2 years, there is an increase in the use of digital media from publics that get informed about issues any

issues and trends in the physiotherapy practice and change how people communicate. The aim of this study is to first critically review the effectiveness, and user perceptions of online technology for patients and professionals and how social media has impacted the Health Care Industry in Cyprus.

The second purpose of this study is to determine new media awareness strategies that can be used in the field of the physiotherapy practice in Cyprus. There is no empirical research that can identify which new media strategies can be used more effectively in the Cyprus market to increase better understanding into the three categories: personal, patients and profession-oriented. In addition, this paper opens the way to building a body of literature and empirical research in the field of physiotherapy practice in Cyprus and will contribute to an enriched understanding of the opportunities to further engage health professionals with their patients and colleagues via new social media strategies.

Following, this research will add to the literature of physiotherapy practice on how physiotherapists and health professionals can actively get involved in the progression of digital trends, using new media strategies, as innovative and driven practitioners to network, develop professionally, educate and grow business when online (Froese, 2011).

RESEARCH METHOD

This qualitative study examined 58 health care professionals and physiotherapy students in Cyprus on how they use these social networking sites to create or share educational content about health-related issues and increase engagement with their patients or and other professionals. This research employs a multiple-case study research design and the researcher used SurveyMonkey platform to collect the data from the participants. The researcher assessed participant's perceptions, using the following questions:

Q1: Which social media channels and networking practices you currently use in physio practice and why?

Q2: What topics and sources of information are most important for you to communicate with patients and other practitioners?

Q3: What type of content you think best support your content marketing mission as health professional (or student)?

Q4: How do you ensure patient privacy when using social media as part of your work in practice?

The results aim to highlight the importance of new media and social networking as a platform to engage and connect with the audience in the healthcare industry and their consideration as a social media management tool.

RESEARCH FINDINGS

Research results highlighted the critical role of new media in the physiotherapy practice for both physio practitioners and students, in communication with their patients and other professionals, as social networking sites continue to grow in Cyprus in terms of number and importance. Participants revealed that when users maintain regularly and correctly their communication with the different publics and adhere to ethical and professional guidelines, new media can be a valuable and effective tool for physiotherapy practitioners, students, physio clinics and health professionals to better serve and communicate with their patients and with other professionals in the field.

Following, regarding the patient privacy in the current new media strategy that participants use to interact with their publics, they suggested that practitioners and other users must avoid writing on social media and obtain patient consent when required. In addition, physio practitioners must use a respectful tone when discussing patients and protect patient information through “de-identification” to make sure that their privacy is secured. Also, the networking practices currently use is that they do not contact patients with requests to join their networks and they rather prefer to direct patients who want to join their professional networks to a more secure means of communication or to their professional sites.

On the other hand, participants said that in order to increase awareness and information via new media, which they find critical to grow their business, they mostly use visual content from physio practice in order to develop a unique voice and personality for their audiences, and they find important the use of creating articles and other content to engage more with their publics. A large percentage of the participants (78%) agreed that they use hashtags in the communication of their messages and posts, create their own branded infographics to provide helpful and insightful information and they make and share short videos. One important factor in the use of any social media tool is to provide immediate feedback to their audience when they receive messages from the them.

Research results proved that careful planning and research will greatly benefit health care professionals and physiotherapy students to effectively use new media tools as they attempt to develop social networking relationships and increase engagement with their audiences. Healthcare organizations need to remain vigilant about the evolving world of social media so that they can utilize it as well as possible. Research results provide insights into the emerging utilization of social media in the physiotherapy practice in Cyprus. Following, the findings showed that more health professionals and physio students are choosing new media, as part of their communication and informational strategy, to share information, to debate practice issues, to promote health behaviors, to engage with

their publics, and to educate and interact with patients and other professionals in the field (Canadian Medical Association, 2012; Reich & Solomon, 2008; Scott, 2007).

ORIGINALITY/VALUE

This critical research provides public relations and marketing academics and practitioners insights into the current body of knowledge of the new media tools used from physio professionals and students as part of their online communication strategy. It also contributes in the theory of new media, social media and engagement in the physiotherapy practice in Cyprus. In addition, the paper introduces the types of social media use by patients and which of these types were found to most commonly lead to patient empowerment. Lack of clear evidence was evident in the case of evaluation of the usability of social media tools, as part of a strategy, that can be used in the field of the physiotherapy practice from physio practitioners and students that are in this field of practice. Future research could examine whether new media is effective or professional for educational purposes in the physiotherapy practice through qualitative and quantitative research and must focus on innovation to capitalize on the potential held by new media from physio practitioners in Europe.

Keywords: social networking; new media; healthcare industry; social media communication; share information

REFERENCES

- BMA. (2011). Using social media: practical and ethical guidance for doctors and medical students. London, UK: BMA.
- Canadian Medical Association. (2012). Social media and Canadian physicians - issues and rules of engagement. Retrieved March 17, 2019, from www.cma.ca: www.cma.ca/socialmedia
- Farnan JM, Snyder SL & Worster BK. (2013). Online medical professionalism: patient and public relationships: policy statement from the American College of Physicians and the Federation of State Medical Boards. *Ann Intern Med.* 158(8):620–627.
- Froese, E. (2011, September). Why social media matters for physiotherapists. *Physiotherapy In Motion*, pp. 26-32.
- Gillmor, D. (2018). *We the Media: Grassroots Journalism by the People for the People*. O'Reilly Media.
- Grajales FJ, Sheps S, & Ho K. (2014). Social media: a review and tutorial of applications in medicine and health care. *Journal of Med Internet Research*, 16(2):e13.
- Scott, D. M. (2007). *The New Rules of Marketing and PR: How to Create a Press Release Strategy for Reaching Buyers Directly*. Hoboken, NJ: John Wiley & Son.
- Wright, D. K. (2018), "A Global Examination of the Impact of Social Media and Other New Technologies on the Practice of Public Relations," presentation to the International Public Relations Association Public Relations World Congress, Beijing, China, November 14.
- Reich, B., and Solomon, D. (2008). *Media Rules: Mastering Today's Technology*. Hoboken, NJ: John Wiley & Sons.

INTERNATIONALIZATION, BRAND INNOVATION AND BRAND EQUITY: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Background

Nowadays, brand innovation is one of the most important issues to brand management. Managers are aware of the fact that the only way to maintain the vitality of a brand is continuity of innovation. However, Brand Innovation (BI) receives little attention in the branding literature. Most research studies in the international literature focus on product innovation. Brand Innovation is a field that has not been adequately explored, resulting in a significant gap in the literature and a clear framework on BI has not been developed (Grant 2007; Chien and Yuan, 2013). On the other hand, the concept of internationalization is broadly used and examined in international business research (Sullivan, 1994; Hassel *et al.*, 2001; Letto-Gillies, 2002). While there are several studies on the impact of internationalization on innovation in general, there has been no extensive research on the relationship between internationalization and BI. In addition, a limited number of studies examine the impact of internationalization and BI on brand equity, which is the ultimate goal of all business endeavors.

OBJECTIVES

In this context, the purpose of this paper is to review the literature on:

- 1) Brand Innovation providing a conceptual framework.
- 2) The relationship between Internationalization and Brand Innovation.
- 3) The impact of Brand Innovation on Brand Equity.

METHODOLOGY

Searches were conducted in several databases including Business Source Premier (EBSCO), ProQuest, Emerald Insight and Science Direct. Google Scholar was also mined for published articles and full conference papers. Two reviewers independently conducted screening, data extraction and risk of bias assessment. Search results were assessed for relevance in a three step process of comparing title, abstract and the full text against stipulated criteria for in- and exclusion. A total of 153 articles were found that met our initial search criteria. A total of 35 articles were subsequently excluded from the

search because they did not have any significant mention of the issues under study. Articles selected are published in 62 different journals.

FINDINGS

The relationship between internationalization and BI is examined in very few studies. Several authors (Kumar and Saqib 1996; Buesa and Molero 1998) examine the relationship between internationalization and innovation in general, considering that firms' international activity is one of the main determinants of regularity in innovation (Chiva *et al.*, 2011). Hitt *et al.* (1994) showed that highly internationalized firms can improve their ability to innovate by having greater opportunities to learn (Kafouros *et al.*, 2008; Nooteboom, 2000). In addition, Kylaheiko *et al.* (2011) conclude that firms' internationalization orientation leads to more novel ideas, products and services, through the understanding of foreign firms' capabilities and customers' needs. Vrontis and Christofi (2019) provide a systematic literature review concerning the impact of R&D internationalization on innovation. Nguyen *et al.* (2016) studied the impact of internationalization on BI and conclude that internationalization is positively related to BI in the industrial service sector.

Concerning the relationship between BI and brand equity, Chien and Yuan (2013) in their research concluded that BI positively and directly affects brand equity. Other authors (Brunello, 2014; Nørskov *et al.*, 2015; Shriedeh and Ghani, 2016) conclude that innovation in general has a positive influence on brand equity.

CONCLUSIONS AND IMPLICATIONS

The systematic review we conducted found that most scholars agree that internationalization has a positive impact on innovation in general. However, there are very few studies that examine the impact of internationalization on BI in particular. In these studies findings are contradicting. Furthermore, international literature is very poor in exploring the relationship between BI and brand equity. Through the proposed literature review, we will suggest a conceptual framework for BI and reveal issues that are understudied or there are contradicting empirical findings and, therefore, further empirical research needs to be undertaken.

Keywords: Internationalization, Brand Innovation, Brand Equity, Branding, Literature Review

REFERENCES

1. Aaker, J. (2009), "Building Innovative Brands", Stanford Graduate School of Business.
2. Beverland, M.B., Napoli, J. and Farelly, F. (2010), "Can all Brands Innovate in the Same Way? A Typology of Brand Position and Innovation Effort", *Journal of Product Innovation Management*, 27, pp. 33-48.
3. Brunello, A. (2014), Customer-based Brand Equity– An innovative approach. The yearbook of the "GH. Zane" Institute of Economic Researches, 23(1), 73-81.
4. Buesa, M. and Molero, J. (1998), "Innovate Regularity in Spanish Companies", *Revista de Economía Aplicada*, Vol. VI, no. 17, pp. 111-134.
5. Chien, Y.C. and Yuan, K. (2013), "The influences of Brand Innovation on Customer Value: Using Double – Distal Mediators of Brand Perception and Brand Equity", *The Journal of Global Business Management*, Vol. 9, No. 2, pp. 53-70.
6. Chiva, R., Ghauri, P., Alegre, J. and Habib, J. (2013), "Innovating, Learning and Internationalizing: A Mutual Causality Model", *International Journal of Management Reviews*, 12, pp. 114-121.
7. Chailan, C. and Ille, F. (2015), "Branding from Emerging Countries: How to Compete Internationally?", *Critical Perspectives on International Business*, Vol.11(1), pp. 54-71.
8. Grant, J. (2006), *The Brand Innovation Manifesto: How to Build Brands, Redefine Markets and Defy Conventions*, John Wiley & Sons Ltd, England.
9. Hassel, A., Hopner, M., Kurdelbusch, A., Rehder, B. and Zugehor, R. (2001), Two Dimensions of the Internationalization of Firms, Working Paper 01/3, Max-Planck Institute for the Study of Societies, Cologne.
10. Hitt, M.A., Hoskisson, R.E. and Ireland, H. (1994), "A Mid-range Theory of the interactive effects of international and product diversification on innovation and performance", *Journal of Management*, 20 (2): 297-326.
11. Kafouros, M.I., Buckley, P.J., Shapr, J.A. and Wang, C. (2008), 'The role of internationalization in explaining innovation performance', *Technovation*, 28, 63-74.
12. Kumar, N. and Saqib, M. (1996), "Firm size, opportunities for adaptation and in-house R&D activity in developing countries: the case of Indian manufacturing", *Research Policy*, 1996, vol. 25, issue 5, 713-722.
13. Kylaheiko, K., Jantunen, A., Puumalainen, K., Saarenketo, S. & Tuppur, A. (2011), Innovation and internationalization as growth strategies: The role of technological capabilities and appropriability. *International Business Review*, 20(5), 508–520.
14. Ietto-Gillies, G. (2002), *Transnational Corporations. Fragmentation amidst Integration*, Routledge, London.
15. Nguyen, B., Yu, X., Melewar, T.C. and Gupta, S. (2016), "Critical brand innovation factors (CBIF): Understanding innovation and market performance in the Chinese high-tech service industry", *Journal of Business Research*, 69, pp. 2471-2479.
16. Nooteboom, B. (2000), "Learning and Innovation in Organizations and Economies", Oxford University Press. Oxford.
17. Nørskov, S., Chrysochou, P. & Milenkova, M. (2015), "The impact of product innovation attributes on brand equity", *Journal of Consumer Marketing*, 32(4), 245-254.
18. Sriedeh, F.B. and Ghani, N.H.A. (2016), Innovation Effect on Brand Equity: Insights from Medical Tourists", *Journal of Asian Business Strategy*, Vol. 6, Issue 8, pp. 176-184.
19. Sullivan, D. (1994), "Measuring the degree of internationalization of a firm", *Journal of International Business Studies*, 25(2), 325–342.
20. Vrontis, D. and Christofi, M. (2019), "R&D internationalization and innovation: A systematic review, integrative framework and future research directions", *Journal of Business Research*, March.

COLLECTIVE AND SOCIAL ENTREPRENEURSHIP: THE BASIS FOR MORE INNOVATION AND CORPORATE SOCIAL RESPONSIBILITY ?

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ABSTRACT

The objective of our presentation will be to discuss the similarities and differences between collective and social entrepreneurship, and to compare them to classic forms of entrepreneurship, which was the objective of our research, based on a method of systematic literature review. We are particularly interested in the elements which distinguish these forms of entrepreneurship in terms of governance (individual or collective), of participation and other similar elements which appear to distinguish these forms of entrepreneurship.

The **purpose** of the research and presentation are the following:

- Differentiate social and collective entrepreneur and entrepreneurship, find similarities and differences;
- Compare North American and European perspectives on these forms of businesses;
- and determine the sources of innovation and possible better CSR associated with these forms

The presentation will proceed as follows. We will start by defining forms of innovation, according to Schumpeter's definition, and will include social innovation to Schumpeter's product, process and combination innovations. Then we will present the social economy sector in Québec, and its contribution to collective entrepreneurship. We will then go on to the analysis of literature and results.

The **methodology** is based on systematic literature review and on interviews. The literature review search was done with the following keywords : « social entrepreneurship », « collective entrepreneurship », « social entrepreneur », « social economy entrepreneur », « entreprise collective », « entrepreneuriat collectif », « entrepreneur collectif », « entreprise sociale », « entrepreneuriat social », « entrepreneur social ». This led us to find some 807 references, and after a selection we retained 63 references which were more appropriate for our research question. This part of the research is finalized and makes it possible to establish definitions, similarities and differences between social and collective entrepreneurship, as well as to develop an interview guide for the interviews, which are presently ongoing. The research questions for the interviews cover the following: sources of project, resources available, objectives, forms of governance, ownership, innovation, etc.

As concerns the social economy in Québec, it is composed of the following:

- About 7 000 social economy firms (3 300 Cooperatives and 3 700 NPO with market activities).

- 210 000 persons, i.e. 5 % of total employment in Québec.
- 40 billion dollars business for cooperatives and *mutuelles*.

In terms of **findings**, various authors have defined the social economy and collective enterprises it covers, in these terms: Neamtam (2002 : 3) defines the social economy as: 'It is all which is not part of the public or traditional private economy'. Lévesque (2002:3) says it integrates and affirms the social dimensions of the economy, whether at the level of the firm or of society; finally, Laville (1994) talks of the Plural Economy as a combination of market, non market and non monetary resources.

The research leads to the following **contributions** as concerns the characteristics of the social economy. In terms of values and vision, persons are more important than capital in the sharing of revenues and surpluses. As concerns governance, there is a democratic and collective decision making process, which is not the case in the social enterprise.

As for Social Entrepreneurship, the entrepreneur has social objectives and values, but the mode of governance is different as it is the individual entrepreneur who makes all decisions and he does not share the power of decision making.

This is an **original contribution** as not much research has analyzed the governance structures and put forward the governance, decision making and property type as important differentiating elements between the two types of social and collective entrepreneurship. In our presentation, we will develop more on the distinctions and similarities between these two concepts of collective and social entrepreneurship, on the basis of some of the main authors in the field (Lévesque, 2016, 2002; Santoro, G., Ferraris, A., & Vrontis, D.; 2018; Mair & Marti, 2006; Shapero, A., & Sokol, L., 1982). We will also highlight similarities and differences with classic entrepreneurship. We will also present some elements from the ongoing interviews.

Keywords: Corporate Social Responsibility, social economy, collective entrepreneurship, social entrepreneurship, innovation, business performance, governance, business ownership,

REFERENCES

- Moreau, Charlotte et Quentin Mortier, (2017). L'économie sociale en pratiques. Projet SECOIA: pratiques spécifiques aux entreprises d'économie sociale et analyse des impacts générés. Online on ciriec.ulg.ac.be : <http://www.ciriec.ulg.ac.be/en/our-network/national-sections/belgium/publications/secoia/>
- Drapéri, Jean-François (2011). L'économie sociale et solidaire: une réponse à la crise ? Capitalisme, territoires et démocratie, Paris, Dunod, 288 p.
- Drapéri, Jean-François (2014). Comprendre l'économie sociale: fondements et enjeux, Paris, Dunod, 268 p.
- Laville, Jean-Louis (1995), « L'économie solidaire: une nouvelle forme d'économie sociale? », Revue des études coopératives, mutualistes et associatives, 255(53), p.70–80.
- Laville, Jean-Louis (2013). L'économie solidaire : une perspective internationale, Paris, Librairie Arthème Fayard, 383 p.
- Lévesque, Benoît (2002). Entrepreneurship collectif et économie sociale: entreprendre autrement, Communication présentée au Forum « L'entrepreneuriat en économie sociale : oser l'entrepreneuriat différemment », organisé

par le Centre local de développement des Moulins et par Emploi-Québec le 21 février 2002, Montréal, Alliances de recherche universités-communautés en économie sociale.

Lévesque, Benoît (2007). *Un siècle et demi d'économie sociale au Québec : plusieurs configurations en présence (1850-2007)*, Montréal, Centre de recherche sur les innovations sociales

Lévesque, Benoît. (2016), « Économie sociale et solidaire et entrepreneur social: vers quels nouveaux écosystèmes? » *Revue Interventions économiques. Papers in Political Economy*, (54).

Mair, J., & Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of world business*, 41(1), 36-44.

Petrella, Francesca et Nadine Richez-Battesti, (2014), « Social entrepreneur, social entrepreneurship and social enterprise: semantics and controversies », *Journal of Innovation Economics & Management*, (14), 143-156.

Santoro, G., Ferraris, A., & Vrontis, D. (2018). Open social innovation: towards a refined definition looking to actors and processes. *Sinergie*, 105(Jan-Apr).

Shapiro, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. *Encyclopedia of entrepreneurship*, 72-90.

Vaillancourt, Yves et Louis Favreau (2001). « Le modèle québécois d'économie sociale et solidaire », *Revue internationale de l'économie sociale : Recma*, (281), 69-83.

Young, Dennis R. (2007). *Financing nonprofits: a benefits approach*, Cheltenham, Edward Elgar Publishing Limited, 288 p.

ACCOUNTING HISTORY COURSES IN ITALIAN UNIVERSITIES

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ABSTRACT

The paper aims to analyze the importance that the Italian Universities has given to the History of Accounting in Italy, investigating the evolution of the teaching of "Accounting History" in educational programs, in light of the various changes that they have succeeded over time.

The goal is to understand if, in Italian Universities, the teaching (or the module) of "Accounting History" has managed to maintain its status over time, or has lost importance.

The research question is: Is there a correlation between the presence in the courses of teaching "Accounting History" and the different reforms of the University that have succeeded over time?

The research starts with an analysis of the normative evolution of Italian Universities, in order to understand the periods to be considered in the study: it follows with an Analysis of the teaching programs of the Italian Faculty of Economics and Commerce in the years in which the various reforms of the University were implemented; it finishes with a search for a possible correlation between reforms and status of Accounting History.

Our paper seeks to provide a historical perspective on Accounting Education in Italy. Our aim is to contribute to the literature on accounting change more generally (Burns, 2000). Following Robson (2006, p. 272), the approach to historical investigation adopted in this paper is analogous to that which accounting scholars label "contextual" (Hopwood, 1983, 1987; Napier, 1989) and more recently "processual" (Burns, 2000). Bhimani (1993) considers that in contextual studies, "accounting is a social practice subject to being influenced by a wide array of forces and itself effecting social changes of its own account" (Bhimani, 1993, p. 3). There is a well-established and wide-ranging literature of accounting change in its context (Burchell et al., 1985; Loft, 1986; Hopwood, 1987) and it is increasingly recognised that examining accounting change over a long timeframe, with a detailed analysis of the decision-making processes can provide a fuller understanding of how accounting practice is devised and implemented (Hopwood, 1983; Bhimani, 1993; Ryan, 1999; Burns, 2000; Scott et al., 2003). As Burns (2000) states, this focus, on context and process, has also been a preoccupation for researchers of strategic organisational change and many of their ideas can be applied to accounting history (Pettigrew, 1987; Pettigrew et al., 1992; Dawson, 2003).

Following the formulation of Scott et al. 2003, the analytical framework used in this study draws on processual and contextual changes. Change has both temporal and spatial elements. Recognition of this in accounting change research is provided by Carnegie and Napier (1996, p, 7) who argue that

“accounting is to be understood in the context in which it operates, as a phenomenon local in both space and time”.

The emphasis on studying accounting “in the contexts in which it operates” was promulgated by Hopwood (1983), and has subsequently informed many studies of accounting change. Scott et al, 2003, cite Robson (1992), Bhimani (1993) and Bryer 1993 p. 649), who summaries this approach by stating “the increasingly accepted view amongst accounting scholars is that the technical practices of accounting must be understood, not as the expression of some transcendental rationality, but ad reflection and reinforcement of social, political, and economic relationships”.

Regarding the methodology, following the Previts et al (1990) definitions, with respect to the nature of historical research this is a narrative study because it is direct towards establishing and describe items of fact. In particular this paper describe how the teaching of Accounting History was changed inside the Italian Universities.

Regarding the method, always following the Previts et al (1990) definitions, this paper uses the case study research, because it is a longitudinal study of several Italian Universities over a lengthy period of time.

Keywords: Accounting Education, Accounting History, Italian Universities, Teaching

REFERENCES

- Bhimani, A. (1993), Indeterminacy and the specificity of accounting change: Renault 1898-1938, *Accounting, Organizations and Society*, 18(1): 1-39.
- Burchell S., Clubb C. and Hopwood A.G. (1985), Accounting in its social context: towards a history of value added in the United Kingdom, *Accounting, Organizations and Society*, 381-413.
- Burns, J. (2000), The dynamics of accounting change interplay between new practices, routines, institutions, power and politics, *Accounting, Auditing and Accountability Journal*, 13(5): 1-23,
- Carnegie G. and Napier C. (1996), Critical and interpretive histories: insights into accounting’s present and future through the past, *Accounting, audit and accountability journal*, 9 (3): 7-39.
- Dawson P. (2003), *Reshaping change: a processual approach*, Routledge, London.
- Hopwood A.G. (1983), On trying to study accounting in the context in which it operates, *Accounting, Organizations and Society*, 8(2): 287-305.
- Hopwood. A.G. (1987), The archaeology of accounting systems, *Accounting, Organisation and Society*, 12(3): 207-234.
- Loft A. (1986), Towards a critical understanding of accounting: the case of cost accounting in the UK 1914-1925, *Accounting, Organizations and Society*, 137-169.
- Napier C. (1989), Research directions in accounting history, *British Accounting Review*: 237-254.
- Parker L. (1993), The scope of Accounting History, *Abacus*, 29 (1): 106-110.
- Pettigrew A, (1987) (Ed), *The Management of Strategic Change*, Basil Blackwell, Oxford.
- Pettigrew A, Ferlie E. and Me Kee L. (1992), *Shaping Strategic Change, Making Change in Large Organizations, the case of the National Health Service*, Sage Publications, London.
- Previts G.J., Parker L., Coffman E (1990), Accounting History: Definition and Relevance. *Abacus*, 26 (1), 1-16
- Previts G.J., Parker L., Coffman E (1990), An Accounting Historiography: Subject Matter and Methodology, *Abacus*, 26 (2), 136-158.
- Robson K (1992), Accounting numbers as inscription: action at a distance and the development of accounting, *Accounting, Organizations and Society*, 17(7), 685-708.

- Robson N. (2006), The road to uniformity: accounting change in UK voluntary hospitals, *Accounting and Business Research*, Vol. 36., No. 4., pp. 271-288.
- Ryan, C (1999), Australian public sector financial reporting: a case of cooperative policy formulation, *Accounting, Auditing and Accountability Journal*, 12 (5): 1-17.
- Scott J.E.M., McKinnon J.L., and Harrison L. (2003), Cash to accrual and cash to accrual, a case study of financial reporting in two NSW hospitals 1857 to post 1975, *Accounting, Auditing and Accountability Journal*, 16 (1): 104-140.

MARKETING PERFORMANCE MEASUREMENT AS A STRATEGY TOOL: EXPLORING ITS IMPACT ON FIRMS' ARCHITECTURAL MARKETING CAPABILITY

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ABSTRACT

Architectural marketing capability is a planning-related capability that is involved in selecting strategic marketing objectives (Morgan, 2012) and implementing-related capability that is associated with the achievement of marketing strategies (Vorhies and Morgan, 2005). Previous studies have highlighted architectural marketing capability as a prominent capability because of its vital role in the improvement of firm performance (e.g., Chang et al., 2010). Evidence has shown that firms with a superior architectural marketing capability are more likely to outperform others due to their strong skills in anticipating and responding to environmental changes (Slotegraaf and Dickson, 2004). However, despite the recognition of the contributions of such capability to firm performance, previous studies have failed to investigate how firms can develop such capability (Zhou and Li, 2010).

To fill in the research gap, this study aims to explore how a firm's marketing performance measurement practice can influence the development of architectural marketing capability. Drawing on survey data collected from over 200 Chinese firms, this study finds that the measurement breadth and legitimization use of marketing metrics can positively influence a firm's architectural marketing, and thereby its firm performance. While architectural marketing capability partially mediates the relationship between the measurement breadth of marketing metrics and firm performance, it fully mediates the impact of the legitimization use of marketing metrics on firm performance. The results confirm the role of marketing performance measurement as a strategy tool to improve the planning and implementation of marketing strategies. This extends previous studies (e.g., Homburg et al., 2012), in which the antecedents of architectural marketing capability and marketing performance measurement are connected, and empirically confirms that the role of marketing performance measurement as a strategy tool (Pauwels et al., 2009). One practical implication is that firms can adopt a wide range of marketing metrics and use them to justify decisions made/to-be-made in order to improve its architectural marketing capability. In addition, market turbulence is found to positively moderate the effect of the measurement breadth of marketing metrics on architectural marketing capability and the effect of the latter on firm performance, suggesting that companies need to align their capability and organizational practices with external environment to reap more benefits (see also Frösén et al. 2016; Homburg et al. 2012).

This study has several limitations, which may lead to future research opportunities. First, the use of cross-sectional design is not suitable to test causality hypothesized in this study. So future research can adopt a longitudinal research design. Second, collecting data from single informants is not ideal given that the strong relationships among variables may be caused by single-informant bias. Thus, it is worthwhile for future research to use multiple-informant for data collection. Third, since the data were only collected from China, the results should be generalized with caution. To get a more holistic view of the research phenomenon, a cross-cultural comparison may be warranted.

Keywords: architectural marketing capability, marketing performance measurement, market turbulence, firm performance

REFERENCES

- Chang, W., Park, J. E. and Chaib, S. (2010), "How does CRM technology transform into organizational performance? A mediating role of marketing capability", *Journal of Business Research*, Vol. 63 No. 8, pp. 849-855.
- Frösén, J., Luoma, J., Jaakkola, M., Tikkanen, H. and Aspara, J. (2016), "What counts versus what can be counted: The complex interplay of market orientation and marketing performance measurement", *Journal of Marketing*, Vol. 80 No. 3, pp. 60-78.
- Homburg, C., Artz, M. and Wieseke, J. (2012), "Marketing performance measurement systems: Does comprehensiveness really improve performance? ", *Journal of Marketing*, Vol. 76 No. 3, pp. 56-77.
- Morgan, N. A. (2012), "Marketing and business performance", *Journal of the Academy of Marketing Science*, Vol. 40 No. 1, pp. 102-119.
- Pauwels, K., Ambler, T., Clark, B. H., LaPointe, P., Reibstein, D., Skiera, B. and Wiesel, T. (2009), "Dashboards as a service: Why, what, how, and what research is needed?", *Journal of Service Research*, Vol. 12 No. 2, pp. 175-189.
- Slotegraaf, R.J. and Dickson, P.R. (2004), "The paradox of a marketing planning capability". *Journal of the Academy of Marketing Science*, Vol. 32 No. 4, pp.371-385.
- Vorhies, D. W. and Morgan, N. A. (2005), "Benchmarking marketing capabilities for sustainable competitive advantage", *Journal of Marketing*, Vol. 69 No. 1, pp. 80-94.
- Zhou, K.Z. and Li, C.B. (2010), "How strategic orientations influence the building of dynamic capability in emerging economies", *Journal of Business Research*, Vol. 63 No. 3, pp.224-231.

ON MERGERS AND ACQUISITIONS IN GREECE - BEFORE AND AFTER THE ONSLAUGHT OF THE ECONOMIC CRISIS

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ABSTRACT

Background and statement of the problem: This study examines the impact of mergers and acquisitions (M&As) on the post-merger performance of Greek listed firms using accounting variables (profitability ratios). We examine firm profitability for the first years after M&As and in the long-run (before and after the onslaught of the economic crisis, respectively, which are in the selected periods: 2003-2006 and 2007-2014).

Research methodology and data: For the purpose of the study, a set of five profitability ratios is employed for the examination of fifty mergers, in order to measure firms' post-merger performance and to compare pre- and post-merger firm profitability before and after the M&As announcements. To delve deeper, we analyze with nonparametric tests seven qualitative variables as strategic choices of the sample firms in M&As' past decisions: selection of merger or acquisition, hostile takeovers or friendly M&As, legal form and valuation of the target firm, method of payment, decision for an international merger or not and the type of the target's production line.

Research findings: We find these ratios to be statistically insignificant indicating firms do not experience a post-merger improvement in accounting performance the first years after M&As (before the outbreak of the economic crisis in Greece), but there is a partial deterioration of the post-merger performance in the long-run (during the economic crisis). In contrary, regarding the strategic choices during the first years after M&As, we provide evidence that the selection of acquisitions than mergers, as well as hostile takeovers than friendly M&As, affect positively firm profitability. Similar positive effects we have found concerning legal form of the target firm and method of the target valuation. We found no change in other examined strategic choices as method of payment, international merger or not, target's production line.

Policy implications: The present study could be useful to several interested parties as a recent empirical result. Firstly, to business executives, consultants or potential investors that want to proceed on a possible investment through mergers or acquisitions in Greece, as several business characteristics for successful business strategies have been proposed. Secondly, for policy makers, tax and other state authorities paints a recent picture for M&As activities in Greece before and after the outbreak of economic crisis.

Keywords: mergers, acquisitions, accounting ratios, post-merger performance

REFERENCES

- Agorastos, K., Pazarskis, M. and Karagiorgos, T. (2011) "An Accounting Comparison of the Post-Merger Economic Performance of Greek Acquiring Listed Firms in Domestic vs. International M&As at South-East Europe", *International Journal of Trade and Global Markets*, 4(3), pp. 328-342.
- Alexandrakis, A., Mantzaris, I. and Pazarskis, M. (2012) "The Impact of Mergers on Company Performance: Evidence from the Greek Industrial Goods and Services Sector", *South European Review of Business Finance and Accounting*, 10(1-2), pp. 53-68.
- Bhabra, H. and Huang, J. (2013) "An empirical investigation of mergers and acquisitions by Chinese listed companies, 1997-2007", *Journal of Multinational Financial Management*, 23(3), pp. 186-207.
- Chatterjee, S. and Meeks, G. (1996) "The Financial Effects of Takeover: Accounting Rates of Return and Accounting Regulation", *Journal of Business Finance & Accounting*, 23(5-6), pp. 851-868.
- Clark, K. and Ofek, E. (1994) "Mergers as a Means of Restructuring Distressed Firms: An Empirical Investigation", *Journal of Financial and Qualitative Analysis*, 29(4), pp. 541-565.
- Dhiman, B. and Parray, B. (2011) "Impact of acquisition on corporate performance in Indian manufacturing sector", *Int. Journal of Multidisciplinary Research*, 1(3), pp. 61-81.
- Dickerson, A., Gibson, H. and Tsakalotos, E. (1997) "The Impact of Acquisitions on Company Performance: Evidence from a Large Panel of U.K. Firms," *Oxford Economic Papers*, 49(3), pp. 344-361.
- Francis, J.R. and Martin, X. (2010). Acquisition profitability and timely loss recognition, *Journal of Accounting and Economics*, 49(1-2), pp. 161-178.
- Ghosh, A., (2001) "Does Operating Performance Really Improve Following Corporate Acquisitions?", *Journal of Corporate Finance*, 7(2), pp. 151-178.
- Healy, P., Palepu, K. and Ruback, R. (1992) "Does Corporate Performance Improve After Mergers?", *Journal of Financial Economics*, 31(2), pp. 135-175.
- Jensen, M. (1986) "Agency Costs of Free Cash Flow, Corporate Finance and Takeovers", *American Economic Review*, 76(2), pp. 323-329.
- Kusewitt, J. (1985) "An Explanatory Study of Strategic Acquisition Factors Relating to Performance", *Strategic Management Journal*, 6(2), pp. 151-169.
- Lev, B. and Mandelker, G. (1972) "The Microeconomic Consequences of Corporate Mergers", *Journal of Business*, 45(1), pp. 85-104.
- Marfo Oduro, I. and Kwaku Agyei, S. (2013) "Mergers & Acquisition and Firm Performance: Evidence from the Ghana Stock Exchange", *Research Journal of Finance and Accounting*, 4(7), pp. 99-107.
- Muhammad Ahmed and Zahid Ahmed (2014) "Mergers and Acquisitions: Effect on Financial Performance of Manufacturing Companies of Pakistan", *Middle-East Journal of Scientific Research*, 21(4), pp. 689-699.
- Mylonidis, N. and Kelnikola, I. (2005) "Merging Activity in the Greek Banking System: A Financial Accounting Perspective", *South Eastern Europe Journal of Economics*, 1(1), pp. 121-144.
- Pantelidis, P., Pazarskis, M., Deloudi, K. and Stamatouros, S. (2014) "Do M&As of Greek Listed Firms before the Economic Crisis Improved their Current Liquidity and Profitability?", *MIBES Transactions - International Journal*, 8(1), pp. 100-112.
- Pantelidis, P., Pazarskis, M., Drogalas, G. and Zezou, S. (2018) "Managerial Decisions and Accounting Performance Following Mergers at Greece", *Investment Management and Financial Innovations*, 15(1), pp. 263-276.
- Pazarskis, M. (2008) "Exploration of Mergers and Acquisitions of Greek Firms with the Application of Statistical Methods" (in Greek), Ph.D. Thesis, University of Macedonia, Thessaloniki, Greece.
- Ramaswamy, K. P. and Waagelein, J. (2003) "Firm Financial Performance Following Mergers", *Review of Quantitative Finance and Accounting*, 20(1), pp. 115-126.
- Rao-Nicholson, R., Salaber, J. and Cao, T. H. (2016) "Long-term performance of mergers and acquisitions in ASEAN countries", *Research in International Business and Finance*, 36(1), pp. 373-387.
- Rodionov, I. and Mikhalchuk, V. (2016) "M&A Synergies in Domestic M&A Deals in Russia in 2006-2014", *Russian Management Journal*, 14(2), pp. 3-28.
- Sharma, D. and Ho, J. (2002) "The Impact of Acquisitions on Operating Performance: Some Australian Evidence", *Journal of Business Finance & Accounting*, 29(1-2), pp. 155-200.

INTERNAL AUDIT AND COURT OF AUDITORS' ROLE IN PUBLIC ADMINISTRATION

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ABSTRACT

In light of a troubled economy and the new perspective of ethics, internal audit is considered a valuable tool in the hands of private and public administrations. Internal control systems can counterbalance the increasing number of destabilizing elements, incurred from fiscal recessions, by redesigned activities or impropriety audit. It is due to these attributes that internal audit as a prudent method can facilitate the public sector toward molding procedures and socially just governance models ingrained with scrutiny. This paper aims to highlight the key role; the internal audit has to play in the public sector. Furthermore, it attempts to display some basic factors that influence audit effectiveness as well as the contribution that the Court of Auditors has to offer. A questionnaire was sent to all Commissioners in Greece, while the analysis was carried through the statistical data analysis program of SPSS. Data demonstrate a tendency for human resources, central service support, standard control procedures and utility to affect internal audit.

Keywords: Court of Auditors, Internal Audit, Public Sector, Effectiveness, Control Procedures.

REFERENCES

- Burnaby, P. A. and Hass, S. (2011), "Internal auditing in the Americas", *Managerial Auditing Journal*, Vol. 26 No. 8, pp. 734-756, <https://doi.org/10.1108/02686901111161359>.
- Cohen, A. and Sayag, G. (2010), "The Effectiveness of Internal Auditing: An empirical examination of its determinants in Israeli Organisations", *Australian Accounting Review*, Vol. 20 No.3, pp. 296-307. <https://doi.org/10.1111/j.1835-2561.2010.00092.x>
- Coram, P., Ferguson, C. and Moroney, R. (2008), "Internal audit, alternative internal audit structures and the level of misappropriation of assets fraud", *Accounting and Finance*, Vol. 48 No. 4, pp. 543-559. <https://doi.org/10.1111/j.1467-629X.2007.00247.x>
- Coupland, D. (1993), "The Internal Auditor's Role in Public Service Orientation", *Managerial Auditing Journal*, Vol. 8 No. 1, pp. 3-13. <https://doi.org/10.1108/02686909310023506>.
- Dessalegn, G.M. and Adetajew, W.Y. (2007), "Internal audit effectiveness: an Ethiopian public sector case study", *Managerial Auditing Journal*, Vol. 22 No. 5, pp. 470-484. <http://dx.doi.org/10.1108/02686900710750757>.
- Faudziah, H.F., Hasnah, H. and Muhamad, J. (2005), "Internal auditing practices and internal control system", *Managerial Auditing Journal*, Vol. 20 No. 8, pp. 844-866 <https://doi.org/10.1108/02686900510619683>.
- Francis, J. R. (2004), "What do we know about audit quality?", *The British Accounting Review*, Vol. 36 No. 4, pp. 345-368. <https://doi.org/10.1016/j.bar.2004.09.003>
- Goodwin-Stewart, J. and Kent, P. (2006), "Relation between external audit fees, audit committee characteristics and internal audit", *Accounting and Finance*, Vol. 46 No. 3, pp. 387-404. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-629X.2006.00174.x>

- Ichlas, M., Basri, H. and Arfan, M. (2014), "Pengaruh Penerapan Standar Akuntansi Pemerintahan, Sistem Pengendalian Intern Pemerintah Dan Aksesibilitas Laporan Keuangan Terhadap Akuntabilitas Keuangan Pemerintah Kota Banda Aceh", *Jurnal Administrasi Akuntansi: Program Pascasarjana Unsyiah*, Vol. 3 No.4.
- Karagiorgos, T., Drogalas, G., Christodoulou, P. and Pazarskis, M. (2006), "Conceptual framework, development trends and future prospects of internal audit: Theoretical approach", in 5th Annual Conference proceedings in Hellenic Finance and Accounting Association (H.F.A.A.), Thessaloniki, Greece.
- Kewo, C. L. (2017), "The Influence of Internal Control Implementation and Managerial Performance on Financial Accountability Local Government in Indonesia", *International Journal of Economics and Financial Issues*, Vol. 7 No. 1, pp. 293-297. <https://dergipark.org.tr/ijefi/issue/32002/353189>
- Laffan, B. (1999), "Becoming a 'Living Institution': The Evolution of the European Court of Auditors", *Journal of Common Market Studies*, Vol. 37 No. 2, pp. 251-268. <https://doi.org/10.1111/1468-5965.00162>
- Loke, C.H., Suhaiza, I. and Hamid, F.A. (2016), "The perception of public sector auditors on performance audit in Malaysia: an exploratory study", *Asian Review of Accounting*, Vol. 24 No. 1, pp. 90-104. <http://dx.doi.org/10.1108/ARA-12-2013-0082>.
- Magrane, J. and Malthus, S. (2010), "Audit committee effectiveness: a public sector case study", *Managerial Auditing Journal*, Vol. 25 No. 5, pp. 427-443. <https://doi.org/10.1108/02686901011041821>
- Mardiasmo, (2002), *Otonomi dan Manajemen Keuangan Daerah*. Yogyakarta. Andi.
- Nogueira, S. P. D. S. and Jorge, S. M. F. (2017), "The perceived usefulness of financial information for decision making in Portuguese municipalities: The importance of internal control", *Journal of Applied Accounting Research*, Vol. 18 No. 1, pp. 116-136. <https://www.emerald.com/doi/abs/10.1108/JAAR-05-2014-0052>
- O'Leary, C. (1996), "Performance audits: could they become mandatory for public companies?", *Managerial Auditing Journal*, Vol. 11 No. 1, pp. 14-18. <https://doi.org/10.1108/02686909610145869>.
- Osho, Augustine dan Afolabi Matthew (2014), "The Effects and Effectiveness of Accountability and Transparency in Government Sectors", *IOSR Journal of Business and Management (IOSR-JBM)*, Vol. 16 No. 4, pp. 46-54.
- Rabrenovic, A. (2009), *Financial Accountability as a Condition Eu Membership*. Belgrade, Institute of Comaparative Law. <https://www.cceol.com/search/book-detail?id=542262>
- Soleha, N. (2014), "Pengaruh Penerapan Sistem Akuntansi Keuangan Daerah Dan Aktivitas Pengendalian Terhadap Akuntabilitas Keuangan: Studi Pada Skpd Kabupaten/Kota Propinsi Banten", *Jurnal Etikonomi* Vol. 13 No. 1, pp. 21-34. <http://journal.uinjkt.ac.id/index.php/etikonomi/article/view/1876>
- Suprihastini, E., Akram, A. and Santoso, B. (2017), "Effect of regional financial accounting system, Internal control systems and regional financial audit of financial accountability of local government" in *International Conference 2017 proceedings in Jember*, pp. 830-852. <http://jurnal.stie-mandala.ac.id/index.php/e proceeding/article/view/163>
- Widyaningsih, A., Triantoro, A. and Wiyantoro, L.S (2011), "Hubungan Efektifitas Sistem Akuntansi Keuangan Daerah Dan Pengendalian Intern Dengan Kualitas Akuntabilitas Keuangan: Kualitas Informasi Laporan Keuangan Sebagai Variabel Intervening (Penelitian pada Laporan Realisasi Anggaran di Pemda Kabupaten/Kota Wilayah Propinsi Jawa Barat)", *SNA XIV*.
- Yang, D.C. and Liming, G. (2004), "The evolution of IT auditing and internal control standards in financial statement audits: The case of the United States", *Managerial Auditing Journal*, Vol. 19 No. 4, pp. 544-555, <https://doi.org/10.1108/02686900410530547>.

GLOBAL SUSTAINABILITY AND DIGITALIZATION LINKAGE

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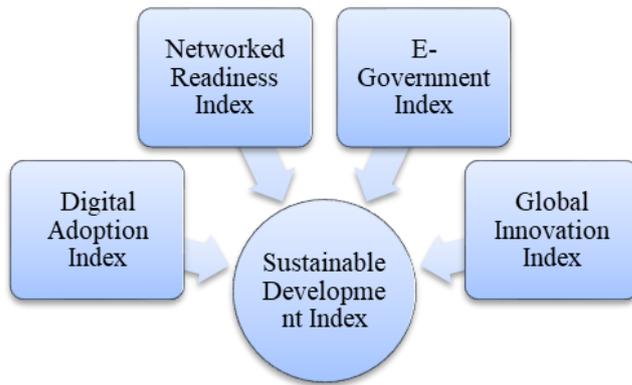
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ABSTRACT

The world economic and social paradigms are changing due to the significant influence of digitalization. This abstract pinpoints the impact of digitalization on global sustainable development incorporating the role of digital adoption, e-government, networked readiness and innovations. Although, digitalization and sustainable development are the most important trends in modern life (Kiron and Unruh, 2018), the intersection of these two aspects remains a largely unexplored area. Existing literature argues that digitization has twofold impact on sustainable development. First, innovation is a key driver for achieving sustainable development goals (Silvestre and Tirca, 2019) while digitalization functions as tool for innovation can ensure and improve the security, performance, transparency of operations, and the efficiency of systems worldwide (citation needed). Second, new digital technologies appear to be a potential threat in the form of cybercrime, financial crime, and loss of privacy. In addition, digitalization opens up opportunities for total supervision, which might in a way limit the legal rights of individuals and organization privacy (Seele and Lock, 2017). Moreover, digitalization brings rebound effects while potentially working for sustainable development, hence digitalization should be understood as a social phenomenon and a driving force of social innovation (Reichel, 2018). Still current research stream does not specify nature and drivers of sustainable development at macro and mezzo levels, although selected work were devoted to big and small businesses, finding positive correlation in applying digital effects in SMEs and in global corporations (Lopatkova and Belyaeva, 2019; Cagno et al, 2015; Presenza et al, 2019; Chou et al, 2015) Due to the contrasting strands of arguments, we aim to re-investigate the impact of digitalization on sustainable development incorporating the role of e-government, networked readiness and innovations following the below adjusted research design (figure 1). To this end, we apply robust cross-sectional regression in analysing the data for the year of 2016 in the context of 157 countries by stratifying the different socio-economic levels of development.

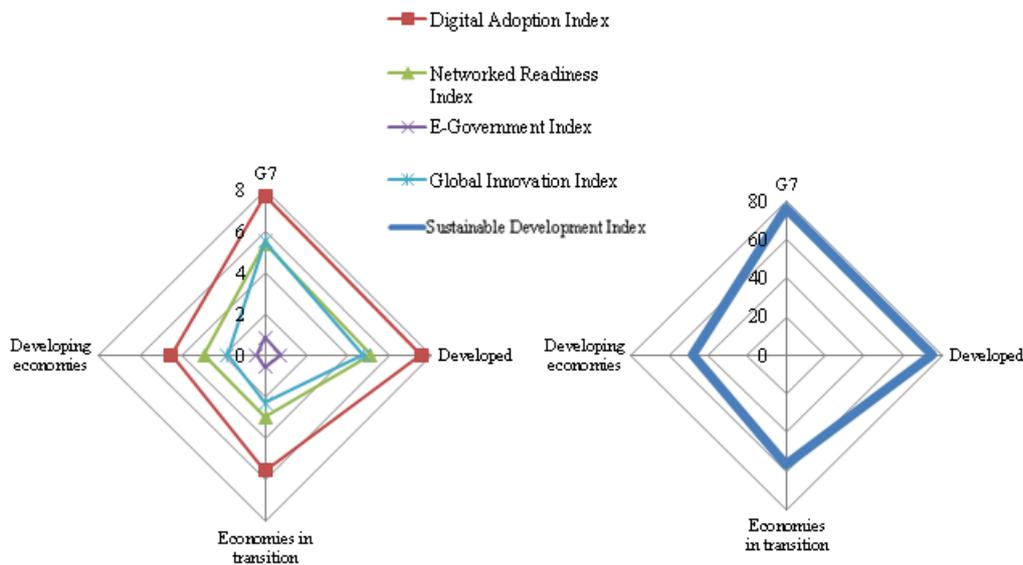
The research is based on analysis of digitalization factors affecting sustainable development based on sample of 157 countries with different socio-economic levels of development. The study implies the descriptive research and cross-sectional regression for the year of 2016.

Figure 1. Research design



The descriptive analysis indicates that the trend of sustainable development is associated with the trend of digitalization development. The level of sustainable development and digitalization are proportional to the level of socio-economic development of countries (figure 2).

Figure 2. Average value of sustainable and digital development



The cross-sectional regression (robust regression) used to measure the impact of digital factors on sustainable development. Due to presence of perfect multi-collinearity between digital adoption index and e-governance development index, we formulate two different models:

$$Sustainable\ development = \beta_0 + \beta_1 \times Digital\ adoption + \beta_2 \times Networked\ readiness + \beta_3 \times Innovation + E \tag{M1}$$

$$Sustainable\ development = \beta_0 + \beta_1 \times eGovernment + \beta_2 \times Network\ readiness + \beta_3 \times Innovation + E \tag{M2}$$

Estimated results are presented in Table 1 and 2 for M1 and M2 respectively.

Model 1: Digital adoption, networked readiness and innovations (Model 1Panel A);

Model 2: D-government, networked readiness and innovations (Model 2 Panel B)

Table 1. Results of testing models

Model	Variable	Coef.	Description
Model 1Panel A	Digital Adoption	30,9*** (12.77)	Factors influence positively on sustainable development
	Networked Readiness	4,4*** (1.66)	
	Innovation	0,13** (0.06)	
Model 2 Panel B	E-Governance	24,41** (11.24)	Factors influence positively on sustainable development
	Networked Readiness	4,85*** (1.57)	
	Innovation	0,14*** (0.08)	

*** 1% level of significance; ** 5% level of significance. In brackets are robust errors. The number of observations – 157. Model 1: Breusch-Pagan Test: 30.81***; Ramsey RESET: 1.52; VIF: 2.83; R2 : 0.62.

Model 2: Breusch-Pagan Test: 32.55***; Ramsey RESET: 0.65; VIF: 2.84; R2 :0.61

Our finding demonstrates that digital adaptation index positively and significantly explains global sustainability (Table 1). In addition, e-governance is also found to be conducive to promote the global sustainability. Concerning our control variables, both network readiness and innovation play crucial role to enhance the global sustainability. Our study provides several policy implications based on our empirical findings. Thus, digitalization can ensure and improve global sustainable development.

The findings of this study indicate that if the concept of digitalization can to be an effective factor of the sustainable development, it should be embedded into the business, government and society core statement. The positive results of this study suggest that it is necessary to conduct research in the field of sustainable development and digitalization in order to fill the gap of theoretical and practical knowledge

Keywords: Sustainable development, digitalization, digital economy

REFERENCES

- Kiron D., and Unruh G. (2018), "The Convergence of Digitalization and Sustainability", available at: <https://sloanreview.mit.edu/article/the-convergence-of-digitalization-and-sustainability/> (accessed 11 April 2019).
- Seele P., and Lock I. (2017) "The game-changing potential of digitalization for sustainability: possibilities, perils, and pathways", *Sustain Sci*, Vol. 12, Issue 2, pp. 183–185.
- Reichel A. (2018), "Digitalisation and Sustainability", available at: <https://www.andreireichel.de/2018/03/02/digitalisation-sustainability/> (accessed 7 April 2019).
- Lopatkova Ya.A., and Belyaeva Zh.S. (2019), "The electronic commerce influence on the social responsibility of small and medium-sized businesses in the world economy", *Bulletin of Ural Federal University. Series Economics and Management*, Vol. 18, Issue 1, pp. 48-68.
- Silvestre B.S, Tirca D.M. (2019), "Innovations for sustainable development: Moving toward a sustainable future", *Journal of Cleaner Production*, Vol. 208, pp.325-332
- Cagno E., Ramirez-Portilla A., Trianni A. (2015), "Linking energy efficiency and innovation practices: Empirical evidence from the foundry sector", *Energy Policy*, Vol. 83, pp. 240-256.
- Prezenza A., Petruzzelli A.M., Natalicchio A. (2019), "Business model innovation for sustainability. Highlights from the tourism and hospitality industry", *Sustainability*, Vol. 11, Issue 1, article № 212 pp. 1-5.
- Chou C.-W., Liao W.-C., Wu S., Wee H.-M. (2015), "The role of technical innovation and sustainability on energy consumption: A case study on the Taiwanese automobile industry", *Energies*, Vol. 8, Issue 7, pp. 6627-6640.

GAMIFICATION IN HIGHER EDUCATION:TEXT MINING APPROACH

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ABSTRACT

BACKGROUND

Gamification is a growing trend in research (Caponetto, Earp, and Ott, 2014; Erenli, 2013; Kasurinen and Knutas, 2017) as well as in educational settings (Azmi, Ahmad, Iahad, and Yusof, 2017; Dicheva, Dichev, Agre, and Angelova, 2015). While a more common definition of gamification is still under evaluation throughout the research community, for this research we adopt the definition from (Deterding, Dixon, Khaled, and Nacke, 2011) - gamification is “*the use of game design elements in non-game contexts*”.

Higher education is among one of those “*non-game contexts*” where the implementation and usage of gamification techniques, is evolving in an ascending trend and in various educational settings (e.g., Faghihi et al., 2014; Galbis-Córdova, Martí-Parreño, and Currás-Pérez, 2017).

Different research methods have been used to explore not only the potential of gamification but also its pros & cons, regarding all areas of valuable application. In the present research, text mining techniques were used to perform an automated literature analysis, from 2011 to 2017, of gamification application in higher education settings.

METHOD

To carry out this research, a single query was applied in a single data source (Proquest database). The query used was unique and consisted in a simple Boolean expression containing two terms/expressions connected through an AND, which means that both terms/expressions had to be present in every article: “gamification” AND “higher education”. The search was performed in October 2018 and included only *peer reviewed* articles with available *full text*, published in *Scholarly Journals*. Only the article title, abstract, and keywords were analyzed since those are the most relevant article areas where more important terms and concepts, should be mentioned. The search results returned a total of 187 articles that, after a unitary manual analysis, a total of 9 articles could not be considered for this research due to the following reasons: 3 articles were digitized images; 2 articles were in Spanish language; 4 articles were in Portuguese language. After this unitary manual analysis, the final number of articles considered for this research was 178.

All 178 articles were converted into text (.txt) files, using a free pdf to text converter solution and, all the bibliographic references were pruned from all articles, to avoid non-significant term duplications while running the text mining procedure.

MAIN FINDINGS

We found 8 topics. The first topic, with a total of 66 matching articles stands out as the most relevant topic for “gaming”, which indicates the predominance of gaming related technologies and methodologies through the set of the researched articles. The term “gaming” is also present in 7 out the total 8 topics, which seems to confirm its relevance and impact through learning. As stated by (Erenli, 2013), the gaming industry has a huge impact on society and the increasing number of players, can also be considered as an evidence that most students are familiar with gaming and feel it as a joyful experience. Hamari and Keronen (2017) also point that games have become the “largest form of leisure information systems [providing] enjoyment and usefulness” to players. For the second topic, with a total of 41 matching articles, the term “learning” is also highly related with this topic, which seems to suggest a relevant presence of these related subjects in the set of the researched articles. In the same topic the terms “gaming” and “ai” also show a significant relation with “learning” due to their correspondent low beta values. According to Williams and McOwan (2016), artificial intelligence methods together with human perceptual observations, can provide some “insight into certain high-level human perceptual and cognitive processes.”.

The third topic, with 24 matching articles, shows a good relation between software quality assurance, gaming and gamification, which seems to confirm some of the main concerns from educators when starting to implement gamification classes supported in information technologies (LMS – Learning Management Systems software). As mentioned by Azmi & Singh (2015), some of those concerns are related with the fact that, despite all the importance and capacities of LMS in learning, most students do not utilize the system to its fullest potential. LMS’s are not being used effectively and efficiently. Rucker and Edward (2015) in their study also support that faculty, most of the times, as some specific needs for additional LMS’s training and support.

Topic 4, with 16 articles, seems to indicate a significant relation between software and education, what suggests the usage of software-based tools for educational purposes. Stanisavljević-Petrović, Stanković, and Jevtić (2015) corroborate the relevance of using software for educational purposes, as well as its positive impact in learning. Topic 5 with 8 articles and topic 5 with 7 articles. Topic 7 (11 articles) highlights the need to study critical success factors in gamification, with an emphasis on gaming. Topic 8 comprises only 5 articles. Despite the relation with gaming and learning.

Observing the yearly distribution of the articles, through the period under analysis, the years of 2015 (50 articles) and 2016 (61 articles) stand out as the years with more published research on *gamification* and, *gamification AND higher education*.

According to the results, the most relevant conclusion seems to be that gaming and learning are closely linked together. Gamification has also been playing a growing role in teaching and learning over the years and revealing a tendency of growth in attention from academic research.

This research also seems to highlight that further research must be carried out looking for results and relevance of gaming and gamification for learning purposes, giving special attention to student performance and results.

Keywords: Gamification, Higher education, Text mining, Topic analysis, Engagement

REFERENCES

- Azmi, M. A., and Singh, D. (2015). "Schoolcube: gamification for learning management system through Microsoft Sharepoint". *International Journal of Computer Games Technology*. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&site=eds-live&db=edsgao&AN=edsgcl.462272941>
- Azmi, S., Ahmad, N., Iahad, N. A., and Yusof, A. F. (2017). "Promoting students' engagement in learning programming through gamification in peer-review discussion forum". *International Conference on Research and Innovation in Information Systems, ICRIS*. <https://doi.org/10.1109/ICRIIS.2017.8002543>
- Caponetto, I., Earp, J., and Ott, M. (2014). "Gamification and education: A literature review". *Proceedings of the European Conference on Games-Based Learning, 1(2009)*, 50–57. Retrieved from <http://www.scopus.com/inward/record.url?eid=2-s2.0-84923559781&partnerID=tZOtx3y1>
- Deterding, S., Dixon, D., Khaled, R., and Nacke, L. (2011). "From game design elements to gamefulness: Defining gamification". *Proceedings of the 15th International Academic MindTrek Conference on Envisioning Future Media Environments - MindTrek '11*, 9–11. <https://doi.org/10.1145/2181037.2181040>
- Dicheva, D., Dichev, C., Agre, G., and Angelova, G. (2015). "Gamification in education: a systematic mapping study". *Educational Technology & Society*, Vol.18 No.3, pp. 75–89.
- Erenli, K. (2013). "The Impact of Gamification. *International Journal of Emerging Technologies in Learning*, Vol.8 No.1, pp.15–21.
- Faghihi, U., Brautigam, A., Jorgenson, K., Martin, D., Brown, A., Measures, E., and Maldonado-Bouchard, S. (2014). "How gamification applies for educational purpose specially with college algebra". *Procedia Computer Science*, Vol.41, pp. 182–187.
- Galbis-Cordova, A., Marti-Parreno, J., and Curras-Perez, R. (2017). "Higher education students' attitude towards the use of gamification for competencies development". *Journal of E-Learning and Knowledge Society*, Vol.13 No.1, pp.129–146.
- Rucker, R., and Edward, L. R. F. (2015). "Assessing faculty experiences with and perceptions of an internal quality assurance process for undergraduate distributed learning courses A pilot study". *The Quarterly Review of Distance Education*, Vol.16 No.2, pp. 1–17.
- Williams, H., and McOwan, P. W. (2016). "Magic in Pieces: An Analysis of Magic Trick Construction Using Artificial Intelligence as a Design Aid". *Applied Artificial Intelligence*, Vol.30 No.1, pp. 16–28.

THE ROLE OF ACCRUAL ACCOUNTING FOR FINANCIAL SUSTAINABILITY IN LOCAL GOVERNMENTS: A CASE STUDY

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ABSTRACT

PURPOSE

In the last years, many countries were involved by the financial crisis both at the central and local level. In this context, international authorities have highlighted the need for sustainable strategies to be developed to create the necessary conditions to achieve financial health as well as ensure intergenerational equity (Cabaleiro et al., 2013).

Local Governments (LGs) in poor financial health become unable to deal with their financial obligations and still provide public services, given that quality or quantity of these services often results damaged (Raphael et al., 2010). At first glance, the weakening of the financial condition can be observed particularly in LGs with a reduction of public revenues followed by public expenditure cuts (Pérez-López et al., 2013; Bailey et al., 2014; Checherita-Westphal et al., 2014; IMF 2014;).

The level of a suitable financial condition is not easy to represent since it cannot be readily measured with a single performance indicator but rather is determined by different measures which are directly observable. It is worth noting that some factors are under the control of managers (as well as politicians) of a local government, while others are not (Bisogno et al., 2014).

Accordingly, the literature has investigated the determinants of financial health to measure the financial condition proposing three indicators. These are the level of sustainability, flexibility, and vulnerability, to represent the ability of an entity to preserve the social welfare of citizens with the available resources (Greenberg and Hiller, 1995, the CICA, 1997; Zafra-Gómez et al., 2009; Bisogno et al., 2017).

This paper aims to deepen the financial condition in the municipality of Rome analyzing the effects of accrual accounting in the financial reports. The study has been focused on a first plan of rebalancing the debts collected over the years, launched in 2008, and on a second one of reducing the expenditures, started in 2015.

The city of Rome represents an interesting case-study because the implemented strategies on financial sustainability have brought some positive effects in a situation of financial crisis. The case study pursues the financial resilience through the combination of capacities and reactions such as

management of slack resources, income generation (Barbera et al., 2015) and more attention on the meaning of the measures and indicators coming from the public accounting system.

DESIGN/METHODOLOGY/APPROACH

From a methodological point of view, the paper is based on a case study, which offers the opportunity to understand what happens instead of what ought to happen (Scapens, 1990) in a specific context.

Scholars have been debating approaches to analyze the contents of financial sustainability. Our analysis has taken into account the peculiarities of financial plans imposed by the specific legislation for Rome as the capital of Italy. It represents an explanatory case study, where the theory is used to understand and explain the particular, rather than to produce generalizations.

The framework presented is based on (a) an in-depth literature review of financial sustainability of public organizations (b) analysis of financial reports collected on the institutional web site of the municipality of Rome related to the last three years (c) analysis of the first results.

FINDINGS

The data collected showed a good result for the plan "*Rebalance the debts*" but also revealed quite a difficulty to reach the goal of the "*Cost-efficiency Plan*". In 2015, the mayor started a strict cost-cutting plan with a 10% cut of structural expenditures over three years. The analysis of the income statements of the last two years (2016-2017) has clarified the critical aspects of the new policies. These first findings could be particularly useful for administrators and sustainability offices for planning and giving more relevance to financial sustainability reports. More details about the emerging trend in managing the crisis with the new accounting system are analyzed in the paper.

PRACTICAL IMPLICATION

The framework opens the door to follow-up research: data collection of best practices in the management and accrual accounting of LGs that may improve the financial sustainability of public institutions.

ORIGINALITY AND VALUE

The municipality of Rome represents an interesting case study because the City of Rome is the capital of Italy and the home of the Italian government with 2,870,336 residents. In a further step, these findings could be compared with other large municipalities data sources. This deepening may lead to a new approach to management as an innovation key for the sustainability of the public sector where

public managers and policy-makers become substantially more and more aware of the immediate and long term impact of their decisions on economic and financial results.

Keywords Financial sustainability, Local governments, Accrual accounting

REFERENCES

- [1] Bailey, S. J., Valkama, P., & Salonen, S. (2014). The EU's public finance crisis: causes, consequences and cure. *Public Money & Management*, 34(2), 83-90. <http://dx.doi.org/10.1080/09540962.2014.887514>.
- [2] Barbera, C., Jones, M., Korac, S., Saliterer, I., & Steccolini, I. (2017). Governmental financial resilience under austerity in Austria, England and Italy: How do local governments cope with financial shocks?. *Public Administration*, 95(3), 670-697. <https://doi.org/10.1111/padm.12350>.
- [3] Bisogno M., Cuadrado-Ballesteros, B., & García-Sánchez, I. M. (2017). Financial sustainability in local governments: definition, measurement and determinants, In Rodríguez Bolívar, Manuel Pedro (Eds.), *Financial sustainability in public administrations. Exploring the Concept of Financial Health*, (pp. 57-83). Palgrave Macmillan.
- [4] Bisogno, M., Citro, F., & Tommasetti, A. (2014). The Financial Distress of Public Sector Entities: Evidence from Italian Public Universities. *International Journal of Accounting, Auditing and Performance Evaluation*, 10(2), 203-227. <https://doi.org/10.1504/IJAAPE.2014.060221>.
- [5] Cabaleiro, R., Buch, E., & Vaamonde, A. (2013). Developing a method to assessing the municipal financial health. *The American Review of Public Administration*, 43(6), 729-751. <https://doi.org/10.1177%2F0275074012451523>.
- [6] Cavanagh, J. Flynn, S. and Moretti D. (2016), *Implementing Accrual Accounting in the Public Sector*, IMF (International Monetary Fund), Fiscal Affairs Department.
- [7] Checherita-Westphal, C., Hughes Hallett, A., & Rother, P. (2014). Fiscal sustainability using growth-maximizing debt targets. *Applied Economics*, 46(6), 638-647. <http://dx.doi.org/10.1080/00036846.2013.861590>.
- [8] CICA. (1997). *Indicators of Government Financial Condition*. Canadian Institute of Chartered Accountants: Toronto.
- [9] CIPFA, (2014). *Risk, Resilience and Reform*, CIPFA Annual Conference 2nd to 3rd July 2014, London.
- [10] Greenberg J., & Hiller, D. (1995) *Indicators of financial condition for governments*. Paper presented at the 5th Conference of Comparative International Governmental Accounting Research, Paris-Amy. Retrieved from http://www.iceis.org/iceis2005/abstracts_2005.htm.
- [11] Groves, M., Godsey, W., & Shulman, M. (1981). Financial indicators for local government. *Public Budgeting & Finance*, 1(2), 5-19. <http://dx.doi.org/10.1111/1540-5850.00511>.
- [12] IMF (International Monetary Fund) (2014). *Vertical Fiscal Imbalances and the Accumulation of Government Debt*. No.14/209. Washington, DC: IMF.
- [13] IPSASB. (2013). *Reporting on the Long-term Sustainability of an Entity's Finances*. International Public Sector Accounting Standards Board: New York.
- [14] Mussari, R., Tranfaglia, A. E., Reichard, C., Bjorna, H., Nakrosis, V., & Bankauskaite, S. (2016). Design, Trajectories of Reform, and Implementation of Performance Budgeting in Local Governments: A Comparative Study of Germany, Italy, Lithuania, and Norway, in Sabine Kuhlmann and Geert Bouckaert (Eds.), *Local Public Sector Reforms in Times of Crisis*, Palgrave Macmillan UK, pp. 101-119.
- [15] Parker, L. (2014). Qualitative perspectives: Through a methodological lens. *Qualitative Research in Accounting & Management*, 11(1), 13-28. <https://doi.org/10.1108/QRAM-02-2014-0013>.
- [16] Paulais, T. (2009). *Local Governments and the Financial Crisis: An Analysis* (1st eds.). Washington, DC, The Cities Alliance.
- [17] Pérez-López, G., Plata-Díaz, A. M., Zafra-Gómez, J. L., & López-Hernández, A. M. (2013). Deuda viva municipal en un contexto de crisis económica: análisis de los factores determinantes y de las formas de gestión. *Revista de Contabilidad-Spanish Accounting Review*, 16(2), 83-93. <https://doi.org/10.1016/j.rcsar.2012.12.001>.
- [18] Raphael, D., Renwick, R., Brown, I., & Rootman, I. (2010). Quality of life indicators and health. In D. Raphael (Ed.), *Health promotion and quality of life in Canada*. Toronto: Canadian Scholars' Press.
- [19] Scapens, R. W. (1990). Researching Management Accounting Practice: The role of case study methods. *British Accounting Review*, 22, 259-281. [https://doi.org/10.1016/0890-8389\(90\)90008-6](https://doi.org/10.1016/0890-8389(90)90008-6).

[20] Zafra-Gómez, J. L., López-Hernández, A. M., & Hernández-Bastida, A. (2009). Evaluating Financial Performance in Local Government: Maximizing the Benchmarking Value. *International Review of Administrative Science*, 75(1), 151-167. <https://doi.org/10.1177%2F0020852308099510>.

SHARED LEADERSHIP: PROPOSITIONS AND CONCEPTUAL FRAMEWORK

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ABSTRACT

Leadership is one of the most widely and frequently studied topics in the area of organizational behavior. The concept of leadership has received considerable attention in research because of its impact on individual performance; team effectiveness and its relationship with desirable work outcomes. However, the traditional approach to leadership is restrictive and does not adequately explain the function of leadership (Pearce and Conger, 2003). Shared approach to leadership advocates leadership as a group phenomenon where the leadership occurs when roles, responsibilities and functions are shared among the members of the team (Pearce and Sims, 2002). The objective of this paper is to propose a conceptual model of shared leadership with the propositions about various levels of antecedents, mediator, moderators and its consequence.

The paper begins with review of the concept of shared leadership based on literature. Further the defining characteristics of shared leadership are discussed. The paper also distinguishes shared leadership from other similar constructs such as team work, distributive leadership, and emergent leadership. It also describes various methods adopted by past research to measure shared leadership.

The paper proposes a model of shared leadership (Figure 1) based on the existing literature. It describes various variables which could explain the emergence of shared leadership in team and also the process through which shared leadership produces positive organizational outcomes. The antecedent of shared leadership has been identified in terms of individual level, team level and organizational level factors. Further the moderators and consequence of shared leadership are discussed. The framework proposed in this study was developed with the objective of better explain the phenomenon of shared leadership. Future research can validate the model proposed in this study. Given its potential benefits, validation of the model would help the practitioners to devise strategies to implement shared leadership in various organizational settings.

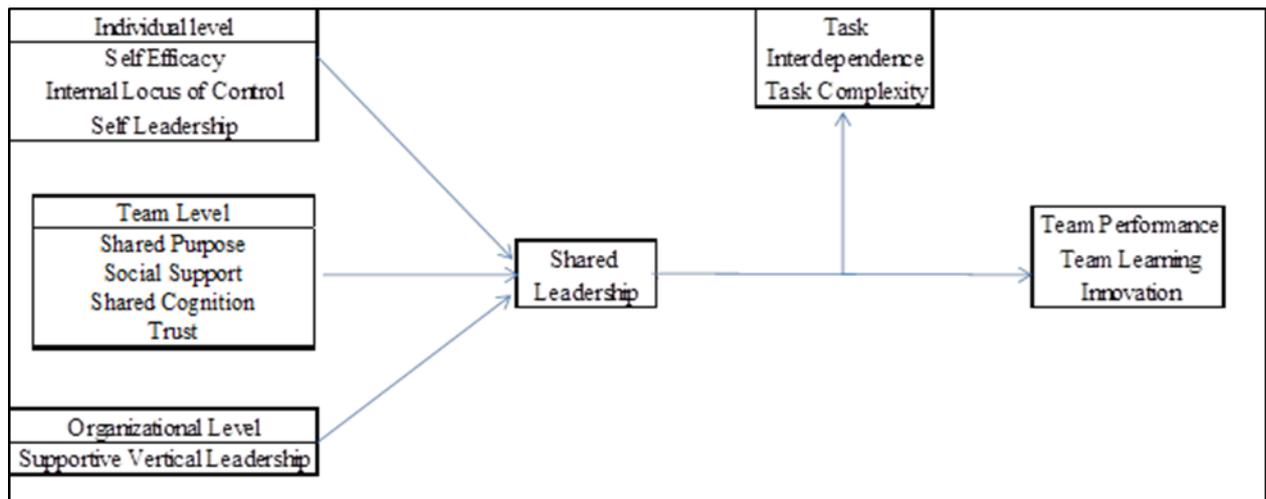


Fig 1, Conceptual Model of Shared Leadership

Keywords : Shared leadership, teams, antecedents, moderators, consequences, conceptual paper

REFERENCES

- Pearce, C.L. and Conger, J.A., 2003. All those years ago. Shared leadership: Reframing the hows and whys of leadership, pp.1-18.
- Pearce, C.L. and Sims Jr, H.P., 2002. Vertical versus shared leadership as predictors of the effectiveness of change management teams: An examination of aversive, directive, transactional, transformational, and empowering leader behaviors. *Group dynamics: Theory, research, and practice*, 6(2), p.172.

COMPETING FOR PUBLIC SERVICE CONTRACTS: SOCIAL ENTERPRISES' STRATEGIES

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ABSTRACT

PURPOSE

The purpose of this paper is to examine strategies employed by small third sector social enterprises to compete for public service contracts in the UK. Public service contracts refers to the process by which public authorities, such as Government departments, Local Authorities, National Health Service, purchase work, goods or services from organisations (Office of the UK Deputy Prime Minister / Local Government Association 2003, p. 17). The process is understood to benefit citizens from getting value for money and on time delivery of services (Maher, 2016, 2017).

Since the 1980's the UK government introduced public service contract processes with the third sector as the main mechanism to coordinate and ensure service delivery and accountability to government. For the government, the process enables market-based competition, and opens opportunity for a wide range of suppliers (Funding Commission, 2010). Successive UK Government have encouraged third sector organisations (including social enterprises) to bid for contracts to deliver public services in the community (such as, counselling services, day programmes for older people, young people, drug and alcohol misusers and their carers) (Maher, 2019; Watson and Roberts, 2019). This led to the implementation of the 1990 National Health Service and Community Care Act in April 1993. This resulted in the a reduction in grant funding to third sector organisations and to the introduction of the use of formal contract processes to govern funding flows to these organisations (Plummer, 2009; Mold and Berridge, 2010). The Government made explicit recommendations that third sector organisations should take a greater role in delivering public services with formal contractual arrangements (Funding Commission, 2010). For the government, formal contracts means that the same process is adopted for contracting-out service provision for all providers, irrespective of whether they are private sector or third sector social enterprise providers.

In 1998 New Labour Government introduced policies such as the Compact. The compact set out the agreement between government and the sector to improve their relationship for mutual advantage and mainstream the sector into the Government's policy agenda (Kendall, 2004; Howlett, 2019). It defined how government and sector organisations should engage, and endorsed the fundamental importance of sector organisations to the well-being of society and their role in public services

delivery. As a result an increasing number of the sector organisations engaged in contracting with the government for the first time.

Under the new contacting process, the sector organisations had to accept competitive tendering processes and deal with the pressure of balancing the needs of service users, demands of the funders and the needs of their staff (Maher, 2015b; Mold, 2018). The government further introduced several procurement policies such as, Payment by Result (PbR) schemes to allow the transfer of practical and financial risk to providers; by linking payment to defined results (Battye and Sunderland, 2011; Maher, 2017). The provider is often expected to cover early start-up and running costs until payments for success reimburse this outlay. PbR is often unfavourable to small third sector social enterprises as they are less likely to have extra funds to cover the period between starting work and receiving payment. However, the Government and policy makers have increasingly seen this particular payment system as an important lever for influencing provider behaviour to comply with contract agreements (Battye and Sunderland, 2011; Maher, 2018b).

In 2001 the government launched a strategy for an “enabling environment”. The strategy document sets out the government strategic vision for social enterprises. The Government explained the characteristics of social enterprise that it valued as “being able to gain independence and autonomy through trading; possessing entrepreneurial, innovative, and risk taking behavior; adopting flexible and adaptable practices; maintaining a focus on customers and community; promoting stakeholder engagement; encourage democratic participative management; delivering socially and/or environmental and financial benefits; and were deemed financially viable gaining their income from selling goods and services” (DTI, 2002:16). The government added that many social enterprises are already showing how this can be achieved.

The Conservatives party-Liberal party Coalition Government introduced the 2015 Public Contracts Regulations, which aims to promote opportunities for the sector organisations. This led to reservation of certain public contracts specifically for social enterprises and mutuals; and the removal of PQQs (pre-qualification questionnaire) for procurement below EU thresholds (EU procurement thresholds include: Supply and service contracts awarded by central government bodies subject to the WTO GPA, the threshold is £118,133 (Official Journal of the European Union (OJEU) will come into force on 1 January 2018).

The review of UK public services contract literature suggests that several government strategies and policies were designed to influence the procurement of services and goods from third sector organisations (including social enterprises). There is scarcity of literature expounding the challenges small third sector social enterprises are experiencing tendering for public services’ contactors in a highly competitive environment. Thus, this paper will address the following research questions:

- i. What are the challenges small third sector social enterprises experiencing when competing for public service' contracts?
- ii. Are there organisational factors that enable small third sector social enterprises to gain public services contracts?
- iii. What strategies are employed by small third sector social enterprises to gain public services contracts?

METHODOLOGY

The research methodology was designed to allow the collection of data from four case study organisations. The exploratory nature of this research influenced the decision to choose a multiple case study design (Stake, 2013; Maher, 2018). The most unique aspect of the adopted case study design (Yin, 2009; Stake, 2013) is its ability to deal with a variety of evidence that will contribute to understanding strategies employed by small third sector social enterprises to competitive for public services contracts.

In terms of data collection, multiple sources were used to enable triangulation as a necessary requirement for ascertaining reliability in qualitative research (Yin, 2009; Stake, 2013). Data sources included documentary evidence, such as organisation's annual report, newsletter, website, etc. Semi-structured interviews with 16 key informants responsible for fundraising/contract management.

All interviews were recorded and transcribed under conditions of confidentiality – thus quotations in this paper are anonymized – and their exploitation was assisted by NVIVO software. The fieldnotes data are an on-going, crucial part of collecting research data. In this research, they took the form of a brief description of the physical setting where each interview took place, self-reminders about specific events during the interviews (such as participants nodding or smiling) and notes about personal reflections as well as reactions arising from and captured during the interviews. Using three sources of data source (documentary evidence, semi-structured interviews and field notes) increases the validity of the findings as the strengths of one approach compensated for the limitations of the other evidence source (Miles and Huberman, 1994, Yin, 2009).

FINDINGS

Despite limited capacity of small third sector social enterprises, the findings highlight the importance of organisational resources (Maher, 2019) and collaborations. This paper assists the progression of academic discussion in social enterprises from definitional debates to understanding strategies to develop critical organisational capacity and capabilities in readiness to bid for public services

contracts. It informs practice by highlighting public policy and internal organisational factors influencing small third sector social enterprises ability to secure public service contracts.

Keywords: competitive tendering, case study, public service contracts, small social enterprises

REFERENCES

- Battye, F., & Sunderland, J. (2011). Thinking about payment by results. London: GHK.
- Funding Commission. (2010). Funding the Future: A ten-year framework for civil society, NVCO, London.
- Kendall, J. (2004). The voluntary sector: Comparative perspectives in the UK. Routledge.
- Howlett, M. (2019). Designing public policies: Principles and instruments. Routledge.
- Maher, C. (2015a). Public Policies Impact on Third Sector Social Enterprises in UK Regions. IGI Global, USA.
- Maher, C. (2015b). Social enterprise manager's career path preferences. *International Journal of Globalisation and Small Business*, 7(1), 59-72.
- Maher, C. (2016). Public policies impact on third sector social enterprises in UK regions. In *Handbook of research on entrepreneurial success and its impact on regional development* (pp. 246-266). IGI Global
- Maher, C. (2017) Influence of Public Policy on Small Social Enterprises: Emerging Research and Opportunities. IGI Global, USA.
- Maher, C. (2018a) Understanding Managerial Career Anchors and Career Path Preferences: A Case Study of Third Sector Social Enterprise Managers. Scholar's Press.
- Maher, C. (2018b) Public Services Procurement: Third Sector Social Enterprises Perspectives in Creating Business Value and Competitive Advantage With Social Entrepreneurship. IGI Global, USA.
- Maher, C. (2019). *Handbook of Research on Value Creation for Small and Micro Social Enterprises*. IGI Global.
- Maher, S. M. (2019). The Development of National Health Service Social Enterprises in England. In *Handbook of Research on Value Creation for Small and Micro Social Enterprises* (pp. 95-108). IGI Global
- Memorandum by Local Government Association (LGA) (RG 36) ... has emerged over possible future directions for regional policy in England (2003)
- Mold, Alex. "Framing drug and alcohol use as a public health problem in Britain: Past and present." *Nordic Studies on Alcohol and Drugs* 35.2 (2018): 93-99.
- Miles, M.B., Huberman, A.M. (1994) "Qualitative Data Analysis" (2nd ed.) Thousand Oak, CA. Sage.
- Mold, A. and Berridge, V. (2010) *Voluntary action and illegal drugs: Health and society in Britain since the 1960's*, Basingstoke: Palgrave Macmillan.
- Official Journal of the European Union (OJEU) will come into force on 1 January 2018.
- Plummer, J. (2009) Donations predicted to decline until 2011. Third Sector Online, available at: www.thirdsector.co.uk (accessed 1 January 2019).
- Stake, R. E. (2013). Multiple case study analysis. Guilford Press.
- Watson, E. S., & Roberts, P. (2019). Applying a Cross-Cultural Health Systems Strengthening Diagnostic Tool: The Experiences of a Small Social Enterprise Delivering Health Care Services in England. In *Handbook of Research on Value Creation for Small and Micro Social Enterprises* (pp. 46-74). IGI Global.
- Yin, R. K. (2009). *Case study research: Design and methods (applied social research methods)*. London and Singapore: Sage.

DATA RECEIVED

Q1

What are the challenges small third sector organisations are experiencing when competing for public service' contracts?

Lack of know how to win the tender

Q2

Are there organisational factors that enable small third sector organisations to gain public services contracts?

I think they have a better to chance to bid as part of a consortium

Q3

What strategies are employed by small third sector organisations to gain public services contracts?

Partner with larger businesses

HOW MENTORSHIP AND DIGITIZATION CAN ASSIST THE REVOLUTION OF HUMAN RESOURCES ACTIVITIES

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ABSTRACT

Human capital is part of the establishments' assets and reflects their activity outwards, to the market and the world. The work of the human resource departments (HRD) is vital to shape the employees' understanding and activity, towards sustaining the company's vision and strategy and assimilate the best trends of the market in the field. Correctly designed, HRD represents the core of the institutional strategic and economic survival, sustainable development, market recognition and contribute to the successful consolidation of the organization in the business competition. The HR activity benefits more in terms of knowledge and importance while digitization turns into smart becoming the most precious consolidated tool in increasing the company value, safety and efficiency. *The HR staffs benefit from a profound transformation due to the technological change, from the legislative dynamics, from the operational developments and people's adapting with new times. The challenges this sector is facing are linked to the mentoring of the actual professionals, to finding the best qualified specialists and to retaining the appropriate employees capable to bring together the personal value with the returned added value of the company or the team.*

Nowadays, HR faces a high need for a strategic shift -from transactions' oriented basis towards a practical, transformational one, assuming new roles and dedicating contribution to the company. In this evolutive process . the most important driver is technology and data safety, that take over from the burden of routine processes from HR team's shoulders, allowing the operational advances to be implemented in any field or activity of the company.

*Due to the high technology need, the digitisation improvement and automation implementation, the professional skills require upgrades and faster harmonisation with the real-world demands. The profit increase can't be obtained without **up running** operational digitisation, increasing specialists' accountability towards work and results, and adapting to this new landscape. Based on a survey, the present paper outpaces the hidden faces of reality when digital technology impose the HR departments' transformation and shows how mentorship, as a sustainable tool can influence the dynamic and the full achievement of companies' objectives. The paper presents the result of a study on HR departments approach and development in some chosen Romanian companies he ways they use the budget for digitalisation and mentoring activities are emphasised.*

In conclusion, at a time of digital transformation in the Big Data era, it is mandatory to adopt rapid and significant changes in the employees' engagement and mentality. The biggest challenges faced by

HR departments are to match the appropriate top management vision in finding the right specialists, the high-potential employees, appropriately skilled, that could remain with the company beyond any external political interference, to grow within the company' values and increase the staffs' proactive involvement at any levels.

Keywords: human resource management, competence development, qualification and mentoring digitization, Industry 4.0.

REFERENCES

- Bengtsson, Camilla and Moa Bloom, (2017), Human Resource Management in a Digital Era, Lundt Univ. <https://pdfs.semanticscholar.org/16c7/6ba407cca74b9c115aadb093033a79e03a7b.pdf>.
- Cernian, Alexandra, (2017), "Tendințe și provocări în digitalizarea HR în companiile din România", in Trends and challenges, Valoria Articles, <https://valoria.ro/author/alexandra-cernian/page/2/>.
- Filippone, Tony , Diane Youden, Kevin Pennington and Phil Fersht, (2012), Human Resources Transformation: Is It Driving Business Performance? HfS Research, May.
- Global Human Capital Trends (2016), The New Organization: Diferent by Design, Deloitte University Press.
- Hecklau, Fabian, Mila Galeitzke, Sebastian Flachs and Holger Kohl, (2016), Holistic Approach for Human Resource Management in Industry 4.0, Procedia CIRP Volume 54, pp: 1-6, <https://doi.org/10.1016/j.procir.2016.05.102>
- Johnson Richard D. and Hal G. Gue, (2011), Transforming HR Through Technology: The Use of e-HR and HRIS in Organizations, SHRM Foundation
- Manolescu, Aurel, (2001), Human Resource Management, Economica Publishing House, pp: 14-16.
- Mathis, Robert, (2017), The Role of Mentoring in Human Resources, Irexon Publishing House Noe, R.A., J.R.
- Hollenbeck, B. Gerhart and P.M. Wright, (2017), Human resource management: Gaining a competitive advantage, 8th eds., Amsterdam Univ., studocu.com
- Rogers Bruce - Forbes insights, (2016), How Digital Transformation Elevates Human Capital Management Turning Talent into a Strategic Business Force, Forbes.com.
- Scholz, Tobias M., (2017), Big data in organizations and the role of human resource management: A complex systems theory-based conceptualization, Personal Management und Organisation, No. 5, ISBN 978-3-631-71905-3, Peter Lang International Academic Publishers, Frankfurt a. M., <http://dx.doi.org/10.3726/b10907>

THE IMPACT OF COMPETITIVE ADVANTAGE ON THE UTILISATION OF THE GREEN ENERGY RESOURCES

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ABSTRACT

Strengthening the medium to long-term development and growth process in Romania could be done simultaneously with the shift towards an economic model that has the least negative impact on the environment and the natural ecosystem balances. The smart capitalization of the natural and human capital potential could provide Romania with sustainable economic growth, well-being and a decent living for its citizens, in total equilibrium with the natural environment. The transition to a green economy can have a considerable social impact in terms of creating new jobs; therefore, the policy coordination in this context outlines the priorities for the social cohesion policies to design the National Strategy for Green Jobs. This will be the first step of the transition process to the Green Economy. Based on the European Observatory for Employment survey conducted in 2013 that shows that the Romanian ecological sectors will hardly account 25% of the total employment in 2018, the Romanian Ministry of Labor and Social Justice initiated various initiatives to develop a policy paper in order to guide and coordinate the social policies and facilitate green job creation. Unfortunately, the political intrusion in the labour market is not always either strategical nor healthy. Any public policy document should be based on a multisectoral approach, and developed under inter-institutional working group analysis, prior to elaborate a final national strategy for green jobs. The present article takes the opportunity to analyse the human components of such working group, its social and societal values for the correctness of complex forecasting together with their work impact on the accuracy of the transition to a sustainable economy dominated by green companies and jobs.

The conclusions of this research emphasise the superficial understanding of the green side of a sustainable economy, the companies' trajectory in the smart market and the negative sides of the political intrusion in the sustainable development. Given the political orientation in establishing structural budgets the article identifies some ways to retain the high professional staffs from emigrating to countries where peoples' skills are better recognised and respected.

Keywords: energy impact, micro, macroeconomic level

REFERENCES

- Romanian Government, (2007), Hotărârea nr. 1.069/05.09.2007 privind aprobarea Strategiei energetice a României pentru perioada 2007-2020, Monitorul Oficial nr. 781 din 19.11.2007, <http://legislatie.just.ro/Public/DetaliuDocumentAfis/87033>;
- European Council, (1960), Council Directive 96/61/EC of 24 September 1996 concerning integrated pollution prevention and control, Official Journal L 257, 10/10/1996 P. 0026 – 0040;
- Romanian Government, (2013), Law No. 278/2013 on industrial emissions (“Law No. 278/2013”);
- Romanian Government, (2006), Hotărârea nr. 462/2006 pentru aprobarea programului Termoficare 2006-2009 calitate și eficiență și înființarea Unității de management al proiectului Republished in Monitorul Oficial, Part I no. 556/207/2008.

THE WELL BEING SEE-SAW: THE PSYCHOSOCIAL TOLL OF SOCIAL MEDIA

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ABSTRACT

Social media platforms have become embedded in our everyday lives and users who are constantly increasing worldwide dedicate a great amount of time every day on them – a time that is constantly increasing. Although there are a number of studies about the addictive as well as beneficial qualities of social media (e.g., Ellison, Steinfield and Lampe, 2007; McEwan, 2013; Nabi, Prestin and So, 2013; Verduyn *et al.*, 2017; Appel *et al.*, 2016; Griffiths, Kuss and Demetrovics, 2014; Kuss and Griffiths, 2011; Bharucha, 2018), the literature about the impact of social networking sites (SNSs) on psychosocial well-being is scarce and sparse (Griffiths, Kuss and Demetrovics, 2014; Kuss and Griffiths, 2011). Given the evidence that positive and negative indicators of psychological well-being had differential correlations with SNS use (Huang, 2017), Huang (2017) suggests that future studies should examine and explore the consequences of SNS use by incorporating both positive and negative indicators to better understand the relationship between SNS use and mental health. Moreover, according to Huang (2017) no studies have compared the relationship between time spent on social networking sites and well-being across life stages and whether this relationship changes over lifetime. Although psychosocial well-being is a topic of increasing importance, it is apparent that the area that surrounds psychosocial well-being and its relationship with social media use deserves further examination since empirical relationships are currently not known. The present study addresses this gap to contextualize psychosocial well-being within social media contexts and foreground issues like life satisfaction, happiness, loneliness, self-esteem and social competence. More specifically, this research will examine secondary data following a systematic process to identify the positive effects and negative risks of social media use on consumers' psychosocial well-being and discover how the impact of social media use on distinct domains of life can shape or alter psychosocial well-being; thus establishing a causal relationship between social media use and psychosocial well-being.

In order to ensure the attainment of the aim and objectives of the study, this paper will apply a systematic review methodology in order to thoroughly and reliably assess the existing literature (Tranfield *et al.*, 2003). Gathering existing studies in a systematic way enables a greater breadth of perspectives and a deeper understanding of psychosocial well-being within social media contexts. If a review is not systematic there is a high risk of bias since authors can choose papers that can provide support to their viewpoint (McDonnell *et al.*, 2017). Electronic databases including Science Direct, Emerald, EBSCO and JSTOR will be searched using keywords that best describe the topic - for

example, "psychosocial wellbeing" AND "social media". Synonyms for the main keywords will be also considered. In order to enhance as well as narrow results and retrieve articles that are most relevant exclusion and inclusion criteria such as publication type and dates, ABS journal rankings, and duplicates will be used.

The expected outcome of the systematic review is to help determine what is already known on the topic but also document knowledge gaps in the literature. These identified gaps will serve as data-based rationales for establishing the need for a particular research agenda. (Eagly and Wood, 1994)

Keywords: Well-being, social media, systematic review.

REFERENCES

- Appel, H., Gerlach, A.L. and Crusius, J. (2016), "The interplay between Facebook use, social comparison, envy, and depression", *Current Opinion in Psychology*, Vol. 9, pp. 44-49.
- Bharucha, J. (2018), "Social network use and youth well-being: a study in India", *Safer Communities*, Vol. 17 No. 2, pp. 119-131.
- Eagly, A.H. and Wood, W. (1994), "Using research to plan future research", in Cooper, H. and Hedges, L.V. (Eds.), *The handbook of research synthesis*, Russell Sage Foundation, New York, pp. 485-500.
- Ellison, N.B., Steinfield, C. and Lampe, C. (2007), "The benefits of Facebook "friends": Social capital and college students' use of online social network sites", *Journal of Computer-Mediated Communication*, Vol. 12, pp. 1143-1168.
- Huang, C. (2017), "Time spent on social network sites and psychological well-being: A meta-analysis", *Cyberpsychology, Behavior, and Social Networking*, Vol. 20 No. 6, pp. 346-354.
- Griffiths, M.D., Kuss, D.J. and Demetrovics, Z. (2014), "Social Networking Addiction: An Overview of Preliminary Findings", *Behavioral Addictions*, pp. 119-141.
- Kuss, D.J. and Griffiths, M.D. (2011), "Online social networking and addiction – A review of the psychological literature", *International Journal of Environmental and Public Health*, Vol. 8, pp. 3528-3552.
- McDonnell, A., Collings, D.G., Mellahi, K. and Schuler, R. (2017), "Talent management: A systematic review and future prospects", *European Journal of International Management*, Vol. 11 No. 1, 86.
- McEwan, B. (2013), "Sharing, caring, and surveilling: An actor-partner interdependence model examination of Facebook relational maintenance strategies", *Cyberpsychology, Behavior, and Social Networking*, Vol. 16, pp. 863-869.
- Nabi, R.L., Prestin, A. and So, J. (2013), "Facebook friends with (health) benefits? Exploring social network site use and perceptions of social support, stress, and well-being", *Cyberpsychology, Behavior, and Social Networking*, Vol. 16, pp. 721-727.
- Tranfield, D., Denyer, D. and Smart, P. (2003), "Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review", *British Journal of Management*, Vol. 14, pp. 207-222.
- Verduyn, P., Ybarra, O., Résibois, M., Jonides, J. and Kross, E. (2017), "Do social network sites enhance or undermine subjective well-being? A critical review", *Social Issues and Policy Review*, Vol. 11 No. 1, pp. 274-302.

RADICAL AND INCREMENTAL CREATIVITY - THE ROLE OF ENJOYMENT, INNOVATIVE CLIMATE AND REWARDS IMPORTANCE

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ABSTRACT

Employees' innovative and creative behavior has become a source of major competitive advantage and one of the most important predictors of organizational success and survival. Consequently, high research attention has been focused towards identifying various predictors of creative behavior. However, there are still unanswered questions and issues that the creativity researchers are facing. One such issue concerns with treatment of creativity as a unidimensional construct, whereas another is concerned with the mechanisms through which intrinsic and extrinsic rewards affect creative behavior of employees (Malik & Butt, 2017).

Research studying reward – creativity relationship has generated non-conclusive and conflicting findings, suggesting that the effects of rewards on creativity can be positive, neutral, and even negative (Byron & Khazanchi, 2012). These results have led to a lack of a wholesome and conclusive account of how various kinds of rewards and their underlying process affect creativity and its various dimensions. Moreover, the narrow conception of creativity as a unidimensional construct has also been pointed out as one of the reasons of inconclusive research findings about the predictors and consequences of creative behavior (Gilson & Madjar, 2011).

Among the several studies who have tried to summarize reward - creativity research, one of the more recent reviews (Malik & Butt, 2017) has forwarded three suggestions to resolve the debate concerning rewards and creativity. They entail the exploration of relationship between different types of rewards and different types of creative behavior, identification of the processes and cognitive states through which rewards affect creative behavior, and the boundary conditions within which these effects take place. Without understanding these cognitive states and without the knowledge of these boundary conditions, valuable resources that organizations deploy to reward creative behavior can not only become ineffective, but can also backfire. The current study tried to answer all these concerns in this investigation. Hence, the main objective of this study were threefold.

First, we aimed to explore the type of creative behavior that intrinsic and extrinsic rewards produce. Given an increasing research interest in categorizing creative behaviors in distinct types and their specific predictors, it is important to dig out such distinctions for a better understanding of rewards and associated creative behavior. Secondly, we made an attempt to identify the cognitive states and processes triggered by rewards, which in turn invoke these distinct creative behaviors. Finally, we

investigated the boundary conditions, which facilitate the effects of extrinsic rewards to inspire creative behavior.

This research makes significant theoretical and empirical contributions in advancing the rewards creativity scholarship. The first contribution it claims is to investigate the mechanisms through which these rewards are translated into creative outcomes. The study hypothesized and tested enjoyment and perceptions of innovative climate as mediators of reward – creativity relationship. Results supported these hypotheses, and provide a deeper understanding of how different types of creative behaviors are evoked, with each type having its own underlying mechanism and explanation.

Secondly, we investigated creativity in form of two distinct creative behaviors (radical and incremental creativity) and identified their specific drivers. Results showed that intrinsic rewards trigger radical creative behavior, whereas extrinsic rewards trigger both radical and incremental creative behavior, but only when rewards' importance is high. Hence the results informed about distinct drivers that can be used to enhance different types of creative behaviors.

Finally, although intrinsic motivation theory (Amabile, 1985) suggests that intrinsic rewards produce higher level of enjoyment and involvement in the activity, this is probably the first time that this relationship has been empirically verified. Hence, this study, to our knowledge, is the first one to test one of the most important theoretical assumption of intrinsic motivation theory (Amabile, 1985). These results not only make significant contributions to the research on creativity, but also point towards future research directions.

Keywords: Radical Creativity, Incremental Creativity, Rewards, Enjoyment, Climate, Rewards' Importance, Mediation, Moderation.

REFERENCES

- Amabile, T. M. (1985). Motivation and Creativity: Effects of Motivational Orientation on Creative Writers. *Journal of Personality and Social Psychology*, 48, 393-399.
- Byron, K., & Khazanchi, S. (2012). Rewards and creative performance: A meta-analytic test of theoretically derived hypotheses. *Psychological Bulletin*, 138, 809-830. doi: 10.1037/a0027652
- Gilson, L. L., & Madjar, N. (2011). Radical and incremental creativity: Antecedents and processes. *Psychology of Aesthetics, Creativity, and the Arts*, 5(1), 21-28.
- Malik, M. A. R., & Butt, A. N. (2017). Rewards and Creativity: Past, Present, and Future. *Applied Psychology*, 66(2), 290-325.

THE APPLICATION OF THE PACK-SYSTEM MODEL IN THE FRAMEWORK OF CITY LOGISTICS AND MOBILITY

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ABSTRACT

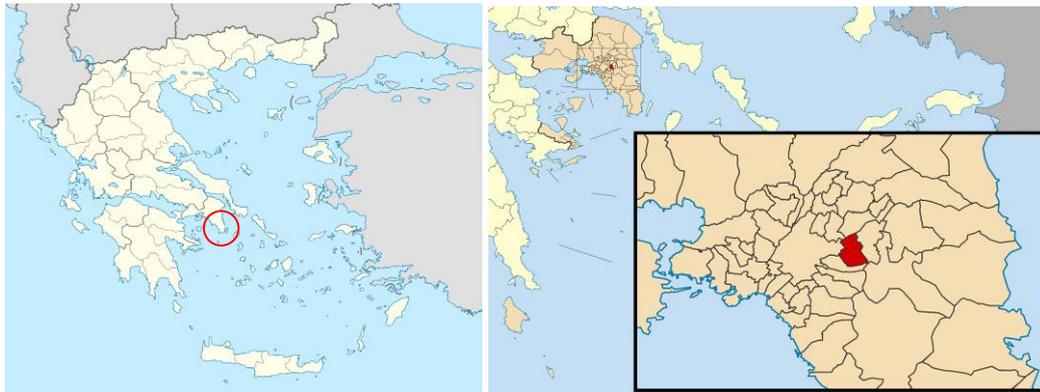
As more and more people migrate to cities to seek for jobs and better living conditions, the growth of cities and urban areas in the 21st century is expected to put more pressure on resources and conditions of urban life. The urban environment is characterized by high settlement and population densities while the utilisation of same infrastructure for both citizens and goods transport, have resulted in aggravating the problem. In major French cities for example, it has been found that freight vehicles consume on average, 30% of the city street capacity, two thirds representing parking for delivery and pick up operations (Gabriel et al., 2009).

In response to the above outlined pressures, a new area of Logistics has emerged, the so called City Logistics, encompassing the increasing awareness of the sustainability imperatives from researchers together with the rise in cities infrastructure and movements limitations. Thus, the trend of continuing growth of urban populations calls for integrated policy concerning the improvement in mobility for both citizens and freight. In this sense, academics and practitioners in Europe have attempted to identify smart-sustainable solutions within the cities, in the framework of urban freight transport and city logistics. In the past few years interest in sustainability has risen considerably alongside the global trend towards urbanization with multiple environmental and economic impacts. The local city authorities around the world face the challenge to improve infrastructure, attract innovative investments and knowledge activities in order to ensure sustainable city development through projects assignments or building-up collaborative strategic partnerships.

A number of projects have been implemented concerning the introduction of modern distribution models and solutions, some of which could be broadly applicable (Benjelloun et al., 2009). One critical goal of is the reduction of the total number of truck-trips in an urban area, towards mitigating their negative impacts, usually through involvement of a public agency (Taniguchi et al., 2003). In this sense, this paper aims to shift the emphasis toward more practical aspects of the topic through the implementation of an integrated city logistics model in a specific area of Athens-Greece Metropolitan area, the so called "pack-station" system, first applied in Germany. Pack-station systems, located in popular city positions prevent citizens from moving to and from the post offices, offering 24 to citizens the possibility of access to their parcels 7 days per week, 24 hours per day. According to the

Sustainability Report of the Deutsche Post (2006), the introduction of such system in the city of Koln led to a saving of 35,000km in one year. Since then DHL Parcel has expanded its network to include roughly 3,400 pack-stations, with more than 340,000 compartments in over 1,600 cities and municipalities nationwide (<https://www.ipc.be/news-portal/general-news/2017/11/07/14/57/dhl-packstation-on-course-for-continued-success>).

Thus, in this paper aims at identifying the financial as well as the environmental benefits derived from the application of the model in a Papagou-Cholargos Municipality, in Athens, Greece Metropolitan area (Map 1).



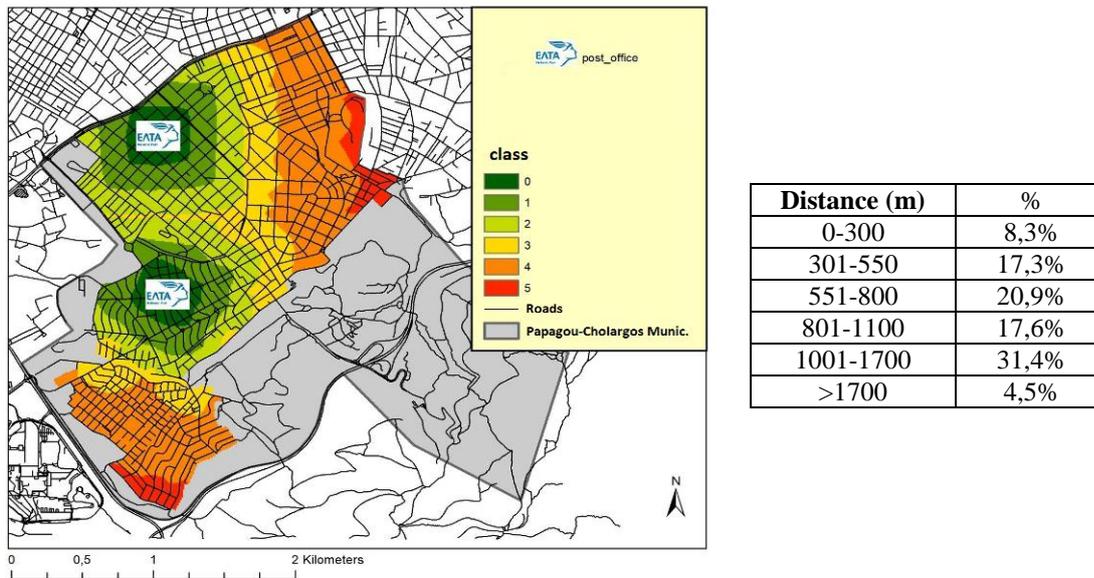
Map 1- Pack station model application area

The methodological framework applied in this paper, included

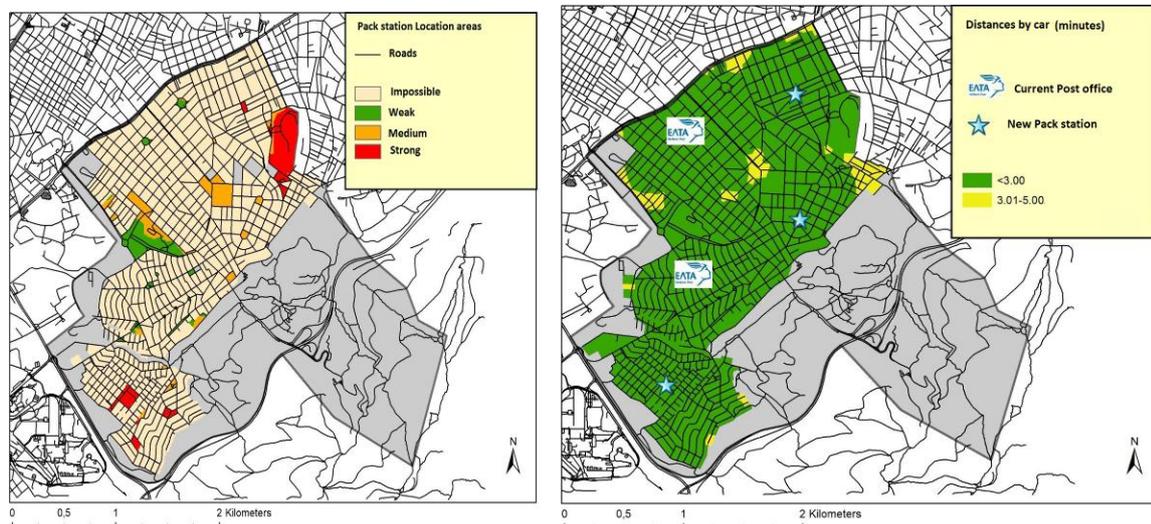
- a survey in the examined area for identifying the frequency and type of citizens' movements to the local post offices (walking, means of transportation)
- the use of arc-gis software tool for illustrating the distances/times (in classes) (Map2) as well as the constraints of setting up a packing station in the area (Map 3a).

The proposed location for the new pack-stations (Map 3b), was based on the spatial analysis provided that the maximum distance would be 5 minutes by car. The new packing stations provide significant savings in the kms spent to and from the post office. In particular, almost 50% less kms will derive from the setting up of 3 pack-stations in the examined Municipality (currently 96,928kms , future 49,504kms). It is noticeable, the reduction of distances from the new pack-station points will improve mobility in the city, since they will result in more walking distances and bicycles' use (instead of using a car), for the sake of the significant environmental footprint reduction as well.

In retrospect, this paper provides useful insights that could be helpful for future research in the field of sustainable city Logistics practices. Every model, idea or initiative has to be thoroughly explored in view of the increasing awareness of the mobility problems within the cities and the sufficient understanding of its prerequisites and attaining their potential benefits.



Map 2- Citizens distances from Post offices



Map 3- (a) Potential Pack station location areas (b) Distances by car from proposed PS

Keywords: City Logistics, Urban Freight transport, Pack-stations, Spatial analysis, Arc-Gis, Post-office, Mobility

REFERENCES

Benjelloun, A., Crainic, T.G. and Bigras, Y. (2009). Toward a taxonomy of city Logistics projects. Interuniversity Research Center on Enterprise Networks, Logistics and Transportation.

Malindretos, G. and Abeliotis, K. (2015), 'Sustainable City Logistics practices for goods and waste', in: Markets, Business and Sustainability, Ed(s) Vlachos, I. P. and Malindretos, G., Bentham Science Publishers, <http://ebooks.benthamscience.com/book/9781681080253/>

Taniguchi, E., Thompson, R., Duin, Van. J.H.R and Yamada, T. (2008). City Logistics - Network modeling and Intelligent Transport Systems. Emerald, 2008.

PSYCHOLOGICAL DISTANCE IN THE ONLINE CONTEXT: A THEORETICAL FRAMEWORK

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ABSTRACT

The study offers a conceptual framework that analyzes the buying intentions of foreign consumers according to the presence of online retailers from different countries. The study relates the buying intentions to the nature of the products sold (in particular, to the presence or absence of branded products). This element moderates the relationship between psychological distance and trust. In addition, the relation between distance and trust is moderated by Corporate Social Responsibility. The analysis allows us to evaluate the relationships among the variables analyzed in the literature in order to study the relative constructs and derive a basic project for the empirical analysis. There are few studies that currently have dealt and mixed the concepts of online retailing, brand reputation and corporate social responsibility. The topic is of interest for marketing as it is appropriate to analyze the intentions and the propensity to purchase in a context that includes different types of online retailers and different levels of trust in the brand and in the company. This is useful in order to stimulate future studies on the topic and in order to stimulate practitioners' interest in the integration of channels that many opportunities offer to businesses of all types and countries.

Keywords: psychological distance, brand reputation, corporate social responsibility, online purchase intention.

PRIVACY VERSUS SECURITY CONSIDERATIONS. A POLICY DILEMMA FOR TOURIST DESTINATIONS

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ABSTRACT

Crete is considered to be one of the primary tourist destinations in Greece. In fact, Crete is the single most important (island) destination in Greece outside the mainland. As a traditional tourist destination relies heavily upon its natural environment (weather, sunny beaches), cultural resources (Minoan civilization), as well as its culinary tradition (Mediterranean diet) to attract visitors from around the world. At the same time, Crete has long been promoted as a family friendly and relatively safe tourist destination.

As an island destination located at the eastern-front part of the Mediterranean, the overwhelming majority of visitors to Crete arrive through air. With this in mind, better and more secure |safe airport operations, are a necessary prerequisite for developing and improving the competitiveness of a tourist destination. This is because security is one of the most important reasons for choosing a destination (Chan and Lam, 2013; Hsu *et al.*, 2008). The lack of safety in a tourist destination can cause fluctuations in tourist flows, which can be a determining factor in the development of any destination (Mawby *et al.*, 2016).

The issue of safety has become a major issue for the tourism industry, especially since the terrorist hit of 11 September 2001 in the US, which had a direct impact on tourist flows, especially in aviation-dependent destinations. The same applies in Europe bearing in mind recent incidents of violence and terrorist attacks on metro stations, trains and airports in major European countries such as Brussels (2016), Madrid (2004), Paris (2015) (Global Terrorism Data Base, 2016). These incidents reveal how vulnerable tourist entry points are for tourist destinations. Based upon these considerations, safety measures have been developed and monitoring technologies have been developed to prevent such incidents (Paraskevas and Arendell, 2007; Patil *et al.*, 2016).

As a side-effect of these policy developments, often visitors face the dilemma of choosing between high levels of security against 'sacrificing' their privacy (Anuar and Gretzel, 2011; Potoglou *et al.*, 2010; Potoglou *et al.*, 2014). Managing concepts related to personal freedoms often portray the need to balance them so that everyone can feel secure without feeling that they are losing their privacy (Waldron 2003).

The empirical results presented in the current paper are based on a qualitative questionnaire that has been distributed to a sample of 24 stakeholders. Considering that the current research question has received very little attention in the literature, the purpose of the current research is exploratory rather than confirmatory. The objective of the qualitative research was set twofold. *On the one hand*, the main objective of the research was to examine how potential tourists | travelers weighted the policy dilemma of security versus privacy. What were the factors affecting their preferences either way. *On the other hand*, the research examined which attributes in particular were considered to be most|least intrusive for their privacy and why.

The empirical results indicate that respondents were very keen to safeguard their privacy, often at the expense of security. Additionally, most of them were apprehensive regarding accessibility issues (where would sensitive personal information be disclosed). On the other hand, respondents were positive towards longer waiting times at airports and a higher transportation cost to cover for security provisions.

Keywords: Privacy, Security, Crete, Tourists, Qualitative Research, Preferences

REFERENCES

- Chan E.S.W., & Lam D., (2013), "Hotel Safety and Security Systems: Bridging the Gap between Managers and Guests", *International Journal of Hospitality Management*, Vol. 32, pp.202-216.
- Global Terrorism DataBase, (2016). Ανακτήθηκε 17 Φεβρουαρίου, 2019, από: <https://www.start.umd.edu/gtd/search/Results.aspx?chart=attack&search>.
- Hsu T-K., Tsai Y-F., & Wu H-H., (2008), "The Preference Analysis for Tourist Choice of Destination: A Case Study of Taiwan", *Tourism Management*, 30(2), pp. 288-297.
- Mawby R.I., Tecau A.S., Constantin C.P., Chitu I.B., & Tescasiu B., (2016), "Addressing the Security Concerns of Locals and Visitors for the Sustainable Development of Tourist Destinations", *Sustainability*, 8(6), pp.2-12.
- Paraskevas A. & Arendell B., (2007), "A Strategic Framework for Terrorism Prevention and Mitigation in Tourism Destinations", *Tourism Management*, 28(6), pp. 1560-1573.
- Patil S., Patruni P., Potoglou D., Robinson N., (2016), "Public Preferences for Data Privacy – A Pan-European Study on Metro|Train Surveillance", *Transportation Research Part A: Policy and Practice*, vol. 92, pp. 145 – 161
- Potoglou, D., Robinson, N., Chong, W.K., Burges, P., & Warnes, R., (2010), "Quantifying Individuals' Trade-offs between Privacy, Liberty and Security: The Case of Rail Travel in U.K", *Transportation Research, Part a: Policy and Practice*, Vol. 44(3), pp.169-181.
- Potoglou, D., Robinson, N., Patil, S., Dunkerley, F., Fox, J., Lu, H. and Patruni, B., (2014), "Privacy, Security and Surveillance: New insights into Preferences of European Citizens", 42nd Research Conference on Communication Information and Internet Policy, September 12-14, 2014. Arlington, USA: George Mason University.
- Waldron, J., (2003). Security and Liberty: The Image of Balance. *Journal of Political Philosophy*, 11, pp. 191-210.

EQUITY CROWDFUNDING AND SOCIAL IMPACT INVESTING IN REAL ESTATE

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ABSTRACT

In the period of change, where innovation plays an important role in proposing new models of response to the social challenges of our time, it is also necessary to rethink the ways in which these processes can be sustained, both in the phase of conception and development, and in terms of overall sustainability.

In financial literature, social impact investing can be defined as the union of objectives between profit-making private companies and those that are non-profit, or philanthropic. The goal is to create a return for the investor, but at the same time to have a social return, with features that are not financial. For example, an impact on the territory to improve people's living conditions (e.g. Olsen and Galimidi, 2009; Freirich and Fulton, 2009; Brest 2013; Combs 2014; Duncan and Wong, 2010).

Currently, within the financial markets, globally it is estimated there are more than 200 funds committed to investments with social impact. In fact, JP Morgan, in his report, estimated that social impact investments could increase from \$ 400 million to \$ 2 billion by 2020 (Saltuk and El Idrissi, 2014). In the actual scenario, also the concept of crowdfunding is in a state of evolution (e.g. De Buysere et al., 2012; European Council, 2014; Pais et al., 2014; Quaranta, 2016; Tencalla, 2017). Starting in 2010, crowdfunding has emerged as a new method for financing new ventures by allowing individual founders of for-profit, social or cultural projects to request funding via small sums from multiple people (Mollick, 2014) rather than raising large amounts from a limited number of large investors and/or backers (Belleflamme et al., 2014). In literature there are currently five standard models of crowdfunding: donation based, equity based, reward based, royalty based and lending based. Crowdfunding is used in different fields, and one of these is real estate (Battisti, 2018). The European real estate crowdfunding market, in 2017 (equity and lending) has raised 1.2 billion dollars, with four nations that have driven: Germany (234 million), Great Britain (215 million), France (180 million) and Switzerland (153 million) and an average collection for each real estate project of 590 thousand euros for the equity and 700 thousand for lending. In Italy, crowdfunding in real estate totaled over 6.6 million euro in 2017 (Politecnico of Milan, 2017).

This paper therefore seeks to gather initial evidence about the nature and features of the equity crowdfunding model and social impact investing in Italy, with especial reference to the real estate sector.

In particular, this paper analyzes the different types of investments in social impact investing through equity crowdfunding platforms, in the Italian real estate sector, in order to define a new theoretical model based on the impact investing and crowdfunding.

To the best of our knowledge, no previous study focused on the potential effects of social impact investing through equity crowdfunding in Italy, particularly in relation to the real estate sector. The contribution of this paper is twofold. First, we extend the literature examining equity crowdfunding model in real estate. Second, we highlight how equity crowdfunding can represent an important source/instrument for financing social impact projects, that could revitalize the real estate sector in Italy.

Keywords: equity crowdfunding; social impact investing; real estate; crowdfunding platforms.

REFERENCES

- Battisti, E. (2018), *Finanza e servizi integrati nell'industria immobiliare*, FrancoAngeli, Milano, IT.
- Belleflamme, P., Lambert, T. and Schwienbacher, A. (2014), "Crowdfunding: Tapping the right crowd", *Journal of Business Venturing*, Vol. 29, No. 5, pp. 585-609.
- Brest, P. and Born, K. (2013), "When can impact investing create real impact?", *Stanford Social Innovation Review*, Vol. 11 No. 4, pp. 22-31.
- Combs, K. (2014), "More than just a trend: the importance of impact investing", *Corporate Finance Review*, Vol. 18 No. 6, pp. 12-18.
- De Buysere, K., Gajda, O., Kleverlaan, R. and Marom, D. (2012), "A Framework for European Crowdfunding", available at: http://eurocrowd.org/wp-content/blogs.dir/sites/85/2013/06/Framework_EU_Crowdfunding.pdf
- Duncan, A. and Wong, G. (2010), "Social metrics in investing: the future depends on financial outperformance and leadership", *Community Development Investment Review*, Vol. 6 No. 1, pp. 59-63.
- European Council (2014), "Comunicazione della Commissione al Parlamento Europeo, al Consiglio, al Comitato Economico e Sociale Europeo e al Comitato delle Regioni in merito alla possibilità di Sfruttare il potenziale del Crowdfunding nell'Unione europea", available at: <http://ec.europa.eu/transparency/regdoc/rep/1/2014/IT/1-2014-172-IT-F1-1.Pdf>
- Freirich, J. and Fulton, K. (2009), *Investing for Social and Environmental Impact*, Monitor Institute, San Francisco, CA, pp. 1-86.
- Il sole 24 ore (2019), *Crowdfunding immobiliare, «Rendimento etico» guadagna dalle case destinate all'asta*, available at: <https://www.ilsole24ore.com/art/casa/2019-02-15/crowdfunding-immobiliare-rendimento-etico-guadagna-case-destinate-all-asta-132605.shtml?uuid=ABLR9kUB>
- Mollick, E. (2014), "The dynamics of Crowdfunding: an exploratory study", *Journal of business venturing*, Vol. 29, No.1, pp. 1-16.
- Olsen, S. and Galimidi, B. (2009), "Managing social and environmental impact: a new discipline for a new economy", *The Brown Journal of World Affairs*, Vol. 15 No. 2, pp. 43-56.
- Pais, I., Peretti, P. and Spinelli, C. (2014), *Crowdfunding. La via collaborativa all'imprenditorialità*, Egea, Milano, IT.
- Politecnico of Milan (2017), "Osservatori Entrepreneurship & Finance - 2° Report italiano sul CrowdInvesting", working papers, Politecnico of Milan, Milano, 12 July.
- Quaranta, G. (2016), "Crowdfunding. Il finanziamento della folla, o dei "folli"?", in Quattrocchio, L. M. (ed.), *Diritto ed Economia dell'Impresa*, Giappichelli Editore, Torino, IT, pp. 217-244.
- Saltuk, Y. and El Idrissi, A. (2014), "Spotlight on the market: the GIIN impact investor survey", *Global Social Finance and J.P. Morgan Chase*, New York, NY, pp. 1-52.
- Tencalla, M. (2017) "Equity Crowdfunding per tutte le PMI con la Legge di Bilancio 2017: aspetti tributari", *Rivista di Diritto Tributario*, 3 February.

HOW BRANDING CAPABILITIES HELP MANUFACTURING COMPANIES IN INNOVATIVE DEVELOPMENT? –DYNAMIC CAPABILITIES APPROACH

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ABSTRACT

The literature illustrates growing interest in developing and applying dynamic strategies in marketing. This trend originates probably from increased volatility observable of markets and popularization of so called dynamic capabilities (DCV) in strategy research (Eisenhardt and Martin 2000; Teece et al. 1997). Being originally perceived as strategic paradigm applicable mainly to big companies operating in diversified and highly volatile industries, DC is nowadays treated rather as universal approach and there is growing evidence that DCV brings increased competitiveness to companies operating in business to business markets (e.g. Kindström et al. 2013; Macher and Mowery 2009).

Recent studies have demonstrated that so-called dynamic marketing capabilities (DMC) have a positive impact on various aspects of company performance, including competitive advantage of international joint ventures (Fang and Zou 2009), profit growth (Morgan et al. 2009a) and innovation performance (Falasca et al. 2017; Weerawardena et al. 2015). There is a consensus that market orientation itself which was treated for some time as a main marketing competence is not enough anymore to sustain advantage over competitors (Day 2011; Merrilees et al. 2011; Morgan et al. 2009b; Narver et al. 2004) and this competence must be complemented by other competencies, which enable dynamic fit between an organization and its business ecosystem. However, we lack consensus on how these capabilities are defined and measured and prior studies in this area are not necessarily consistent with general DCV framework.

This paper aims at extending knowledge on dynamic marketing capabilities (DMC) in two ways. Firstly, considering early stage of development and fragmented character of this research area we propose here dynamic marketing capabilities in B2B context consistent with DCV fundamentals (Eisenhardt and Martin 2000; Teece et al. 1997). Specifically, we conceptualize Dynamic Branding Capabilities (DBC) in the context of manufacturing companies operating mostly in Business-to-Business markets. We treat DBC as a latent feature of a company, which articulates in behavioural routines oriented at evaluating and reorganizing company brand as the strategic resource. Secondly, we present and test empirically research model, which combines DMC and its consequences, namely

company innovation success and company market expansion, which are together linked to company financial performance.

Although DCV as strategy paradigm is not a monolith (Di Stefano et al. 2014), this approach proposes dynamic capabilities as environment driven processes that enable reconfiguration of company resources. Therefore, the focus of DCV's building blocks remain in the processes themselves not their resource-outcomes. Moreover, conceptualizing and measuring DCs through their outputs justifies controversies enacted by the whole DCV, which is criticized for tautology. Morgan (2012) and Barrales - Molina et al. (2014), suggested that in comparison to other DCs, DBC are cross-functional branding processes (crossing and integrating various departments) strongly based on market knowledge, which is used to reconfigure company brand.

Following DCV, we treat brand reconfiguration and expansion routines as the cornerstone of DBC. Specifically, we define DBC in B2B context as *market knowledge-dependent processes oriented at reconfiguration of firm's brand resources*. This definition is broad in scope, because there are various marketing tools and resources, which may lead to competitive advantage (Morgan, 2012). Our definition is also similar to recent definition proposed recently by Falasca et al. (2017), but in contrast to Falasca et al. (2017) DBC is focuses only on branding among other marketing strategizing (e.g. marketing mix, CRM).

We test DMC concept on the cross-sectional survey data based on the random multi-industry sample of 410 manufacturing companies operating on Business-to-Business markets only. We selected purposively only these companies that have introduced product innovations to the market in last 5 years.

While developing measures for our study, we either adapted existing items to the context of our research or developed new ones. Developing revised measurement model was necessary, because in our research we used different conceptualization of DBC consistent with DCV origins of this construct. All other measures for constructs in our research model were adapted from prior studies, except Market Expansion that was developed specifically for our research.

We used EFA to purify our research model and then we conducted PLS-SEM analysis for our structural model with DBC as a focal construct following Hair et al. (2013). T-statistics were computed by bootstrapping procedure with 5000 bootstrap samples.

Our empirical research results provide the evidence that DBC is a valid and reliable construct in the context of Business-to-Business companies. We discuss our research results with other studies about dynamic marketing capabilities and dynamic capabilities in general, as well as our understanding B2B marketing. We also propose some directions for further research.

Keywords: Branding, Dynamic Capabilities, Product Innovation, Market Expansion

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REFERENCES

- Day, George S (2011), 'Closing the marketing capabilities gap', *Journal of Marketing*, 75 (4), 183-95.
- Di Stefano, Giada, Peteraf, Margaret, and Verona, Gianmario (2014), 'The organizational drivetrain: A road to integration of dynamic capabilities research', *The Academy of Management Perspectives*, 28 (4), 307-27.
- Eisenhardt, K. M. and Martin, J. A. (2000), 'Dynamic capabilities: what are they?', *Strategic management journal*, 21 (10-11), 1105-21.
- Falasca, Mauro, et al. (2017), 'The impact of customer knowledge and marketing dynamic capability on innovation performance: an empirical analysis', *Journal of Business & Industrial Marketing*, 32 (7), 901-12.
- Fang, Eric Er and Zou, Shaoming (2009), 'Antecedents and consequences of marketing dynamic capabilities in international joint ventures', *Journal of International Business Studies*, 40 (5), 742-61.
- Ford, D. and Hakansson, H. (2006), 'IMP - some things achieved: much more to do', *European Journal of Marketing*, 40 (3/4), 248-58.
- Forkmann, Sebastian, et al. (2016), 'Supplier relationship management capability: a qualification and extension', *Industrial Marketing Management*, 57, 185-200.
- Gadde, L. E., Huemer, L., and Håkansson, H. (2003), 'Strategizing in industrial networks', *Industrial Marketing Management*, 32 (5), 357-64.
- Håkansson, H. and Ford, D. (2002), 'How should companies interact in business networks?', *Journal of Business Research*, 55 (2), 133-39.
- Josephson, Brett W, Johnson, Jean L, and Mariadoss, Babu John (2016), 'Strategic marketing ambidexterity: antecedents and financial consequences', *Journal of the Academy of Marketing Science*, 44 (4), 539-54.
- Kindström, Daniel, Kowalkowski, Christian, and Sandberg, Erik (2013), 'Enabling service innovation: A dynamic capabilities approach', *Journal of business research*, 66 (8), 1063-73.
- Macher, Jeffrey T and Mowery, David C (2009), 'Measuring dynamic capabilities: practices and performance in semiconductor manufacturing', *British Journal of Management*, 20 (s1).
- Merrilees, Bill, Rundle-Thiele, Sharyn, and Lye, Ashley (2011), 'Marketing capabilities: Antecedents and implications for B2B SME performance', *Industrial Marketing Management*, 40 (3), 368-75.
- Möller, Kristian, et al. (2002), *Network management as a set of dynamic capabilities* (Citeseer).
- Morgan, Neil A (2012), 'Marketing and business performance', *Journal of the Academy of Marketing Science*, 40 (1), 102-19.
- Morgan, Neil A, Slotegraaf, Rebecca J, and Vorhies, Douglas W (2009a), 'Linking marketing capabilities with profit growth', *International Journal of Research in Marketing*, 26 (4), 284-93.
- Morgan, Neil A, Vorhies, Douglas W, and Mason, Charlotte H (2009b), 'Market orientation, marketing capabilities, and firm performance', *Strategic Management Journal*, 30 (8), 909-20.
- Narver, John C, Slater, Stanley F, and MacLachlan, Douglas L (2004), 'Responsive and Proactive Market Orientation and New Product Success', *Journal of Product Innovation Management*, 21 (5), 334-47.
- Nordin, Fredrik, et al. (2017), 'Network management in emerging high-tech business fields: Critical capabilities and activities', *Industrial Marketing Management*.
- Ritter, T. (1999), 'The Networking Company: Antecedents for Coping with Relationships and Networks Effectively', *Industrial Marketing Management*, 28 (5), 467-79.
- Teece, D. J., Pisano, G., and Shuen, A. (1997), 'Dynamic capabilities and strategic management', *Strategic Management Journal*, 18 (7), 509-33.
- Vorhies, Douglas W and Morgan, Neil A (2005), 'Benchmarking marketing capabilities for sustainable competitive advantage', *Journal of Marketing*, 69 (1), 80-94.
- Walter, A., Auer, M., and Ritter, T. (2006), 'The impact of network capabilities and entrepreneurial orientation on university spin-off performance', *Journal of Business Venturing*, 21 (4), 541-67.
- Weerawardena, Jay, et al. (2015), 'The role of the market sub-system and the socio-technical sub-system in innovation and firm performance: a dynamic capabilities approach', *Journal of the Academy of Marketing Science*, 43 (2), 221-39.

A CONTROVERSIAL POINT OF VIEW ON THE AMERICAN STRATEGY ON THE WAR IN IRAQ

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ABSTRACT

Over the past decades, the Middle East is a region characterized by conflicts. To a large extent, this is caused by the issues associated with nuclear weapons, terrorism and natural resources. On March 20th 2003, the *war on terror* took shape, with the Bush Administration announcing the start of a war against Iraq.

This paper describes and evaluates some of the central elements of the US strategy in Iraq, from the beginning of the war until today, together with their complex consequences. In order to establish a theoretical basis for the US intervention in Iraq, the paper emphasizes and analyses the situation through the perspective of realism, as a theory of international relations. A particularly important feature of events occurring amidst the US intervention in Iraq is the very strong American phobia, a phenomenon that is also carefully analyzed in this article. The paper facilitates the understanding of both the Iraq's point of view on the perspective of the American invasion and the US strategic position that engendered them to assure the global hegemony and economic power in the international system.

Keywords: Iraq-war, US strategy, realism theory, terrorism theory, political interest, international relations, economic power, democracy, American phobia

REFERENCES

- Eisenhower, D.D., (1975), "Cruciadă în Europa", Ed. Politică, Bucharest, pp. 321-322.
- Gamblin, A., (2004), "Economia lumii", Ed. Științelor Sociale și Politice, Bucharest, p. 154.
- Hersh, S.M., (2004), "Torture at Abu Ghraib", *Annals of National Security*, available at: <https://www.newyorker.com/magazine/2004/05/10/torture-at-abu-ghraib> (accessed 03 March 2019).
- Morgenthau, H. J. (1964), "Politics among Nations: The Struggle for Power and Peace", 3rd Eds., Revised and Reset, Alfred A. Knopf, Inc., New York, pp. 5-148.
- Morgenthau, Hans J, (1993), *Politics Among Nations – The Struggle for Power and Peace*, New York, Mcgrew Hill
- Murray, W. and Robert, H. (2003), "The Iraq War: a Military History", Mass. Belknap Press of Harvard University Press, Cambridge.
- Rolfen, Raag (2002) "Political Realism and the Ethics of Vulnerability: The Need for a New Understanding of Security after September 11", in *PACEM*, 5:2, 2002: 115-136.
- Sayeed, K., (1995), "Western Dominance and Political Islam: Challenge and Response", State University of New York Press, Albany, p. 36.
- The Oxford Dictionary of Islam. Available at: <http://www.oxfordislamicstudies.com/article/opr/t125/e1157#> (accessed 22 February 2019).
- Wight, M., (1998), "Politica de putere", Ed. Arc, Chișinău, p. 38

PLANNING A NEW COLLEGE IN EAST JERUSALEM

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ABSTRACT

INTRODUCTION

The East Jerusalem College (EJC) aims to be an academic institution, approved by the Israeli Council for Higher Education, teaching academic programs, in Hebrew, that are in accord with the highest Israeli and international standards. It will operate as a private, non-profit organization.

The college will focus on professional fields that are necessary in both Israeli and Palestinian societies. Its objectives are to advance the professional potential of the young East Jerusalem population, to assist both Israeli and Palestinian societies to fill shortages in occupations that are both needed and lucrative, and to build bridges between the diverse populations in the area.

Once established, of EJC focuses on attaining three main goals:

1. Academic goal – to increase the potential of the higher education system in the area, both quantitatively and qualitatively.
2. Economic goal – to enhance the economic potential of the population of East Jerusalem in professions that are in accord with the growing needs of both Israel and the Palestinian Authority.
3. Social goal – to provide access to higher education to the population of East Jerusalem, whose educational options are limited due to language and geographic constraints, and inadequacy of some of the local schools.

Other students from wider areas, who possess the required qualifications and adequate potential, will also be welcomed. At present, there are neither public nor private colleges in the area that teach according to Israeli standards, in Hebrew, the programs we plan to focus on.

BACKGROUND AND RATIONALE

The East Jerusalem College (EJC) will be a non-profit private academic institution, initiated by "Renaissance", an organization created by Israeli Jewish and Arab citizens, and will operate in accord with standards of the Council for Higher Education.

The main goal of the college is to provide access to higher education to the population of East Jerusalem, but it will also be welcome students from other areas.

According to the data of Jerusalem's Education Authority, 7,500 high school students graduate each year from schools in east Jerusalem. The majority still study according to the Palestinian program and obtain the Tawjihi¹ (85% of them study in the arts and humanities stream, and 15% study for a scientific Tawjihi).

In all the high school grades, there are 1,934 students who are currently studying in classes that teach the Israeli programs (about 8% of all high school students in East Jerusalem).

A survey conducted by the Jerusalem Municipality among parents of high school students in East Jerusalem, indicates that 52% of them prefer that their children study the Israeli program and in Hebrew, to facilitate their admission to Israeli academic institutions and to enhance their ability to find better jobs with higher wages.

Despite the high demand for higher education, there are but a few academic institutions in east Jerusalem, and none of them teach in Hebrew. The basic requirements in Israeli institutions are prohibitive for most Palestinians, and they receive little support (academic and financial) when they encounter difficulties in these institutions. Moreover, young Palestinians constitute a very small minority in academic institutions and, therefore, they are often alienated and socially isolated. Consequently, the majority of Palestinian high school graduates who wish to continue studying, are forced to do so in other countries. Most of them choose Jordan or East Europe although this makes higher education very expensive.

Opening an academic college that will teach a variety of professions, according to approved Israeli programs, will significantly increase the academic options in the area, enhancing the human capital of East Jerusalem youth.

The proposed college will begin teaching professions that are in high demand: Nursing, software engineering, and psychology. These programs will form the basis for the development of three central schools: Health sciences, computer engineering, and social sciences. In the future, diverse departments will be developed in each school. This structure will provide long term stability.

¹ Tawjihi is the General Secondary Education Certificate Examination in Jordan. To sit for the exam, students are required to finish 2 years of pre-school education, 10 years of basic education, and 2 years of secondary academic or vocational education. Only those who pass the exam with a good mark may apply to universities. To be accepted to study sciences, one must take the scientific stream in the last 3 years of the secondary education and get a mark of at least 95 out of 100.

All fields of study will be based on a strong academic foundation upon which practical professional knowledge will be taught, so that graduates will be able to find work easily in highly demanded occupations. They will also have the requirements necessary to continue to advanced degrees.

GOALS AND OBJECTIVES

1. Academic Goals

- a. To ensure high academic standards. The emphasis will be on recruiting highly qualified academic staff, advancing applied research infrastructure, and creating a stimulating academic environment.
- b. The college will focus on both disciplinary and interdisciplinary programs in order to develop innovative fields of knowledge which are relevant to the changing world of the 21st century.
- c. Academic knowledge and practical professional tools will be developed and integrated to improve graduates' relevance to both advanced academic degrees and the labor market.

2. National Economic Goals

- a. The college will operate in East Jerusalem (in Zur Baher). At present, there are no colleges in East Jerusalem that teach these professions in Hebrew, according to the standards of the Commission for Higher Education. Therefore, the proposed college is not in competition with other Israeli academic institutions in the area.¹
- b. Increasing the human capital in East Jerusalem will benefit both Israel and the Palestinian Authority, as it will provide highly qualified workers in diverse occupations, where they are gravely needed (nursing, human resources, engineering, computer software, etc.).

3. Social Goals

- a. Acquiring higher education and better-paying, highly needed professions will increase equality between the Jewish and Palestinian segments of the population.
- b. Teaching in Hebrew will increase the employability of Palestinian youth, and will enhance their integration.

¹ It should be noted that there are Israeli academic institutions in the west side of Jerusalem but only a few of the Palestinians from the east side join them either because of the high academic demands (demanding psychometric exams and high grades in the Israeli matriculation exams, and lesser credit and consideration of the Tawjihi), or because they are considered part of the occupation.

- c. Constructing such a college, in this particular area, may enhance the relationships between Israel and a variety of international organizations (like the OECD, the UN, associations in the US and Europe).

TARGET POPULATIONS

Since 2017, more than 880,000 people live in Jerusalem. Over 62% of them (542,400) live in East Jerusalem. 327,700 are Palestinians and 214,600 are Jews. The intended college's students are, therefore, mostly from the Palestinian neighborhoods. Students from other areas, with the right qualifications will, of course, be welcome too.

As some of the high school graduates in the area are not proficient in Hebrew, a year-long preparatory program will be established to improve their control of the Hebrew language and to expand their academic studies skills.

Keywords: Academic Institutions, Palestinians, Israel, Opportunities and economic potential, Equality

UNRAVELING RELATIONS OF INFORMAL INTELLECTUAL PROPERTY PROTECTION

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ABSTRACT

The purpose of this paper is to evaluate previous research findings connected to informal intellectual property protection. The scope of protection, underlying theories and data used are analyzed to identify initial findings benefiting from retesting on the basis of larger datasets or different datatype. After conducting a systematic literature review identifying papers containing informal intellectual property protection, the result of 71 studies are summarized. The applicability of the data on the research purpose are analyzed. Secrecy and lead time are general accepted forms of informal protection. There are different views on dimensions counting as protection methods, influencing methods or additional capabilities. The authors limited their findings of effects of intellectual property protection in terms of causality. While the use of cross-sectional data is limited in terms of causality, the use of larger datasets could indicate the reliability of initial findings further. Utilizing the commonly chosen Community Innovation Survey data of multiple countries simultaneously, gives attention to possibly hidden cross-cultural effects. This study deepens the understanding of the current state of informal intellectual property protection taking the used data and underlying theory into account and states the need for future research.

Keywords: Protection, Bibliometric, Informal, Intellectual Property, Appropriability, Knowledge

REFERENCES

- Andrés, A., (2009), *Measuring academic research: How to undertake a bibliometric study*, Elsevier.
- Arundel, A. (2001), "The relative effectiveness of patents and secrecy for appropriation", *Research Policy*, Vol. 30 No. 4, pp. 611–624.
- de Faria, P. & Sofka, W. (2010), „Knowledge protection strategies of multinational firms-A cross-country comparison“, *Research Policy*, Vol. 29 No. 7, pp. 956–968.
- Hannah, D.R. (2005), "Should I keep a secret? The effects of trade secret protection procedures on employees' obligations to protect trade secrets", *Organization Science*, Vol. 16 No. 1, pp. 71-84.
- Harabi, N. (1995), "Appropriability of technical innovations an empirical analysis", *Research Policy*, Vol. 24 No. 6, pp. 981–992.
- Hurmelinna-Laukkanen, P., Sainio, L.-M. & Jauhiainen, T. (2008), "Appropriability regime for radical and incremental innovations", *R and D Management*, Vol. 38 No. 3, pp. 278–289.
- Laursen, K. & Salter, A. J. (2014), "The paradox of openness: Appropriability, external search and collaboration", *Research Policy*, Vol. 43 No. 5, pp. 867–878.
- Liebeskind, J.P. (1997), "Keeping organizational secrets: protective institutional mechanisms and their costs", *Industrial & Corporate Change*, Vol. 6 No. 1, pp. 623–663.

- Kale, P., Singh, H. and Perlmutter, H. (2000), "Learning and protection of proprietary assets in strategic alliances: building relational capital", *Strategic Management Journal*, Vol. 21, pp. 217-37
- Katila, R., Rosenberger, J.D. and Eisenhardt, K.M. (2008), "Swimming with sharks: technology ventures, defense mechanisms and corporate relationships", *Administrative Science Quarterly*, Vol. 53 No. 1, pp. 295-332
- Teece, D. J. (1986), "Profiting from technological innovation: Implications for integration, collaboration, licensing and public policy", *Research Policy*, Vol. 15 No. 6, pp. 285-305.
- Stefan, I. & Bengtsson, L. (2017), "Unravelling appropriability mechanisms and openness depth effects on firm performance across stages in the innovation process", *Technological Forecasting and Social Change*, Vol. 120 No. 1, pp. 252-260.
- Zobel, A.-K., Lokshin, B. & Hagedoorn, J. (2017), "Formal and informal appropriation mechanisms: The role of openness and innovativeness", *Technovation*, Vol. 59 No. 1, pp. 44-54.

ENHANCING BRAND ENGAGEMENT THROUGH EXPERIENTIAL MARKETING

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ABSTRACT

Consumer engagement is an important factor in marketing success. Marketers have to be creative to find new ways to engage with their customers, and ultimately enhance the effectiveness of communication between them. The purpose of this study was to explore the utilisation of one such creative way of marketing communication, namely experiential marketing (ExM). According to Same and Larimo (2012:485) experiential marketing is a tactical marketing planning technique concerned with the way in which marketing is done experientially. In this study a conceptual analysis of ExM was conducted to determine the essence of this concept. The conceptual analysis was done by means of Walker and Avant's (2005) methodology. The concepts identified through this analysis were used to select videos that represented experiential marketing activations implemented by Coca Cola. To be included in the sample, at least one of these concepts had to be present in the video. Twenty-one (21) videos, that represented ExM activations, were included in this study. The videos of these activations were analysed to determine how many of the attributes identified through the conceptual analysis were present, and to investigate if any other attributes could be identified as common denominators in the ExM activations. Braun and Clarke's (2006) thematic analysis was used in the video analyses, while Kolb's experiential model served as theoretical point of departure in the research. Five (5) attributes of ExM were identified through the conceptual analysis. An additional five (5) attributes of ExM were discovered through the thematic analysis of the videos of Coca Cola activations. These ten (10) characteristics of ExM served as point of departure for the guidelines proposed to improve a brand's engagement through an ExM activation.

Keywords: Experiential marketing, brand engagement, conceptual analysis, thematic analysis

REFERENCES

- Braun, V. & Clarke, V. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, Vol 3, pp. 77–101.
- Same, S. & Larimo, J. (2012). Marketing theory: Experience marketing and experiential marketing. 7th International Scientific Conference. "Business and Management 2012". May 10-11, 2012, Vilnius, LITHUANIA. (doi:10.3846/bm.2012.063)
- Walker, I. & Avant, K. (2005). *Strategies for theory construction in nursing*. 4th edition. Norwalk: Appleton & Lange.

COMMUNICATION COMPETENCE IN THE WORKPLACE

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ABSTRACT

Interest in the impact of communication in the business environment has increased substantially during the last few decades. It is often claimed that effective communication contributes to organisational effectiveness and performance (Moreno, 2010). In today's dynamic business environment, every avenue that can contribute to fostering efficiency and business performance has to be embraced. It is argued that when individuals improve their communication competence, it will contribute to improved business performance (Stigall, 2005). Effective communication can be described as the process of creating meaning between two or more people (Tubbs, Moss, & Papastefanou, 2011). Communication competence is therefore the "know-how" to establish this shared meaning. Çetin *et al.* (2012) described communication competence as the fundamental dynamics affecting the job satisfaction of employees, and therefore the performance of an organisation. Assisting individuals to improve their communication competency should therefore be a priority. Although there is an abundance of literature on effective communication in the business environment, literature on interpersonal communication competence in the workplace is very limited. The purpose of this study was to address this gap, and to employ a literature review to establish what communication competence in the workplace entails. A number of constructs of communication competence were identified, amongst others adaptability and appropriateness which were significant to explain the scope of communication competence. It was also established that the behavioural and cognitive dimensions were meaningful in grasping the essence of this concept. The study concludes with a framework to demonstrate the main constructs of communication competence and enrich the comprehension of this dynamic concept.

Keywords: Communication competence, Workplace communication

REFERENCES

- Çetin, M., Karabay, M. E., & Efe, M. N. (2012). The effects of leadership styles and communication competency of bank managers on the employee's job satisfaction: The case of Turkish banks. *Procedia Social and Behavioral Sciences*, 58, 227–235. DOI: 10.1016/j.sbspro.2012.09.996.
- Moreno, C. M. (2010). An approach to ethical communication from the point of view of management responsibilities. The importance of communication in organisations. *Ramon LLull Journal of Applied Ethics*, 1(1), 97–100. Retrieved August 18, 2016, from <http://www.raco.cat/index.php/rljae/article/view/270549>

Stigall, D. J. (2005). A vision for a theory of competent leader communication: The impact of perceived leader communication behaviours on emergent leadership and relational and performance outcomes in collaborative groups. Unpublished PhD thesis. Lexington: University of Kentucky.

Tubbs, S., Moss, S., & Papastefanou, N. (2011). Human communication: principles and contexts. London: McGraw-Hill.

ADOPTING BUSINESS MODELS AND STRATEGIES IN MANAGEMENT OF HEALTHCARE ORGANIZATIONS: ARE ISRAELI HOSPITALS BECOMING BUSINESS ENTERPRISES?

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ABSTRACT

Health systems worldwide differ from each other depending on their country's socioeconomic policy and the structure of various Healthcare organizations, their ownership, and their financial behavior. But all health systems must contend with economic, demographic, and technological changes that are constantly driving up per capita health costs, which must be reined in. Consequently, these systems have had to learn to contend with dynamic, changing, and competitive states of the market (Ginter, 2018). A manifestation of these changes can be seen in the health systems' attempts to adopt the values and organizational culture of the business sector. Budgetary considerations have started competing with medical considerations and adopting business-sector strategies has become necessary for survival (Kash *et al* 2014). But such strategies are relatively foreign to the realm of health services and are not necessarily suited to the ethical, cultural-organizational, and management systems of health-service organizations. Responding to these changes, Israel instituted a reform of its public health services, the prime element of which is the National Health Insurance Law, 1995. Its far-reaching changes in the health system included ensuring health coverage for every citizen and increasing the choice in health services (Rosen, 2015). This increased competition between the health and insurance providers, making the market dynamic, more competitive, and less secure for all medical service organizations, including hospitals (Rosen, 2003).

The current study examined the extent, components and implementation of a business strategy to cope with the changing environment. Understanding their ramifications for the business, strategic, and marketing behavior of various levels of management in hospitals, including directors and department heads. The study has assessed how hospital managers in Israel coped with the new competition between hospitals and the need to become more business orientated in order to survive. Whether this process is managed strategically? did management define clear goals the hospital's strategy should focus on? did they design a detailed action plan that all employees are aware of and what they are expected to do? are short- and long-term objectives defined? and finally - to what degree is the plan implemented?

RESEARCH METHODS

The research was qualitative as the strategical changes and the situation hospitals were facing are complex, thus it seemed the best way to fully comprehend the way hospital managers are coping with it was to let them express it in their own term.

Participants: Six of the large hospitals in Israel were chosen for the study based on their size, location, number of beds and ownership in order to achieve a good representation of the diversity existing between different hospitals. The study was based on 40 in-depth open interviews which were conducted with key figures in the health system and individuals at various levels of management in the chosen hospitals. The interviews were analyzed with qualitative methods, recorded (with the subject's consent) and transcribed. Data was collected using semi-structured interviews conducted at the subject's work place. The interview questions examined their hospital's long-term strategy, competition between hospitals, contracts with health plans, marketing activities by the hospital and the effects of capping of hospital's management. The data collected was analyzed in a thematic analysis: first initial categories were generated from the data, Second stage, a searching of common themes that fit well with the data was conducted. Looking at the relationships between the different levels of existing themes, allowed the researcher to define over-reaching themes and get a more comprehensive picture of the data collected.

MAIN RESULTS

In sum, the hospital stakeholders interviewed discussed how their hospital is coping with the competitive market and its management's changes into a business mindset. The main findings are that the health market and the hospitals are constantly making far-reaching changes in their strategic, business, and marketing behavior, and that these changes are escalating as part of the reforms and increased competition in Israel and worldwide. This trend is manifested in the adoption of business patterns and the transformation of hospitals into customer-directed and competitive organizations. Hospital management is becoming more focused on strategy and goals, and business considerations drive managerial decisions. However a comparison of strategic planning in hospitals and in strictly business organizations reveals that hospitals have only partially_adopted strategic and business processes and that there is no clear direction of long-term, system-wide strategic management. Conflicts of interest between the various levels of management affect the degree to which business strategies are adopted and the ambivalence toward the profit motive in medicine.

DISCUSSION AND CONCLUSIONS

This study makes an important contribution toward understanding health systems management all over the world. Mapping the degree to which business strategies are adopted in service organizations and understanding the accompanying problems is important for an organizational and even system-wide view in considering management planning of health organizations. It is also of prime importance for understanding the complexity for health organization managers who must contend with budgets and the constant increase in per capita health expenditure. This understanding will make it possible to estimate future developments, examine problems in the system, and explore future options and optimal scenarios for contending with change.

Keywords: Medical Management, Health care organizations, Health care reform, Public hospitals

REFERENCES

- Ginter, P.M. (2018). "The strategic management of health care organizations". Hoboken, NJ: John Wiley & Sons.
- Kash, B.A., Spaulding, A., Johnson, C.E., & Gamm, L. (2014). "Success factors for strategic change initiatives: A qualitative study of healthcare administrators' " perspectives. *Journal of Healthcare Management*, 59(1), 65-80.
- Rosen, B., Waitzberg, R., & Merkur, S. (2015). "Israel: Health system review. Health systems in transition", 17(6). World Health Organization, on behalf of the European Observatory on Health Systems and Policies, Copenhagen, Denmark.
- Rosen B. (2003). *Health Care Systems in Transition*, European Observatory on Health Care Systems Series.

THE ROLE OF KNOWLEDGE MANAGEMENT ON JOB ENGAGEMENT AND ORGANIZATIONAL COMMITMENT OF THE EMPLOYEES

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ABSTRACT

INTRODUCTION

Knowledge management (KM) is an organisation's most valuable resource based on employees' knowledge and organizational practices and routines. The way employees create new knowledge, share it around the organisation, and use that knowledge in the most effective way is crucial in the achievement of a sustainable competitive advantage. Fundamentally, knowledge management is about applying the collective knowledge of the entire workforce to achieve specific organisational goals. Achieving these goals largely depends on employees' attitude and behaviours, e.g. employee engagement, that is higher when an employee develops positive affective relationship with its own work. In fact, employees who are engaged in their work and committed to their organizations give companies crucial competitive advantages.

Within the literature, there are a lot of researches about each of these subjects and how these factors create competitive advantages. However, very few studies analyzed the effect of knowledge management on job engagement and job commitment that represent a key determinants as well as a strategic tool for firms. So, in order to fill this gap, the present study aimed to investigate the positive effects of knowledge management on employees' job engagement and organizational commitment. Overall, in our study, we are willing to add value to literature not only by highlighting the role of KM in this sepcific context of analysis, but also to cross cultural studies on knowledge management and employee's engagement and commitment.

RELEVANT LITERATURE

Knowledge management has been described for its possible role in creating sustained competitive advantages for organizations (Grant, 1996; Johannessen and Olsen, 2003; Lado and Wilson, 1994). The resource-based view is one of the theoretical perspective in strategic management literature, and focuses on costly attributes of a firm which are seen as the fundamental drivers of competitive advantage (Becker and Huselid, 1998; Nahapiet and Ghoshal, 1998). Therefore, from the resource

based view of organizational capability, a firm's knowledge management function is a firm's ability to use relevant knowledge based on resources in combination with others.

Correspondingly and strictly connected, one of the most important resource of the organization is its human resources. The quality of human resources is closely related to the contingency to reach the goals and objectives of an organization. There are many researches explaining the work attitudes of the individual that is influenced by employees' disposition and mood. For example, employees who are more satisfied with and committed to their jobs are: a) absent less (Hackett and Guion, 1985); b) less likely to leave (Carsten and Spector, 1987); c) more likely to display organizational citizenship behavior (Organ and Konovsky, 1989); d) satisfied with their lives overall (Judge and Watanabe, 1993); e) less likely to experience stress (Begley and Czajka, 1993); and f) more likely to perform well (Mathieu and Zajac, 1990) and behave prosocially (O'Reilly and Chatman, 1986).

Job engagement is defined as a 'persistent, positive affective-motivational state of fulfilment' (Maslach et al., 2001) or –in simpler words –being charged with energy and fully dedicated to one's work. Job engagement stresses the assumption of 'optimal functioning' at work in terms of well-being. Theoretically (Schaufeli and Bakker, 2004), job engagement is proposed to develop as a function of the same job resources that fuel motivation (Hackman and Oldham, 1980) and inspire positive emotions toward the organization, thus employees who feel engaged are more willing to stay on the job.

Organizational commitment is defined as an individual's psychological bond with an organization, and it has been linked to a number of positive outcomes such as job performance (Cooper-Hakim and Viswesvaran, 2005; Meyer et al., 2002; Riketta, 2002), organizational citizenship behavior (Meyer et al., 2002; LePine et al., 2002), and turnover (Meyer et al., 2002; Mathieu and Zajac, 1990). In fact, for many organizations, hiring and retaining highly committed employees is a key part of their human resource management strategy (Gong et al., 2009; Kehoe and Wright, 2013).

METHODOLOGY

Responses are collected from employees from different sectors in İstanbul (Turkey) and in Turin (Italy). OLS analysis will be carried out in order to test for the positive effects of KM on both organizational outcomes (employees' engagement and commitment). All items were developed basing on items draw from existing instruments and inputs from knowledge management experts. The research evaluated knowledge management by the scale used by Shu-Hui Chuang (2004) while, respectively, to evaluate job engagement the Job Engagement Scale (Rich et al., 2010) and to evaluate job commitment the Organizational Commitment Scale (Allen and Meyer, 1990) have been used.

MAIN FINDINGS AND IMPLICATIONS

In our research we investigated the role of knowledge management on job engagement and organisational commitment of the employees. We found that KM has a very important supportive role in creating higher organisational performances of employees. This study aims to prove that knowledge management has an effect on creating positive, affective and motivational state in an employee and psychological bond with his/her organization. We add value to the literature by deepening the positive effects of knowledge management from a different view, pointing out its role on behavioral outcomes as job engagement and organizational commitment. We also identified several cross cultural differences. The results are also crucial for the managers as the higher level of knowledge management in the companies provide to have better and more competitive advantages, in consequence of creating more engaged and committed employees.

Keywords: Knowledge management, job engagement, organizational commitment

REFERENCES

- Allen, N. J. and Meyer, J. P. (1990), "The Measurement and antecedents of affective, continuance and normative commitment to the organization", *Journal of Occupational Psychology*, Vol.63 No.1, pp. 1-18
- Becker, B. B. and Huselid, M. A. (1998), "High performance work systems and firm performance: A synthesis of research and managerial implications", *Research in Personnel and Human Resource Management*, Vol.16, pp. 53–101
- Begley, T. M. and Czajka, J.M. (1993), "Panel analysis of the moderating effects of commitment on job satisfaction, intent to quit, and health following organizational change", *Journal of Applied Psychology*, Vol.78 No.4, pp.552–556
- Carsten, J.M. and Spector, P.E. (1987), "Unemployment, job satisfaction, and employee turnover: A meta-analytic test of the Muchinsky model", *Journal of Applied Psychology*, Vol.72 No.3, pp.374-381
- Chuang S.-H. (2004), "A resource-based perspective on knowledge management capability and competitive advantage: an empirical investigation", *Expert Systems with Applications*, Vol.27, 459–465
- Cooper-Hakim, A. and Viswesvaran, C. (2005), "The construct of work commitment: Testing an integrative framework", *Psychological Bulletin*, Vol.131 No.2, pp.241–259
- Gong, Y., Law, K. S., Chang, S. and Xin, K. R. (2009), "Human resources management and firm performance: The differential role of managerial affective and continuance commitment" *Journal of Applied Psychology*, Vol.94, No.1, pp.263–275
- Grant, R. M. (1996), "Prospering in dynamically competitive environments: Organizational capability as knowledge integration", *Organizational Science*, Vol. 7 No.4, pp.375–387
- Hackett, R. D. and Guion, R. M. (1985), "A re-evaluation of the absenteeism-job satisfaction relationship", *Organizational Behaviour and Human Decision Processes*, Vol.35, pp.340-381.
- Hackman, J.R. and Oldham, G.R. (1980), *Work redesign*, Addison-Wesley, Reading, MA.
- Johannessen, J. and Olsen, B. (2003), "Knowledge management and sustainable competitive advantages: The impact of dynamic contextual training", *International Journal of Information Management*, Vol. 23 No.4, pp. 277–289
- Judge, T.A. and Watanabe, S. (1993), "Another look at the job satisfaction-life satisfaction relationship", *Journal of Applied Psychology*, Vol.78 No.6, pp.939-948
- Kehoe, R. R. and Wright, P. M. (2013), "The impact of high-performance human resource practices on employees' attitudes and behaviors", *Journal of Management*, Vol.39 No.2, pp.366–391
- Lado, A. A. and Wilson, M. C. (1994), "Human resource systems and sustained competitive advantage: A competency-based perspective", *Academy of Management Review*, Vol.19 No.4, pp.699–727.

- Lepine, J. A., Erez, A. and Johnson, D. E. (2002), "The nature and dimensionality of organizational citizenship behavior: A critical review and meta-analysis" *Journal of Applied Psychology*, Vol.87 No.1, pp.52-65
- Maslach, C., Schaufelli, W.B. and Leiter, M.P. (2001), "Job burnout", *Annual Review of Psychology*, Vol.52 No.1, pp.397-422
- Mathieu, J. E. and Zajac, D. M. (1990), "A review and meta-analysis of the antecedents, correlates, and consequences of organizational commitment", *Psychological Bulletin*, Vol. 108 No2, pp.171-194
- Meyer, J. P., Stanley, D. J., Herscovitch, L. and Topolnytsky, L. (2002), "Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates and consequences", *Journal of Vocational Behavior*, Vol.61 No1, pp.20-52
- Nahapiet, J. and Ghoshal, S. (1998), "Social capital, intellectual capital, and the organizational advantage", *Academy of Management Review*, Vol.23 No.2, pp.242-266
- O'Reilly, G. III. and Chatman, J. (1986), "Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behaviour", *Journal of Applied Psychology*, Vol.71 No.3, pp. 492-499
- Organ, D. W. and Konovsky. M. (1989), "Cognitive versus affective determinants of organizational citizenship behaviour", *Journal of Applied Psychology*, Vol.74 No.1, pp.157-164
- Rich, B.L. and Lepine, J. A. and Crawford, E. R. (2010), "Job engagement: antecedents and effects on job performance", *The Academy of Management Journal*, Vol.53 No.3, pp.617-635
- Riketta, M. (2002), "Attitudinal organizational commitment and job performance: A meta-analysis", *Journal of Organizational Behavior*, Vol.23 No.3, pp.257- 266
- Schaufeli, W.B., and Bakker, A.B. (2004), "Job demands, job resources and their relationship with burnout and engagement: a multi-sample study", *Journal of Organizational Behavior*, Vol.25 No.3, pp. 293-315.

THE ROLE OF TALENT MANAGEMENT IN AFFECTIVE COMMITMENT AND TURNOVER INTENTIONS OF THE EMPLOYEES

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ABSTRACT

INTRODUCTION

The present study aimed at finding out the factors which are similar or different in talent management in two different culture (italian and turkish). Furthermore, we wanted to add value to literature by revealing the relevance between talent management, affective commitment and turnover intentions of the employees. Thus, the research evaluated Integrated Talent Management Scale (Jayaraman, Talib, Khan, 2018) and Affective Commitment (Allen and Meyer,1990). Turnover Intention was measured with three items (Arnold and Davey, 1999) which were written after consulting relevant literature (Farkas & Tetric, 1989; Mobley, Horner, & Hollingsworth, 1978; Muchinsky & Tuttle, 1979). Responses are collected from private sector employees both in İstanbul (Turkey) and in Milan (Italy). The objective of this study is to reveal the importance of talent management in developing affective commitment and decreasing turnover intentions of the employees in different cultural contexts.

Overall, we are willing to add value to literature by pointing out that the companies which practice talent management would have more committed employees and on the other hand the intention to leave the company would be less. Moreover, we also wanted to reveal the differences between two different cultures in talent management and the effects of talent management according to different demographical factors (age, gender, seniority, status et.). The research would give a more explanotary information about the factors that are having an effect upon affective commitment and turnover intentions.

LITERATURE EVIDENCES & RESEARCH OBJECTIVES

In 1997, a group of consultants from McKinsey & Co declared a war on talent (Chambers et al.1998, Michaels, Handfield-Jones & Axelrod, 2001). After interviewing thousands of managers, the researchers noted that one of the primary differences between successful and unsuccessful organizations was that the most successful organizations had leaders who were ruthlessly focused on talent. Since then, it also has become a topic of considerable debate in the academic literature and a

central element of managerial discourse and organisational practice (Boudreau and Ramstad, 2007; Collings and Mellahi, 2009; Groysberg, 2010; Lewis and Heckman, 2006; McDonnell, 2011).

Its growing significance appears premised on the assumption that superior talent management is a key source of competitive advantage for the companies. This coupled with changes in worldwide demographics that have reportedly led to talent supply issues, have been key driving forces of interest in talent management (Tarique and Schuler, 2010).

Talent management is a term, covering a range of long-standing practices that aim at getting the right person in the right job at the right time. These include workforce planning, succession planning, employee development, and career management. Collings and Mellahi (2009) have broadly defined talent management as “talent management involves systematic identification of key positions which differentially contribute to the organization’s sustainable competitive advantage, the development of a talented pool of high potential and high performing incumbents to fill these roles and the development of a differentiated human resource architecture to facilitate filling these positions to ensure their continued commitment to the organization”.

Companies that have put into practice talent management have done so much to solve their employee retention problem (Rani, Joshi, 2012). The issue with many companies today is that their organizations put tremendous effort into attracting employees to their company, but spend little time into retaining and developing. From the strategic management view, it is important to make performance sustainable, permanent and high and it is possible with employee commitment. Starting from this point, we wanted to determine the relationship between talent management, organizational commitment and turnover intention.

Organizational commitment refers to a psychological attachment that employees develop toward membership in their organizations (Allen and Meyer 1990; Mowday, Steers, and Porter 1979; O’Reilly and Chatman 1986). The context of an employees’ commitment might be to a company as a whole or to some part of it. That is, employees may be committed to specific features of their work (Becker 1992; Becker et al. 1996; Hunt and Morgan 1994; Siders, George, and Dhawadkar 2001). In our reasearch we wanted to reveal if one of these features is talent management and hypothesized that talent management has a positive effect on organisational commitment.

As a result of recognizing specific skills and abilities of employees, and assigning them tasks that allow for the maximum usage of these skills, talent management leads to a sense of fulfilment of employees, increases their commitment, motivation, and greater loyalty to the employer. This in turn should translate into hard results: increased efficiency, increased innovation, and decrease in absenteeism and employee turnover. (Cannon, McGee, 2007). Starting from this point we composed

our second hypothesis which is talent management has a negative effect on turnover intentions of the employees.

Moreover, employees with a strong level of commitment remain with the organization because they want to (Meyer & Allen, 1997; Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989). Thus we composed our third hypothesis which is organisational commitment has a negative effect on turnover intentions of the employees.

Concluding, in our research we wanted to add value to literature by investigating the relevance between talent management, organisational commitment and turnover intentions of the employees. We found that talent management has a very important role in creating higher organisational commitment of employees. Moreover, in this research we aim at highlighting the similarities and differences in talent management of two different cultural contexts.

Keywords: Talent management, Affective commitment, Turnover intentions

REFERENCES

- Allen, N. J. and Meyer, J. P. (1990), "The Measurement and antecedents of affective, continuance and normative commitment to the organization", *Journal of Occupational Psychology*, Vol.63 No.1, pp. 1-18
- Arnold J. and Davey K.M. (1999), "Graduates' work experiences as predictors of organisational commitment, intention to leave, and turnover: Which experiences really matter?", *Applied Psychology: An International Review*, Vol. 48 No.2, pp.211-238
- Becker, T. E. (1992), "Foci and bases of commitment: Are they distinctions worth making?" *Academy of Management Journal*, Vol.35 No.1, pp.232-244.
- Becker, T.E., Billings, R.S., Eveleth, D.M. and Gilbert, N.L. (1996), "Foci and bases of employee commitment: Implications for job performance", *Academy of Management Journal*, Vol.39 No.2, pp.464-482
- Boudreau, J.W. and Ramstad, P.M. (2007), *Beyond HR: The New Science of Human Capital*, Harvard Business School Press, Boston, MA.
- Cannon J.A. and McGee R. (2007), *Talent Management and Succession Planning*, Chartered Institute of Personnel and Development, London
- Chambers E.G., Foulon M., Handfield-Jones H., Hankin S.M. and Michaels E.G. III. (1998), "The war for talent", *McKinsey Quarterly*, Vol.1 No.3, pp.44-57
- Collings, D.G. and Mellahi, K. (2009), "Strategic talent management: a review and research agenda", *Human Resource Management Review*, Vol. 19 No.4, pp.304-313
- Farkas, A.J. and Tetrick, L.E. (1989), "A three-wave longitudinal analysis of the causal ordering of satisfaction and commitment on turnover decisions", *Journal of Applied Psychology*, Vol.74 No.6, pp.855-868
- Groysberg, B. (2010), *Chasing Stars: The Myth of Talent and the Portability of Performance*, Princeton University Press, Princeton, NJ.
- Hunt, S. D. and Morgan, R. M. (1994), "Organizational commitment: One of many commitments or key mediating construct?" *Academy of Management Journal*, Vol.37 No.6, pp.1568-87.
- Jayaraman S., Talib P. and Khan A.F. (2018), "Integrated Talent Management Scale: Construction and Initial Validation", *SAGE Open*, Vol.8 No.3, pp. 1 -12
- Lewis, R.E. and Heckman, R.J. (2006), "Talent management: a critical review", *Human Resource Management Review*, Vol.16 No.2, pp.139-154
- McDonnell, A. (2011), "Still fighting the "war for talent"? Bridging the science versus practice gap", *Journal of Business and Psychology*, Vol. 26 No.2, pp.169-173
- Meyer, J. P. and Allen, N. J. (1997), *Commitment in the Workplace: Theory, Research, and Application*, Sage Publications, Thousand Oaks, CA

- Meyer, J. P., Paunonen, S. V., Gellatly, I. R., Goffm, R. D., and Jackson, D. N. (1989), "Organizational commitment and job performance: It's the nature of the commitment that counts", *Journal of Applied Psychology*, Vol.74 No.1, pp. 152-156.
- Michaels, E., Hanfield-Jones, H. and Axelrod, B. (2001), *The War For Talent*. Harvard Business School Press, Boston
- Mobley, W.H., Horner, S.O., and Hollingsworth, A.T. (1978), "An evaluation of precursors of hospital employee turnover", *Journal of Applied Psychology*, Vol.63 No.4, pp.408-414.
- Mowday, R.T., Steers R.M. and Porter L.W. (1979), "The measurement of organizational commitment", *Journal of Vocational Behavior*, Vol.14 No.2, pp.24-47.
- Muchinsky, P.M. and Tuttle, M.L. (1979), "Employee turnover: An empirical and methodological assessment", *Journal of Vocational Behavior*, Vol.14 No.1, pp.43-77.
- O'Reilly, C., III, and J. Chatman (1986), "Organization commitment and psychological attachment: The effects of compliance, identification, and internalization on prosocial behavior", *Journal of Applied Psychology*, Vol.71 No.3, pp.492-99.
- Rani A. and Joshi U. (2012), "A study of talent Management as a strategic tool for the organization in selected Indian IT companies", *European Journal of Business and Management*, Vol 4, No.4, pp.20-28
- Siders, M. A., G. George and R. Dhawadkar (2001), "The relationship of internal and external commitment foci to objective job-performance measures", *Academy of Management Journal*, Vol.44 No.3, pp.570-79.
- Tarique, I. and Schuler, R.S. (2010), "Global talent management: literature review, integrative framework, and suggestions for further research", *Journal of World Business*, Vol. 45 No.2, pp.122-133

UNDERSTANDING THE RELATION BETWEEN TASK INTERDEPENDENCE AND COMMUNICATION STYLES

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EXTENDED ABSTRACT

Teams are common in organizations (Rico et al., 2007; Cross et al., 2008), and therefore scholars are increasingly interested in team work (Mathieu et al., 2008). Interdependence of team members is what distinguishes teams from other kind of groups of individuals (Saavedra et al., 1993, Katzenbach & Smith, 2005) that implies that team tasks cannot be accomplished by individual team members alone without cooperation from others. Task Interdependence indicates the degree to which “team members interact and depend upon each other to attain their goals “(Campion et al., 1993). Maznewski and Chudoba (2000) found that in most of the effective teams a higher frequency of communication among team members was associated with tasks that required greater interdependence.

“A team is a collection of people who must work interdependently to achieve a common goal or output.”(Eunson , 2008) and communication is the foundation of team collaboration. Irrespective of the team type and team task, all team members need to constantly interact and exchange information for goal accomplishment goal and for this, each one has their own unique style of communication. The current research focuses on the communication styles of team members and the ability of team members to handle different tasks interdependencies.

THEORETICAL BACKGROUND AND HYPOTHESES

Task Interdependence

Interdependence is a concept that is fundamental to the definition of teams, which may lead to their success, and which encapsulates the interaction between team members and those features of the team that are responsible for determining how much team members rely on each other (Wageman, 1999). Task interdependence measures the degree of work team collaboration and reflects the extent of information exchange and/or means for their contribution for team task completion (Thompson, 1967). Many scholars analysed the influence of the degree of task interdependence on team effectiveness (Wageman, 1995; Saavedra et al., 1993; Van der Vegt et al., 2000; Stewart, 2006; Van der Vegt & Janssen, 2003), and performance (Burke et al. 2006). Task interdependence may “not only be related to task characteristics, and the way work is organized, but also to the way in which people work together” (Ramamoorthy & Flood, 2004) and team members also focus on social cues, like the behaviors of leaders and other team members and their signals (Drach-Zahavy & Somech, 2010).

Communication Styles

As Communication styles are an expression of one's personality, they play an important role in personal relations (De Vries et al,2009). Communication style refers to a "meta-message" that is a way of reflecting on how individuals convey and interpret a verbal message (Gudykunst et al, 1988). The communication styles of individual team members may be uniquely associated with their personalities and different communication style models have been developed and presented by different studies (Mitchel's and Winick's Colour Model, 2006; DeBakey's Adaptive Matrice, 2007; De Vries et al. (2009).The Lexical approach followed by De Vries et al. (2009) helps to identify the content and the different dimensions in communication styles and the unique way in which each individual sends paraverbal, nonverbal and verbal signals in social interactions. Communication style is a "characteristic way a person sends verbal, paraverbal, and nonverbal signals in social interactions" (De Vries, Bakker-Pieper, et al., 2009,)

Theoretical Background

Interdependence theory (Kelley & Thibaut 1959) analyses the relations between people in different situation structures. Individual differences are commonly represented in terms of the consistent patterns of behavior that a person displays across situations. Mischel and Shoda's (1995) cognitive-affective processing systems (CAPS) model proposes that situations activate typical patterns of cognition and affect that in turn constitute behavioral "signatures": or predictable patterns of response to critical features of situations.

Systems theory outlined by von Bertalanffy (1950) emphasizes that real systems work in concurrence with their surroundings and focuses on "the collection of as well as relations between the parts" that attach them into a unit (Kast & Rosenzweig, 1972). Mulej et al. (2004) suggested that interdependence is one of the seven principles of systems theory thinking that are relevant to organizations. According to Buble, (2012) Interdependence relates to varied systems within an organization that work autonomously towards task completion.

Purpose – This paper attempts to study the relationship between task interdependence in teams and communication styles of team members. The research question that guided our research was:-

- What is the relationship between communication styles and task interdependencies in work teams?

The variables under study are :

Task Interdependence – Task interdependence in teams is the degree of dependence of team members on each other to complete team task responsibilities and can be of three types

- *Pooled interdependence* occurs when team members function with relative independence but their combined output contributes to the team's or organization's overall goals.

- *Sequential interdependence* occurs when one unit in the overall team task process produces an output necessary for the performance by the next unit.
- *Reciprocal interdependence* involves a continuous to and fro of information and interaction and the output of one department becomes the input of another, with the addition of being cyclical.

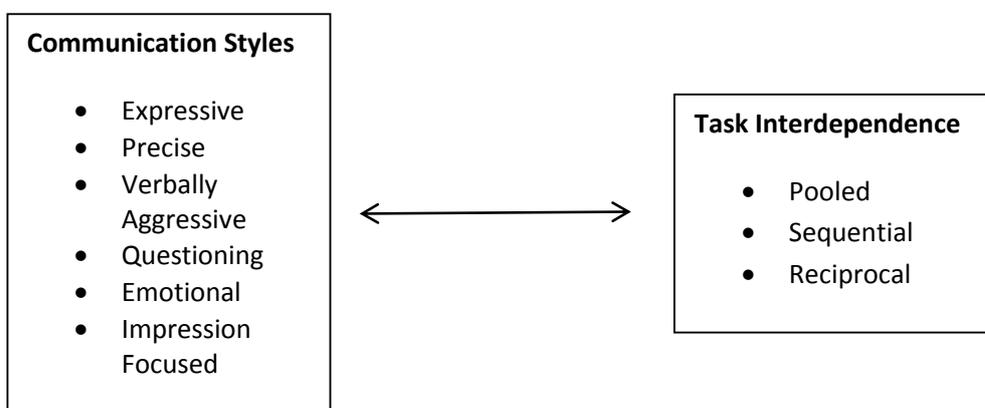
Communication Styles –Indicates the manner in which you give and receive information, each style has its own unique suitability and effectiveness for a specific situation and task with advantages and challenges.

- *Expressive* - Relates to how expressive one is while communicating in different situations and with different people. The facets of this style are dominant, humorous, informal and talkative
- *Precise* -relates to how precisely one communicates. Facets are thoughtful, concise, structured, substantive.
- *Verbally Aggressive* - Relates to how verbally aggressive one communicates. The facets studied are authoritarian, angry, harsh and supportive.
- *Questioning* - Relates to how questioning one's communication style is. The facets are argumentative, philosophical, unconventional and inquisitive.
- *Emotional* - Relates to how emotional one is in the way one communicates and this includes facets like worrisome, defensive, tense, and sentimental.
- *Impression Focused* -Relates to how focussed one is on making an impression ad/or manipulating impressions and facets are charming, inscrutable, concealing and flattering.

PROPOSITION

- Type of Task Interdependencies (Pooled, Sequential or Reciprocal) will determine the communication style adopted by the Team members.

Research Model (Figure 1)



METHODOLOGY

The researchers attempted to see if certain different communication styles were adopted by managers when they handled task responsibilities with different interdependencies in teams. The researchers measure task interdependencies with relation to Team member communication styles through a self-report questionnaire. Data was captured from 510 managers working in various teams in different organizations and industry sectors. Through a six point Likert type scale (with 1 = strongly disagree and 6 = strongly agree) Individual Team member behaviour for Task Interdependence was measured along with the dimensions of communication styles as outlined by the *Communication Styles Inventory* (CSI), (De Vries et al, 2009) which distinguishes between six communication behavior dimensions of Expressiveness, Preciseness, Verbal Aggressiveness, Questioningness, Emotionality, and Impression Manipulativeness.

To investigate the relationship between two quantitative variables the most commonly used techniques are Correlation and linear regression , that indicate both the direction and strength of relationship. The task interdependencies (pooled sequential and reciprocal) were studied with relation to the six communication styles (expressiveness, preciseness, verbally expressive, questioning, emotional and impression focussed) displayed by the managers to understand which communication style was most likely to be activated with the different interdependencies. As this is an ongoing study the results are still in the process of being computed. The data is being analysed to understand the relationship between task interdependencies and communication styles by using appropriate statistical tools like AMOS or SMART PLS.

CONTRIBUTIONS TO OF THE RESEARCH TO THEORY AND PRACTICE

The researchers feel that the study will bring forth important understanding of the way people behave in teams that have task responsibilities of interdependent nature. These interdependencies could be of different kind and likewise team members will display different communication styles. A team members may display different communication style when the task interdependency is different.

ORIGINALITY OF STUDY

Many studies have studied the team interdependencies and this study attempts to take the study of teams and the interdependent nature of team tasks further with its focus on individual communication styles of team members.

CONCLUSIONS AND FUTURE DIRECTIONS

Based on the findings of the study, the researchers will arrive at certain conclusions and scope for future. The researchers hope that interesting observations from the results of the current research analysis will encourage taking the research further to study other interdependencies at play while handling team task responsibilities like Resource, Reward, and Goal interdependencies.

Keywords: Task Interdependence, Communication Styles, Teams, Team Interdependence, Team Communication.

REFERENCES

- Burke, C.S., Stagl, K.C., Klein, C., Goodwin, G.F., Salas, E., & Halpin, S. M. (2006). What type of leadership behaviors are functional in teams? A meta-analysis. *The Leadership Quarterly*, 17(3): 288–307.
- Buble, M. (2012). Interdependence of organizational culture and leadership styles in large firms. *Management: Journal of Contemporary Management Issues*, 17(2), 85–97.
- Campion, M. A., Medsker, G. J., & Higgs, A. C. (1993). Relations between work group characteristics and effectiveness: Implications for designing effective work groups. *Personnel Psychology*, 46(4), 823-847.
- Cross, R., Ehrlich, K., Dawson, R. and Helderich, J. (2008), "Managing collaboration: improving team effectiveness through a network perspective", *California Management Review*, Vol. 50 No. 4, pp. 74-98.
- Campion, M.A., Medsker, G.J. and Higgs, A.C. (1993), "Relations between work group characteristics and effectiveness: implications for designing effective work groups", *Personnel Psychology*, Vol. 46, pp. 823-50.
- de Vries, R. E., Bakker-Pieper, A., Alting Siberg, R., van Gameren, K., & Vlug, M. (2009). The content and dimensionality of communication styles. *Communication Research*, 36, 178206.
- DeBakey, E. M., (2007). Supplement: Communication Styles. Taken from On Target Communication Program, information provided for those who participated on Dealing with Difficult People Workshop conducted at VA Medical Center in Houston, Unpublished manuscript
- Drach-Zahavy, A., & Somech, A. (2010). From an intrateam to an interteam perspective of effectiveness: The role of interdependence and boundary activities. *Small Group Research*. 41, 143-174. doi:10.1177/1046496409356479
- Eunson B, (2008), *Communicating in the 21st Century*, John Wiley & Sons Australia
- Gudykunst, Ting-Toomey, & Chua, (1988). *Gudykunst, William B, Ting-Toomey, Stella, & Chua, Elizabeth. (1988). Culture and interpersonal communication: Sage Publications, Inc.*
- Katzenbach, J.R. and Smith, D.K. (2005), "The discipline of teams", *Harvard Business Review*, Vol. 83 Nos 7/8, pp. 162-171.
- Kast, F.E. and Rosenzweig, J.E. (1972) *General Systems Theory: Applications for Organization and Management*. *Academy of Management Journal*, 1972, 447-466. <http://dx.doi.org/10.2307/255141>
- Mathieu, J., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team effectiveness 1997–2007: A review of recent advancements and a glimpse into the future. *Journal of Management*, 34, 410–476.
- Mischel, W., & Shoda, Y. (1995). A cognitive-affective system theory of personality: Reconceptualizing situations, dispositions, and invariance in personality structure. *Psychological Review*, 102, 246–268. cognitive-affective processing systems (CAPS) model
- Mitchel, L., Winick, J. D. (2006). *How to identify Different Communication Styles. Opening and Managing a Law Practice: Checklists and Worksheets*. Texas Center for Legal Ethics and Professionalism, Austin. Unpublished manuscript
- Mulej M, Potocan V, Zenko Z, Kajzer K, Ursic D, Knez-Riedl J, Lynn M, Ovsenik J, (2004) *How to restore Bertalanffian systems thinking*, *Kybernetes* 33(1):48-61, DOI: 10.1108/03684920410514346
- Maznewski, M.L., Chudoba, K.M. (2000), "Bridging space over time: global virtual team dynamics and effectiveness", *Organization Science*, Vol. 11 No. 5, pp. 473-92.
- Ramamoorthy, N., & Flood, P. C. (2004). Individualism/collectivism, perceived task interdependence and teamwork attitudes among Irish blue-collar employees: A test of the main and moderating effects. *Human Relations*, 57(3), 347-366.
- Rico, R., Molleman, E., Sanchez-Manzanares, M. and Van der Veegt, G.S. (2007), "The effects of diversity faultlines and team task autonomy on decision quality and social integration", *Journal of Management*, Vol. 33 No. 1, pp. 111-132.
- Saavedra, R., Earley, P. C., & Van Dyne, L. (1993). Complex interdependence in task-performing groups. *Journal of Applied Psychology*, 78(1), 61-72.

- Stewart, G.L. and Barrick, M.R. (2000), "Team structure and performance: assessing the mediating role of intra-team process and the moderating role of task type", *Academy of Management Journal*, Vol. 43 No. 2, pp. 135-48.
- Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory*. Transaction Publishers.
- Van Der Vegt, G., Emans, B., & Van De Vliert, E. (2000). Team members' affective responses to patterns of intragroup interdependence and job complexity. *Journal of Management*, 26(4), 633-655.
- Van der Vegt, G. S., & Janssen, O. (2003). Joint impact of interdependence and group diversity on innovation. *Journal of Management*, 29(5), 729-751.
- Von Bertalanffy, L. (1950). An outline of general system theory. *British Journal for the Philosophy of Science*, 1, 134-165.
- Wageman, R. (1999). The meaning of interdependence. In M. Turner (Ed.), *Groups at Work: Advances in Theory and Research* (pp. 197-218). Hillsdale, NJ: Erlbaum.
- Wageman, R. (1995). Interdependence and group effectiveness. *Administrative Science Quarterly*, 40(1) 145-180.

BRAND POST CHARACTERISTICS AND POPULARITY: A STUDY OF FACEBOOK BRAND PAGES OF FOOD AND BEVERAGE COMPANIES

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ABSTRACT

Social Media, as a tool of information, communication and social interaction plays an important role in marketing, enhancing brand awareness and brand engagement. For this reason, more and more companies publish brand posts and interact with consumers through brand profiles and pages in Social Media.

The current research aims to investigate which features of brand posts enhance their popularity, resulting in more 'liking', commenting, and sharing, thus provoking online "word-of-mouth" communication. 451 corporate posts were analysed from 9 leading Greek companies in the Food and Beverage sector, during a three (3) month period. The results show that message irritability, interactivity and thematic content cause online reactions of different intensity, revealing in parallel a different grading of commitment to companies and products.

Particularly, 'liking' is positively influenced by publications with tips about products use and healthy nutrition, contests, corporate news/CSR, videos, advertising messages, festive and anniversary posts, and less with links and images. Additionally, post commenting can be triggered through contests, video / GIF, festive and anniversary posts, corporate news / CSR, images, calls for commenting and links to other SM pages or sites. Finally, post sharing is enhanced by contests, video / GIF, social and leisure activities, photos and links.

The findings of this study can guide digital marketers managing brand fan pages to focus on those characteristics or content that trigger e-WOM communication and strengthen engagement of SM users.

Keywords: Social media optimization; Facebook Brand page; Brand post popularity; Consumer Engagement; Like; Comment; Share; Content marketing

THE IMPACT OF RISK ON SUPPLY CHAIN PERFORMANCE: A STRUCTURED LITERATURE REVIEW

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ABSTRACT

INTRODUCTION

The current globalization has brought to firms not only opportunities but many challenges as well. At the global level, firms have built production plants, warehouse facilities, and distribution centers in many countries for multiple reasons: access to raw material sources, cost advantages or specialist skills and capabilities (Choi et al., 2012). However, this globalization has also resulted in challenges for supply chains, e.g. increasing complexity and risks (Tang, 2006; Chopra and Sodhi, 2004).

Many works have concluded that risk sharing mechanism and risk information sharing affect financial performance (Li et al., 2015); other scholars reported that risk sharing mechanism, risk analysis and assessment, and risk information sharing impact on operational performance (Fan et al., 2017). However, this study argues that to manage supply chain (SC) risk and then to improve performance, it is really necessary to determine whether there is a relationship between risk and SC performance. In this regard, many investigations have been performed to prove this relationship, yet their findings are still fragmented. In other words, to our knowledge the extant literature still lacks reviews which can provide a whole picture on the interaction between risk and SC performance. Therefore, this study is conducted to fill this gap of knowledge.

OBJECTIVES

In order to present a state-of-the-art review of the relationship between risk and SC performance, two main objectives are pursued. First, to explore interactions between risk and performance. Second, to identify specific gaps of knowledge in the extant literature. To extract the paper sample investigating the relationship between SC performance and risk, Scopus and Web of Science databases have been used since their coverage significantly differs (Mongeon and Paul-Hus, 2016). The keywords selected to create the first search string are: "supply", "chain*", (risk* OR operation* OR disruption*), (performance OR competitive*); the asterisk "*" denotes a fuzzy search. According to Tang (2006), SC risk can be classified into two main categories: disruption and

operational, hence two keywords namely disruption and operational have been included. Selection of competitive priorities (quality, cost, delivery, flexibility) has been considered important in developing and implementing the firm's operations strategy in the SC (Ho et al., 2002), thus the keyword "competitive" also appears in the search. In the SC risk literature, SC risk management has been a main stream of research. Its aim is to develop strategies for identification, assessment, treatment, as well as monitoring of risks in the SC (Ho et al., 2015). Hence, the second string "supply chain risk management" has also been applied.

A total of 775 publications were identified, 302 and 473 from Web of Science and Scopus respectively. However, only journal papers have been chosen since they provide more comprehensive and higher-quality information than other publication types (Zhao, 2017), whilst conference papers, book reviews, book chapters, and non-English publications were excluded. Then, 474 journal papers have been retained. Moreover, 88 duplicates between the two databases were found and eliminated from the paper sample. In the last step, title, abstract and full paper have been screened; the result shows that there are 63 papers empirically investigating the impact of risk on SC performance.

PRELIMINARY FINDINGS

It is observed that four journals including International Journal of Production Economics, Supply Chain Management: An International Journal, International Journal Of Operations And Production Management, and International Journal of Production Research have the most published papers, compared to other journals in the paper sample. The most productive countries consist of United States, United Kingdom, and China with 14, 11, and 10 papers published. Regarding categories of risk, 20 papers investigate the impact of external (macro) risk on performance, while the remaining papers focus on the impact of internal (micro) risk. External risk is related to natural and man-made disasters (e.g. economic downturns, wars, earthquakes), internal risk is divided into four types: supply, manufacturing, demand, and infrastructure risks (Ho et al., 2015). In terms of research methodology, 6, 10, and 12 papers adopt interview and case study, conceptual framework, and modelling respectively. Most of the paper sample apply survey to collect data. Remarkably, very limited literature review has been done to comprehensively present the impact of risk on SC performance. Additionally, papers mostly concentrate on SC performance; only 14 papers concentrate on firm performance in the supply chain.

From an in depth content analysis, this study found that SC risk impacts on performance in two forms: direct and indirect (mediating and moderating) impacts. The majority of papers examines the direct impact of SC risk, whilst few papers examine the indirect impact of risk. Regarding the direct impact, many studies concluded that SC performance is impacted by many dimensions of risk (for

example, Mishra et al., 2016; Hendricks and Singhal, 2005; Wang, 2018; Truong Quang and Hara, 2018; Chen, 2018; Avelar-Sosa et al., 2014; Wilson, 2007; Klassen and Vereecke, 2012; Donadoni et al., 2018; Wagner and Bode, 2008). In terms of the indirect impact, risk can act as a moderator, meaning that the effect of SC management on performance can be moderated by risk (e.g. Srinivasan et al., 2011; Brusset and Teller, 2017). Meanwhile, the risk impact on performance can also be mediated by various factors (e.g. supply chain integration) (e.g. Jajja et al., 2018; Zhao et al., 2013).

By conducting a content analysis of the paper sample, some gaps of the literature are identified by this study. First, studies mostly focus on the impact of risk on SC performance, overlooking the importance of single firm performance in the SC. SC performance largely depends on the ability of its members in aligning their strategies, yet supply chain performance may not be enhanced if the single firm's interests are not aligned with those of supply chain members. Only best firms in terms of profits and sales from product are able to exhibit the ability to effectively collaborate with other SC members to satisfy customers. The ultimate objectives of each firm are to improve market share and profit for all SC members, yet to achieve these objectives, each firm needs to manage supplies to improve its productivity and minimize cycle time and inventory. The firm's SC strategy should be based on products it provides as well as its demand characteristics. Therefore, this study argues that research on the impact of risk on firm performance in the SC should receive more attention by future research. Second, many scholars just consider one dimension of performance, e.g. logistics (Wang, 2018); or just some types of risk such as supply and demand risk (Zhao et al., 2013). Although many studies have found the empirical evidence for the connection between supply chain risk and performance, they usually do not propose strategies for mitigating risks (Wagner and Bode, 2008; Truong Quang and Hara, 2018; Wang, 2018). Third, SC management practices (e.g. integration, collaboration) mostly improve the overall SC performance, not focusing much on performance of the single firm.

In addition, very limited research has empirically investigated the impact of operational risks (supply risk, manufacturing risk, and delivery risk) on single firm performance. Since the current literature still lacks reviews that comprehensively present the impact of risk on SC performance, this study is conducted to fill this gap. Through a systematic literature review, this work attempts to synthesize findings from previous studies and provide an insight for researchers and practitioners on how research on the relationship between risk and SC performance has developed in the past.

Keywords: risk, supply chain, performance, supply chain risk management, literature review

REFERENCES

Avelar-Sosa, L., García-Alcaraz, J. L., & Castrellón-Torres, J. P. (2014). The effects of some risk factors in the supply chains performance: a case of study. *Journal of applied research and technology*, 12(5), 958-968.

- Brusset, X., & Teller, C. (2017). Supply chain capabilities, risks, and resilience. *International Journal of Production Economics*, 184, 59-68.
- Chen, H. L. (2018). Supply chain risk's impact on corporate financial performance. *International Journal of Operations & Production Management*, 38(3), 713-731.
- Choi, K., Narasimhan, R., & Kim, S. W. (2012). Postponement strategy for international transfer of products in a global supply chain: A system dynamics examination. *Journal of operations Management*, 30(3), 167-179.
- Hendricks, K. B., & Singhal, V. R. (2005). An empirical analysis of the effect of supply chain disruptions on long-run stock price performance and equity risk of the firm. *Production and Operations management*, 14(1), 35-52.
- Ho, W., Zheng, T., Yildiz, H., & Talluri, S. (2015). Supply chain risk management: a literature review. *International Journal of Production Research*, 53(16), 5031-5069.
- Chopra, S., & Sodhi, M. S. (2004). Supply-chain breakdown. *MIT Sloan management review*, 46(1), 53-61.
- Donadoni, M., Caniato, F., & Cagliano, R. (2018, October). Linking product complexity, disruption and performance: the moderating role of supply chain resilience. In *Supply Chain Forum: An International Journal* (Vol. 19, No. 4, pp. 300-310). Taylor & Francis.
- Fan, H., Li, G., Sun, H., & Cheng, T. C. E. (2017). An information processing perspective on supply chain risk management: Antecedents, mechanism, and consequences. *International Journal of Production Economics*, 185, 63-75.
- Ho, D. C., Au, K. F., & Newton, E. (2002). Empirical research on supply chain management: a critical review and recommendations. *International journal of production research*, 40(17), 4415-4430.
- Jajja, M. S. S., Chatha, K. A., & Farooq, S. (2018). Impact of supply chain risk on agility performance: Mediating role of supply chain integration. *International Journal of Production Economics*, 205, 118-138.
- Klassen, R. D., & Vereecke, A. (2012). Social issues in supply chains: Capabilities link responsibility, risk (opportunity), and performance. *International Journal of Production Economics*, 140(1), 103-115.
- Li, G., Fan, H., Lee, P. K., & Cheng, T. C. E. (2015). Joint supply chain risk management: An agency and collaboration perspective. *International Journal of Production Economics*, 164, 83-94.
- Mishra, D., Sharma, R. R. K., Kumar, S., & Dubey, R. (2016). Bridging and buffering: Strategies for mitigating supply risk and improving supply chain performance. *International Journal of Production Economics*, 180, 183-197.
- Mongeon, P., & Paul-Hus, A. (2016). The journal coverage of Web of Science and Scopus: a comparative analysis. *Scientometrics*, 106(1), 213-228.
- Srinivasan, M., Mukherjee, D., & Gaur, A. S. (2011). Buyer-supplier partnership quality and supply chain performance: Moderating role of risks, and environmental uncertainty. *European Management Journal*, 29(4), 260-271.
- Tang, C. S. (2006). Perspectives in supply chain risk management. *International Journal of production economics*, 103(2), 451-488.
- Truong Quang, H., & Hara, Y. (2018). Risks and performance in supply chain: the push effect. *International Journal of Production Research*, 56(4), 1369-1388.
- Wang, M. (2018). Impacts of supply chain uncertainty and risk on the logistics performance. *Asia Pacific Journal of Marketing and Logistics*, 30(3), 689-704.
- Wagner, S. M., & Bode, C. (2008). An empirical examination of supply chain performance along several dimensions of risk. *Journal of business logistics*, 29(1), 307-325.
- Wilson, M. C. (2007). The impact of transportation disruptions on supply chain performance. *Transportation Research Part E: Logistics and Transportation Review*, 43(4), 295-320.
- Zhao, L., Huo, B., Sun, L., & Zhao, X. (2013). The impact of supply chain risk on supply chain integration and company performance: a global investigation. *Supply Chain Management: An International Journal*, 18(2), 115-131.

CUSTOMER ENGAGEMENT: GROWING RELEVANCE IN MARKETING RESEARCH

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ABSTRACT

Within marketing research, the number of studies about customer engagement has been growing, emerging mainly after 2005 (Brodie *et al.*, 2011), which reflects the increasing interest of researchers on the topic. The purpose of this study is to provide a systematic literature review to answer to the research question: “What marketing research has been conducted on customer engagement until now and what could be future avenues for research?”

In what concerns methodology, this study applied a systematic literature review which is considered a scientific, replicable and transparent process (De Menezes and Kelliher, 2011). Two dominant academic databases, Web of Science (WoS) (core collection) and Scopus, were used. The search was done on 24/07/2018 and on 25/07/2018. The keywords used were: “customer engagement”, “consumer engagement” and “brand engagement” and several filters were applied. Starting with 617 articles from WoS electronic database and 767 articles from Scopus, after taking out the duplicated articles, applying the exclusion criteria and combining both databases, a total of 648 papers remained. After performing the abstract and the full text reading, 144 articles were finally included for analysis.

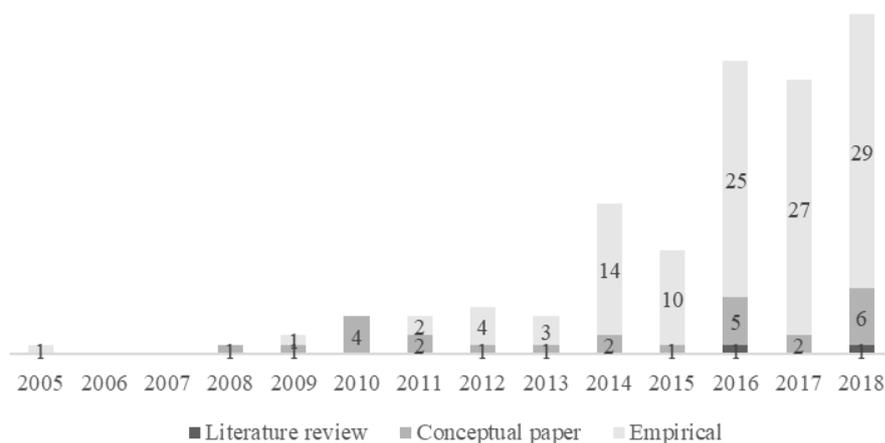


Figure 1. Methodologies used: evolution along the years

Based on the literature review performed, it can be concluded that customer engagement has been a key area of research within the marketing field. The growing number of articles published about the topic and the diversity of authors studying it, together with the different countries where studies are taking place and the diversity of the research context (industries analyzed) seem to reflect the

importance that the topic has gained worldwide. In what concerns the methodologies used, Figure 1 shows that, mainly after 2012, empirical studies have been the most common studies.

It can also be concluded that although different theoretical backgrounds have been presented, relationship marketing and the service-dominant logic are the most common theoretical perspectives from which customer engagement emerges (e.g., Brodie *et al.*, 2013; Fehrer *et al.*, 2018). In what concerns the conceptual roots of engagement and its sub-forms, several definitions of customer engagement are presented in the marketing literature. It is described, for instance, as a psychological state (Brodie *et al.*, 2011) and as a "...behavioral manifestation toward the brand or firm that goes beyond transactions" (Verhoef *et al.*, 2010, p. 247). Many other sub-forms of engagement are found in the literature like "consumer engagement", "brand engagement", "customer engagement behaviors" and "actor engagement", among others. This diversity is also present when authors refer to the dimensions of engagement. Although a significant proportion of the analyzed studies conceptualize customer engagement as a multidimensional construct (e.g., Hollebeek, 2011; Dessart *et al.*, 2016) with the cognitive, emotional and behavioral components, other dimensions have also been referred by different authors (e.g., Vivek *et al.*, 2012; So *et al.*, 2014). The literature review also reveals several gaps for future research: exploration of customer engagement in different industries, undertaking a longitudinal approach, performing a cross-cultural analysis and further investigation about engagement valence, actor engagement, customer engagement in the hospitality setting and about the relationship of customer engagement and other related constructs.

This study has some limitations related to the possibility of human error while performing the analysis, a certain degree of subjectivity in the choice of relevant studies and the possibility that some articles are omitted due to the databases used or the filters applied. Despite the limitations, an important contribution is made as the study presents a review about customer engagement research, highlighting the main conclusions and future avenues for research. The analysis is not only useful for researchers, but also for managers whose objective is to have engaged consumers.

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Keywords: Marketing, Customer engagement, Systematic literature review

REFERENCES

- Brodie, R. J., Hollebeek, L. D., Jurić, B. and Ilić, A. (2011) 'Customer Engagement: Conceptual Domain, Fundamental Propositions, and Implications for Research', *Journal of Service Research*, 14(3), pp. 252–271. doi: 10.1177/1094670511411703.
- Brodie, R. J., Ilic, A., Juric, B. and Hollebeek, L. (2013) 'Consumer engagement in a virtual brand community: An exploratory analysis', *Journal of Business Research*, 66(1), pp. 105–114. doi: 10.1016/j.jbusres.2011.07.029.
- Dessart, L., Veloutsou, C. and Morgan-Thomas, A. (2016) 'Capturing consumer engagement: duality, dimensionality and measurement', *Journal of Marketing Management*, 32(5–6), pp. 399–426. doi: 10.1080/0267257X.2015.1130738.
- Fehrer, J. A., Woratschek, H., Germelmann, C. C. and Brodie, R. J. (2018) 'Dynamics and drivers of customer engagement: within the dyad and beyond', *Journal of Service Management*, 29(3), pp. 443–467. doi: 10.1108/JOSM-08-2016-0236.
- Hollebeek, L. (2011) 'Demystifying customer brand engagement: Exploring the loyalty nexus', *Journal of Marketing Management*. Taylor & Francis, 27(7–8), pp. 785–807. doi: 10.1080/0267257X.2010.500132.
- De Menezes, L. M. and Kelliher, C. (2011) 'Flexible working and performance: A systematic review of the evidence for a business case', *International Journal of Management Reviews*, 13(4), pp. 452–474. doi: 10.1111/j.1468-2370.2011.00301.x.
- So, K. K. F., King, C. and Sparks, B. (2014) 'Customer Engagement With Tourism Brands: Scale development and Validation', *Journal of Hospitality & Tourism Research*, 38(3), pp. 304–329. doi: 10.1177/1096348012451456.
- Verhoef, P. C., Reinartz, W. J. and Krafft, M. (2010) 'Customer Engagement as a New Perspective in Customer Management', *Journal of Service Research*, 13(3), pp. 247–252. doi: 10.1177/1094670510375461.
- Vivek, S. D., Beatty, S. E. and Morgan, R. M. (2012) 'Customer Engagement: Exploring Customer Relationships Beyond Purchase', *Journal of Marketing Theory and Practice*, 20(2), pp. 127–145. doi: 10.2753/MTP1069-6679200201.

CULTURAL TOURISM AND ITS ASPECTS IN TOURISM INDUSTRY OF ALBANIA

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ABSTRACT

Cultural tourism plays a major role in the global tourism today. Cultural tourism is less seasonal than other forms of holiday travel, the reason why particular places have tended to be associated with specific forms of culture, and therefore, different types of cultural tourism practice. This research aims to present cultural tourism benefits for Albania reality. The cultural season often runs counter to the tourist season, so cultural tourists can be attracted at times when other markets may be weak while culturally-motivated tourists will tend to travel all year round to follow their specific cultural interests. The methodology is based on secondary data, literature review and a total of 381 visitors from Albania and abroad surveyed. The research demonstrates that travelling to experience the culture of others also means gaining a direct appreciation of cultural diversity, establishing new cultural ties, and helping to keep the cultural heritage alive. The research indicated that the combination of culture and tourism can be a powerful driver of economic activity. It also the factor of buying power should be consider during the development of cultural tourism products. The important contribution of this study is made in evidence by investigation of the links between culture and tourism, which goes beyond the economic returns, such as the increasing role of the internet both in travel booking and in finding the necessary information and the issues of creative tourism as closely linked to cultural tourism.

Keywords: cultural tourism, tourism products, travelling, cultural diversity, experience, heritage, economic returns, internet.

IN ART SOCIAL MEDIA MARKETING: A TOOL FOR DESTINATION MARKETING

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ABSTRACT

Web 2.0 has changed the way individuals take decisions (Pucciarelli, 2017), and Social Media have become a source of inspiration in choosing the next-destination and cultural attraction to be visited (Belenioti & Vassiliadis, 2017; Liasidou, 2017). Social Networks Sites are an ideal platform for inspiring travellers, by both User Generated Contents and tourism providers social presences (Giachino et al., 2017). A clearly defined multi-channel social strategy can give destination marketers an edge and keep their brand top-of-mind for travellers. Nevertheless, destination and tourism marketers face a unique set of challenges and opportunities when using social media to attract and empower visitors (Lazzaretti, Sartori & Innocenti, 2015). In the cultural context, the digital and technological dimension allows the museum, for example, to carry out participatory activities, useful to eliminate the traditionally binary nature of the fruition experience (Bollo, 2015) and to create a relationship with visitors focused on the long term, perhaps based on the creation of partnerships and on the strengthening of trust (Garbarino & Johnson, 1999; Camarero & Garrido, 2011). New technologies allow to create and manage relationships as well as information contents in real time and can be exploited both online and on-site, favouring the connection between museum and people of any age and social background. Digital tools also represent an exaltation of the role of word of mouth (Dobele et al., 2005; Cova & White, 2010) or of the more contemporary word online - word of mouse - considered an element of absolute importance that can bring many people positively influenced by the experience of friends to the museum (Mosca et al., 2018). Despite the increasing interest about the role of social media in tourism and destination marketing in general, calls for further investigation arises from extant literature (e.g. Kislali, Kavartzis & Saren, 2016, call for a better understanding of the role of the social media and user generated content in Destination Image formation).

This study aims to investigate the role of social media as a tool to enhance destination marketing. The research analyse how a given touristic attraction –i.e. a museum- is promoted online and to identify specificities, at both strategic and tactical level of the use of social media marketing applied to tourism marketing with the aim of advance the understanding of the Social Media Marketing strategy for museum to engage old and new visitors.

The paper presents a case study of an Italian Museum Foundation; the case has been chosen for five main motivations: first the Italian Museum Foundation (IMF) has the mission of promoting both museums and destination at large; second the IMF manages three Museum having three distinct and complementary cultural offer (from Asian Art, to modern Art, passing from Ancient Art); third the IMF is focusing heavily on online and Social Media Marketing as demonstrated by the creation and hiring of a dedicated figure in the organization; fourth, case based approach is used in the exploring the role of Social Media in many industries, tourism and cultural tourism included (Lazzeretti, Sartori & Innocenti, 2015); fifth, direct access to IMF Communication team and Social Media insights. The use and effectiveness of Social Media engagement strategies and tactics is thus analysed through both direct interviews and contents marketing engagement results.

Results confirm that Social Media presence appear to be now a mandatory part of Destination Marketing effort. Moreover, it is important to highlight that Social Media Museum exposure has different scopes: starting from brand awareness; to the educational scope of cultivating audience and art insiders knowledge and learning of the given art stream; to, enlarging the view, contributing to establishment of destination branding of city/region of belongings. These complementary scopes translates into the need of adopting Social Media marketing generic best practices for community engagements with the due adaptations to Museum Marketing.

Results indicate that mainstream Social Media, such as Facebook, Instagram and Twitter are the ones preferred in communicating Museums. And if in line with previous studies, the importance to participate in (in Social Media) is considered important by Museums professionals (Fletcher & Lee, 2012), most of the focus remain on one-way communication strategy –exhibitions and events listing, sponsored posts, etc.-, missing some of the opportunities of Web 2.0 to better understand and engage with audience –such as Social Media listening, re-grams, etc.-. This study contributes to the growing area of Destination Marketing cross-channel and multi-way communication strategies by advancing our understanding of Social Media Marketing audience engagement strategies. Furthermore, this study contribute to the field of tourist and cultural marketing by providing an up-to-date picture of Social Media Museum branding and by proposing valuable managerial implications to museums practitioners and scholars. Last but not least the study shed light on the challenges and organization constraint cultural tourism providers will have to overcome when participate in Social Media.

Keywords: Social Media Marketing, Destination Marketing, Destination Image, Destination Branding, Tourism Marketing, Museum Marketing, Museum Marketing Strategy, Cross-channel Communication Strategy

REFERENCES

- Belenioti, Z.C. and Vassiliadis, C.A., 2017. Branding in the new museum era. In *Strategic Innovative Marketing* (pp. 115-121). Springer, Cham.
- Bollo, A. "Digitale. Quale impatto sull'accesso e sulla partecipazione culturale?" in "Fizz. Oltre il marketing", 2015, available at the address www.fizz.it
- Camarero, C., & Garrido, M. J. (2011). Innovacion y orientaciones de marketing en la gestion de museos: evidencia empirica en el ambito europeo. *Revista Española de Investigación de Marketing*, 15(2), 29-59.
- Cova, B., & White, T. (2010). Counter-brand and alter-brand communities: the impact of Web 2.0 on tribal marketing approaches. *Journal of Marketing Management*, 26(3-4), 256-270.
- Dobele, A., Toleman, D., and Beverland, M. (2005). Controlled Infection! Spreading the Brand Message through Viral Marketing. *Business Horizons*. 48(2): 143-149
- Fletcher, A. and Lee, M.J., 2012. Current social media uses and evaluations in American museums. *Museum Management and Curatorship*, 27(5), pp.505-521.
- Garbarino, E., & Johnson, M. S. (1999). The different roles of satisfaction, trust, and commitment in customer relationships. *the Journal of Marketing*, 70-87.
- Giachino, C., Re, P., & Cantino, V. (2017). Collaborative Consumption and Tourism: Online Travelers' Experience. *Symphonya. Emerging Issues in Management*, (3), 148-160.
- Kislali, H., Kavartzis, M. and Saren, M., 2016. Rethinking destination image formation. *International Journal of Culture, Tourism and Hospitality Research*, 10(1), pp.70-80.
- Lazzeretti, L., Sartori, A. and Innocenti, N., 2015. Museums and social media: the case of the Museum of Natural History of Florence. *International Review on Public and Nonprofit Marketing*, 12(3), pp.267-283.
- Liasidou, S., 2018. Representation of cultural tourism on the Web: critical discourse analysis of tourism websites. *International Journal of Culture, Tourism and Hospitality Research*, 12(3), pp.327-347.
- Mosca, F., Bertoldi, B., Giachino, C., & Stupino, M. (2018). Facebook and Twitter, social networks for culture. An investigation on museums. *MERCATI & COMPETITIVITÀ*.
- Pucciarelli, F., 2017. Strategizing social media presence. In *Contemporary Issues in Social Media Marketing* (pp. 217-226). Routledge.

ETHICS, LEADERSHIP AND CULTURE AS A BASIS FOR THE SUSTAINABILITY OF FAMILY COMPANIES, THE CASE OF PERU

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²Family businesses, culture, leadership, ethics, sustainability

ABSTRACT

The management of family businesses in countries of emerging economies turns out to be a great challenge that has two variables in particular. The first is to remain in the market and not disappear in the first years and the second is the formalization of the business. Therefore, it is important to know what are the differentiating attributes or elements that allow companies to survive in the market.

In this way we have carried out a study taking the case of 3 family businesses whose main characteristic is to be profitable and sustainable businesses in time, with 30, 50 and 70 years in the Peruvian market. This is the case of the company Liderman, Tailoy and Arti. These companies have managed to maintain themselves over time due to their ethical management, since over the years they have had no management problems. They are also companies that present ethical leaders, responsible, close to their employees, who above all have managed to delineate a good management of corporate culture. Knowing how to take their personal values to the values of the company and turning their companies into a good example of corporate culture.

Keywords: Family businesses, culture, leadership, ethics, sustainability

REFERENCES

- Puyal Español, E. & Sanagustín-Fons, M.V. (2006)
- Nordqvist, M. (2012). Understanding strategy processes in family firms: Exploring the roles of actors and arenas. *International Small Business Journal*, 30(1), 24-40.
- Von Schlippe, A., & Frank, H. (2013). The theory of social systems as a framework for understanding family businesses. *Family Relations*, 62(3), 384-398.
- Gipson, A. N., Pfaff, D. L., Mendelsohn, D. B., Catenacci, L. T., & Burke, W. W. (2017). Women and leadership: Selection, development, leadership style, and performance. *The Journal of Applied Behavioral Science*, 53(1), 32-65.
- Collinson, D., Smolović Jones, O., & Grint, K. (2018). 'No More Heroes': Critical Perspectives on Leadership Romanticism. *Organization Studies*, 39(11), 1625-1647.
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource dependence theory: A review. *Journal of management*, 35(6), 1404-1427.
- Northouse, P. G. (2017). *Introduction to leadership: Concepts and practice*. Sage Publications.
- Northouse, P. G. (2018). *Leadership: Theory and practice*. Sage publications.
- Hoyt, C. L., & Simon, S. (2017). *Social Psychological Approaches to Women and Leadership Theory*. Jepson School of Leadership Studies, 248. University of Richmond.
- Williams, J. C., & Dempsey, R. (2018). *What works for women at work: Four patterns working women need to know*. NYU Press.
- Alvesson, M., Blom, M., & Sveningsson, S. (2016). *Reflexive Leadership: Organising in an imperfect world*. Sage.

- Ward, J. (2016). Keeping the family business healthy: How to plan for continuing growth, profitability, and family leadership. Springer.
- Klein, G. A. (2017). Sources of power: How people make decisions. MIT press.

VALUES AND LEADERSHIP: RHETORIC AND REALITY, A COACHING PERSPECTIVE.

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ABSTRACT

INTRODUCTION

The research and measurement of values in organisational and group settings and within individual contexts is a very complex and contradictory terrain (Hechter, 1993). In their seminal paper on values research, Hitlin and Piliavin (2004) outlined the difficulties involved in defining and measuring values and the distinctive divide between the subject disciplines of psychology and sociology. Values are difficult to define, influenced by multiple variables; including parental influence and family characteristics, social class, occupation and education, age, religion and national and demographic factors. Moreover, values may exist in a hierarchy of attachment and order Schwartz and Bardi (2001), are cognitive and affective in relation to social memberships and are structurally and culturally relative. Variations in the identification and measurement of values are beset with differences of opinion on methods of data collection and analysis. Rokeach's (1967, 1973) ranking system and Schwartz's (1992, 1994) rating system are indicative of the quest to refine methods to explore and understand individual associations to values via survey methods.

With calls for a more incisive focus on culture, responsibility and values within the broader governance narrative, policy and literature; Hitlin (2003, p.123) suggests that "we feel authentic when we behave in keeping with our values" yet at times we often feel at conflict within the ethical paradoxes associated with leadership roles and responsibilities in the workspace (Ciulla, 2018; Boulden, 2016; Francke, 2016). A central idea in our understanding of values within the extant research, is that "values play an important role in action" (Kluckhorn, 1951, Hitlin and Piliavin, 2004, p.364). Moreover, values may be conceived of as an internal moral compass giving meaning to action (Rokeach, 1973). It is the dual aspects of action and meaning that hold relevance within the context of leadership research and leadership development.

Key research questions arising from the literature in broad terms are:

What kinds of values have meaning to leaders in organisations?

How are values associated with action, meaning and choice?

How do values relate to broader socio-cultural contexts?

And finally, what is the adaptive nature of action and meaning in relation to key leadership career points?

METHODOLOGY

The research follows an interpretivist methodology using interviews undertaken within a coaching approach. Within this approach, a semi-structured interview schedule (based upon professional executive coaching principles) is used to build interaction and trust with participants in order to explore participants' individual associations with the concept of values, both personal and organisational, in relation to key leadership and career decision events.

The coaching approach was chosen for this research, as it raises self-awareness, allowing for deeper levels of reflection during the interviews (compared to a standard question and answer format).

There are 4 principles that underpin the coaching model used by the coach:

1. The coach works alongside the client to create a partnership. The participant brings the desire and motivation to explore their values in the session; they are in charge of the content and the coach is in charge of the process elements of the interview. This principle is based on the work of Rogers (1957) and his person-centred stance, where the same 'core conditions' that determine the quality of the therapeutic relationship help create a coaching environment for growth and development, allowing the client to share their feelings and thoughts and not feel judged:
 - Unconditional positive regard and acceptance
 - Accurate empathy
 - Congruence /genuineness
2. The coach meets the client where they are. The coach doesn't introduce any material; they use reflection to help the participant to become more aware of how they are feeling. This goes beyond reflective listening to the Gestalt concept of Undirected Awareness (Leary-Joyce 2014); staying in the present and focusing on the whole of the client, themselves and what's happening between them.
3. The freedom to work with the here and now is held within an overarching structure. The interview framework and the five questions developed within the semi-structured coaching interview schedule, provide the structure and the coach works with what the participant says and how they are being. In de Haan's (2008) Relational Coaching book, he writes, "the only thing the coach can actually influence, the only thing the coach can use to exert albeit an

indirect influence on the outcome of the coaching is the relationship between coach and coachee" (de Haan, 2008, p.53).

4. The client doesn't operate in isolation. The coach and participant explore other elements of the system; who was involved and their reactions, as they can trigger new insights

Participants for the research are recruited as either existing or past coaching clients or through volunteering, following a "snowballing" technique used in emergent, inductive, qualitative research (Bryman, Bell and Harley, 2018).

The participant pack was designed and disseminated to participants, in advance of the research interviews, outlining the key foci and purpose of the research following ICF (International Coaching Federation) and CIPD (Chartered Institute of Personnel Development) ethical guidelines; including informed consent, assured anonymity, confidentiality and the right to withdraw at any point in the research process up to the final draft submission of journal papers.

A pilot interview was undertaken with a past coaching client to establish the sequencing, pace, timing and comprehension of the interview design. Key findings from the pilot interview were: An acknowledgment that the sequencing of questions relating to values required sensitive and expert structuring, handling and timing within the frame of the interview process. This ensured that participants values were emergent and restricted the potential for any influence. The requirement for the researchers to clarify individual definitions of terms, relating to values, principles and associations to moral codes underpinning action and meaning in leadership choices. In addition to this, the pilot identified the need to undertake a form of rating process within the interview (Hitlin and Piliavin, 2004), in order to gain an appreciation of varying importance of different values to the individuals ethical and moral code and different points within the specific leadership journey. Finally, the pilot revealed the need for researcher sensitivity to the depth of emotion invoked during the interview process with the requisite and accurate coaching response. Understanding the coaches need to listen, probe and reflect with the participant in building the research conversation was imperative as was recognising the ongoing nature of the research intervention in relation to the ongoing nature of career choices and the connection to broader socio-cultural contexts.

INITIAL ANALYSIS

Due to the in-depth nature of the research intervention, the research adopted an emergent three-stage analysis.

- 1) Interviews were recorded and subsequently listened to, by both researchers at least twice before full transcription took place. Then, detailed, initial research meetings about the content and meaning of

the interviews were held by the two researchers to establish understanding of the content and context of the interview data.

2) Once fully transcribed, both researchers annotate and highlight areas of specific interest within the data, relating to key research questions and the extant literature, in order to establish patterns within the data that related to the key research questions.

3) Another detailed meeting was the held to build a further appreciation of the data, continuing the iterative process required for an empirical data analysis and to enable connection to the broader theoretical base.

Whilst the empirical data collection is still in progress, key learning from the research thus far indicates that this research study adds to the debate about definition and measurement of values in leadership research and leadership development and demonstrates the utility of adopting a coaching approach for such research, in gaining deep understanding of the relational nature of values and action. The approach presents an (hitherto) underused research tool to explore how leaders navigate the varied and challenging terrain of personal and organisational values in relation to action, meaning, judgement and decision making, in leading organisations and in personal career development. Working with how the participant is 'being', can cause them to suddenly pause to reflect and gain a new realisation or deeper understanding. Beisser's (1970) Paradoxical Theory of Change (an influence on Gestalt theory), holds that change occurs when "I fully become what I am, rather than trying to be what I am not" (Beisser, 1970 in Gillie, 2009, p.). Within this frame of reference, our research takes the coaching intervention as an opportunity to explore "turning points and momentous turning points" (Hemingway and Starkey, 2018) in individual leadership journeys in order to unveil associations and identification with values as a central influence on decision-making and career choices. Further, the research seeks to examine professionals' association to values as a barometer of both character and ethics, in order to develop further empirical understanding of the eleven-dimension framework developed by Crossan, Seitjs and Gandz (2016).

Keywords: leadership, values, coaching, character.

REFERENCES

- Beisser, A. R. (1970), The Paradoxical Theory of Change. In: Gestalt Therapy Now, Fagan, J. & Shepherd, I. L. (Eds.), Palo Alto: Science & Behaviour Books. Available via www.gestalt.org/arnie.htm
- Boulden, R., Witzel, M., and Linacre, N. (2016). Leadership Paradoxes: Rethinking Leadership for an Uncertain world. London and New York, Routledge.
- Bryman, A., Bell, E. and Harley, B. (2018). Business Research Methods. 5th Edition. Oxford University Press. Oxford.
- Crossan, M., Seitjs, G. and Gandz, J. (2016). Developing Leadership Character. New York, Routledge.
- Ciulla, J.(2018). Verizon Lecture: Why is it so difficult to be an ethical leader? Business and Society Review. Journal of the Centre for Business Ethics. 123:2 p369-383. <https://dio.org/10.1111/basr.12145>

- deHann, E. (2008). *Relational Coaching*. Chichester: John Wiley & Sons.
- Francke, A. (2016). *A Duty to Care*. Chartered Institute of Management. Lecture, May 2015, University of Roehampton.
- Gillie, M. (2009). Coaching approaches derived from Gestalt. In: D. Clutterbuck and D. Megginson, *Further Techniques in Coaching and Mentoring*. Abingdon: Elsevier
- Hemingway, C.A. and Starkey, K. (2018). A Falling of the Veils: Turning Points and Momentous Turning Points in Leadership and the Creation of CSR. *Journal of Business Ethics*. 151:875-890. <https://doi.org/10.1007/s10551-017-3659-3>
- Hitlin, S. (2003). Values as the core of personal identity: drawing links between two theories of the self. *Social Psychology*. 66:118-137.
- Hitlin, S. and Piliavin, J.A. (2004). Values: Reviving a Dormant Concept. *Annual Review of Sociology*. 30:359-93 <https://doi.org/10.1146/annurev.soc.30.012703.110640>
- Kluckhohn, C. (1951). Values and value-orientations in the theory of action. In *Toward a General Theory of Action*. Ed. T. Parsons, EA Shils. pp.388-433. New York, Harper.
- Leary-Joyce, J. (2014). *The Fertile Void Gestalt Coaching at Work*. St Albans: AOEC Press.
- Rokeach, M. (1967). *Value Survey*. Sunnyvale, CA: Halgren Tests.
- Rokeach, M. (1973). *Understanding Human Values: Individual and Societal*. New York, Free Press.
- Rogers, C. (2004). *On Becoming a Person*. London: Constable.
- Schwartz, S.H. and Bardi, A. (2001). Value hierarchies across cultures: taking a similarities perspective. *Journal of Cross-Cultural Psychology*. 32:268-290.

TECHNOLOGICAL INNOVATION AND VISUAL AESTHETIC ASPECT IN THE DELIGHT OF NEW LUXURY BRANDS

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ABSTRACT

PURPOSE OF THE RESEARCH

The aim of this work is to verify if the technological innovativeness, mediated by the visual aesthetic aspect – value, acumen and response - of luxury brands, increases the consumers' pleasure of owning a new luxury fashion brand: Apple brand.

THEORETICAL BACKGROUND AND HYPOTHESES

Nowadays, although luxury continues to be seen as something that is excellent, creative and exclusive, something has been changing: what was once related to art, today is related to business (Thomas, 2007). This implies that the influence of creativity has changed, not the creativity itself, the way artists come the luxury is that has changed from creativity to profitability (Kafpefer, 2017; Cristini et al., 2017). Thus, the aspect of technological innovation must be associated with the design and visual aesthetics of new luxury brands (Makkar and Yap, 2018; Bloch et al., 2003).

The innovation researchers have observed that customers encounter considerable difficulties in recognizing the value of truly novel products, and have stressed repeatedly the need to better understand the socio-cognitive processes involved in the adoption of new technologies (Dougherty 2001; Hargadon and Douglas 2001; Leonard-Barton 1995). Technological innovativeness can be considered as the degree of newness of technologies embodied in a new product and is assumed to be a driver of new product success because new technologies promise higher technical performance, and offer additional functionality and increased benefits to customers (Hill and Rothaermel, 2003; Zhou, Yim, and Tse, 2005; Kock et al., 2011). Synchronizing technological innovation and product form design is important because the underlying technological change and the outer product form jointly determine the novelty with which a product innovation presents customers (Rindova and Petkova, 2007; Rafaeli and Vilnai-Yavetz 2004).

The centrality of visual product aesthetics (CVPA) is defined as “the overall level of significance that visual aesthetics hold for a particular consumer in his/her relationship with products” (Bloch, Brunel and Arnold, 2003, p. 552). For this research, it was consider three dimensions of CPVA: (1) the value dimension where a consumer assign to product appearances in enhancing personal and societal well-being; (2) acumen or the ability to recognize or evaluate product designs and (3) the level response to visual design aspects of products.

The form or design of a product, associated with a strong emotional consumer-brand relationship (Fetcherin & Heinrich, 2015; Langner et al., 2015; Alvarez & Fournier, 2016; Aro et al., 2018; Bairrada et al., 2018), contributes to its success in several way (Block, 1993). Aesthetics is a holistic perception concerning both design principles and individual objects (Cai and Xu, 2011). Any object can be aesthetically appreciated, and objects are often deliberately designed to induce aesthetic pleasure (Postrel, 2003; Casais et al., 2016).

Product form design and the underlying technological change interact in defining how users may conceptualize a product’s functions (Christensen 1995, Hargadon and Douglas 2001), and how they may respond to it emotionally and give consumer pleasure (Rindova and Petkova, 2007). Then it can hypothesize that:

H1: The innovativeness technological – personal knowledge of high-tech product (IT_A) has a positive effect in the value of visual brand aesthetics (V)

H2: The innovativeness technological - personal knowledge of high-tech product (IT_A) has a positive effect in the acumen of visual brand aesthetics (A)

H3: The innovativeness technological - personal knowledge of high-tech product (IT_A) has a positive effect in the response of visual brand aesthetics (R)

H4: The innovativeness technological - self-perception of high-tech product (IT_B) has a positive effect in the value of visual brand aesthetics (V)

H5: The innovativeness technological - self-perception of high-tech product (IT_B) has a positive effect in the acumen of visual brand aesthetics (A)

H6: The innovativeness technological - self-perception of high-tech product (IT_B) has a positive effect in the response of visual brand aesthetics (R)

H7: The value of visual brand aesthetics (V) has a positive effect in the consumer pleasure (P)

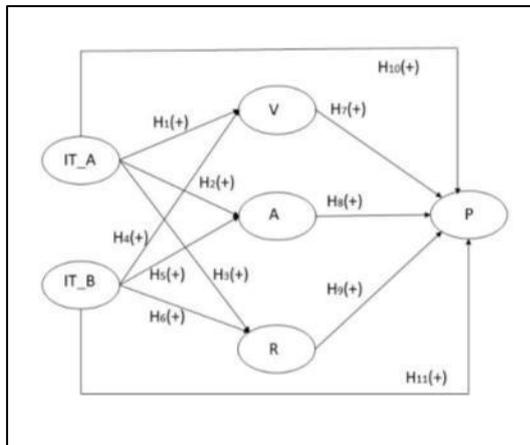
H8: The acumen of visual brand aesthetics (A) has a positive effect in the consumer pleasure (P)

H9: The response of visual brand aesthetics (R) has a positive effect in the consumer pleasure (P)

H10: The innovativeness technological - personal knowledge of high-tech product (IT_A) has a positive effect in the consumer pleasure (P)

H11: The innovativeness technological – self-perception of high-tech product (IT_B) has a positive effect in the consumer pleasure (P)

Figure 1 – Conceptual Model



METHODOLOGY

A quantitative methodology was employed for this research. It was used a survey to measure relationships between constructs on a theoretical model, about Apple brand, in the Portuguese consumers. The study follows the two-step structural equation modelling methodology recommended by Anderson and Gerbing (1988) and using SPSS/AMOS 21 software. The measurement model is developed according to the constructs considered in the theory and then to estimate the causal relations that validate or not the hypotheses raised. The relevant constructs in the theoretical model were operationalised measures from existing literature, advocated by Podsakoff *et al.* (2003) as a procedural method to reduce the common method bias. We used Shalev and Morwitz (2012) scale to measure technological innovativeness, Bloch, Brunel and Arnold (2003) three dimensions scale to measure the centrality of visual product aesthetics – value, acumen and response and Raghunathan and Irwin (2001) scale to measure pleasure. All the variables was measured by 5-point Likert scales. The respondents could choose between “Totally Disagree” (1) and “Totally Agree” (5) except the pleasure that we ask to the respondents to rate their emotions according to the way the brand made they feel between “Very Bad” to “Very Good”.

FINDINGS

A total of 193 valid questionnaires were collected. 64.8% of the respondents have less than 19 years, 13.5% have 20 years, 9.8% have 21 years and the rest of the respondents have more than 21 years. The oldest have 47 years. 34.2% of the respondent are male and 65.8% female. All the respondents knows the Apple brand.

The survey questions were tested through exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Beginning with the EFA and in order to simplify the findings, an estimation with principal components with varimax rotation was performed on an initial factor solution. The items in the EFA that did not meet the criteria (factor loaded > 0.5) were eliminated from the scale.

To evaluate the measurement model, we considered the reliability and validity of the scales chosen to measure each of the constructs and, performed a confirmatory factor analysis (CFA) by maximum likelihood estimation method and Hair's et al. (2006) criteria. The measurement model's psychometric values are: $\chi^2/df = 1.787$, RMSEA = 0.064, CFI = 0.944; TLI = 0.930; IFI = 0.945. For all constructs, Cronbach's alpha is above of 0.819 and CR values are greater than 0.902 and AVE value are greater than 0.693. All standardized regression weights are significant at $p < 0.001$. All composite reliabilities are greater than the minimum criteria of 0.70 (Nunnally and Bernstein, 1994). The average variance extracted (AVE) provides evidence of the overall convergent validity of each construct as indicates the amount of variance explained by the construct relative to the amount of variance that may be attributed to measurement error and should exceed 0.50 (Fornell and Larcker, 1981). The squared correlation between constructs did not exceed the average variance extracted in any of the cases, indicating that the model meets the criterion for discriminant validity among latent variables (Fornell and Larcker, 1981). Hence, it can be concluded that all latent variables have convergent and discriminant validity.

Structural Equation Modelling (SEM) using maximum likelihood estimation and bootstrapping method was conducted to test for the validity of the model and the formulated hypotheses. The structural model's psychometric values are: $\chi^2/df = 1.999$; RMSEA = 0.072; CFI = 0.928; TLI = 0.911; IFI = 0.929, allow us to conclude that the model fit was good.

The results obtained in the estimation of the proposed conceptual model show that in respect to innovativeness technological - personal knowledge of high-tech product has a positive effect in the value of visual brand aesthetics ($\gamma = 0.276$; $p = 0.004$) validated H1. The same occurs in the hypothesis H2, when the innovativeness technological - personal knowledge of high-tech product has a positive effect in the acumen of visual brand aesthetics ($\gamma = 0.290$; $p < 0.001$) validated H2. At the contrary, the innovativeness technological - personal knowledge of high-tech product do not have a positive effect in the response of visual brand aesthetics ($\gamma = 0.063$; $p = 0.555$) rejected H3. With regard to the innovativeness technological - self-perception of high-tech product, the results show us that the innovativeness technological - self-perception of high-tech product have a positive effect in all the dimensions of visual aesthetics – value ($\gamma = 0.588$; $p < 0.001$); acumen ($\gamma = 0.356$; $p < 0.001$) and response ($\gamma = 0.565$; $p < 0.001$), validated H4, H5 and H6. Contrary to the expectations, none of the dimension of the visual aesthetics has a positive effect in consumer pleasure of use the brand.

The value, acumen and response of visual brand aesthetics do not have a positive effect in the consumer pleasure ($\beta = -0.141$, $p = 0.424$; $\beta = -0.258$, $p = 0.120$; and $\beta = -0.258$, $p = 0.046$, respectively), rejecting H7, H8 and H9. Finally, the direct effect of technological innovativeness on consumer pleasure was estimated. The innovativeness technological - personal knowledge of high-tech product has a positive effect in consumer pleasure ($\beta = 0.271$, $p = 0.068$) at a p-value < 0.1 , validated H10 and innovativeness technological - self-perception of high-tech product do not have a positive effect in consumer pleasure ($\beta = -0.101$, $p = 0.625$) who lead us to reject H11.

CONCLUSION, CONTRIBUTIONS AND LIMITATIONS

In summary, the results of this investigation show that innovativeness technological - personal knowledge of high-tech product don't have effect in one dimension of CVPA - response dimension and the innovativeness technological - self-perception of high-tech product have a positive effect in all the dimension of CPVA. This means that the innovativeness in new luxury brand are important for the visual aesthetics of the brand, as defended by Makkar and Yap (2018) and Bloch et al. (2003). By other hand, the visual aesthetics of the new luxury brand seems that don't have any effect in the consumer pleasure of the use of the brand. This results are different of what was defended by Postrel (2003) and Casais et al. (2016). Yet, the innovativeness technological - personal knowledge of high-tech product was a positive effect in consumer pleasure of the new luxury brand, on the contrary of the innovativeness technological - self-perception of high-tech product. This is a very interesting result that need to be more explored in the future.

This research has as originality to relate the technological innovativeness, the centrality of visual product aesthetic aspects and the pleasure of the consumer when they consuming a new luxury brand. In this sense, contributes to the theoretical development in this area of research. The practical implication of this research lies to the importance to analyze the relationship between these variables becomes pertinent, since with increasingly of more informed consumers, in a globalized world, with e-commerce, co-creation, and social media, this make management strategies and the creation of value each time more difficult.

One of the limitation of this research is the limitation is the use of a convenience sample with limited data collection, in one country. Another limitation is concerns the fact that only one new luxury brand has been chosen for the model testing. Limitations become opportunities for future development research.

Keywords: Innovativeness Technological; Visual Product Aesthetics; Pleasure, Consumer Behavior; Fashion Brand; New Luxury

REFERENCES

Under request

THE EFFECT OF NEGATIVE EMOTIONS TOWARD A CONSUMERS' PERCEPTION OF CSR

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ABSTRACT

INTRODUCTION

This research intends to verify if the scandals in the financial sector in one well know Portuguese bank produced negative emotions in the consumers that influenced their perceptions on the practices of corporate social responsibility (CSR) of the brands. But to do this, it was first necessary to know if the consumers knew the practices of corporate social responsibility in its various components: Community, Employee, Shareholders, Environment, Societal, Customer and Supplier Domain. Then, we have two studies.

BACKGROUND

Research has mostly ignored consumers' negative emotions toward brands (Romani, Grappi and Dalli, 2012). The psychological theories on emotions (Roseman, Wiest and Swartz, 1994; Zeelenberg and Pieters, 2006) suggest that the nature of the emotion experienced has a highly determinant effect on an individual's subsequent actions. This makes it relevant to analyse consumer experiences with negative emotions towards brands.

Researchers have studied negative emotions generated by products (Laros and Steenkamp, 2005), services (Bougie, Pieters and Zeelenberg, 2003; Soscia, 2007; Zeelenberg and Pieters, 2004), and purchase-related situations (Dahl, Manchanda and Argo, 2001; Yi and Baumgartner, 2004). However, few have considered negative emotions toward brands (Romani et al., 2012) and specifically financial brands. Although some brand research studies analyse this phenomena closely related to negative emotions and feelings (Dalli, Romani and Gistri, 2006; Grant and Walsh, 2009), a clear consideration of negative emotions toward brands and of the emotion-brand behaviour connecting is still missing in the literature.

In the market, little is known about how consumers understand CSR activities and the effects on their behaviour (Sen and Bhattacharya, 2001; Fatma and Moon, 2015). After more than 60 years of CSR discussion in several contexts, no single commonly accepted definition of this concept exists (Freeman et al., 2010). Above 35 definitions of CSR are suggested in the literature (Dahlsrud, 2008; Matten and

Moon, 2008). The European Commission defines CSR as “a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis” (European Commission 2001, p. 6). Oberseder et al. (2014, p. 103) define CSR as “A socially responsible company integrates social and environmental topics in its core business activities and acts responsibly towards its employees, its customers, the environment, its suppliers, the local community, its shareholders and society at large.” The authors distinguishing different domains of CSR. The employee domain includes issues such as working conditions, non-discrimination of employees or acceptable remuneration. The customer domain reports topics like fair prices, comprehensive product labelling, safe and high quality products, etc. About the environment, consumers perceive many responsibilities such as reduction of energy consumption, waste, and emissions. The supplier domain emphasizes on the topic of fairness with issues like fair terms and conditions, supplier choice, and auditing. These domains are of changing importance according to consumers (Megicks et al. 2008; Pomeroy and Dolnicar 2009; Singh et al. 2008). Consumers who proactively react to CSR initiatives are more likely to make a responsible decision on their buying behaviour (Mohr and Webb, 2005). Therefore, it may be hypothesized that consumers who have negative emotions towards CSR activities have negative behaviour towards brands. Then:

H1: Negative emotions toward a brand has a negative effect on the perception of CSR – Community Domain

H2: Negative emotions toward a brand has a negative effect on the perception of CSR – Employee Domain

H3: Negative emotions toward a brand has a negative effect on the perception of CSR – Shareholders Domain

H4: Negative emotions toward a brand has a negative effect on the perception of CSR – Environment Domain

H5: Negative emotions toward a brand has a negative effect on the perception of CSR – Societal Domain

H6: Negative emotions toward a brand has a negative effect on the perception of CSR – Customer Domain

H7: Negative emotions toward a brand has a negative effect on the perception of CSR – Supplier Domain

METHODOLOGY

A quantitative methodology was employed for this research in study 1 and 2. We apply a logit model for study 1 and to test our specified hypotheses, we examined our proposed models using structural

equation modeling for study 2. We follow the assumption of Anderson and Gerbing (1982) that the modelling of structural equations must be done through two conceptual distinct models: confirmatory factor analysis to validate the measurement model and the estimation of structural equation model to test the proposed hypotheses. A total of 171 participants completed the survey. The hypotheses were tested with data from an online survey collected in June 2018, to Portuguese consumers. This was carried out through social media, where link to the survey was posted and advertised.

Questionnaire items were adapted from validates studies to develop a survey measuring. CSR items by Öberseder et al. (2014) are utilised and negative emotions toward a brand was measured using Romani, Grappi and Dalli (2012) scale. The survey was then reviewed and revised by three professors of marketing to confirm the overall adequacy and applicability of the questionnaire items to the context of this study. Respondents completed the survey by answering questions on a 1 = “strong disagree” to 5 = “strongly agree”, except the scale to measured brand love at where 1 = “I do not think/feel anything” to 5 = “I think/feel completely”.

RESULTS AND DISCUSSION

For the study 1, we apply a logit model, to the dummy dependent variable, that assumes the value 1 if respondent knows the CGD's (Caixa Geral de Depósitos, a well know Portuguese bank brand) social responsibility practices. The explanatory variables used in the model are defined in table 1, as well as the dependent variables, which include respondents characteristics, the information if they are (or not) client of CGD and the dimensions of CSR. Statistical analysis was performed using STATA version 13.

Table I List of explanatory and dependent variables

Explanatory Variable	Description
Demographic characteristics	
Gender	Dummy: 1 = Female; 0 = Male
Age	Scale 1–5: 1 = 18-23; 2 = 23-25; 3 = 25-35; 4 = 35-55; 5 = more than 55 years old
Income	Monthly income. Scale 1–4: 1 = less or equal than 1000; 2 = 1001- 2000; 3 = 2001-3000; 4 = more than 3000 EUR
Education	Scale: 1 = Basic; 2 = Secondary; 3 = Degree
CGD Customer	
Client	Are you a CGD customer?. Dummy, 1 = Yes; 0 = No
CSR dimensions	
CSR_CD	Community Domain
CSR_ED	Employee Domain
CSR_SD	Shareholders Domain
CSR_EN	Environmental Domain
CSR_SO	Societal Domain

CSR_CU	Customer Domain
CSR_SU	Supplier Domain
Dependent variable	Description
KCSR	Do you know CGD's social responsibility practices? Dummy: 1 = Yes; 0 = No.

Logit estimation results includes average marginal effects. Concerning self-reported of knowledge of CGD's social responsibility practices, the age ranges of 35-55 and more than 55 years old increase the probability of knowing, for the age range between 18 and 23 years, of 4.6% and 24.4%, respectively. In scope education, we also observe that the respondents with the degree are more likely to know CGD's social responsibility practices, compared to those with the basic level of education, from 43.8%. Being a CGD customer increases the likelihood of knowing the company's CSR practices by 1.1%. In scope of CSR dimensions, we observe that the community domain, environmental domain and customer have a positive and significant effect on the knowledge of CGD's social responsibility practices. The other explanatory variables do not have a statistically significant effect.

With the study 2, we intended to test whether the negative emotions towards the brand negatively affect the perception of consumers about the different dimensions of CGD's social responsibility. To test the hypotheses, we performed both exploratory and confirmatory factor analyses using IBM-SPSS and AMOS 22.0. To evaluate the measurement model, we considered the reliability and validity of the scales chosen to measure each of the constructs and, performed a confirmatory factor analysis (CFA) by maximum likelihood estimation method and Hair's et al. (2006) criteria. The fitness of the measurement model shows to be $X^2/df = 2.387$, RMSEA = 0.068, CFI = 0.907, TLI = 0.901 and IFI = 0.908 that is in generally a good measurement fitness (Hair et al., 2006). The average variance extracted (AVE) provides evidence of overall convergent validity of each construct as it indicates the amount of variance explained by the construct relative to the amount of variance that may be attributed to measurement error, and should exceed 0.50 (Fornell and Larcker, 1981).

The hypotheses were tested by running the structural model by using SPSS AMOS. The fitness of the measurement model shows to be $X^2/df = 1.519$, RMSEA = 0.061, CFI = 0.935, TLI = 0.911 and IFI = 0.938 that is in generally a good measurement fitness (Hair et al., 2006). The model's explanatory power was high for all CRS domains (CSR - Community Domain: $R^2 = 0.661$; CSR - Employee Domain: $R^2 = 0.709$; CSR - Shareholders Domain: $R^2 = 0.724$; CSR - Environmental Domain: $R^2 = 0.626$; CSR - Societal Domain: $R^2 = 0.694$; CSR - Customer Domain: $R^2 = 0.646$ and CSR - Supplier Domain: $R^2 = 0.700$). H1, which suggests that the negative emotions toward a brand has a negative effect on the perception of CSR - Community Domain, received support from the data ($\gamma = -1.494$, $p < 0.01$). All other hypotheses received support from the data, negative emotions toward a brand has a negative effect on the

perception of CSR - Employee Domain ($\gamma = -1.452$, $p < 0.01$), CSR - Shareholders Domain ($\gamma = -1.818$, $p < 0.01$), CSR - Environmental Domain ($\gamma = -1.562$, $p < 0.01$), CSR - Societal Domain ($\gamma = -1.669$, $p < 0.01$), CSR - Customer Domain ($\gamma = -1.458$, $p < 0.01$) and CSR - Supplier Domain ($\gamma = -1.335$, $p < 0.01$).

CONCLUSIONS AND IMPLICATIONS FOR THEORY AND PRACTICE

In summary, the results of this investigation show that the community domain, environmental domain and customer have a positive and significant effect on the knowledge of CGD's social responsibility practices and the negative emotions toward the brand has a negative effect on the perception of CSR - Employee Domain, CSR - Shareholders Domain, CSR - Environmental Domain, CSR - Societal Domain, CSR - Customer Domain and CSR - Supplier Domain. The theoretical contribution of this research lies to understanding the consumers' perception of the CSR activities in the financial sector and how negative emotions resulting from financial scandals affect these perceptions. The practical contribution of this research lies to the importance that managers needs carefully ability their promises to consumers and the communication of the practices of CSR needs to have greater visibility and correspondence with the promises that makes.

Keywords: Negative Emotions, CSR, Domains of CSR, Consumer Behavior, Financial Brand, Logit Model, Structural Equation Model

REFERENCES

Under request.

DIFFERENT ATTITUDES TOWARDS BUSINESS FAILURE BETWEEN CULTURES

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ABSTRACT

Globalization's new opportunities has overwhelmed individuals and whole companies. Many are moving abroad with the ambition of success and wealth. Unschooled minds draw negative behavioural assumptions of the new environment representing a danger in business terms. Relationships can get harmed and opportunities can turn into threats. Especially failures, which are unavoidable, should be treated with caution. The research aims to explore the different attitudes towards business failure amongst different cultures, with special regard to two cultural clusters of the GLOBE study: Confucian Asia and Germanic Europe and the cultural dimensions of Hofstede, Trompenaars, focusing on 'Power Distance', 'Individualism and Collectivism', 'Universalism and Pragmatism', and 'Achievement and Ascription'.

With a qualitative method conducting fourteen interviews; seven interviewees from each cultural cluster have contributed to discover these differences. They, together with former studies, identified differences on all stages of the failure process in the business. Starting from failure perception to failure related consequences, mainly related to cultural influences. Furthermore, some behavioural traits like the concept of 'face' in Confucian Asia and 'directness' in Germanic Europe guide through all stages of the failure process. The research concludes with a set of recommendations for companies with a variety of systems and procedures which help managing a diverse workforce. These include feedback, open communication, schooling and a supportive organizational culture.

Keywords: Culture, failure, cultural dimensions

IDENTITY PROJECTS IN SCREEN CULTURE

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ABSTRACT

At every stage of life, consumers have long been understood as identity-seekers (Arnould and Thompson, 2005; Gabriel and Lang, 2006), while using the material, symbolic and experiential resources of the marketplace. Identity is a complex but relational phenomenon, always based upon social relations and symbolic representations (Drenten, 2012). Identity projects become manifest as self-performances and comprise the strategic configuration of objects, symbols, and practices to claim a particular identity position (Schau, 2018). The digital world has revolutionized consumer identity and imagination. More than any contemporary object, the screen (Monteiro, 2017) became a source of mythic and symbolic resources, depicting the most diversified realities that fuel consumer imagination while opens a host of new means for identity performance. Visual storytelling on image-based networks empowered by products, practices, signs, and symbols can be seen as a productive force of the screen marketplace, while it provides a *substrate* for imagination. Narratives and means now reach broader audiences that incite identity goals outside consumers' cultural contexts allowing even those who lack resources to participate in the market as *full-fledged* consumers, can construct their narratives of identity.

Through relating the concept of imagination according to Appadurai (1996) and visual storytelling within consumer culture research, this review aims to explore how consumer's identity projects on-screen relate or collide with their *off-screen* practices. How globally mediated imagined worlds affect consumer reality of self? Therefore, how mediated realities produce cultural tensions in addition to identity-related concerns? It is necessarily a work in progress, for the mediated contexts and our behavior within it continue to evolve.

Thus the conceptual review proposed will set the stage to future data collection on the topic of consumer behavior in screen culture via individual interviews and participant observation. Interpretive research employing naturalistic modes of inquiry via nethnographic fieldwork (Kozinets, 2002) will be appropriate for triangulation purposes, to observe the relationship between performed identity on social media and consumer's lived tensions on a specific cultural context.

Keywords: Consumer Behavior; Screen Culture, Consumer Imagination, Self, Identity Projects, Visual Storytelling

REFERENCES

- Appadurai, A. (1996), *Modernity At Large: Cultural Dimensions of Globalization*, University of Minnesota Press.
- Arnould, E.J. and Thompson, C.J. (2005), "Consumer Culture Theory (CCT): Twenty Years of Research", *Journal of Consumer Research*, Vol. 31 No. 4, pp. 868–882.
- Drenten, J.M. (2012), "Snapshots of the Self: Exploring the Role of Online Mobile Photo Sharing in Identity Development among Adolescent Girls", *Online Consumer Behavior: Theory and Research in Social Media, Advertising and E-Tail*, Routledge, New York, NY, p. 31.
- Gabriel, Y. and Lang, T. (2006), *The Unmanageable Consumer*, SAGE, Thousand Oaks.
- Monteiro, S. (2017), *The Screen Media Reader*, 1st ed., Bloomsbury Publishing USA.
- Schau, H. (2018), "Identity Projects and the Marketplace", *Consumer Culture Theory*, Sage, p. 353.
- Kozinets, R. V. (2002), "Can Consumers Escape the Market? Emancipatory Illuminations from Burning Man", *Journal of Consumer Research*, Vol. 29 No. 1, pp. 20–38.

AUTHENTICITY IN INTERNATIONAL MARKETING FIELD: SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

PURPOSE

This study aims to use a systematic literature review process to get the state of the art on the concept of authenticity in marketing field. The review question defined is: “What marketing research has been conducted on authenticity in international marketing until now and what could be future avenues for research?”.

BACKGROUND

Authenticity has been considered a key attribute of contemporary life, occupying a very important position in contemporary culture (Fine, 2003; Grayson & Martinec, 2004). The roots of the term *authentic* come from *Authenticus* (Latin word) and *Authentikos* (Greek word), meaning “worthy of acceptance, authoritative, trustworthy, not imaginary, false or imitation and conforming to an original” (Cappannelli & Cappannelli, 2004, p. 1). However, in the literature, the word has been applied with different meanings (Beverland, 2005; Grayson & Martinec, 2004).

The importance of the topic has led many scholars to study it in different fields of knowledge like philosophy, sociology, anthropology and psychology (Bruhn, Schoenmüller, Schäfer, & Heinrich, 2012; Fritz, Schoenmueller, & Bruhn, 2017). Within the marketing field, authenticity has been considered “one of the cornerstones of contemporary marketing” (Brown, Kozinets, & Sherry, 2003, p. 21). The concept is recognised as an important human aspiration because people look for authenticity in their daily lives, in the products and in brands they consume (Bruhn et al., 2012). When referring to consumers, authenticity can be found in consumption experiences, in objects or in brands (Beverland & Farrelly, 2010). In fact, within the international marketing field, two important streams of research have been developed: authenticity as an attribute of a subject (for instance, employees’ emotional authenticity) and authenticity as an attribute of an object (e.g. brand authenticity) (Fritz et al., 2017).

Methodology: Two dominant academic databases, Web of Science and Scopus, were used to explore and identify the main articles related to the analysed topic. These databases were chosen amongst others because they provide the greatest coverage with peer-reviewed articles published in high quality journals. The search for this study was done on 08/03/2019 and on 12/03/2019 and the

keywords used were: "Brand" AND "Authentic*". Firstly, an attempt was done with the keywords "Brand authenticity". However, we realised that the number of articles found was much reduced and that very important articles were not being included. Hence, we decided to use "Brand" AND "Authentic*" as it seemed the best combination to find relevant studies related to the topic. The research performed, both in Web of Science and in Scopus, was not limited to a specific publication year, including all relevant studies (related to the topic), independently of their publication year.

In Web of Science, the search was done within the core collection. Articles were identified using the specific keywords in the "Topic". Moreover, some filters have been applied. On the one hand, the type of documents analysed were articles and reviews. On the other hand, to keep the search process specific to the objective, the Web of Science categories that were used were: business; management; hospitality, leisure, sport & tourism; communication; ethics; psychology applied; psychology multidisciplinary and psychology experimental. Another filter that was applied was the Quartile of the Journal as the objective was to include only high ranked journals. For articles found in the Web of Science database, only articles of journals listed in JCR 2017 in the Quartiles Q1, Q2 or Q3, were included in the analysis. In Scopus, the search was done introducing the keywords in the "article title, abstract, keywords". The subject area, the document type and the language were used as filters. The subject areas were limited to "Business, Management and Accounting", "Social Sciences" and "Psychology". The document type searched were articles and reviews and the language was English. Finally, only articles belonging to journals placed in Q1, Q2 or Q3 in the ranking of Scimago (SJR 2017) were included in the study.

From the analysis based on the Web of Science electronic database, a total of 324 articles were identified with the keywords "Brand" AND "Authentic*". From these, the articles that were not Q1, Q2 or Q3 in JCR2017 were excluded which led to 229 final articles. In what concerns the analysis from Scopus database, the number of articles identified with the keywords "Brand" AND "Authentic*" were 463. The papers that were not included in Q1, Q2 or Q3 journals from Scimago 2017 (SJR 2017) were excluded, which led to a total of 281 articles. When combining the selected articles from both databases and excluding the duplicated articles (when the same article was in both databases), this led to a total of 375 papers. After reading the abstracts of all the articles, the ones that were not directly related to the topic and were considered irrelevant were excluded which led to 115 papers. After reading the full text, some articles were excluded and 75 papers remained to be included in the analysis. However, after reading the reference lists of several articles, we realised that some reference articles and books related to the topic were not being included in the scope of the systematic review due to the filters applied. Therefore, there was a need to include, afterwards, these articles and books. Some reasons for this to happen can be pointed out. On the one hand, some of these reference articles

have not been published in peer-reviewed journals and, on the other hand, as several reference “authenticity” articles do not include the word “brand”, they do not appear in the systematic search. However, as these articles are important to understand the context of authenticity, they were included, afterwards, in the analysis. Moreover, there were also some important books about the concept that were included as they are key to analyze the topic. Therefore, to the 75 articles that came out from the systematic review, 14 additional articles and 3 books/book chapters were added and included in the analysis. After the final decision about which articles to analyse, data were extracted from the selected articles and the analysis was performed. The data extracted included article title, scientific journal, authors, publication year, methodology, methodology description, industry, country, theories, brand authenticity definition, brand authenticity dimensions, scales used, main objective of the study, constructs, antecedents and consequences, main conclusions, limitations/gaps and future research, among others.

MAJOR FINDINGS

As the literature review performed highlights, authenticity and, in concrete, brand authenticity, seems to be an important area of research within the marketing field. The growing number of studies about the topic, published in different peer-reviewed journals, especially since 2012 on, shows the increasing interest of researchers on the topic. Furthermore, there is a diversity of authors studying brand authenticity, with the majority of articles being published by more than one author. The analysis also shows that research has been done worldwide with a strong focus on Europe and America and in different research contexts (industries analysed). In what concerns the methodologies used, empirical studies have been the most common studies performed.

Based on the 89 peer-reviewed articles and on the 3 books/ book chapters analysed, we can conclude that the research on authenticity and, in concrete, on brand authenticity has been very fragmented, which introduces challenges when trying to synthesize the knowledge around the concept. This fragmentation is mirrored on the different theoretical perspectives that are found in the literature, on the different definitions given by the authors or on the different dimensions that appear associated to the constructs. Despite the challenges found, one of the key objectives of the systematic review performed was to find what has been the common ground among researchers, around the topic. In concrete, on the one hand, to understand what have been the most well accepted perspectives, definitions, dimensions, scales and related constructs and, on the other hand, to analyse the main differences of what has been presented until now. Having that in mind, when analysing the theoretical perspectives and the nature of authenticity, it seems that, three types of authenticity tend to be referred by different authors: objective authenticity, constructive/ constructivist authenticity and

existential authenticity. These types of authenticity are many times associated with the relevance of iconic and indexical cues that are considered important to build the perception of authenticity. However, although there seems to be some common ground among some researchers about the types of authenticity, other perspectives emerge. Therefore, concepts like pure authenticity, approximate authenticity and moral authenticity, also appear. Within tourism and hospitality literature, it seems that the authenticity concept is being organized around three main perspectives: objectivist, constructivist and postmodern.

Authenticity has, in fact, been studied across different research disciplines and, therefore, it is applied to objects, subjects, experiences, places, among others. Within marketing research, and based on the literature review performed, it seems that many studies can be organized around two different streams of research: authenticity as an attribute of a person (e.g. employee authenticity) and authenticity as an attribute of an object (e.g. brand authenticity). In fact, when authenticity is applied in the context of brands, the construct of brand authenticity appears, associated with a specific market offering (object or service). Based on the different definitions of the construct and particularly on the ones that have been mostly referred by the authors, it can be concluded that brand authenticity is, many times, associated with a brand being genuine, real, true to itself and its consumers and with a consistent behaviour, reflecting its values. Many authors also identify key attributes that they consider to be fundamental for a brand to be considered authentic.

The majority of the analysed articles assume that authenticity and brand authenticity are multi-dimensional constructs and, concerning measurement scales, it is possible to conclude that the scales developed by Bruhn et al. (2012), Napoli et al. (2014), Schallehn et al. (2014) and Morhart et al. (2015) are the ones that seem to act as a reference to measure brand authenticity. Although the dimensions integrated in the scales are different, it is possible to find communalities among the different dimensions considered.

Several constructs have also been identified as antecedents and/or consequences of authenticity and brand authenticity, impacting the analysed constructs, separately or in combinations with each other. However, the analysis, especially in the case of the antecedents has not been straight forwards as some constructs have been considered by some authors as an antecedent of brand authenticity and by other authors as a dimension of brand authenticity, which can lead to some confusion. However, also in this topic, some common ground can be found. In the case of the antecedents, it can be concluded that Perception of iconicity/ Iconic cues, Perception of indexicality/ Indexical cues, Rarity, Stability, Family firm image, Manufacturing factors and Marketing factors/ Perceived Brand marketing communications are the constructs that have been studied by more researchers (in two or more studies) as antecedents. In the case of the consequences, the ones that have been studied by more

researchers (in five or more studies) are: Brand attitudes, Purchase intention/ willingness to buy/ brand choice intention/ consumption behavior, Brand attachment, Trust and Loyalty.

REFERENCES

- Beverland, M. B. (2005). Crafting Brand Authenticity: The Case of Luxury Wines*. *Journal of Management Studies*, 42(5), 1003–1029. <https://doi.org/10.1111/j.1467-6486.2005.00530.x>
- Beverland, M. B., & Farrelly, F. J. (2010). The quest for authenticity in consumption: consumers' purposive choice of authentic cues to shape experienced outcomes. *Journal of Consumer Research*, 36(5), 838–856. <https://doi.org/10.1086/615047>
- Bruhn, M., Schoenmüller, V., Schäfer, D., & Heinrich, D. (2012). Brand authenticity: Towards a deeper understanding of its conceptualization and measurement. *Advances in Consumer Research*, 40, 567–576.
- Cappannelli, G. A., & Cappannelli, S. (2004). *Authenticity: Simple strategies for greater meaning and purpose at work and at home*. New York, NY: Emmis Books.
- Fritz, K., Schoenmueller, V., & Bruhn, M. (2017). Authenticity in branding – exploring antecedents and consequences of brand authenticity. *European Journal of Marketing*, 51(2), 324–348. <https://doi.org/10.1108/EJM-10-2014-0633>
- Grayson, K., & Martinec, R. (2004). Consumer Perceptions of Iconicity and Indexicality and Their Influence on Assessments of Authentic Market Offerings. *Journal of Consumer Research*, 31(2), 296–312. <https://doi.org/10.1086/422109>
- Morhart, F., Malär, L., Guèvremont, A., Girardin, F., & Grohmann, B. (2015). Brand Authenticity: An Integrative Framework and Measurement Scale. *Journal of Consumer Psychology*, 25(2), 200–218.
- Napoli, J., Dickinson-Delaporte, S., & Beverland, M. B. (2016). The brand authenticity continuum: strategic approaches for building value. *Journal of Marketing Management*, 32(13–14), 1201–1229. <https://doi.org/10.1080/0267257X.2016.1145722>
- Napoli, J., Dickinson, S. J., Beverland, M. B., & Farrelly, F. (2014). Measuring consumer-based brand authenticity. *Journal of Business Research*, 67(6), 1090–1098. <https://doi.org/10.1016/j.jbusres.2013.06.001>
- Schallehn, M., Burmann, C., & Riley, N. (2014). Brand authenticity: model development and empirical testing. *Journal of Product & Brand Management*, 23(3), 192–199. <https://doi.org/10.1108/JPBM-06-2013-0339>

IMPORTANCE OF DIVERSITY SEALS FOR ORGANIZATIONAL ATTRACTIVENESS

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ABSTRACT

Using signalling theory, social identity theory and previous studies this paper examines the relationship between exposure to a diversity seal and potential employee's perception of organisational attractiveness. Further, this study investigates interaction effects of the possession of such a seal, expected treatment, attitude towards workplace diversity and potential employee's minority status or gender. The theoretically derived research model is empirically tested using data from a survey experiment (n = 298).

Contrary to the expectations, the results from the survey indicate the possession of diversity seals decreases organizational attractiveness (see Table 1). The possession of a gender diversity seal did not increase women's evaluation of organizational attractiveness moderated by expected treatment. General attractiveness increased among minority status employees if the organization possessed a diversity seal and expected treatment moderated the relationship. The study demonstrated the moderating effect of attitude towards workplace diversity for organizational attractiveness when signalling diversity dedication with a diversity seal. Diversity dedication and employer seals were of minor importance when choosing an employer. However, diversity dedication was significantly more important for women than for men. We provide first insights regarding the perceived credibility of the diversity seal and the gender diversity seal which require further investigation in following studies. Further research is necessary to analyze why potential employees showed the negative reactions to the organizations possessing a diversity seal. The study showed organisations have to be cautious signaling diversity dedication with diversity seals to not discourage potential employees from applying at the organization.

Table 1: Regression analysis with general attractiveness as dependent variable

Independent variable	Model 1	Model 2	Model 3	Model 4
Controls				
In training	.1	.1	-.17 †	-.16 †
Work experience	-.06	-.05	-.11	-.11
Job search	.02	.02	-.05	-.05
Firm 1	.06	.13	.06	.06
Firm 2	.03	-.05	.03	.03
Both seals seen	.03	.02	.18 †	.17 †
Main effects				
Diversity seal (DS)		.17	-.15	-.40 †
Gender diversity seal (GDS)		-.13 †	-.36 **	-.46*
Gender			.02	.00
Minority status			.01	-.06
Age			.09	.09
Expected treatment			.77 **	.76 **
Attitude towards workplace diversity			.00	.00
Interaction effects				
Attitude towards workplace diversity x DS				.03 †
Expected treatment x minority status x DS				.11 †
Expected treatment x gender x GDS				.03
F-value	.55	.60	34.46 **	31.81 **
R-square	.004	.006	.367	.372
Adjusted R-square	-.003	-.004	.357	.360
Change in adjusted R-square		-.001 a	.353 b	.356 b
Mean VIF	1.16	1.63	1.52	1.85

Standardized coefficients are reported. † $p < .1$; * $p < .05$; ** $p < .01$

^a Compared to Model 1; ^b Compared to Model 2

Keywords: diversity, organizational attractiveness, recruitment, signalling

REFERENCES

- Bangerter, A., Roulin, N., & König, C. J. (2012), „Personnel selection as a signaling game” *Journal of Applied Psychology*, Vol. 97 No. 4, pp. 719–738.
- Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2010), “Signaling Theory: A Review and Assessment. *Journal of Management*”, Vol. 37 No. 1, pp. 39–67.
- De Meuse, K. P., & Hostager, T. J. (2001), “Developing an instrument for measuring attitudes toward and perceptions of workplace diversity: An initial report”, *Human Resource Development Quarterly*, Vol. 12 No. 1, pp. 33–51.
- Highhouse, S., Lievens, F., & Sinar, E. F. (2003), “Measuring Attraction to Organizations. Educational and Psychological Measurement”, Vol. 63 No. 6, pp. 986–1001.
- Tajfel, H., & Turner, J. C. (1979), “An integrative theory of intergroup conflict”, In W. G. Austin & S. Worchel (Eds.), *The Social Psychology of Group Relations*: pp. 33–47. Monterey, CA: Brooks-Cole.
- Zahavi, A. (1975), “Mate selection—A selection for a handicap”, *Journal of Theoretical Biology*, Vol. 53 No. 1, pp. 205–214.

CROWDFUNDING FOR CULTURE: A NEW FINANCIAL INSTRUMENT?

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ABSTRACT

Cultural heritage is a key resource for a country's economic and social development. Culture is a vast range of goods, that - for particular historical and aesthetic significance - are of public interest and represent the wealth of a place and its population. It can be represented by artistic and historical goods (monuments), architectural assets (real estate), archaeological heritage (goods from the ancient past, obtained with technical excavation or not yet found), books and libraries, documents (in archive) and museums (Bonfanti *et al.*, 2016). In Italy, the problem of cutting funding to culture is serious and constantly at the center of the debate of the operators, who have to deal daily with scarce and often insufficient financial resources for a socially crucial sector such as the cultural one. If, until a few years ago, cultural sponsorships and donations made through public procedures appeared to be the only ways in which the support provided by businesses and individuals could materialize, in the last few years a new channel has emerged co-financing of cultural initiatives and projects: crowdfunding. Starting in 2010, crowdfunding has emerged as an innovative method for financing new ventures by allowing individual founders of social, for-profit or cultural projects to request funding from multiple people (Mollick, 2014). Research interest in crowdfunding has been steadily increasing in recent years, but remains limited (Short *et al.*, 2017), also referring to the Italian context (Piattelli, 2013).

In order to contribute to the crowdfunding literature, the purpose of this exploratory research is to introduce the use of the crowdfunding as a new practice of funding for the Italian cultural heritage. In detail, we keep attention to the real estate, in particular to the Italian castles.

The paper can be divided in three main sections. In the first one we show the traditional financial instruments used by the public administration. The information come directly from the public Annual Reports and Budgets. At the end of 2018 more than 50% of the public administration liabilities is represented by mortgages, the residual by public bonds. The large majority of mortgages is offered by Cassa Depositi e Prestiti (CDP), a financial institution controlled by the Ministry for the Economy and Finance (83%) and by banking foundations (16%). The large majority of CDP mortgages are then sponsored by the Italian State; this reduces the reimbursement share for the local public administration. Table 1 shows the situation for Piedmont, the region of the Italian kings, divided in 1.308 municipalities. In average, every Piedmont municipality has at least on castle, one or two churches and one old town. It is really a cultural center. In Piedmont mortgages represent 63% of debt, while bonds

are 37%. 76% of mortgages are offered by CDP, 24% by banks. Thanks to the State intervention, Piedmont has to reimburse only 27% of the debt.

Table 1 – The Piedmont liabilities

Financial Instruments	Number	%	Value (mln euro)	%
Mortgages	23	92	3,494.11	63
Bonds	2	8	2,046.49	37
Total	25	100	5,540.60	100
Mortgages	Number	%	Value (mln euro)	%
CDP	14	61	2,650.44	76
Banks	9	39	843.67	24
Total	23	100	3,494.11	100
CDP mortgages				% share
Reimbursement by the Italian State				73%
Reimbursement by Piemonte				27%
Total				100%

Source: Multi-annual budget, 2017 - 2019

The second part of the paper is focused on the possibility to use crowdfunding for the cultural heritage. The paper shows the most important crowdfunding types and focus on that particularly adapted to culture: donation, reward and lending. As previously introduced, crowdfunding is a topic abundantly dealt on an international literature (e.g. Schwienbacher and Larralde (2010), Joachim (2011), Lawton and Marom (2013), Coocheo (2013), Kim and Hann (2013), Sannajust *et al.* (2014), Borello *et al.* (2014), Belleflamme *et al.* (2014)). In Italy, the situation is completely different. The argument is new and we make reference to the current legislation (based on European documents, like ESMA 2012, EC 2013 and 2014, EBA 2015 and national legal texts, like D.L. 179/2012, L. 221/2012, CONSOB Rule 18592/2013, D.L. 3/2015, L. 33/2015, CONSOB Deliberation 19520/2016, L. 232/2016, D.L. 50/2017, L. 96/2017 and CONSOB Resolution 20264/2018) and to the most important scientific articles, including Giudici *et al.* (2012), Ruozi (2014), Previati *et al.* (2015), Querci (2014), Rovera (2015 and 2016), Rovera *et al.* (2018), Rovera and Damilano (2018).

Given the possibility to finance culture with the crowdfunding, we have a final problem to solve: the public advertising. The most widespread method to raise awareness of crowdfunding initiatives is the use of online platforms. Gerber *et al.* (2011) affirmed that there are several reasons to use the online platforms; in fact, beside the rising of funds maintaining the control of the project, it is possible to gain connection with other people interested in the project, find successful approaches used by other people and, above all, raise the awareness about the project using social media. To obtain success institutions operating in the cultural industry, such as museums, need to change their formal approach trying to

use a more informal and engaging language (D'Amato, 2017). People needs to be engaged and convinced by the storytelling and the value that the project can offer both at emotional and practical level. However, we know that marketing in the cultural field is still evolving and the main players are using new tools and social platforms from few years (Re et al., 2016).

To the best of our knowledge, no previous study focused on the crowdfunding to finance the cultural heritage. In particular, the contribution of this paper is twofold. First, we extend the literature on crowdfunding in a specific market. Second, we highlight how crowdfunding can represent an important source for financing culture that could revitalize the Italian cultural heritage thanks to the innovative approach of crowdfunding platforms and related business models.

Keywords: Crowdfunding; Financial instruments; Italian Cultural Heritage; Communication.

REFERENCES

- Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014). "Crowdfunding: Tapping the right crowd". *Journal of Business Venturing*, Vol. 29, No. 5, pp. 585 -609.
- Bonfanti, A., Battisti, E., & Pasqualino, L. (2016). "Social entrepreneurship and corporate architecture: evidence from Italy", *Management Decision*, Vol. 54 No. 2, pp. 390-417.
- Borello, G., De Crescenzo, V., & Pichler, F. (2014). "Le piattaforme di Financial return crowdfunding nell'Unione europea". *Bancaria*, 12, 77 – 90.
- Coocheo, S. (2013), "Crowdfinance: Banks' Friend or Foe?", *ABA Banking Journal*, Vol. 105, No. 10, pp. 1 - 5
- D'Amato, F. (2017). "Il crowdfunding per progetti culturali". *Mediascapes journal*, Vol. 9, 246-259.
- Gerber, E.M., Hui, J.S., & Kuo, P.Y., (2011). *Crowdfunding: why the people are motivated to post and fund projects on crowdfunding platforms*. Northwestern University Creative Action Lab, Sheridan Drive, Evanston.
- Giudici, G., Nava, R., Rossi Lamastra, C., & Verecondo, C. (2012). "Crowdfunding: The New Frontier for Financing Entrepreneurship?" Working Paper, <https://ssrn.com/abstract=2157429>.
- Gompers, P., & Lerner, J., (2004). *The venture capital cycle*. MIT Press
- Joachim, H. (2011). "A snapshot on crowdfunding". Working Paper R2/2011.
- Kim, K., & Hann, I. (2013). "Does Crowdfunding Democratize Access to Capital? A Geographical Analysis", Working Paper.
- Lawton, K., & Marom, D. (2013). *The Crowdfunding Revolution: How to Raise Venture Capital Using Social Media*. McGraw Hill.
- Mollick, E. (2014). "The dynamics of crowdfunding: An exploratory study". *Journal of Business Venturing*, Vol. 29, No. 1, pp. 1-16.
- Piattelli U. (2013). *Il crowdfunding in Italia*. Giappichelli Editore, Torino.
- Previati, D., Galloppo, G., & Salustri, A. (2015). The "wisdom of crowds" as an antidote to the credit crunch: A preliminary analysis of crowdfunding. Chapter 2 in Palgrave Macmillan. *Studies in Banking and Financial Institutions. Lending, Investments and the Financial Crisis*, pp. 22-51.
- Querci, F. (2014). "Il crowdfunding e l'innovazione nel finanziamento delle aziende". *Bancaria*, No. 10, pp. 26-40.
- Re, P., Bertoldi, B., Mosca, F., Stupino, M., & Giachino, C. (2016). Cultural assets. New opportunities for the region. *MERCATI & COMPETITIVITÀ*, No. 2, pp. 13-40.
- Rovera, C. & Damilano, M., (2018), "The crowdfunding: a new financial instrument for the start-ups?", *International Journal of Business and Management*, Vol. 13, No. 11, pp. 199-213.
- Rovera, C. (2015) "Il crowdfunding bancario italiano", in VV. AA, *FOOD & HERITAGE. Sostenibilità economico – aziendale e valorizzazione del territorio*, G. Giappichelli Editore, Part II - chap. 7, pp. 475 – 491.
- Rovera, C. (2016), "Banche italiane e piattaforme crowd", *Impresa e Progetto, Electronic Journal of Management*, N. 2, pp. 1-26.
- Rovera, C., Damilano, M. & Bongiovanni, A. (2018), *Start-ups: new financial instruments for tourism*, in *Smart Tourism*, ed. by V. Cantino – F. Culasso – G. Racca, McGraw-Hill Education, Milano, chap. 2, pp. 19 – 39.

- Ruozzi, R. (2014). "Il crowdfunding e il finanziamento delle famiglie e delle PMI". *Economia & Management*, Vol. 2, pp. 109 – 117.
- Sannajust, A., Roux, F., & Chaibi, A. (2014). "Crowdfunding In France: A New Revolution?" *The Journal of Applied Business Research*, Vol.30, No. 6, pp. 1919-1928.
- Schwienbacher, A., & Larralde, B. (2010). *Crowdfunding of small entrepreneurial ventures*. The Oxford Handbook of Entrepreneurial Finance, Oxford University Press.
- Short, J.C., Ketchen, D.J., McKenny, A.F., Allison, T.H. & Ireland, R.D. (2017), "Research on Crowdfunding: Reviewing the (Very Recent) Past and Celebrating the Present", *Entrepreneurship Theory and Practice*, Vol. 41, No. 2, pp. 149-160.

LEGAL DOCUMENTS

- European Commission (2013). *Crowdfunding in the EU - Exploring the added value of potential EU action*.
- European Commission (2014). *Assessing the potential for crowdfunding and other forms of alternative finance to support research and innovation*.
- CONSOB (2013). *Regolamento sulla raccolta di capitali di rischio da parte di start-up innovative tramite portali on-line*, n° 18592.
- CONSOB (2016). *Resolution n° 19520*.
- CONSOB (2018) *Resolution n° 20264*
- Decree Law 18th October 2012, n° 179.
- Decree Law 24th January 2015, n° 3.
- Decree Law 24th April 2017, n° 50.
- EBA (2015). *Opinion of the European Banking Authority on lending-based crowdfunding*. Available on the EBA's website
- ESMA (2012). *Insidie dell'investimento online*.
Law 17th December 2012, n° 221.
- Law 24th March 2015, n° 33.
- Law 11th December 2016, n° 232.
- Law 21th June 2017, n° 96.

DEVELOPING ORGANIZATIONS: AUTHENTIC LEADERSHIP THROUGH ACTION LEARNING

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ABSTRACT

“What is an honest man and how can I become one?” Revans (1971:132)

As the rate of change within society and organizations has accelerated, there is an increased need for more positive forms of leadership, in which actual conduct of the leader is in line with their espoused principles. As a consequence, leaders are faced with the growing challenge of increasing their individual personal and professional capabilities with fewer resources and less time. Action learning with its core premise of improving the individual's ability to learn is well positioned to take advantage of changing leadership development needs. In addition to developing bespoke leadership skills, action learning is effective in developing the competences of collaboration, conflict resolution and sharing skills that are essential for contemporary leaders (Sonpar et al., 2018). As Revans (1998:14) commented “there can be no action without learning and no learning without action.” Leaders who are engaged in meaningful action with enquiry and reflection invariably learn. Baron (2016:296) states “Although exercising Authentic Leadership clearly involves the manager's personal skills, it appears that, despite their importance, such skills are largely ignored by academic training programs, or otherwise addressed with a largely theoretical approach that does not allow for the sort of feedback needed between practice and reflection, making it difficult to acquire and develop these critical skills.”

Leadership during periods of uncertainty has an important role in business strategy. The purpose of this paper is to explore the extent to which authentic leadership may be developed through action learning and how this might contribute to organizational effectiveness in times of austerity and rapid change.

Much has been written concerning leadership styles and practice (Bass and Bass, 2008). It is widely accepted that leadership has a crucial role in the success of organizations. Little has been explored in relation to action learning and authentic leadership yet poor relationships between leaders, managers and others is a major barrier to performance and creativity (Rowland and Hall, 2013).

The methods used in this research were mainly based on the interrogation of literature. This comprised a review of published works on action learning and authentic leadership focusing on management development This was followed by an analysis of documents produced by regulatory and professional bodies (AMBA, 2015; CIPD, 2010; CMI, 2013) to identify the skills and behaviours embedded in mainstream management programmes such as the MBA and DBA.

The authors, in their roles as external examiners and accreditation panel members or chairs for over 25 years, have drawn on their experiences. Over the last three years they have been directly involved with some 20 UK Universities from a wide spectrum including, former polytechnics and research-intensive institutions, where management curricula reflect the requirements of these regulatory accreditation and professional bodies. Direct observations by the authors and two small purposive employer and employee focus groups were also employed to gather data.

Our findings indicate that employees prefer their leaders to lead consistently with integrity, authenticity and passion which align to their own and family values. It supports the view that Organizations value leadership that matches rhetoric with meaningful actions.

Findings also show an absence of both academic and professional body literature that have linked the constructs of authentic leadership and action learning together. As such, the developmental opportunity remains neglected. Management development processes have focused on developing individuals but perhaps neglected achieving lasting organizational development through leadership.

Conclusions suggest that in the current climate of uncertainty many leaders are adopting austerity approaches. These are in turn leading to higher levels of deviant organizational behaviours, risk-averse practices, inauthentic kindness and a decline in efficiency, effectiveness and productivity. Yet in times when clear vision and leadership in business strategy and values is needed at both national and global levels, an understanding of how to better develop authentic leadership remains underdeveloped and action learning remains marginalized. In addition the implications for future trust and employee engagement are neglected in times where discretionary effort of workers and volunteers is crucial to goal achievement. Leaders have to spend more of their pressured time attempting to bring certainty to uncertain times by communicating and negotiating with staff to gain a wider acceptance and understanding of management practices (Herzig and Jimieson, 2006). Time is now an emotional as well as an economic currency; an authentic leader recognises that spending time with employees demonstrates that they have individual intrinsic value as well as acknowledging their contribution to the organization as a whole. Our work above all concludes that although authentic leadership development may cost in terms of emotional and temporal investment, action learning can embed useful and ethical behaviours within leaders and organizations. Leaders need courage to lead with compassion and help navigate in these turbulent and uncertain times. There is hitherto, an unrealized opportunity to capitalize on the promotion of action learning as a development tool; by acknowledging that the learning process has implications for enhancing a more authentic form of leadership practice. Our research opens up the discussion and offers a template that may enable Organizations to increase their sustainability and competitive advantage. This paper provides additional insights and promotes dialogue between disciplines that has hitherto been neglected.

In terms of practice our research enables Organizations to appreciate the benefits of developing authentic leaders in terms of both the “bottom line” and good citizenship. Consequently, it may help leaders formulate organizational policies that not only enable navigation through the whirlpools and rapids of uncertain times but also ensure healthy workplace cultures that stimulate creativity, employee engagement and sustainability.

Keywords: Authentic Leadership, Action Learning, Management Development

REFERENCES

- Baron, L. (2016), “Authentic leadership and mindfulness development through action learning”, *Journal of Managerial Psychology*, Vol.31, No.1, 296-311
- Bass, B. and Bass, R. (2008), *The Bass Handbook of Leadership* (4th Revised edition), The Free Press, London.
- Cameron, K. (2011), “Responsible leadership as virtuous leadership”, *Journal of Business Ethics*, 98, pp.25-35.
- Hall R and Rowland C. (2016), “Leadership Development for Managers in Turbulent Times”, *Journal of Management Development*, Vol.35, Issue 8, pp.942-955.
- Herzig, S.E. & Jimieson, N.L. (2006), “Middle managers uncertainty management during organisational change”, *Leadership and Organisation Development Journal* 27; 8, pp.628 – 645.
- Revans, R.W (1998) *ABC of Action Learning*, Lemos & Crane, London.
- Revans, R. W. (1971). *Developing Effective Managers*, New York, Praeger
- Rowland, C. A. and Hall, R. D. (2013), “Organizational Justice and Performance; Is Appraisal Fair?” *EuroMed Journal of Business*, Vol. 7, No.3, pp.280-293.
- Sonpar, K.,Walsh, I. J.,Pazzaglia, F.,Eng, M. and Dastmalchian,A, (2018) Picking the Measuring Stick: The role of Leaders in Social Comparisons, *Journal of Management Studies*,Vol.55, No. 4, June.

COLLABORATIVE CONSUMPTION AS A MANIFESTATION OF THE SHARING ECONOMY IN POLAND

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ABSTRACT

BACKGROUND AND THE PURPOSE

Since the end of the last century there has been a growing interest in alternative forms of accessing goods, emphasised by the pursuit of sustainable development. Collaborative consumption is one of them. This mode of consumption can be seen in terms of disruptive innovations (Schor and Fitzmaurice, 2015) and social innovations, as it reflects human being's pursuit of sustainable development defined as a harmonious coexistence and balance of the economy, the environment and the society. Nevertheless, collaborative consumption is not an entirely new concept. In 1978, Felson and Spaeth described this form of consumption as a process in which one or more people consume goods or services by engaging in common activities with others (Felson and Spaeth, 1978, p. 614). The contemporary understanding of this alternative form of accessing goods let new business models based on IT appeared (Munoz and Cohen, 2018).

Access-based consumption is most often defined as a transaction that can take place through the agency of the market but does not entail any transfer of the ownership title (Bardhi and Eckhardt, 2012, p. 881). Contrary to possession, access-based consumption assumes that interaction between the consumer and the object/product is limited in time and dependant on the occurrence of the need and the urgency of its satisfaction (Chen, 2009, p. 927).

Although collaborative consumption has been given a lot of attention in the developed market (Acquier, Daudigeos and Pinkse, 2017), it is not a common field of research in the emerging markets. In order to bridge this gap, the purpose of our study is to discuss alternative forms of accessing goods, with the main focus on collaborative consumption in the Polish market. Firstly, collaborative consumption is conceptualised and contrasted with ownership-based consumption. Secondly, the arguments for developing access-based consumption in the developing markets have been presented. Finally, the authors applied the identified dimensions of collaborative consumption to the Polish market.

METHODOLOGY

A discussion is based on the synthesis of literary references and the descriptive analysis. The paper constitutes a review of the literature and the case studies. The starting point for the analysis is the framework developed by F. Bardhi and G.M. Eckhardt (2012, pp. 884-886), concerning the dimensions of the sharing economy. Based on it, the area of collaborative consumption has been analysed through: 1) the prism of the level of anonymity, 2) the degree of consumer engagement, 3) the duration of the consumption relationship, 4) the agency of the market, 5) the type of the goods made available, and 6) the ideological message. In our work, we tried to apply these dimensions to characterise the sharing economy in the Polish market.

MAIN FINDINGS AND CONTRIBUTIONS

Promoting the model of collaborative consumption as opposed to the ownership-based model can benefit the development of a new economy based on sustainability. An analysis of the dimensions of the collaborative consumption in Poland allows for the conclusion that it is still a relatively underdeveloped area. Most of the experience with sharing economy model come from world-wide platforms like airBnB, although the phenomena of collaborative consumption is expanding in Poland (as shown by, for example, the growing numbers of users of such services as szafa.pl). As we revealed through our research, the spread of collaborative consumption in the emerging market as Polish one is still at an early stage. So far, it is difficult to determine whether the idea behind this expansion is restricted and balanced consumption or the savings-related motivation, typical for developing countries.

The main contributions of our work refer to the description of the collaborative consumption model and the analysis of its success formula. Future possible directions for research can focus on the motivations and attitudes of Polish consumers towards collaborative consumption.

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Keywords: sharing economy, access-based consumption, collaborative consumption, Poland

REFERENCES

Felson, M. and Spaeth, J. (1978), "Community structure and collaborative consumption: A routine activity approach", *The American Behavioral Scientist*, Vol. 21, No. 4, pp. 614-624.

- Bardhi, F. and Eckhardt, G.M. (2012), "Access-based consumption: the case of car sharing", *Journal of Consumer Research*, Vol. 39, pp. 881-987.
- Chen, Y. (2009), "Possession and access: consumer desires and value perceptions regarding contemporary art collection and exhibit visits", *Journal of Consumer Research*, No. 35 (April), pp. 925-490.
- Schor, J.B. and Fitzmaurice, C.J. (2015), "Collaborating and connecting: the emergence of the sharing economy", in: Reisch, L.A., Thøgersen, J. (Eds.), *Handbook of research of sustainable consumption*, Edward Elgar, Cheltenham, pp. 410-426.
- Munoz, P. and Cohen, B. (2018), "A compass for navigating sharing economy business models", *California Management Review*, Vol. 61, No. 1, pp. 114-147.
- Acquier, A., Daudigeos, T. and Pinkse, J. (2017), "Promises and paradoxes of the sharing economy: an organizing framework", *Technological Forecasting & Social Change*, Vol. 125, pp. 1-10.

THE RELEVANCE OF CSR ON CROSS BORDER ACQUISITION PERFORMANCE: A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

Corporate Social Responsibility (CSR) has significantly increased its relevance within firms in the past years. CSR has been deeply analyzed in academic literature in the past decades, but it is still not simple to identify a unique definition (Malik, 2015). Some scholars consider CSR as a behavior that the company has to take towards its stakeholders (Campbell, 2007; Cooper, 2017). Meanwhile, others consider CSR as a multidimensional and interdisciplinary set of activities (e.g., social, political, environmental, economic, ethical) (Carroll, 1999; Devinney, 2009). As the CSR topic, cross-border acquisitions are also increasing in value and numbers despite high risk of failure with important consequences for firms' stakeholders (e.g., suppliers, employees, shareholders, etc.) (Risberg and Meglio, 2012). These post-acquisitions consequences are closely related with company's CSR choices, which regard a mix of relationships and interests through a worldwide network of stakeholders (e.g., Battisti et al., 2019; Campbell, 2007; Cooper, 2017).

Considering CSR as a key factor to enhance environmental and social benefits (Carroll, 1999; Devinney, 2009), we analyzed how the CSR activities (e.g., economic, legal, ethical, philanthropic, etc.) have been evaluated in the cross border acquisitions studies with the aim to identify gaps in the existing literature, providing a guideline for future studies.

This study provides a Systematic Literature Review (SRL) about the link between CSR and cross-border acquisitions literature. This approach allows to analyze the sample of studies in a systematic way (e.g. Dezi et al., 2018; Petticrew, 2001; Tranfield et al., 2003; Pittaway et al., 2004; Vrontis and Christofi, 2019) and the adoption of SRL technique is fundamental to enhance the knowledge of subjects that are debated in the academic field.

Based on 78 studies, we systematically divided cross border studies based on CSR, as shown below:

- Methodological approach adopted in each study, quantitative or qualitative;
- Methodologies of CSR measurements (e.g., survey, database, ESG ratings, financial statements, etc.);
- Relevance of CSR components on cross-border performance.

The results have shown an increase in academic interest in the subject of CSR connected with cross-border acquisitions, specifically considering the individual components that are influenced by the CSR logics (e.g., employee retention, gender, renegotiation of contracts, etc.).

Furthermore, we highlighted that the relevance of CSR on post-acquisition performance is not clear in literature, and many studies have inconsistent and divergent results. In particular, there are two streams of literature concerning the relationship between CSR and value creation. Following the shareholder view (Pagano and Volpin, 2005; Friedman, 2007; Surroca and Tribo, 2008) managers use CSR activities to satisfy stakeholders at the expense of shareholders. Meanwhile, the stakeholder value maximization view (Freeman, 1984; Porter and Kramer, 2006) concerns the positive effects that the CSR initiatives have on shareholders' wealth, because the positive relevance of CSR policy on the stakeholders can increase the firm reputation and they will be more willing to support firm's operations.

This is the first study that tried to systematize the cross-border studies based on CSR evaluation and its relevance on cross-border performance. This approach allows to find gaps that will enable to contribute from different theoretical points of view for future research. In particular, the contributions are to the stakeholder and shareholder theory, and also to the resource-based-view theory and the business ethics theory.

Keywords: Cross-border acquisitions; Corporate Social Responsibility; Systematic literature review; Acquisition performance; value creation.

REFERENCES

- Battisti, E., Miglietta, N., Nirino, N. and Villasalero Diaz, M. (2019), "Value creation, innovation practice, and competitive advantage: evidence from FTSE MIB index", *European Journal of Innovation Management*, DOI: <https://doi.org/10.1108/EJIM-09-2018-0211>
- Campbell, J.L. (2007), "Why would corporations behave in socially responsible ways? an institutional theory of corporate social responsibility", *Academy of Management Review*, Vol. 32 No. 3, pp. 946–967.
- Carroll, A.B. (1999), "Corporate Social Responsibility: Evolution of a Definitional Construct", *Business & Society*, Vol. 38 No. 3, pp. 268–295.
- Cooper, S. (2017), *Corporate Social Performance: A Stakeholder Approach*, 1st ed., Routledge.
- Devinney, T.M. (2009), "Is the Socially Responsible Corporation a Myth? The Good, the Bad, and the Ugly of Corporate Social Responsibility", *Academy of Management Perspectives*, Vol. 23 No. 2, pp. 44–56.
- Dezi, L., Battisti, E., Ferraris, E. and Papa, A. (2018), "The link between mergers and acquisitions and innovation: A systematic literature review", *Management Research Review*, Vol. 41 Issue: 6, pp. 716–752
- Freeman, R.E. (1984), *Strategic management: A stakeholder approach*. Marshfield, Pitman.
- Friedman, M. (2007), "The Social Responsibility of Business Is to Increase Its Profits", in Zimmerli, W.C., Holzinger, M. and Richter, K. (Eds.), *Corporate Ethics and Corporate Governance*, Springer Berlin Heidelberg, Berlin, Heidelberg, pp. 173–178.
- Malik, M. (2015), "Value-Enhancing Capabilities of CSR: A Brief Review of Contemporary Literature", *Journal of Business Ethics*, Vol. 127 No. 2, pp. 419–438.
- Pagano, M. and Volpin, P.F. (2005), "Managers, Workers, and Corporate Control", *The Journal of Finance*, Vol. 60 No. 2, pp. 841–868.

- Petticrew, M. (2001), "Systematic reviews from astronomy to zoology: myths and misconceptions", *British Medical Journal*, Vol. 322, pp. 98-101.
- Pittaway, L. et al. (2004), "Networking and innovation: A systematic review of the evidence", *International Journal of Management Reviews*, Vol. 5/6, No. 3-4, pp.137-168.
- Risberg, A., & Meglio, O. (2012). Merger and acquisition outcomes, Is it meaningful to talk about high failure rates? In Y. Weber (Ed.), *The handbook of M&A research*, Cheltenham, UK: Edward Elgar.
- Surroca, J. and Tribó, J.A. (2008), "Managerial Entrenchment and Corporate Social Performance", *Journal of Business Finance & Accounting*, Vol. 35 No. 5-6, pp. 748-789
- Tranfield, D. et al. (2003), "Towards a methodology for developing evidence-informed management knowledge by means of systematic review", *British Journal of Management*, Vol. 14, pp. 207-222.
- Vrontis, D. and Christofi M. (2019) "R&D internationalization and innovation: A systematic review, integrative framework and future research directions", *Journal of Business Research*, DOI: <https://doi.org/10.1016/j.jbusres.2019.03.031>

THE ROLE OF INTELLECTUAL CAPITAL IN MERGERS AND ACQUISITIONS IN EMERGING MARKETS: A LITERATURE REVIEW

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ABSTRACT

In the current market scenario, characterized by high competition, the M&A operations have assumed a key strategic role in the development of corporate competences in order to create value over time (e.g. Bresciani, 2012; Dallochio et al., 2016; Miglietta et al., 2017; 2018; Battisti et al. 2019). In particular, scholars have focused both on tangible and intangible competences own by companies as success factors of the M&A operations (e.g. Weber and Tarba, 2011; Ahammad et al., 2016).

Considering the intangible aspects, Intellectual Capital (IC) is a common phenomenon still widely debated at both academic and practitioners' level (e.g. Bontis, 1998; Jorgensen, 2006; Capuano, 2010; Pourkiani et al., 2014; Torres et al., 2018). During the last forty-five years, the role of the Intellectual Capital in Mergers and Acquisitions (M&A) has significantly increased (Gupta and Roos, 2001) but in spite of the growth in the relevance of M&A operations, there are still gaps in the academic research that need to be addressed. In particular, general studies about IC in M&A are becoming more usual since the 90s (e.g. Bou-Wen et al., 2006; Pazdzior & Pazdzior, 2012; Ott et al., 2014), but in literature, based on our knowledge, there is not a common language about the role of IC in Mergers and Acquisition.

Therefore, this study aims to provide insights into the development of research on Intellectual Capital in Mergers and Acquisitions studies by reviewing existing literature, in order to analyze in emerging markets, the role of IC in M&As. In particular, through a Systematic literature review (SLR) (Dezi et al., 2018), we proceeded looking in the academic literature in M&A field in order to analyze the role of Intellectual Capital.

In particular, this paper draws on theoretical evidence published in Management and Financial Journals about M&A with reference to the emerging markets. Data were collected from 2001 to 2018, and they were divided into 2 periods: before the subprime crisis (2001-2008) and after the crises (2012-2018). This selection allows to show how the M&A operations have changed their characteristics during time and how the concept of Intellectual capital has been addressed. In this way, 159 publications about M&A and emerging markets were examined, and 26 papers were identified due to their specific focus concerning IC from the point of view of human capital, structural capital, and relational capital.

The analysis allows to hypothesize that the role of Intellectual Capital to reach and maintain a competitive advantage to create value is having more and more attention during the M&A process both from scholars and practitioners, after the financial crises.

Therefore, future researches could examine, using quantitative methods, how Intellectual Capital can contribute to value creation in Mergers & Acquisitions in Emerging Markets. Specifically considering the weight attributed to it during the due diligence process and how to maximize it after M&A operations. Moreover, it would be important to develop a theoretical framework about the relationship between IC and M&A in emerging markets to address future research lines.

Keywords: Intellectual Capital; Merger & Acquisition; Emerging Markets; Literature review; value creation.

REFERENCES

- Ahammad, M.F., Tarba, S., Liu, Y. and Glaister K.W. (2016), "Knowledge transfer and cross-border acquisition performance: The impact of cultural distance and employee retention", *International Business Review*, Vol. 25, No. 1, pp.66-75.
- Battisti, E., Miglietta, N., Nirino, N. and Villasalero Diaz M., (2019), "Value creation, Innovation practice, and competitive advantage: evidence from FTSE MIB Index", *European journal of Innovation Management*, <https://doi.org/10.1108/EJIM-09-2018-0211>.
- Bontis, N. (1998), "Intellectual capital: an exploratory study that develops measures and models", *Management Decision*, Vol.36, No.2, pp.63-76.
- Bou-Wen, Lin, Shin-Chang, Hung and Po-Chien, Li (2006), "Mergers and acquisitions as a human resource strategy: Evidence from US banking firms", *International Journal of Manpower*, Vol.27, No.2, pp.126-142.
- Bresciani, S. (2012), *Crescere Attraverso Fusioni e Acquisizioni: aspetti Di Governance e Implicazioni Strategiche*, McGraw-Hill, Milano.
- Capuano, P. (2010), "La valutazione del capitale intellettuale in banca: un'analisi empirica sulle banche italiane quotate", *Impresa Progetto – Electronic Journal of Management*, Vol.1, pp.1-31.
- Dalocchio, M., Lucchini, G. and Scarpelli, M. (2016), *Mergers & Acquisitions*, EGEA, Milano.
- Dezi, L., Battisti, E., Ferraris A. and Papa A. (2018), "The link between mergers and acquisitions and innovation: A systematic literature review", *Management Research Review*, Vol. 41, No.6, pp. 716-752.
- Gupta, O. and Roos, G. (2001), "Mergers and acquisitions through an intellectual capital perspective", *Journal of Intellectual Capital*, Vol.2, No.3, pp. 297-309.
- Jorgensen, K.M. (2006), "Conceptualising intellectual capital as language game and power", *Journal of Intellectual Capital*, Vol.7, No.1, pp.78-92.
- Miglietta, N., Battisti, E. and Campanella, F. (2017), "Value maximization and open innovation in food and beverage industry: evidence from US market", *British Food Journal*, Vol. 119 No. 11, pp.2477-2492.
- Miglietta, N., Battisti, E., Carayannis, E. and Salvi, A. (2018), "Capital structure and business process management: evidence from ambidextrous organizations", *Business Process Management Journal*, Vol. 24 No. 5, pp. 1255-1270.
- Ott, C., Schmidt, U. and Gunther, T.W. (2014), "Information Dissemination in Mergers & Acquisitions: Purchase Price Allocations, Press Releases, and Business Press", *Accounting and Business Research*, Vol.44, No.3, pp.280-314.
- Pazdzior, A. and Pazdzior, M. (2012), "Measurement of Intellectual Capital in a Company", *Management, Knowledge and Learning*, pp.843-849.
- Pourkiani, M., Sheikhy, A. and Daroneh, M.S. (2014), "Importance and status of intellectual capital in knowledge economy", *Indian Journal of Fundamental and Applied Life Science*, Vol.4, pp. 512-518.
- Torres, A.I., Ferraz, S.S. and Rodrigues, H.S. (2018), "The impact of knowledge management factors in organizational sustainable competitive advantage", *Journal of Intellectual Capital*, Vol.19, No.2, pp. 453-472.
- Weber, Y. and Tarba, S. (2011), "Exploring integration approach in related mergers: Post-merger integration in the high-tech industry", *International Journal of Organizational Analysis*, Vol. 19, No.3, pp.202-221.

SELF-EFFICACY AND SUCCESS OF DISADVANTAGED ENTREPRENEURS: THE MODERATING ROLE OF RESILIENCE

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ABSTRACT

Entrepreneurship has acted as engine in global economies impacting jobs creation, innovations, growth and social integration (Duchek, 2018). In spite of the augmented concern about alternative aspects of entrepreneurship, such as social and gender-based entrepreneurship behaviour, there are still research voids regarding entrepreneurship among disadvantaged individuals. The term “disadvantaged entrepreneurship” does not have a consistent definition. Scholars have traditionally included women, unemployed, ex-prisoners, ethnic minorities, immigrants, and disabled people within disadvantaged entrepreneurs (see for example Marlow & Patton, 2005; Hart & Acs, 2011). There is consistent agreement that positive and environmental factors can actually foster entrepreneurship (Hornsby, Naffziger, Kuratko & Montagno, 1993). However, it is not clear whether hard and alternative circumstances can provide entrepreneurs with stimulus and pushes towards entrepreneurial ideas and paths to success. Following this research stream (Miller & Le Breton-Miller, 2017), this paper has the primary purpose of studying the psychological traits of entrepreneurs with disadvantages, and it aims to evaluate the relationship between self-efficacy and success, and whether resilience enhances that relationship. In this regard, resilience refers to the ability to adapt in the face of trauma, adversity, tragedy or even significant ongoing stressors, the personal quality that grant to thrive in face of adversity, a personality characteristic that mitigate the effects of stress and let the subject adapt (Bullough, Renko, & Myatt, 2014). By contrast, Self-efficacy, that is “beliefs in one’s capabilities to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p. 3), has been considered an important inherent factor sustaining entrepreneurial activities and has been found significantly correlated with entrepreneurial orientation.

Therefore, the research contributes to the debate of inherent factors fostering entrepreneurship, that is specific facets of individuals, such as psychological traits. The pillars of this study are based on the fact that self-efficacy and resilience have been found positively associated with entrepreneurial orientation in the literature (Sequeira et al., 2007; Wilson et al., 2007; McGee et al., 2009), and therefore they can also push disadvantaged towards entrepreneurial success.

To fill the research gap, this research is based on a survey methodology involving disadvantaged entrepreneurs located in Italy, operating in different sectors. Specifically, a quantitative methodology through ordinary least squares (OLS) has been deployed to test two hypotheses concerning the positive

relationship between self-efficacy and resilience, and the moderating effect of resilience on the above relationship. The hypotheses are tested with a sample of 114 disadvantaged entrepreneurs. Overall, the paper contributes to the literature proposing and evaluating self-efficacy as antecedent of entrepreneurial success in the specific context of disadvantaged entrepreneurs. In this guise, the paper sheds light on the context of disadvantaged entrepreneurs, invigorating this topic often neglected in both theoretical and practical public discussions, re-indicating its social and moral importance for both growth and social inclusion. We add to this body of research highlighting and confirming a positive relationship between self-efficacy and entrepreneurs' success because most of the studies focused on the relationship between entrepreneurial self-efficacy and intentions (Boyd & Vozikis, 1994; Chen, Greene, & Crick, 1998; Fitzsimmons & Douglas, 2011). Second, we contribute to the literature on disadvantaged entrepreneurs highlighting the key role of resilience as moderator of the relationship between self-efficacy and entrepreneurial success.

Keywords: disadvantaged entrepreneurs, self-efficacy, resilience, entrepreneurship.

REFERENCES

- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 34(2), 191-215.
- Boyd, N. G., & Vozikis, G. S. (1994). The influence of self-efficacy on the development of entrepreneurial intentions and actions. *Entrepreneurship theory and practice*, 18(4), 63-77.
- Bullough, A., Renko, M., & Myatt, T. (2014). Danger Zone Entrepreneurs: The Importance of Resilience and Self-Efficacy for Entrepreneurial Intentions. *Entrepreneurship Theory and Practice*, 38(3), 473-499.
- Chen, C. C., Greene, P. G., & Crick, A. (1998). Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?. *Journal of business venturing*, 13(4), 295-316.
- Duchek, S. (2018). Entrepreneurial resilience: a biographical analysis of successful entrepreneurs. *International Entrepreneurship and Management Journal*, 14(2), 429-455.
- Fitzsimmons, J. R., & Douglas, E. J. (2011). Interaction between feasibility and desirability in the formation of entrepreneurial intentions. *Journal of Business Venturing*, 26(4), 431-440.
- Hart, D. M., & Acs, Z. J. (2011). High-tech immigrant entrepreneurship in the United States. *Economic Development Quarterly*, 25(2), 116-129.
- Hornsby, J. S., Naffziger, D. W., Kuratko, D. F., & Montagno, R. V. (1993). An interactive model of the corporate entrepreneurship process. *Entrepreneurship Theory and Practice*, 17(2), 29-37.
- Marlow, S., & Patton, D. (2005). All credit to men? *Entrepreneurship, finance, and gender*. *Entrepreneurship theory and practice*, 29(6), 717-735.
- McGee, J. E., Peterson, M., Mueller, S. L., & Sequeira, J. M. (2009). Entrepreneurial self-efficacy: refining the measure. *Entrepreneurship theory and Practice*, 33(4), 965-988.
- Miller, D., & Le Breton-Miller, I. (2017). Underdog Entrepreneurs: A Model of Challenge-Based Entrepreneurship. *Entrepreneurship Theory and Practice*, 41(1), 7-17.
- Sequeira, J., Mueller, S. L., & McGee, J. E. (2007). The influence of social ties and self-efficacy in forming entrepreneurial intentions and motivating nascent behavior. *Journal of Developmental Entrepreneurship*, 12(03), 275-293.
- Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: implications for entrepreneurship education. *Entrepreneurship theory and practice*, 31(3), 387-406.

INNOVATIVE MANAGEMENT OF THE TRADITIONAL RURAL BUILDINGS FOR RURAL DEVELOPMENT IN ITALY

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ABSTRACT

The traditional rural buildings are constitutive elements of rural landscape. In the past, these structures were used by farmers as temporary or fixed residence, harvest storehouse, surveillance building, shelter for animals, etc. Nowadays, these constructions are components of the rural cultural heritage, being able to provide a variety of public benefits. However, the market related to the traditional rural buildings does not reflect the real value attached by the community to these goods and related services, so landowners leave them in poor condition or even abandoned.

The aim of this study is to provide knowledge on the economic valuation of the traditional rural buildings in Apulia, southern Italy, through the choice experiments (CE). The results allow defining adequate cultural preservation policies based on the entrustment of the management of these constructions to entrepreneurs able to favour their innovative use for activities characterized by high social value, so fostering rural development on the regional territory.

Keywords: rural cultural heritage; rural development; traditional rural buildings; choice experiments; joint venture; Apulia.

THE EFFECT OF THE OPEN SKIES AGREEMENT BETWEEN ISRAEL AND THE EU ON ISRAEL'S TOURIST INDUSTRY

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ABSTRACT

When Israel was founded in May 1948, similar to many countries in Western Europe at that time, Israel's economy was based on a socialist model with the government controlling the major industries, and almost inevitably granting government firms monopolies. One example of this was in the aviation industry, that Israel, again similar to Western European countries, established a government firm to provide air traffic to and from Israel. This company was called El Al and it was founded in November 1948. In 1950, El Al along with the national labor union, the Histadrut, formed a domestic aviation company called Arkia. In 1970s, Arkia began limited international service and in 1980, the company was privatized. In 1989, a third aviation company Israil (then called Knafei HaEmek) was founded in Israel. This too began by just offering domestic flights and in 1999 it expanded to also offer international flights. Throughout all these years, Arkia and Israil offered very few international flights and El Al was the dominant carrier with regard to international flights to and from Israel. In 2005, El Al was privatized, but it still remained as the dominant carrier. In 2007, at Ben Gurion airport, which was and is Israel's main airport, El Al's share of international passengers was 36.5%, and the next closest carriers were Onur Air at 6.1% (charter flights to Turkey), Lufthansa 3.98%, Continental Airlines 3.71%, Israil 3.56% and Arkia 3.41% (Israel Airport Authority, 2007).

El Al's privileged position at Ben Gurion airport was only really challenged for the first time with the Open Skies agreement that was signed between Israel and the EU in 2012 and formally ratified in 2013. The agreement called for the EU and Israel to allow unfettered access of Israeli airlines and airlines owned by EU citizens to Israel and the EU countries. At that time, the EU region was the first destination of fifty percent of the international flights that left Israel (author's calculation from Israel Airport Authority, 2012).

The Open Skies agreement was heavily criticized by the head of El Al at that time, Eliezer Shkedi, who said "What is being presented now is liable to cause Israeli aviation to crash" (quoted by Cohen, 2012), and some people agreed with this dire prognosis (Korin-Lieber, 2012). The basis for this pessimism, besides a general fear of competition by monopolists, was that it was claimed by opponents of the agreement that the Open Skies agreement would give the EU airlines an unfair advantage since all three of the Israeli airlines have to pay heavy security costs, which other airlines do not have.

The Israeli government was not swayed by these claims and it proceeded with the agreement, as then Ministry of Transport director general Noaz Bar Nir said, “Besides the interests of the airlines, there is a national interest - the larger number of incoming tourists, and the ability of Israelis to fly at lower prices” (quoted in Cohen, 2012). The Israeli government was choosing not only to help Israeli consumers, but also to help Israel’s tourist industry. However in response to the complaints from the Israeli airlines, the government increased its subsidy of the security costs to 97.5% of the costs, and the implementation of the agreement was phased in slowly for five years (Gulliver, 2014).

Seven years have now elapsed since the first memorandum was signed between Israel and the EU and we can see that some of the changes that have happened and that the dire forecasts of the future Israel’s three airlines have not happened. First, there has been an 80% in international air traffic at Ben Gurion airport from 2012 to 2018, from 12,400,800 passengers to 22,329,850 (Data from Israel Airport Authority, 2012 and 2018). Interestingly, the increase has been greater for Israelis who go abroad than for foreigners who come to Israel. According to Israel’s Central Bureau of Statistics (2018, www.cbs.gov.il), the number of Israelis departing and entering Israel increased by 74% from 2012 to 2017, while the number of foreigners entering and leaving Israel increased by “just” 25%. Secondly, all three of the Israeli airlines had increases in their international passenger traffic, El Al’s passenger traffic increased 38% from 2012 to 2018, Israir’s passenger traffic increased 132%, and Arkia’s passenger traffic increased 47%. Accordingly, in terms of their size, the three firms have not been hurt by the agreement. However, with regard to market share of international passengers travelling to and from Israel, while Israir’s and Arkia’s market share changed slightly, from 2.28% to 2.94% for Israir and from 3.76% to 3.07% for Arkia, the market share of El Al has fallen significantly from 33% in 2012 to 25% in 2018. (Data from Israel Airport Authority, 2012, 2018.) We see that El Al is not adapting sufficiently to the new competitive environment, while Israir and even Arkia have done better at meeting the new challenges of the Open Skies agreement.

Another question of the effects of the Open Skies agreement is how has the agreement affected Israel’s domestic tourist industry? Was the Israeli government correct that the benefits from the agreement for Israel’s tourist industry were larger than the possible damage to Israel’s aviation industry? On the one hand the increase in the number of foreign tourists has led to an increase in demand for tourist services, such as hotel rooms, but what has been the effect on Israel’s domestic tourist industry due to the huge increase in Israelis travelling abroad? Has this travel been at the expense of Israelis taking vacations domestically or is in addition to domestic vacations? It is possible that if the large increase in Israelis travelling abroad is instead of Israelis travelling domestically, then this loss to Israel’s domestic tourist industry could be greater than the gain to Israel’s domestic tourist

industry from the increase in foreign tourists. In this paper, we will attempt to answer this question by examining the changes that have transpired in Israel's hotel industry since 2012.

Keywords: Free trade agreements, Israel, Hotel industry, Hotel occupancy rates.

REFERENCES

- Cohen, A. (2012), "El Al CEO: Open skies is irresponsible", *Globes*, 1 Feb. <https://en.globes.co.il/en/article-1000721089>, accessed March 2019.
- Gulliver, M. R. (2014) "Israel's aviation deal with the EU: Opening UP", *The Economist*, 27 March.
- Israel Airport Authority (2007, 2012, 2018) "Ben Gurion International Airport Activity Summary Annual Reports 2007, 2012, and 2018". <http://brin.iaa.gov.il/monthlyreport/ViewReportEng.aspx>, accessed March 2019.
- Israel's Central Bureau of Statistics (2018) "Statistical Abstract of Israel". Table 23.1. www.cbs.gov.il, accessed March 2019.
- Korin-Lieber, S. (2012), "Open skies spells disaster for El Al", *Globes*, 19 March. <https://en.globes.co.il/en/article-1000734649>, accessed March 2019.

BREXIT AND THE UNITED KINGDOM TOURISM SECTOR

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ABSTRACT

This evaluation attempts to briefly analyse an intensely political subject in as apolitical and neutral a manner as possible. That subject is Brexit as the forthcoming exit of Britain from the European Union (EU) is known colloquially. Brexit has excited very strong emotions both within the United Kingdom (UK) and internationally. This brief analysis is specifically concerned with the implications of Brexit for the UK tourism sector.

The UK was due to leave the European Union on 29th March 2019 (BBC News, 2019). After months of negotiation, the EU and the UK reached agreement on a Brexit deal. Nonetheless, that Brexit deal has now been rejected three times by the British Parliament (as at 24th April 2019) and that means that it cannot be implemented. Although it has been rejected three times by the British Parliament that may not necessarily mean that the agreement that was reached between the UK and the EU is now dead. Theresa May, the British Prime Minister is currently trying to find common ground over a deal with other UK political parties, notably the Labour Party. The outcome of those discussions is unknown at the present time and the current situation regarding Brexit is uncertain. The EU leaders have now extended the Brexit date twice, firstly until 12th April 2019 and subsequently until 31st October 2019, although provision exists for the UK to leave the EU before then if the UK and the EU can ratify a withdrawal agreement. If agreement is not reached by 31st October 2019 the prospect of a no-deal Brexit looms large (BBC News, 2019).

Prior to, and especially since, the UK referendum on EU membership took place on 23rd June 2016 (BBC News, 2019) the British media has been utterly dominated by issues relating to Brexit. Although that media domination is probably at its most intense level in the U.K., there is no doubt that the subject will have also provoked much discussion in the traditional media and on social media as well as in cafés, bars, restaurants, homes and in all sorts of other forums throughout the EU and in much of the rest of the world. However the contrast between the media domination and the academic literature (peer-reviewed journal articles) relating to the implications of Brexit for tourism is stark by comparison. Those few papers that do exist tend to focus on the effect that the Brexit decision might have on British tourists visiting other countries (e.g. Amoamo, 2018, Cirer-Costa, 2017, Pirles-Rebas, Ramón-Rodríguez and Ortuño, 2018) rather than on U.K. domestic tourism and inbound tourism into Britain. The effect of the Brexit referendum decision on British tourists visiting other countries is a cause for concern for some countries. In Spain, for example, the U.K. represents the largest

international tourism market by some distance. In 2016, some 17 million British tourists visited Spain and they spent over 16 billion euros, which amounted to almost 21% of total international tourism expenditure in Spain that year (Pirles-Rebas, Ramón-Rodríguez and Ortuño, 2018).

In a survey undertaken by the author, which concluded in April 2017, when asked about future trends in destination marketing, only one of fifteen in-depth interview respondents mentioned Brexit. The interview participants were all chief executives of destination marketing organisations in England or chief executives or directors of their key stakeholder organisations.

A recently published book by Morrison (2019) with the title, 'Marketing and Managing Tourism Destinations' makes copious reference to the U.K. and Britain throughout the text. However despite its 2019 publication date it fails to mention Brexit even though the decision to leave the European Union is likely to have a profound effect (positive or negative or both) on tourism destinations.

Why have academics largely shunned such an important topic? This may partly be explained by the fact that the UK referendum result was a surprise to many people and the subject did not therefore command the attention of academics as much as it might have done. Another factor may be the extreme uncertainty that the Brexit referendum vote has generated. Nobody can predict the outcome and therefore anything that is written about the subject stands a good chance of being judged to be inaccurate at best, or plain wrong over the course of time. A third reason, which is beginning to lose credence with the passage of time, is that the academic writing and review process means that publication can be delayed for some while after the event or phenomena that are being reported on have actually occurred. Whatever the reason, an extensive search failed to locate a single peer-reviewed journal article in which the focus of the article is on the Brexit decision and its effect on the U.K. tourism sector. The lack of published content in the extant academic literature regarding this important issue provides ample justification for its investigation.

Brexit is the main thrust of Professor Jens Hölcher's public lecture in Bournemouth, Dorset (Hölcher, 2017) but its linkage to the U.K. tourism sector is not. Nevertheless, Hölcher does concede that one of the few U.K. sectors that might benefit from Brexit is domestic and inbound tourism. The reason for that is that a drop in the value of the pound (as has already occurred) may encourage more international visitors from the E.U. (and the United States) and may encourage British residents to holiday at home.

Although it is not the main thrust of the paper, a rare reference to Brexit occurs in Hassen and Giovanardi (2018), in which the authors express a fear that Brexit may have the effect of compromising one English city's multicultural image and of rendering it to be less attractive in the eyes of potential international visitors. This is a very real risk as Brexit may give rise to the perception that the U.K. shuns foreigners and is xenophobic. This is a risk factor in respect of holidaymakers but

it is also a risk factor in terms of employment. The U.K. hospitality sector relies a great deal on migrant workers especially from Eastern Europe. If there is a reduction in the number of migrant workers in the hospitality sector both because of legislation or because the UK becomes a less attractive place to live and work for the migrant workers, it might have serious consequences for that sector.

Country destination	Foreign visitor spending	Domestic visitor spending
UK	16.9%	83.1%
Spain	54.5%	45.5%
Netherlands	51.7%	48.3%
France	27.4%	72.6%
Italy	26.6%	73.4%
Germany	12.7%	87.3%

Domestic versus foreign spending contribution to GDP, 2017

Data from World Travel & Tourism Council, 2017 (Adapted from Morrison, 2019)

From the above table it can be seen that in 2017 international visitor spending in the UK (at 16.9%) was dwarfed by domestic visitor spending (at 83.1%).

Although domestic tourism has a much greater value than international tourism in the U.K. in the last year for which full figures are available international tourism to Britain fared well. Visit Britain (the British national tourism agency which is funded by the U.K. government) reported that in 2017 the total number of international tourist visits grew to a record 39.2 million and tourist expenditure increased that year to £24.5 billion which is another record (Visit Britain, 2019).

What will the effect be on the U.K. tourism sector if and when Brexit finally happens? The implications for theory and practice both in the UK and in EU tourism sectors are likely to be profound although they are currently unquantifiable. As with so many other things linked to Brexit we will need to await the final outcome.

Keywords: Brexit, United Kingdom, tourism, domestic, international, European Union

REFERENCES

- Amoamo, M. (2018) More thoughts on core-periphery and tourism: Brexit and the UK Overseas Territories. *Tourism Recreation Research* [online] 43 (3) pp. 289-304 Available at: <https://www.tandfonline.com/doi/full/10.1080/02508281.2018.1455015> [Accessed 9th February 2019]
- BBC News (2019) Brexit: All you need to know about the UK leaving the EU [online] Available at: <https://www.bbc.co.uk/news/uk-politics-32810887> [Accessed 24th April 2019]
- Cirer-Costa, J. C. (2017) Turbulence in Mediterranean Tourism. *Tourism Management Perspectives* [online] 22 pp. 27-33 Available at: <https://www.sciencedirect.com/science/article/pii/S2211973617300120> [Accessed 9th February 2019]
- Hassen, I. and Giovanardi, M. (2018) The difference of 'being diverse' City branding and multiculturalism in the 'Leicester Model'. *Cities* [online] 80 pp. 45-52 Available at: <https://ac.els-cdn.com/S0264275117301191/> [Accessed 14th January 2019]

- Hölcher, J. (2017) The effects of Brexit on the E.U., the U.K. and Dorset – a migrant’s account [Guest Speaker from Bournemouth University] Barclay’s House, Poole. 18th October 2017
- Morrison, A. M. (2019) Marketing and Managing Tourism Destinations. Abingdon: Routledge
- Pirles-Rebas, J. F., Ramón-Rodríguez, A. B. and Ortuño Padilla, A. (2018) Brexit Announcement: Immediate Impact on British Tourism in Spain. *Cornell Hospitality Quarterly* [First published online May 29 2018] DOI: 10.1177/1938965518777699 [Accessed 9th February 2019]
- Visit Britain (2019) 2017 Snapshot [online] Available at: <https://www.visitbritain.org/2017-snapshot> [Accessed 9th February 2019]

A CONSUMER PERSPECTIVE ON MOBILE FINANCIAL SERVICES: STATE-OF-THE-ART, FRAMEWORK AND FUTURE DIRECTIONS

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ABSTRACT

INTRODUCTION

Due to the increasing importance and usage of mobile financial systems, applications and associated services in various countries worldwide, examining and understanding consumers' intentions, behaviours, preferences and beliefs regarding this industry have become priorities for many scholars in the field of marketing and information systems (Shaikh, 2016). Resultantly, over the last two decades, there has been a veritable explosion of empirical research in the areas of resistance, adoption continuous usage and the post-adoption consequences of mobile financial services (MFS). From the foregoing discussion, we have observed the following: research on MFS is ongoing; the mobile financial and payment market is flooded with a portfolio of offerings (Chawla and Joshi, 2017); and the prior empirical research on banking, payments and consumer behaviour has considered various facets of MFS, including mobile banking, mobile payments and the fast-emerging realm of mobile money.

PURPOSE OF STUDY

This study firstly aims to provide a critical overview of the MFS field through a detailed analysis of a sample of mainstream empirical research that was published in various marketing and interdisciplinary journals (such as *Journal of Consumer Research*, *Journal of Marketing*, *Marketing Science*, *Journal of Marketing Research*, *MIS Quarterly*, *Computers in Human Behaviour*, and so forth) between the years 2000 to 2018 (inclusive). It also aims to provide a better understanding of the constructs that influence consumer technology adoption and usage and post-adoption as well as to develop and propose a framework that presents the MFS ecosystem. Finally, this study will identify future research areas in this field that have been lacking to date.

METHODOLOGY

According to Webster and Watson (2002), searching for and locating the most relevant and valuable literature are significant steps in drafting a literature review that helps advance scientific

knowledge, facilitate theory development, identify areas where a plethora of research exists, and uncover the research gaps. We followed a structural approach, as recommended by Webster and Watson (2002), when identifying the relevant literature for this review article. Using various key terms (mobile financial services, mobile banking, mobile payments, mobile money, mobile payment services, mobile payment applications, contactless mobile payments), a vertical search technique was used to access various online scholarly sources, such as Elsevier/ScienceDirect, EBSCO, Emerald, JSTOR, Wiley, etc. A horizontal search technique, such as the use of Google scholar, generally bears the same results and was therefore avoided. To examine both historical and recent developments in this emerging field, we set the investigation period from 2000 to 2018 (inclusive). A thorough literature search resulted in 80 relevant empirical studies that were published in peer-reviewed journals. These discussed various factors that influenced both consumer adoption and the usage of MFS globally during the target period. A few conference proceedings were also included.

FINDINGS

From a methodological perspective, the synthesis of the information revealed that most of the studies that were included had widely used the technology acceptance model (TAM), the unified theory of acceptance and use of technology model (UTAUT) and their modifications, followed by self-developed hybrid models. These hybrid models were built to predict consumers' behaviour and intention to adopt and use MFS and their related technologies. Several moderators were also used in extending the research to examine their effect on the relationship between key constructs. Synthesis of the past literature suggests that these moderators have been separated into different categories: (1) demographic moderators, such as age, gender and education; (2) cultural moderators, such as individualism, collectivism, uncertainty avoidance, masculinity, femininity, and power distance; (3) psychological moderators, such as self-efficacy, perceived image, subjective norms and personal innovativeness; and (4) personal related moderators, such as trust and perceived risk. The key determinants that affect the consumer decision cycle regarding choosing to adopt and use MFS were also identified, consolidated and reported in this study. For example, from the consumer perspective, product-related factors, such as 'perceived usefulness' (PU) and its close ally 'performance expectancy', have received major attention from researchers. Here, TAM-based research has documented a significant and persistent effect of PU and perceived ease of use on new technology adoption (primarily on usage intention) and sustained use.

FRAMEWORK

A framework is also proposed and suggested in this review (see Figure 1). This comprehensive framework presents the MFS ecosystem and explicitly identifies future research areas that have lacked attention to date. The dark grey highlighted boxes indicate the research gaps that require exploration due to the changing MFS landscape. In this framework, we have divided the MFS into three domains: m-banking, mobile payments, including mobile wallets, and the fast-emerging domain of mobile money. This review has endorsed these three domains, with a projection that mobile money will soon be recognised as a separate digital domain within the fertile ambit of MFS.

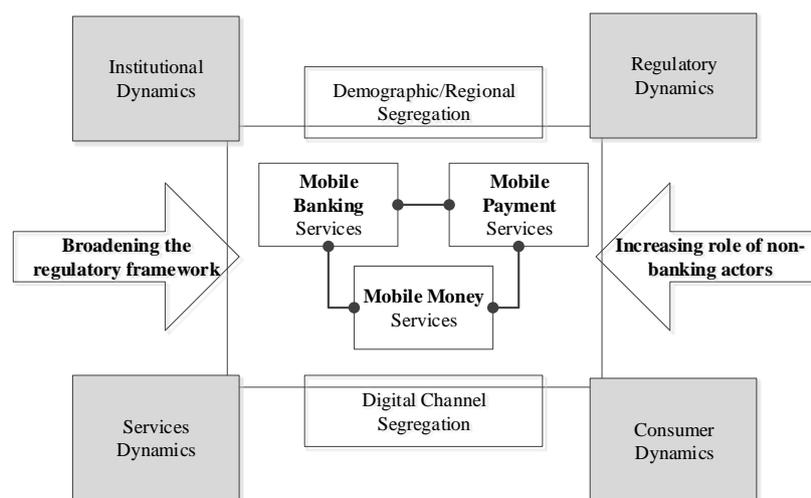


Figure 1: Framework of retail MFS and technologies

Institutional dynamics segregate institutions that develop and deploy MFS. These institutions include governmental and regulatory bodies, banking, microfinance entities and non-banking entities, such as merchants, FinTech and third-party developers. Regulatory dynamics are also important to the development as well as the deployment of MFS in different regions of the world. In addition to banking entities, which are generally diligently regulated, the significance of non-banking entities in the MFS ecosystem has been growing, especially after the promulgation of the Payment Systems Directive (PSD2) and Open Banking regulations in 2018. This changing regulatory landscape will alter the retail banking and payment landscape and further augment the significance of MFS.

Keywords: Mobile financial services; Literature review; Framework; Mobile banking; Mobile payments; Mobile money

REFERENCES

- Chawla, D. and Joshi, H. (2017), "Consumer perspectives about mobile banking adoption in India—a cluster analysis", *International Journal of Bank Marketing*, Vol. 35 No. 4, pp. 616-636.
- Shaikh, A. A. (2016), "Examining consumers' intention, behaviour, and beliefs in mobile banking adoption and continuous usage", *Jyväskylä studies in business and economics*, 172.

Webster, J. and Watson, R. T. (2002), "Analyzing the past to prepare for the future: Writing a literature review", *MIS Quarterly*, Vol. 26 No. 2, pp. 13-23.

NON-FINANCIAL EMPLOYMENT COMMITMENT AMONG MUSLIMS AND JEWS IN ISRAEL

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ABSTRACT

Non-Financial Employment Commitment (NFEC) is an important measure of work ethics. It is measured commonly by the classic "Lottery Question" asking whether a person would continue working if he/she won a lottery or inherited a large sum of money. Employees with high NFEC have high work centrality, show higher job performance, are more involved in their work, more committed to their organization, and there is lower absenteeism and turnover among them than employees who have low NFEC (Snir, 2014; Sharabi and Harpaz, forthcoming). NFEC of Muslims in general and of Arab Muslims in particular, has not been studied yet and the objective of this study is to fill this gap by exploring NFEC among Arab Muslim and comparing them to Israeli Jews. Better understanding of Muslims' work ethic is important today due to a substantial number of Muslim immigrants and refugees from Africa and Asia, particularly from the Middle East, to Western countries (especially to EU countries).

The sample included 898 Jews and 215 Muslims representing the Israeli labor force. Among the Jews, 50.9% were men and 49.1% women and the mean age was 39.5. Among the Muslims, 55.3% were men and 44.7% women and the mean age was 36.9. The findings in table 1, and in regression analysis, reveal higher NFEC among Muslims, particularly among Muslim women, compared to Jews. It seems that the great importance Muslims, especially Muslim women, attribute to work stems from their cultural and religious values and restrictions. Aside from the fact that Muslim society restricts women's opportunities in joining the labor market, Muslim women are dominated by patriarchal values (Kaufman, Abu Baker, and Saar; 2012; Schnell and Shdema, 2016). Work life and occupation is a means of obtaining social status and prestige but for Muslim women it is also a means to fulfill other needs, such as influencing family decisions, working outside of the community, achieving independence, and shaping one's own destiny, in a patriarchal, collectivist, traditional society (Ganaim, 2001).

Both Muslim and Jews in urban areas have lower NFEC than those who live in smaller localities. These findings confirm our core-periphery model regarding NFEC. While the degree of religiosity has an unclear impact on NFEC, education and income levels have the strongest effect on NFEC among both Muslims and Jews.

Table 1: NFEC (Lottery Question) percentage according to demographic distribution among Jews and Muslims

	Jews		Muslims	
	Would working	stop	Would working	continue working
Total Sample	17.9	82.1	10.7	89.3
Men	17.5	82.5	14.4	85.6b
Women	18.4	81.6	6.3	93.8
Degree of Religiosity				
Secular	16.8	83.2b	11.3	88.7
Traditionalist	22.5	77.5	10.2	89.8
Religious	11.0	89.0	12.1	87.9
Area of Residence				
Rural area	11.4	88.6b	6.6	93.4 b
Town	17.9	82.1	19.0	81.0
City	20.6	79.4	15.7	84.3
Educational level				
Elementary school	33.3	66.7b	33.3	66.7b
Secondary school	22.3	77.7	16.9	83.1
Additional education	14.5	85.5	8.6	91.4
Academic degree	12.4	87.6	1.4	98.6
Occupational status				
Low status	22.2	77.8b	17.4	82.6b
Middle status	15.8	84.2	6.5	93.5
High status	13.0	87.0	5.0	95.0
Net income (NIS)				
<4000	24.2	75.8b	19.2	80.8
4001-5200	23.3	76.7	15.0	85.0
5201-6400	22.6	77.4	10.0	90.0
6401-7600	17.5	82.5	10.3	89.7
>7600	12.1	87.9	5.3	94.7

^a Differences in NFEC between Jews and Muslims are significant (χ^2 test, $p < .05$).

^b Differences in NFEC between demographic categories are significant among this ethno-religious group (χ^2 test, $p < .05$).

The main application stemming from this study is that governments as well as employers should suit work places for diverse groups of employees. In this case, they should look for ways to preserve high work ethics, as reflected by NFEC, among Arab Muslims employees. Encouraging Muslim women to join organizations can be achieved by coping with social norms and cultural barriers, by financial and non-financial incentives, and by adjusting the work environment to suit religious and cultural expectations and preferences (food, clothing, holidays etc.). Understanding and fulfilling the diverse needs and expectations can lead to better integration of immigrants into society as a whole as well as to organizations while enhancing their productivity and commitment (Wrench 2016; Sharabi and Harpaz 2010). Since NFEC is related to education and occupational satisfaction, inspiring employees, indeed all members of society, to improve their level of education and creating satisfying jobs that includes intrinsic components (e.g. autonomy, interest, variety, responsibility, and empowerment) can increase NFEC.

The findings and their implications for organizations and Western societies are discussed.

Keywords: Non-financial Employment Commitment, Lottery Question, Jews, Muslim Arabs, Israel.

REFERENCES

- Ganaim, S. (2001), An employment profile of Arab women in Israel. Thesis submitted for Masters Degree, Haifa University, Haifa (Hebrew).
- Kaufman, I. Abu Baker, K. and Saar A. (2012), Arab society in Israel (Vol. 2), The open university, Raanana (Hebrew)
- Schnell, I. and Shdema, I. (2016), "The Role of Peripherality and Ethnic Segregation, Arabs' Integration into the Israeli Labor Market", in Khattab, N., Miaari, S. and Stier, H. (Eds.), Socioeconomic Inequality in Israel. Palgrave Macmillan, New York, pp. 207-224.
- Sharabi, M., & Harpaz, I. (2010), "Improving employees' work centrality improves organizational performance: Work events and work centrality relationships", Human Resource Development International, Vol. 13, pp. 379-392.
- Sharabi, M. and Harpaz, I. (forthcoming), "To Work or Not to Work: Variables Affecting Non-financial Employment Commitment over Time", International Labour Review.
- Snir, R. (2014), "Non-financial employment commitment: Some correlates and a cross-national comparison", Cross Cultural Management, Vol. 21, pp. 39-54.
- Wrench, J. (2016), Diversity management and discrimination: Immigrants and ethnic minorities in the EU, Ashgate, EU.

LEADER HUMILITY AND EMPLOYEE VOICE: A MODERATED MEDIATION MODEL

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ABSTRACT

Recently, scholars and practitioners have shown an increasing interest in leader humility. In fact, several scholars have argued that leader humility is one of the main determinants of leader effectiveness (e.g., Owens *et al.*, 2013). Despite its lack of clarity regarding its conceptualization (Oc *et al.*, 2015) leader humility is mainly described as an interpersonal characteristic, which encompasses a willingness to see oneself in a more accurate way and acknowledge others' potential strengths and contributions, as well as openness to new ideas (Chiu *et al.* 2016; Owens *et al.*, 2013). In this context, leader humility provides followers with feedback and flexibility, and encourages them to learn continuously (Owens and Heckman, 2012).

In the existing literature, prior research has suggested that leader humility play an important role in fostering both organizational and employee outcomes such as organizational learning (Vera and Rodriguez-Lopez, 2004); successful change outcomes (e.g., Edmondson, 2003); employee engagement (e.g., Chiu *et al.*, 2016). In this vein, previous studies have demonstrated the relationship between leader humility and employee voice (Liu, 2016). However, less is known about the underlying mechanisms and the boundary conditions that explain this relationship. To this end, we developed and tested a moderated mediation model that highlights the mediating role of employee intention to share knowledge and the moderating role of organizational tenure (Figure 1).

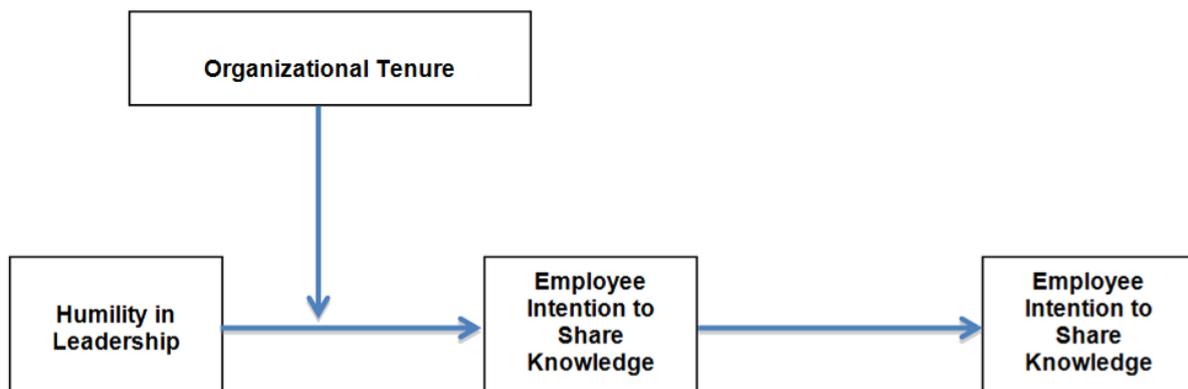


Figure 1: Hypothesized model

Data were collected from 209 medical representatives employed at international pharmaceutical companies operating in Greece. The present hypotheses were examined with SPSS macros developed

by Preacher *et al.*, (2007). Results supported our hypotheses that employee intention to share knowledge mediate the association between leader humility and employee voice and, further, that this indirect effect was contingent on employees' organizational tenure. Namely, the indirect relationship of leader humility with employee voice through employee intention to share knowledge is stronger for short-term employees than for long-term employees.

The study presents interesting implications for both theory and practice. As existing research lacks empirical evidence in support of how and when humility in leadership affects extra-role behavior, our study enhances this understanding. In doing so, it supports that leader humility acts as a contextual factor predicting important employee behaviors such as employee voice. Drawing also on the social exchange theory, the study findings confirm that employees who perceive supportive behaviors from humble leaders counterbalance the cost of sharing their personal knowledge with the benefit they receive of this interaction as a social good. Therefore, employees' intention to share knowledge explains how leader humility promotes employee voice. Besides, we strengthen the path-goal theory estimation that leaders' outcomes are also dependent on employees' characteristics (House, 1996) using organizational tenure as moderator.

Our research strongly encourages executive administration to pay particular attention on promoting leaders' humility to achieve employee extra-role behaviors. As employees' intention to share knowledge associates to their awareness for existing policies and decision-making procedures, leaders should develop and establish effective knowledge sharing policies and practices. Such practices can further motivate employees to voice against unpleasant situations or negative events they experience at work. Our study revealed that short-term employees mitigate the risks of voicing at work because they create more trusting relationships with their leaders than long-term employees. Therefore, equal attention should be paid on the relationships leaders build with long-term employees. Besides, the latter should be equally motivated and encouraged to voice their concerns at work.

As common in academic research the study presents limitations, which should be noted and addressed in future research. Specifically, as we utilized a cross-sectional design, attention should be paid on the causality of the present relationships. Therefore, a longitudinal approach should be considered for future research. Despite scholars' consensus that interaction effects could mitigate common methods bias (e.g., Siemsen *et al.*, 2010) we cannot exclude this possibility. Therefore, future research should analyze the study relationships by controlling for endogeneity effects (Antonakis *et al.*, 2010). As the study conducted in a certain geographical area, namely in Greece, data generalizability in other geographical areas is hardly supported. Future empirical research can expand in different origins as well as in other professions (Owens and Hekman, 2016). Besides, alternative

moderating and mediating effects in the relationship between leader humility and employee voice (Madrid *et al.*, 2015) can be also investigated. These mechanisms can include, among others, the constructs of psychological safety as well as various personality traits such as extroversion vs. introversion.

Keywords: leader humility; intention to share knowledge; organizational tenure; employee voice; moderated mediation Greece

REFERENCES

- Antonakis, J., Bendahan, S., Jacquart, P. and Lalive, R. (2010). "On making causal claims: A review and recommendations". *The Leadership Quarterly*, Vol. 21 No. 6, pp. 1086-1120.
- Chiu, C.Y.C., Owens, B.P. and Tesluk, P.E. (2016). "Initiating and utilizing shared leadership in teams: The role of leader humility, team proactive personality, and team performance capability". *Journal of Applied Psychology*, Vol. 101 No. 12, pp. 17-35.
- Edmondson, A.C. (2003). "Speaking up in the operating room: How team leaders promote learning in interdisciplinary action teams", *Journal of Management Studies*, Vol. 40 No. 6, pp. (6), pp.1419-1452.
- Liu, C. (2016). "Does humble leadership behavior promote employees' voice behavior? A dual mediating model", *Open Journal of Business and Management*, Vol. 4, pp. 732-740.
- Oc, B., Bashshur, M.R., Daniels, M.A., Greguras, G.J., Diefendorff, J.M. (2015). "Leader humility in Singapore", *The Leadership Quarterly*. Vol. 26 No. 1, pp. 68-80.
- Owens, B.P. and Hekman, D.R. (2016). "How does leader humility influence team performance? Exploring the mechanisms of contagion and collective promotion focus", *Academy of Management Journal*, Vol. 59 No. 3, pp.1088-1111.
- Owens, B.P. and Hekman, D.R. (2012). "Modeling how to grow: An inductive examination of humble leader behaviors, contingencies, and outcomes", *Academy of Management Journal*, Vol. 55 No. x, pp. 787-818.
- Owens, B.P., Johnson, M.D. and Mitchell, T.R., 2013. Expressed humility in organizations: Implications for performance, teams, and leadership. *Organization Science*, 24(5), pp.1517-1538.
- Madrid, H.P., Patterson, M.G. and Leiva, P.J. (2015). "Negative core affect and employee silence: How differences in activation, cognitive rumination, and problem-solving demands matter", *Journal of Applied Psychology*, Vol. 100 No. 6, pp. 1887-1898.
- Preacher, K.J., Rucker, D.D. and Hayes, A.F. (2007). "Addressing moderated mediation hypotheses: Theory, methods, and prescriptions", *Multivariate Behavioral Research*, Vol. 42 No. 1, pp. 185-227.
- Siemens, E., Roth, A. and Oliveira, P. (2010). "Common method bias in regression models with linear, quadratic, and interaction effects", *Organizational Research Methods*, Vol. 13 No. 3, pp.456-476.
- Vera, D. and Rodriguez-Lopez, A. (2004). "Strategic Virtues: Humility as a source of competitive advantage", *Organizational Dynamics*, Vol. 33, pp. 393-408.

IMPROVING THE ORGANIZATION DEVELOPMENT THROUGH BUSINESS RESILIENCE: A PROJECT ORIENTED COMPANY

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ABSTRACT

Discussions regarding resilience used to be more common in the psychology academic literature, rather than management, since resilience is a characteristic of individuals to overcome a hostile environment or challenging conditions in their lives.

Each organization that wants to overcome the implication of disruptions within uncertain environment must continually adapt in order to allow development. An organization that focuses on growing and improving through a culture of learning in order to become performing and create value for society is an organization concerned about being sustainable on a long term.

The paper aims to identify how a resilient business or organization can develop in a sustainable way by the help of project management and by involvement and support of the human resources.

INTRODUCTION

At the origin, the term resilience is used in the physical sciences. According to this definition, a material is resilient if it is able to regain its original shape and characteristics after being stretched or pounded (Clegg and Bailey, 2007).

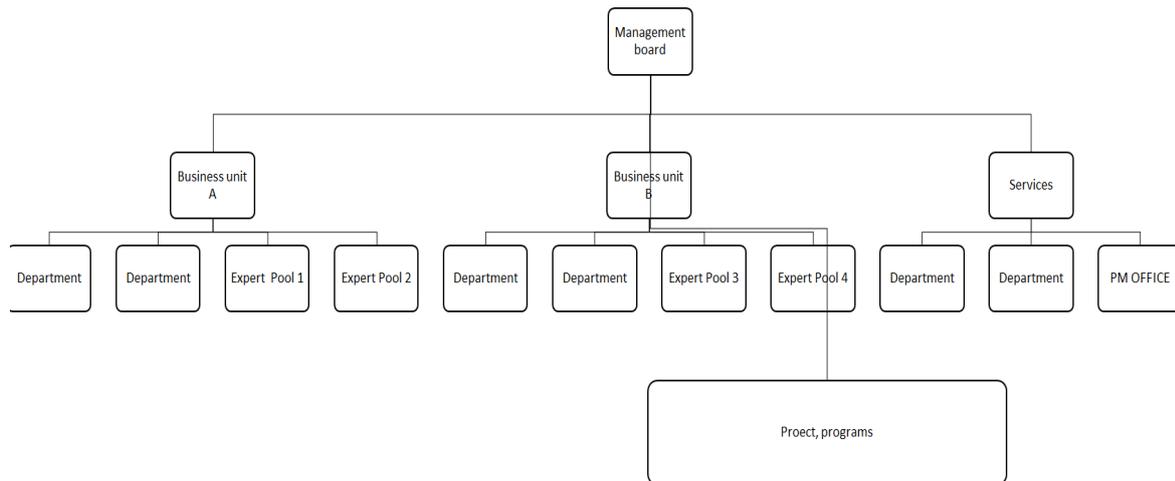
There are two main approaches regarding the concept of organizational resilience and what does it means. One of them defines organizational resilience as “the firm’s ability to sense and correct maladaptive tendencies and cope positively with unexpected situations” (Ortiz, 2016).

Furthermore, McManus (2008) provide three principal attributes for resilience in organization: situation awareness, management of keystone vulnerabilities, and adaptive capacity- resilience, embraces adaptation to the changes in its environment.

On the other hand, organizational resilience is seen simply as an ability to rebound from unexpected, stressful, adverse situations. (Arthur, J. and Moody, L., 2018).

A second perspective of organizational resilience includes the development of new capabilities in order to create new opportunities, due to its adaptive capacity and build a successful future (Lenghnick-Hall *et al*, 2011).

Resilience requires the ability to distinguish between the two situations: 1- there are demanded creative solutions or 2 - well-practiced responses. This is correlated to the fact that a resilient organization is able to manage better the risk and is prepared for the unexpected.



Source: *Organization chart of a project oriented company* (Gareis, 2007, p252)

THE PROJECT-ORIENTED COMPANY

According to Hueman (2010) the project-oriented company can be found under multiple names such as: project business, project intensive, project-led, multi-project.

Project management must become an essential competence of the project-oriented society, explicitly developed by the organization. In this regard the organization defines project management as an organizational strategy (Bollinger and Smith, 2001). Very often a project is related to other planned or ongoing project within the organization. These relationships need to be analyzed due to the fact that understanding the specific project context provides orientation to the project organization.

Business process  *Project managing*

Project managing is a business process of the company that should contribute to successful performance of the project (Prabhakar, 2008). It includes the sub-processes: project starting, project coordinating, project controlling, project transforming and project closing (Gareis *et al*, 2013). The process's objectives in a company are not only the economic objectives but also ecological and social objectives. Ecological objectives refer to local, regional and global impacts of the project considered (Gareis, 2013). Social objectives refer to recruited and allocated personnel and projecting the assessment and development of the personnel (Noe *et al*, 2017). These goals are best achieved in a resilient organization during the growing phase by attracting and retaining motivated staff. An organization that manages to combine their social, environmental, and financial performance in order to create shared value for both business and society is a sustainable organization, according to Baumgartner and Rauter (2017).

In the figure above is presented a model developed by Roland Gareis that helps to assess the status of an organization based on project management. In order to implement a project oriented strategy (Aubry *et al*, 2007) and to develop further project management competencies (Whitty and Maylor, 2009), it is necessary to collaborate and benefit from support of human resources to develop different instruments for individuals, teams and organization as a whole.

These instruments include self-assessments and training in both classroom and on the job, workshops and coaching. (Huemann *et al*, 2007)

CONCLUSIONS

The implementation of a program based on project management leads to the transformation of the management act by streamlining the internal processes. In a public organization, a project-oriented company approach can enhance decision-making process, internal communication and leadership style, leading to an improved and resilient organization. Another benefit of the project-oriented society is that it allows efficient management of the company's activities; thereby it helps optimizing costs and maximizes profits.

Keywords: organization, management, business resilience, human resources, project management

REFERENCES

- Arthur, J. and Moody, L., (2018), Building a Resilient Organization: The Design of Risk-Based Reasoning Chains in Large Distributed Systems, Rutledge.
- Aubry, M., Hobbs, B. and Thuillier, D., (2007), "A new framework for understanding organisational project management through the PMO", International journal of project management, 25(4), pp:328-336.
- Bollinger, A.S. and Smith, R.D., (2001), "Managing organizational knowledge as a strategic asset", Journal of knowledge management, 5(1), pp:8-18.
- Clegg, S. and Bailey, J.R. eds., (2007), International encyclopedia of organization studies. Sage Publications.
- Gareis, R., Huemann, M., Martinuzzi, A., Weninger, C. and Sedlacko, M., (2013), Project management and sustainable development principles, Project Management Institute.
- Gareis Roland, (2013), 'Re-thinking project initiation and project management by considering principles of sustainable development', in Gilbert Silvius, A.J. and Tharp, J., (2013), Sustainability Integration for Effective Project Management, pp: 129-143, IGI Global, DOI: 10.4018/978-1-4666-4177-8.
- Gareis, R., (2007), Management of the project-oriented company, The Wiley Guide to Project, Program & Portfolio Management, Hoboken (NJ), pp: 250-270.
- Huemann, M., (2010), "Considering Human Resource Management when developing a project-oriented company: Case study of a telecommunication company." International Journal of Project Management, 28(4), pp: 361-369.
- Lengnick-Hall, C.A., Beck, T.E. and Lengnick-Hall, M.L., (2011). "Developing a capacity for organizational resilience through strategic human resource management", Human Resource Management Review, 21(3), pp: 243-255.
- McManus, S., Seville, E., Vargo, J. and Brunson, D., (2008), "Facilitated process for improving organizational resilience", Natural Hazards Review, 9(2), pp: 81-90.
- Noe, R.A., Hollenbeck, J.R., Gerhart, B. and Wright, P.M., (2017), Human resource management: Gaining a competitive advantage, NY: McGraw-Hill Education.

- Ortiz de Mandojana, N. and Bansal, P., (2016), "The long-term benefits of organizational resilience through sustainable business practices." *Strategic Management Journal*, 37(8), pp: 1615-1631.
- Whitty, S.J. and Maylor, H., (2009) "And then came complex project management (revised)". *International Journal of Project Management*, 27(3), pp: 304-310.
- Prabhakar, G.P., (2008). "What is project success: a literature review". *International Journal of Business and Management*, 3(9), pp: 3-10.
- Baumgartner, R.J. and Rauter, R., (2017). "Strategic perspectives of corporate sustainability management to develop a sustainable organization." *Journal of Cleaner Production*, 140, pp: 81-92.

ASSESSING THE DIET IMPACT ON LIFE EXPECTANCY IN EUROPEAN UNION

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ABSTRACT

INTRODUCTION

The increasing life expectancy at birth and generally an improvement of the quality of life currently observed worldwide over is due to many factors. For instance, the US government has proposed a program titled “Healthy People 2020” (www.healthypeople.gov) which consider the health-related quality of life (HRQL) as a multi-dimensional concept related to different aspects such as physical, mental, emotional, and social functioning. However, according to Galilea-Zabalza (2018) a useful tool to help researchers to investigate the HRQL, is the dietary patterns. In general, a study in such field should consider all components of meal since it provide the synergistic or antagonistic effects that foods and nutrients may have when they are consumed together. However, considering every single component of a diet can contribute to better understand the influence of each component on life expectancy of a population.

Diet changes and shapes over time, as social and economic factors and new trends affect it: income, food prices, availability of healthy foods, preferences and cultural heritage, and geographical and environmental aspects (including climate change) (WHO, 2016). The main world top factors of diseases are diet-related. A healthy diet has to contain fruit, vegetables, legumes, nuts and whole grains, less than 10% of total energy intake from free sugars and less than 30% of total energy intake from fats (FAO and WHO, 2014): eating healthily decreases non communicable diseases (NCDs) that are diabetes, heart disease, stroke and cancer) (Lenoir-Wijnkoop et al., 2011). Low fruit and vegetable intake is among the top 10 selected risk factors for global mortality (WHO, 2016; Carlyn Hood et al., 2012) and correlatively several authors demonstrate that moderate intake of alcohol reduces the incidence of heart disease and increases longevity (Snopek et al., 2018; Annunziata et al., 2016). In this contest the present paper intend to analysed, using SEM methodology (Structural equation Model), the relation between life expectancy and some food variables for 29 EU countries in 2014. The goal is to identify some significant food variables on life expectancy in European countries and find out if they have positive or negative impacts on it.

MATERIAL AND METHODS

Life expectancy is a complex variable that depends on several factors. In such cases functional dependency relationships are often difficult to identify with exact mathematical models or statistical regression models. However, the modelling of structural equations (SEM) can detect relationships between variables in a more elastic way than mentioned above models. Indeed the SEM models make it possible to analyse the interrelations between variables, even in the absence of precise functional forms. The authors analysed life expectancy for 29 EU countries in 2014 (Eurostat, 2019). The model SEM proposed relate life expectancy in this countries, with some food variables : *Food Supply by Fats Animals (kcal/capita/day), year 2013* (Source: FAOSTAT, 2019) *Persons eating fruit, vegetables or salad from 4 to 6 times a week (%)*, *Frequency of alcohol every day (%)* *Frequency of alcohol every week (%)* ,*Frequency of alcohol less than once month (%) (year 2014)* (Source: Eurostat, 2019), described in Table 1. The SEM model has been estimated in the Stata 14 package with the application of the maximum likelihood method.

Tab.1 **Observable variables for 29 EU countries.**

Variable	Description of Variables
X1	Healthy life expectancy (year 2014)
X2	Food Supply by Fats Animals (kcal/capita/day) (year 2013)
X3	Persons eating fruit, vegetables or salad every days % (year 2014)
X4	Frequency of alcohol never (%) (year 2014)
X5	Frequency of alcohol less than once month (%) (year 2014)
X6	Frequency of alcohol more than once month (%) (year 2014)

(Source: Eurostat and FAOSTAT)

RESULTS

The SEM model shows that the food variables taken into consideration are statistically significant with respect to life expectancy (table 2). In particular, the standardized coefficients show that the daily consumption of fruit, vegetables and salad has a positive impact on life expectancy in European countries. On the contrary the consumption of animal fats have a negative impact. Moreover do not drink alcohol, or less than once can have a negative impact on the life expectancy. This confirm that moderate use of wine is not only harmful behaviour but can have a positive effect on life expectancy.

Tab.2 SEM model for Healthy life expectancy in EU countries

	OIM					[95% Conf. Interval]	
	Coef.	Std. Err.	z	P> z			
Structural							
Healthy_life_expectancy <-							
Onceaday	.6036684	.21799	2.77	0.006	.1764158	1.030921	
Food_Supply_by_Fats_Animals	-.0303461	.0158815	-1.91	0.056	-.0614732	.000781	
Alcol_never	-.1802225	.08909	-2.02	0.043	-.3548356	-.0056093	
Alcol_less_than_once_month	-.3139952	.1577538	-1.99	0.047	-.6231871	-.0048034	
_cons	63.41561	9.95997	6.37	0.000	43.89443	82.93679	
var(e.Healthy_life_expectancy)	14.32892	4.422			7.825767	26.23614	

CONCLUSIONS

According to the SEM the food variables taken into consideration are statistically significant with the life expectancy. In particular daily consumption of fruit, vegetables and salad has a positive impact instead of animal fats. In the next steps a taxonomy analysis could try to identify the shape of structures within data in order to define homogenous groups of cases. Inserting other variables where made available can improve the specification of the model.

Keywords: Diet; Life expectancy; Fruit consumption; Wine consumption; Diseases, Structural equation model.

REFERENCES

- Annunziata, A., Pomarici, E., Vecchio, R., & Mariani, A. (2016), "Health warnings on wine: A consumer perspective", *British Food Journal*, Vol. 118 No 3, pp. 647-659.
- Carlyn Hood, M., Martinez-Donate, A., and Meinen, A. (2012). Promoting healthy food consumption: a review of state-level policies to improve access to fruits and vegetables. *WMJ*, Vol. 111 No 6, pp. 283-6.
- FAO and WHO (2014), Rome Declaration on Nutrition. Second International Conference on Nutrition. Rome.
- Galilea-Zabalza, I., Buil-Cosiales, P., Salas-Salvadó, J., Toledo, E., Ortega-Azorín C., Díez-Espino J., Vázquez-Ruiz, Z., Zomeño, M.D., Vioque, J., Martínez, J.A., et al.(2018). Study Investigators. Mediterranean diet and quality of life: Baseline cross-sectional analysis of the PREDIMED-PLUS trial. *PLoS ONE*. 2018;13:e0198974. doi: 10.1371/journal.pone.0198974.
- Lenoir-Wijnkoop I., Dapoigny, M., Dubois D., Van Ganse E., Gutiérrez-Ibarluzea I., Hutton J., Nuijten M. J. C. (2011), Nutrition Economics—characterizing the economic and health impact of nutrition, *British Journal of Nutrition*, Vol. 105 No 1, pp. 157-166.
- Snopek, L., Mlcek, J., Sochorova, L., Baron, M., Hlavacova, I., Jurikova, T., .Sochor, J. (2018), "Contribution of red wine consumption to human health protection". *Molecules*, Vol. 23 No 7, pp. 1-16.
- WHO (2016), Report of the Commission on Ending Childhood Obesity. Geneva.

DESIGNING THE SMART HOSPITALS - THROUGH INTELLIGENTLY INTEGRATED TOOLS OF QUALITY AND COST EFFECTIVENESS

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ABSTRACT

The present paper describes a new concept of integrated hospital to be implemented in Romania. The system works in a holistic manner, serving the patients, medical staffs and health institutions by reducing the time of expectation, standardizing the operational activities, treatments and monitoring. The efficiency doubles the results both financially, as profit, and socially, as social satisfaction.

INTRODUCTION

The *Smart Hospital* concept (SMART) assumes the congruence and valorization of the following factors: *Single* (single building, architectural emblem), *Mutual* (for both patients and physicians and researchers), *Adaptative* (thought from the beginning to resist in time), *Respectful* (built with care towards the natural and urban environment) and *Technological* (effective by quality, not by quantity). Patients' acquaintance, communicate with doctors, comprehend patients' situation and expectations, respond to international requirements, support research programs and attract and retain professionals are examples of action to turn a rigid medical institution into a performing, versatile and economically efficient.

THE MEDICAL ASSISTANCE MONITORING SYSTEM

The Medical Assistance Monitoring System is a communication platform, personalized for each hospital unit, integrated into the hospital information management system, which adds value to medical activity. Because of this integration, critical patient information can also be sent to relevant staff in a very short time, thus making response time more efficient.

In terms of hardware, the system has several components: the touch screen control panel and the internal memory card reader, the call unit for each bed, the patient's receiver, the WC call unit, and the corridor lamp on the door. *The working method* is developed under the system of calls - made from cameras can be viewed from the nursing care panel, - and pager signals viewed on mobile phones. The highly integrated system directs the critical patient information precisely to relevant staff. With the IP-based system, management software can be controlled by the operation and stability of the equipment can be connected to it from start to finish. In case of a malfunction, a definition of the

technical personnel in the system can be notified of the situation. By implementing this integrated system, efficiency gains are made in reporting and monitoring the procedures and protocols of medical staff to hospital management, as objective as possible, and in improving the working time and quality of services provided to the patient.

PNEUMATIC TRANSPORT SYSTEM

Applicability and workflow of the pneumatic transport system facilitate hospitals continue to look for internal logistics optimization technologies to improve their ability to deliver expanded hospital services without increasing staff numbers or diminishing quality. *The pneumatic transport system*, integrated with the hospital software, connects the entire hospital. Emergency rooms, laboratories, blood bank, pharmacy and all support areas can now be linked together. A pneumatic tube system can give an immediate and measurable result in this dilemma. An infinite variety of materials can be transported with a pneumatic tube system. Items that once were transported manually using human resources can now automatically reach their destination. Materials such as blood and tissue samples can reach the lab in seconds. Medications sent from the central pharmacy can get to the care stations by pressing a button. Radiographs and their results can get into the hands of technicians and doctors. Even transport of medical and surgical equipment can be done more efficiently through a pneumatic tube system.

In terms of hardware, it assumes the installation of multi-zone pipelines interconnecting multiple workstations with independent operating areas. The system is operated via connected pumps and works on the vacuum line. Materials weighing maximum 28 kg can be transported at speeds of up to 8 meters per second. The advantages are numerous: improving work times, lowering staff costs, limiting human errors that may result from handling and transport (sanitary materials, medicines, biological samples). In addition to releasing vital staff from the routine transport of laboratory samples and medications, pneumatic transport systems deliver the items in a fraction of that time, but more importantly, samples and essential drugs arrive at destinations within seconds of a few minutes. Overall, hospital operation is simplified, and valuable hospital staff can focus on what they do best ... to treat patients.

THE PATIENT MONITORING SYSTEM AND MEDICAL DEVICES (RFID)

RFID is a form of wireless communication that incorporates the use of electromagnetic or electrostatic coupling into the radio frequency spectrum of the electromagnetic spectrum to uniquely identifies an object, person, or object. For patients - the allocation at the time of admission to them of a bracelet equipped with a chip, which allows permanent monitoring of their location and vital signs (heart

rate). This helps to manage urgently the emergency situations that may occur during a patient's hospitalization when it is in the yard, in common areas or areas such as a toilet or a shower. The patient can be found within minutes by medical staff and can receive first aid. These minutes can make the difference between life and death. The system has countless applications. In addition to monitoring vital signs of patients, it can accurately identify the position of infants / babies found in pediatric or neonatology departments or a patient suffering from Alzheimer; can identify if a patient has left the defined perimeter, and in such cases it may be real-time.

The medical devices labeling with tags is based on microchips that allow real-time identification of the equipment in a well-defined area. Enables specific medical activities and reduces the incidence of human accidents and mistakes, or administrative activities such as annual inventory, shortening work times, reducing the human resource allocated to these activities and implicitly costs. The system involves the installation of Wifi Reception Receivers in the defined area and the allocation to patients of bracelets equipped with a chip, which allows permanent monitoring of their location and vital signs (cardiac rate). RFID tags and scanners are also required.

RESULTS AND CONCLUSIONS

The implementation of the SMART Hospital will provide immediate identification of emergency situations in which a patient can be found and rapid intervention to save him / her, improving working times, lowering staff costs, limiting human errors that may result from handling and transport. This system brings important benefits in terms of patient safety.

Keywords: smart hospital, efficiency, patients, medical staffs, medical assistance monitoring system

REFERENCES

- European Union Agency for Network and Information Security (ENISA),(2016), Smart Hospitals Security and Resilience for Smart Health Service and Infrastructures, ISBN: 978-92-9204-181-6, DOI:10.2824/28801, file:///C:/Users/Lenovo/Downloads/Smart%20Hospitals.pdf.
- Hamilton, Angela (2017), Designing the Smart Hospital: Creating the Hospitals of the Future, The 2nd ACI's conference on Taking the Patient to the Next Level, Dallas, sept. 2017, <https://www.alliedmarketresearch.com/conference/designing-the-smart-hospital-creating-the-hospitals-of-the-future>
- Holzinger Andreas, Holzinger Carsten and Ziefle Martina, (2015), From Smart Health to Smart Hospitals, In book: Smart Health, Febr., DOI: 10.1007/978-3-319-16226-3_1.

**IMPACT OF KEY OPINION LEADER AND PEER CONSUMER
RECOMMENDATIONS ON PURCHASE DECISIONS OF GENERATION Z
INSTAGRAM USERS**

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ABSTRACT

The research paper aims to understand how external bodies such as key opinion leaders and peer consumers, through social recommendations affect online buying intention of Generation Z Instagram users. Generation Z are a new generation of consumers who are coming to shake our understanding of online shopping and of the way companies use the internet to connect with consumers. Also, social shopping, and the integration of social networking with buying and selling products and services online has introduced new components to the online shopping experience and the decision making process. We use an online survey to capture Generation Z consumers' perceptions about the way key opinion leader and peer consumer recommendations shape their purchase decision. We find that both types of social recommendations have an impact on Gen Z purchase decision, but of smaller magnitude than expected.

Keywords: Market Research, Digital Marketing, Consumer Research, Consumer Behaviour

VALUE CO-CREATION: A SYSTEMATIC LITERATURE REVIEW OF INTERNATIONAL MARKETING AND BUSINESS ECOSYSTEMS DOMAINS

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ABSTRACT

1. INTRODUCTION

Value co-creation has emerged as an important concept in recent years in both international marketing as well as entrepreneurial and business ecosystems literatures (e.g. Gronroos, 2011; Pitelis, 2011; Jensen and Petersen, 2014; Kaartemo *et al.*, 2017). A key reason referred behind rise of value co-creation is increased consumer awareness and emerging possibilities to work closely with producers of goods or services (Festa *et al.*, 2015; Agrawal and Rahman, 2015; Lacoste, 2016; Meynhardt *et al.*, 2017; Leonidou *et al.*, 2018). Similarly, from an ecosystem (both business and entrepreneurial) and international marketing perspectives, customer is an important part and key stakeholder of the ecosystem who can influence success or failure of such initiatives (e.g. Jensen and Petersen, 2014; Lacoste, 2016; Mack and Mayer, 2016; Leonidou *et al.*, 2018). So far no prior study (at least to our knowledge), has attempted to perform a systematic literature review, where value co-creation in business and entrepreneurial ecosystems is analyzed along with its application in international marketing context. Therefore, our paper aims to fill this gap in literature, and will undertake an in-depth literature review by focusing on top journals. The methodology of our planned literature review is explained as follows.

2. RESEARCH METHODOLOGY

In this paper, we follow a systematic approach of reviewing the literature according to the guidelines suggested by Tranfield *et al.* (2003), which is most referred approach in different fields of social sciences. Using a systematic literature review (SLR) approach helps researchers to summarize existing evidence according to an explicit, rigorous, and transparent step-wise process (Liberati *et al.*, 2009; Tranfield *et al.*, 2003). We further aim to incorporate updated suggestions of Denyer and Tranfield's (2009) by specifically adapting the five-step approach : (1) question formulation, (2) locating studies, (3) study selection and evaluation, (4) analysis and synthesis, and (5) reporting and using the result.

2.1 Locating studies

To identify relevant studies is important and hence suitable search engines and strings play an important role in this concern. To locate relevant articles four search engines are being used: Scopus, Web of Science, and google scholar. We identified the keywords through the brainstorming approach. The keywords constructed into search strings. The search string, we chose is “ecosystem*” AND “entrepreneur*” AND “business*” AND “international* AND market*” AND “value co-creation”. We also plan to seek guidance from relevant librarian in the end to ensure that we complete the full coverage of this kind of research. We further will undertake a manual issue-by-issue search in leading international marketing journals. The journals list will be finalized as the process of SLR develops during the course of time because value co-creation in international marketing and EE context, is an evolving concept where relevant articles are increasingly being published in a number of journals. Following figure presents the process of SLR showing our preliminary results of literature search.

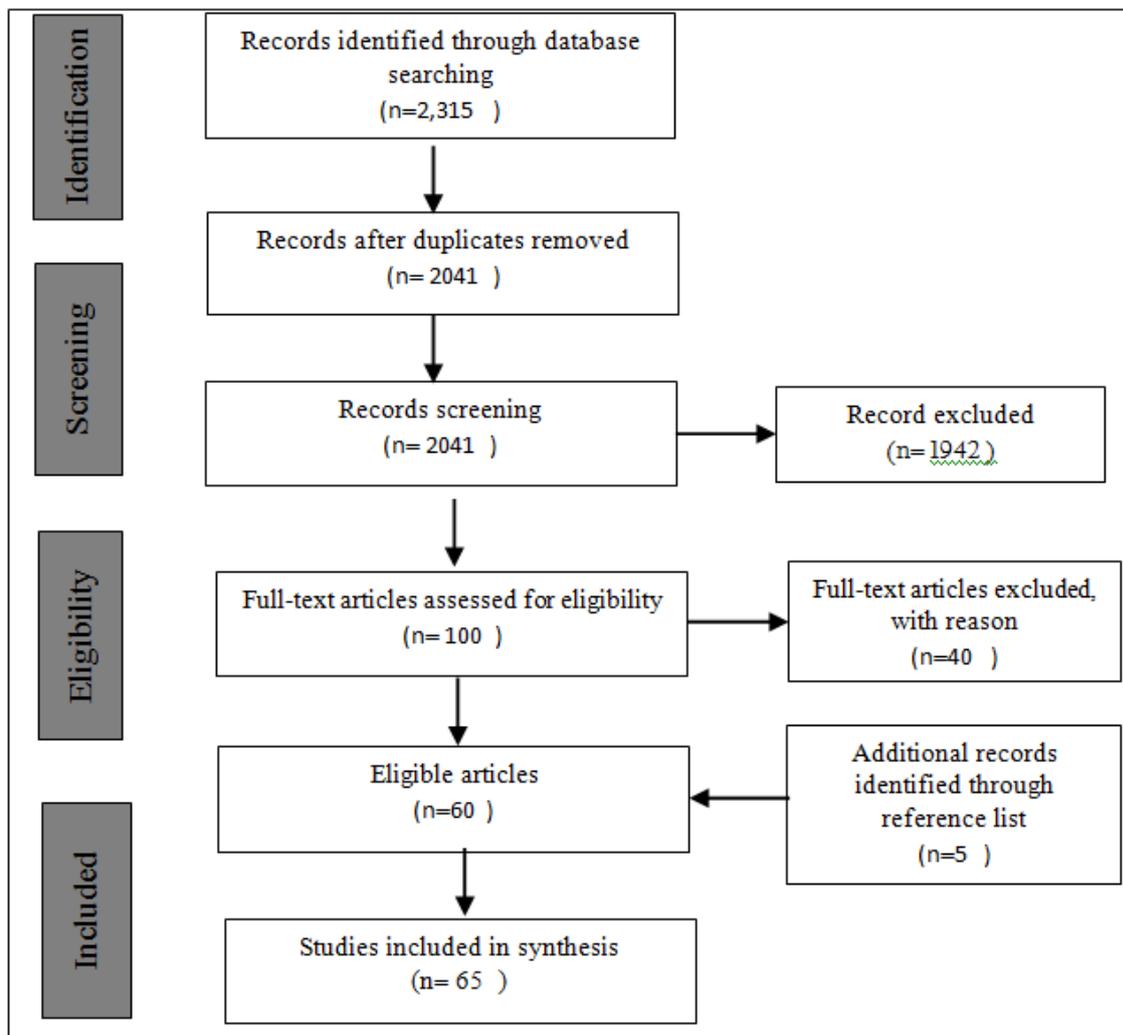


Fig. A PRISMA Flowchart

Source: Adapted from Moher et al.2009)

Finally, it is expected that our SLR will include approximately 65 most relevant and highly cited articles.

Timeline:

Literature Search and Finalization of Papers to be Included: by 15th November, 2019.

First draft write up: by 28th February, 2019.

Final version Ready: by 30th June, 2020.

REFERENCES

- Agrawal, A. K., & Rahman, Z. (2015). Roles and resource contributions of customers in value co-creation. *International Strategic Management Review*, 3(1-2), 144-160.
- Denyer, D., & Tranfield, D. (2009). Producing a systematic review. *The Sage handbook of organizational research methods*, 671-689.
- Grönroos, C. (2011). Value co-creation in service logic: A critical analysis. *Marketing theory*, 11(3), 279-301.
- Festa, G., Vrontis, D., Thrassou, A., & Ciasullo, M. V. (2015). A value co-creation model for wine tourism. *International Journal of Management Practice*, 8(3), 247-267.
- Jensen, P. D. Ø., & Petersen, B. (2014). Value creation logics and internationalization of service firms. *International Marketing Review*, 31(6), 557-575.
- Kaartemo, V., Akaka, M. A., & Vargo, S. L. (2017). A service-ecosystem perspective on value creation: Implications for international business. In *Value creation in international business* (pp. 131-149). Palgrave Macmillan, Cham.
- Lacoste, S. (2016). Sustainable value co-creation in business networks. *Industrial Marketing Management*, 52, 151-162.
- Leonidou, E., Christofi, M., Vrontis, D., & Thrassou, A. (2018). An integrative framework of stakeholder engagement for innovation management and entrepreneurship development. *Journal of Business Research*. In Press Corrected Proof available at <https://doi.org/10.1016/j.jbusres.2018.11.054>
- Mack, E., & Mayer, H. (2016). The evolutionary dynamics of entrepreneurial ecosystems. *Urban Studies*, 53(10), 2118-2133.
- Meynhardt, T., Chandler, J. D., & Strathoff, P. (2016). Systemic principles of value co-creation: Synergetics of value and service ecosystems. *Journal of Business Research*, 69(8), 2981-2989.
- Pitelis, C. (2012). Clusters, entrepreneurial ecosystem co-creation, and appropriability: a conceptual framework. *Industrial and Corporate Change*, 21(6), 1359-1388.
- Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management*, 14(3), 207-222.

THE ROLE OF KNOWLEDGE ON ELDERLY INVESTMENT DECISIONS

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ABSTRACT

Advancement of medical technologies and the unprecedented decrease in fertility rate contributes to the growing number of ageing societies around the globe. Currently, over 13 percent of global population are 60 years old and above (United Nations, 2018). Interestingly, this population is projected to increase to 1.4 billion in the next decade. At this rate, more than a quarter of world population will be 60 years old and above by 2050. Among the nations turning into an aged society, Thailand is notably one of the fastest countries. That is, it takes Thailand only 20 years to transform from an “ageing society,” where more than 7 percent of the population is aged 65 years old or older, to “aged society,” where more than 14% of the population are elderly. The abrupt shift in demography urges policy makers to encourage its citizens to prepare for financial burdens after retirement.

Literatures have shown that risk tolerance among elderly is much lower than their younger counterparts due to the perception of time (Carstensen et al., 2003). Researches have demonstrated that goal orientation shifts as consumers age as well (see Cole et al., 2008; Ebner, Freund, and Baltes, 2006). According to the selective optimization with compensation theory, consumers must carefully allocate their limited internal and external resources to maximize gains and minimize losses at every point in time throughout their lives (Baltes and Baltes, 1990; Freund and Baltes, 2000). However, as their life span is extended, this loss aversion may cripple the potential returns of asset that they possess.

Extant researches have shown that information processing ability significantly decline with age (Carpenter and Yoon, 2011). Moreover, a decline in working memory has also been associated with increasing age (Moscovitch and Winocur, 1995). As financial decisions often require a great deal of information processing due to its complexity and huge number of alternatives, this paper aims to investigate the benefit of wealth management advisor on risk tolerance. In particular, this paper employs conjoint choice experiment data. The experiment is designed to be balanced and orthogonal to optimize the number of necessary choice decisions for participants. The survey was administered to 220 participants with the following attributes and levels:

1. Risk and Returns has three levels: low, medium, high
2. Availability of Financial Planner has two levels: yes, no.

After data is collected, a logit choice model is estimated. Empirical results illustrate that older consumers exhibit lower level of risk tolerance than their younger counterparts. Interestingly, elderly

are willing to partake in higher risk and return assets when financial planning service is included. These findings provide both academic and managerial implications. First, empirical results show that knowledge provided by wealth management planner is able to alleviate the detrimental effect of the decline in information processing among elderly. In addition, public policy makers shall provide consultation to older consumers in order to shift their preference away from the safe haven of savings.

Keywords: Elderly, Investment Decision, Ageing Consumers, Risk Tolerance

REFERENCES

- Baltes, PB, Baltes, MM (1990) Psychological perspectives on successful aging: The model of selective optimization with compensation. In: Baltes, PB, Baltes, MM (eds) *Successfully aging: Perspectives from the behavioral sciences*. Cambridge University Press, New York, pp 1-34.
- Carpenter, SM, Yoon, C (2011) Aging and consumer decision making. *Ann N Y Acad Sci* 1235(1): E1-E12.
- Carstensen, LL, Fung, HH, Charles, ST (2003) Socioemotional selectivity theory and the regulation of emotion in the second half of life. *Motivation and Emotion* 27(2): 103-123.
- Cole, C, Laurent, G, Drolet, A, Ebert, J, Gutchess, A, Lambert-Pandraud, R, Mullet, E, Norton, MI, Peters, E (2008) Decision making and brand choice by older consumers. *Marketing Letters* 19(3/4): 355-365.
- Ebner, NC, Freund, AM, Baltes, PB (2006) Development changes in personal goal orientation from young to late adulthood: From striving for gains to maintenance and prevention of losses. *Psychology and Aging* 21(4): 664-678.
- Freund, AM, Baltes, PB (2000) The orchestration of selection, optimization and compensation: An action-theoretical conceptualization of a theory of developmental regulation. In Perri, WJ, Grob, A (eds) *Control of human behavior, mental processes, and consciousness*. Erlbaum, Mahwah, New Jersey, pp 35-58.
- Moscovitch, M, Winocur, G. Frontal lobes, memory, and aging. *Ann NY Acad Sci*. 789: 119-150.
- United Nations (2018). <http://www.un.org/en/sections/issues-depth/ageing/>.

PROJECT RISK MANAGEMENT FOR SMES: LESSON LEARNT FROM A SYSTEMATIC LITERATURE REVIEW

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ABSTRACT

INTRODUCTION

Risk management (RM) is a fundamental knowledge area of Project Management (PM), essential to execute a project successfully and widely discussed in PM guides such as the Project Management Body of Knowledge (PMI, 2017). A risk is an uncertain event that, if occurs, will affect positively or negatively the achievement of one or more of the project's objectives. RM is adopted to face these threats as well as to pursuit opportunities (Bartlett et al., 2004). The objective of Project Risk Management (PRM) is to systematically identify, analyse, treat and monitor & control project-related risks during the project lifecycle (Borge, 2002; PMI, 2017). Risks and uncertainties are inherent to projects since a project is always unique venture and therefore faces unknown factors (Carvalho & Rabechini, 2015).

The positive effects of PRM have widely been acknowledged in PM literature (de Bakker et al., 2011), but little has been studied in the specific context of SMEs. In Europe, and also specifically in Spain, nine out of ten enterprises are SMEs and they generate two out of every three jobs (European Commission, 2015; Spanish Ministry of Industry, 2018). The PRM studied and developed in large companies, must be adapted to the SMEs, so that they can efficiently implement it, but little attention has been devoted to this purpose so far.

Asking Scopus and Web of Science databases using different combinations of the keywords "risk management", "SMEs" and "small business", and excluding proceedings, editorial materials, non-English language papers and non-pertinent articles, the obtained papers were classified into the different RM streams, resulting only six papers about PRM in SMEs.

These were all empirical studies, being half of them case studies and the other half model proposals with model testing. The applications regarded specific industrial sectors and, in most of the cases, not all PRM phases or project risk types were considered. Given the importance of the theme and the abovementioned results, it can be affirmed that there is a significant gap in the literature. To contribute into filling in this gap, the main objective of this research is to analyse how is it possible for

SMEs to adopt PRM with a positive cost-benefit ratio. More specifically, PRM phases, activities, tools, techniques, procedures and organizational aspects implemented will be investigated.

METHODOLOGY

To investigate the characteristics of the adoption of PRM in SMEs, an exploratory and explanatory research through case studies was conducted, as it is a coherent methodology to be followed when facing “how” research questions (Yin, 1994). To conduct the case studies, a robust research protocol was built, and an empirical framework of analysis was created. To construct the framework defining the fundamental dimensions, books and articles about research methodologies (Eisenhardt, 1989; Yin, 1994; Voss, 2002), and about PM and PRM were consulted, and empirical papers regarding PRM in SMEs were examined (Alquier and Tignol, 2006; Leopoulos et al., 2006, Tang et al., 2010; Neves et al., 2014, Marcelino-Sádaba et al., 2014; Pereira et al., 2015).

The final questionnaire, obtained after the testing and refinement through a pilot case, includes close-ended and open-ended questions divided into 9 sections regarding the company, the project, the PRM organization and roles, phases, activities, tools, procedures and outcomes. The case studies were conducted in eight Spanish SMEs located in the Navarre region, which has highly invested on innovation, especially for SMEs. In order to cover a wide range of project types, the projects were selected based on the size of the company, the production organization, the type of industry and the PRM experience of the respondents. Using these selection criteria, it was possible to cover a breadth of perspectives regarding PRM in SMEs.

The interviews, with multiple respondents, were always conducted in person by at least one of the researchers and integrated with documents related to the PRM plan, in order to ensure the project’s internal validity, using triangulation, and increase data reliability (Voss, 2002). A two-step analysis was then conducted: within case, to analyse the pattern of data within the case, and cross-case, to search for patterns among the cases (Eisenhardt, 1989; Voss, 2002).

PRELIMINARY RESULTS AND CONTRIBUTIONS

The companies selected for the research were: two micro-sized manufacturing companies (one organized by project and one by process), three small-sized companies (two manufacturing ones organized by process and one of services organized by project) and three medium-sized companies (a manufacturing one organized by process and a consultancy one organized by project). In every company, it was asked to talk about a successful project in which the PRM had been adopted. In all the cases, the entire PRM process had been followed, and usually the CEO or the PM were responsible for the PRM implementation.

During the identification phase, the companies carried context analysis, risk identification, and applied several tools, being brainstorming, checklist and risk register the most used ones. The technical-operative and the organizational risks were always considered and identified, while other types of risks were considered only in the service firms. Many risks of the manufacturing companies were related to the material and the design of the product, which was expected since all projects involved the development of a new product or a new machine. Besides the risks, 63% of all the firms have also identified (and pursued) the opportunities. These were mainly the services companies, since only 40% of the process-manufacturing ones, which projects had a lower managerial complexity, have identified opportunities.

As for the risk analysis phase, in all companies many project meetings took place, and most of the companies used the risk matrix, risk ranking and risk register tools. No quantitative analyses were performed, and the measurements of the probability and effects of the risk were subjectively based on experience and feelings. In seven of the eight cases the risks were prioritized based on the results of the risk matrix or of the risk ranking.

During the risk treatment, the risk mitigation technique was applied by all companies, while risk avoidance, risk transfer and risk retention were used by most but not all of them. Generally, the risk treatment was partially planned: the tools were used, and the activities were carried on depending on the emergence of the risk triggers. As for the manufacturing firms, the treatment phase has involved designing and prototyping; these activities were repeated until the testing satisfied the product quality requirements; their development has allowed the companies to avoid potential failures in the final product.

In the last PRM phase, monitoring & control, while facing difficulties such as lack of time and lack of knowledge, in all projects the risks were constantly reevaluated and periodic monitoring meetings were organized, impacting positively on the PRM results.

Overall, the PRM adoption by these firms in these projects was successful. In 63% of the cases, the adoption was motivated by the fact that these projects were subsidized by the government of Navarre, which requires periodic reports about the project progress. All interviewees affirmed that there was a positive cost-benefit ratio in the PRM implementation and that it should be adopted in all strategic projects. According to their perception, the benefits provided by PRM were mainly high, especially in terms of lower risk impact, greater probability of project success and improvement of the decision-making process.

It has also emerged that the projects of manufacturing companies with a high level of both technology and market innovativeness have carried on similar activities using similar tools since they have identified similar types of risks and, finally, the perceived benefits were also similar. On the other hand,

when the project complexity is low, the simplest PRM tools tend to be adopted. Lessons learned from previous projects have also played an important role in the analyses, both in the manufacturing and in the service companies.

These results offer a significant contribution to the academic literature, given the over-mentioned gap of studies, and to practitioners highlighting how, with simple tools and constant monitoring, it is possible to implement PRM in different types of SMEs with a positive cost-benefit ratio.

Keywords: Project management, risk management, SMEs, literature review

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REFERENCES

(References are available on demand)

THE ROLE OF SOCIAL ACTORS IN DEVELOPING “GREEN BUSINESSES”: THE CLEANTECH CLUSTER CASE

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ABSTRACT

The objective of our presentation will be to discuss the role of clusters as knowledge management structures and to expose the role of a cleantech cluster in addressing the challenges of a green transition. We will start by presenting the concept of clusters, their role in knowledge management and sharing, and we will center the presentation on the issue of how local cluster dynamics and intermediaries define the positions and collective mobilization of actors. The analysis is based on a case study of Québec's cleantech cluster, Écotech Québec, created in 2008 by three entrepreneurs in the local industry.

The presentation will proceed as follows. We will start by considering the current literature on clusters as well as on the green transition. We will present the methods used in the research, and then the Écotech case. Finally, we will discuss the empirical findings as concerns the visions and position of actors on key issues on the green transition, as well as their role in this context. We will conclude by presenting issues for further research.

As a cluster, Écotech Québec is an important agent of change, bringing together various actors and agents involved in the local environmental sector. As an intermediary organization, dedicated to knowledge management and sharing between various actors (businesses, unions, social actors), it tries to bring together various divergent and conflicting interests. The cluster creates the institutional conditions where businesses can come together with other social actors, including unions, in order to try to develop knowledge sharing, and disseminate knowledge, practices and environmental values. Écotech contributes to business change through the creation of relations, new institutional spaces and shared-decision-making processes. It brings to the table a series of actors from different sectors, and develops interesting hybrid governance agreements (Bulkeley and Schroeder (2012)). This cluster makes it possible for a series of actors to mobilize knowledge, coordinate and collaborate, in order to develop new kinds of economic organization (Allen and Cochrane, 2007). The cluster creates a space of knowledge exchange and discussion between various social groups. It thus shapes the visions and collective mobilization of social actors in the transformation to a greener economy.

¹ Research done in collaboration with Carolyn Hatch and Laurence Cazabon

Davies (2103) indicates that the mechanisms of transiting towards a greener economy have translated into a series of grounded coalitions including not only NGOs but also trade unions and workers who want to ensure that such transitions will be fair and sustainable. Often running under the theme of a 'Just Transition', these coalitions support a movement towards a de-carbonized world but they also want to avoid the chaotic transitions of the past, which had huge negative impacts on communities dependent on the traditional industries.

Our research suggests that while unions and businesses have been a bit late in addressing the issue of climate change, they have gained momentum and now see the energy transition as an important issue that needs to be addressed. Clusters are an interesting institutional organization which makes it possible to bring these two social actors together in order to tackle the issue of climate change, but also that of the future of jobs and work.

In our presentation, we will develop on the mechanisms which support this knowledge mobilization and exchange through the Cleantech cluster, and will present conclusions on its results, as well as on directions for future research.

Keywords: cluster, cooperation, collaboration, knowledge management, knowledge sharing, innovation, social actors, green transition

REFERENCES

- Andersson et al.. (2004), *The Cluster Policies Handbook*, Malmo", International Organisation for Knowledge and Enterprise Development.
- Bulkeley, H., Schroeder, H. (2012) Beyond state/non-state divides: global cities and the governing of climate change, *European Journal of International Relations* 18, 743–766.
- Caprotti, F. (2012), The cultural economy of cleantech: environmental discourse and the emergence of a new technology sector, *Transactions of the Institute of British Geographers* 37, 370–385.
- Cleantech Group (2009), Clean technology venture investment continued recovering in 3Q09 spurred by economic stimulus investment, Press release 30 September 2009 (<http://www.prnewswire.com/news-releases/clean-tech-nology-venture-investment-continued-recovering-in-3q09-spurred-by-economic-stimulus-investment-62875352.html>)
- Davies, A. (2013) Cleantech Clusters: Transformational assemblages for a just green economy, or just business as usual? *Global Environmental Change* 23, 1285 – 1295.
- Tremblay et al. (2012), Les acteurs intermédiaires dans le développement de l'innovation : une comparaison intersectorielle dans la région de Montréal, *Revue d'Économie Régionale & Urbaine* 3, 431-454.
- Wolfe, D. A., Gertler, M. S. (2004), Clusters from the inside and out: local dynamics and global linkages, *Urban Studies* 41,1071–1093.

INNOVATIVE ANTHROPOMORPHIC TECHNOLOGY AND ITS EFFECT ON CUSTOMER SERVICE QUALITY

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ABSTRACT

The purpose of this paper is to systematically identify and analyse how technologies with human characteristics impact consumers from various perspectives. The key focus of the study is the positive and/or negative effect that anthropomorphic technology usage might have on customer service quality. To achieve the primary purpose of the study, a critical review of relevant literature was conducted, using databases such as EBSCO, Emerald and ScienceDirect and following the systematic review methodology of other scholars (Alzahrani et al., 2017; Christofi et al., 2017). For this paper, anthropomorphism is defined as the incorporation of humanlike characteristics, motivations, intentions, behaviours and emotions to nonhuman agents that can positively or negatively affect customer service quality (Fan et al., 2016). Emotionality, warmth, desire and openness are some of the main features that such human-like agents acquire in anthropomorphism (Fan et al., 2016; Hur et al., 2015). People may anthropomorphize other entities due to three psychological determinants; elicited agent knowledge, effectance motivation and sociality motivation (Epley et al., 2007). This trend has been observed in several examples such as electronic devices, advertisements, animals and others (May and Monga, 2014). Anthropomorphic creations and especially anthropomorphic technology abound in the marketplace (Kim and Kramer, 2015). Indeed, to increase customer service quality and strengthen customers' experiences, businesses are increasingly using human-like traits to their services (Hur et al., 2015; Kim and Kramer, 2015; Puzakova et al., 2013). Based on the context and the ways in which anthropomorphism is been employed, it may have positive and/or negative implications on customer service quality. On the one side, anthropomorphic machines can offer customers better interaction experiences due to the psychological mechanisms of effectance motivation and social connectedness (Fan et al., 2016). Similarly, computers' representations with high anthropomorphic features, can lead people to give them positive social judgement, higher capability and trustworthiness and get influenced by them when they are facing a choice dilemma in decision making (Gong, 2008). The presence of an anthropomorphic agent in Web sites has also a favourable effect on consumers' reactions, making customers to consider the Web site as more credible (Nan et al., 2006). At the same time, anthropomorphism is been used as a strategic technique for firms' brands, increasing product likability and creating positive emotions of brands features (Puzakova et al., 2013). On the other side,

anthropomorphism may lead people to think of target products as smarter and more trustworthy (Hur et al., 2015). In addition, examining the psychological factors that affect customers' responses to digital assistants and the sequent influence on game enjoyment, it is noticed that help systems in computer games provided to customers in anthropomorphized ways, they have a negative effect on customers, as they undermine their sense of autonomy in the game (Kim et al., 2016). Following relevant review of anthropomorphism's literature, it is showed that there are no substantive empirical or theoretical accounts, which test the usage of anthropomorphic technology within the higher education industry. Based on these realities the aim of this systematic review is to map extant research and its research paths about the subject, provide a descriptive theoretical analysis of our findings, synthesize and categorize the review findings into a comprehensive framework, provide fruitful directions for future research and discuss the implications of our study in theory and practice.

Keywords: anthropomorphism, innovation, technology, customer service quality, marketing.

REFERENCES

- Alzahrani, L., Al-Karaghoul, W. and Weerakkody, V. (2017), "Analysing the critical factors influencing trust in e-government adoption from citizens' perspective: A systematic review and a conceptual framework.", *International Business Review*, Vol. 26 No. 1, pp. 164-175.
- Christofi, M., Leonidou, E. and Vrontis, D. (2017), "Marketing research on mergers and acquisitions: a systematic review and future directions", *International Marketing Review*, Vol. 34 No. 5, pp. 629-651.
- Epley, N., Waytz, A. and Cacioppo, J.T. (2007), "On Seeing Human: A Three-Factor Theory of Anthropomorphism", *Psychological Review*, Vol. 114 No. 4, pp. 864-886.
- Fan, A., Wu, L. and Mattila, A.S. (2016), "Does anthropomorphism influence customers' switching intentions in the self-service technology failure context?", *Journal of Services Marketing*, Vol. 30 No. 7, pp. 713-723.
- Gong, L. (2008), "How social is social responses to computers? The function of the degree of anthropomorphism in computer representations", *Computers in Human Behavior*, Vol. 24 No. 4, pp. 1494-1509.
- Hur, J.D., Koo, M. and Hofmann, W. (2015), "When Temptations Come Alive: How Anthropomorphism Undermines Self-Control", *Journal of Consumer Research*, Vol. 42 No. 2, pp. 340-358.
- Kim, H.C. and Kramer, T. (2015), "Do Materialists Prefer the "Brand-as-Servant"? The Interactive Effect of Anthropomorphized Brand Roles and Materialism on Consumer Responses", *Journal of Consumer Research*, Vol. 42 No. 2, pp. 284-299.
- Kim, S., Chen, R.P. and Zhang, K. (2016), "Anthropomorphized Helpers Undermine Autonomy and Enjoyment in Computer Games", *Journal of Consumer Research*, Vol. 43 No. 2, pp. 282-302.
- May, F. and Monga, A. (2014), "When Time Has a Will of its Own, the Powerless Don't Have the Will to Wait: Anthropomorphism of Time Can Decrease Patience", *Journal of Consumer Research*, Vol. 40 No. 5, pp. 924-942.
- Nan, X., Anghelcev, G., Myers, J.R., Sar, S. and Faber, R. (2006), "What if a Web Site can Talk? Exploring the Persuasive Effects of Web-Based Anthropomorphic Agents", *Journalism & Mass Communication Quarterly*, Vol. 83 No. 3, pp. 615-631.
- Puzakova, M., Kwak, H. and Rocereto, J.F. (2013), "When Humanizing Brands Goes Wrong: The Detrimental Effect of Brand Anthropomorphization Amid Product Wrongoings", *Journal of Marketing*, Vol. 77 No. 3, pp. 81-100.

A CONTINUOUS-REVIEW INVENTORY MODEL FOR PHARMACEUTICAL PRODUCTS WITH PARTIAL BACKORDERS

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ABSTRACT

Nowadays, increase in the prevalence of preventable viruses, age-related treatments and similar health problems that are transmitted by non-organic nutrients or environmental factors, enhance drug usage. Therefore, pharmacies typically store pharmaceutical products in their depots before being sold to the customer. On the other hand, if the amount of stock is not planned correctly several problems may occur that increases the cost of inventory such as lack of storage space, shortening of product life, cost of medical waste in non-resale products and the cost of back-ordering. However, the main purpose of inventory control policies is to keep the stock amount that will meet the requirements at optimum cost without keeping the customer waiting and not causing environmental waste. Therefore, for pharmaceutical products, delays and distortions cause problems between the manufacturer, the pharmacist and the customer. In the literature, a wide range of models and solution approaches are recommended for several inventory systems with stochastic demands. These systems are examined in two groups as; continuous review systems and periodic review systems. In those systems, sometimes there are some uncertainties related with the quantity of backordered items. The presence of an uncertain environment depends on multiple parameters, and accurate determination of these parameters as well as analysis with appropriate models is of great importance in creating an effective and efficient process in management of such kind of inventory systems.

In this study, a continuous review inventory model with stochastic demand for pharmaceutical products, which is not in the literature, has been proposed by using realistic parameters to optimize the order quantity and reorder levels which cause problems in inventory systems when not optimized. The first studies on inventory systems were made by Ford Harris in 1915. After the uncertainties in the 1950s were expressed in mathematical models, the foundations of stochastic models began to be laid. In recent literature respectively, Ouyang ve Chuang (2001), Ouyang, Wu ve Ho (2007), Lin (2009), Priyan and Uthayakumar (2015), Braglia, Castellano and Song (2017), Nematollahi, Hosseini -Motlagh and Heydari (2017), they proposed various models on the variable back order ratio concept, which is inversely proportional to the amount of sales, in case the demand complies with the normal distribution. Lee (2005), generalized the demand to the model given by the normal distribution Ouyang and Chuang (2001) by including the variable back order ratio. Because,

for different customers' demands, it is not enough to use a single distribution to define the demand for delivery time when delivery times are not the same. Lee, Wu and Hsu (2006) presented a variable back order rate as a negative exponential function of time. They have proposed an inventory model with variable back-rate ratio, which depends on the amount of sales. Gholami-Qadikolaei et al. (2012) proposed a variable back order ratio in the form of a negative exponential function instead of the matching time. Sarkar and Moon (2014) has developed an optimally sized model with variable supply ratio and lower installation costs and lower error rate in non-distributional environments.

In the proposed model, we consider the demand on a single drug is stochastic and its equivalent drug in the case of shortage can satisfy it. The proportion of using an equivalent drug when the shortage occurs has been introduced to classical (Q,r) model as a new parameter and the effect on the cost has been analyzed. In Figure 1, the situation of shortage partially backordered is presented. In this figure a continuous review (Q,r) model is shown where the demand is stochastic, T represent the cycle time and T' is the lead time. In this figure, when there is a shortage of original product, it is partially lost, and partially backordered. This proportion is introduced the model as a partial backorder parameter.

In the proposed real-life inventory system, during the inventory period, when there is a shortage of original product, some customers accept the equivalent product that the insurance pays or the price may be appropriate. Nevertheless, this situation can cause the loss of customer will in short or long term. In extreme cases, while customer satisfaction is provided in the upper stage, products with short remaining shelf life should be returned to the warehouse and creates an important amount of pharmaceutical waste.

There are various software available for pharmacies that can be used for inventory management. The ordering quantities proposed by these simple inventory management tools is based on results obtained by taking the average of the past months sales and nothing more sophisticated. This situation creates a financial loss for the pharmacist in case of over-demanding or selling against demand, as well as environmental and economic disadvantage. However, it was observed by the practitioners that accurate and effective estimations were not made on examining the stock level calculations even with the most preferred inventory planning and management software. For this reason, in this study a heuristic method is proposed to define the optimal ordering quantity and the reorder point for this new model. It was used to determine the optimal stocking strategies of the two pharmaceutical products with a high density and equivalent in pharmacies. Proposed heuristic presents solutions to prevent the shortage of original drug and to prevent erroneous stockings causing waste. . Results show that the proposed model is efficient and can be used in real life instances.

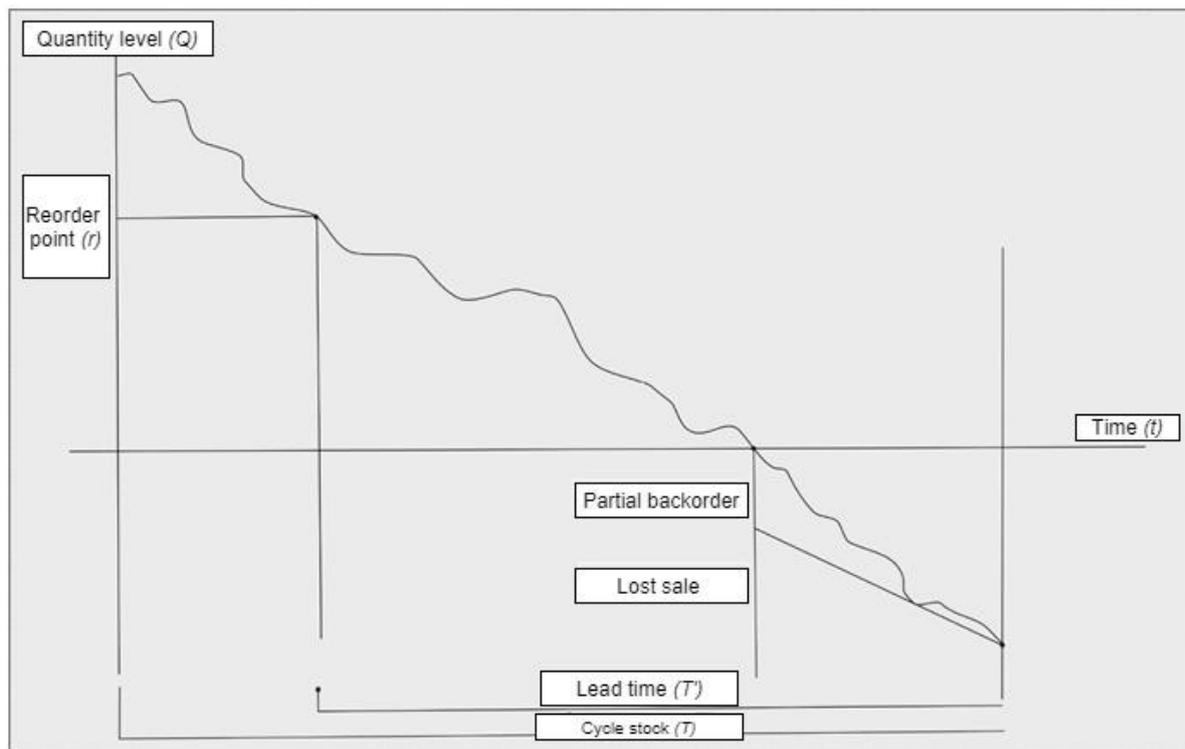


Fig 1. Continuous review inventory control system with partial backorder and lost sale

Keywords: Inventory Model, Pharmaceutical Products, Continuous review, Reorder point, Backorders

REFERENCES

- Sarkar and Moon (2014), "Improved quality, setup cost reduction, and variable backorder costs in an imperfect production process" *Int. J. Production Economics* 155(2014) 204-213
- Braglia, Castellano and Song (2017), "Distribution-free Approach for Stochastic Joint-Replenishment Problem with Backorders/lostSales Mixtures, and Controllable Major Ordering Cost and Lead Times." *Computers & Operations Research* 79: 161–173.
- Gholami-Qadikolaie ,Mohammadi, Amanpour-Bonab, and Mirzazadeh. (2012) "A continuous Review Inventory System with Controllable Lead Time and Defective Items in Partial and Perfect Lead Time Demand Distribution Information Environments." *International Journal of Management Science and Engineering Management* 7 (3): 205–212.
- Lee (2005) "Inventory Model Involving Controllable Backorder Rate and Variable Lead Time Demand with the Mixtures of Distribution." *Applied Mathematics and Computation* 160 (3): 701–717.
- Lee, Wu and Hsu (2006) Optimal Inventory Policy Involving Back-order Discounts and Variable Lead Time Demand." *The International Journal of Advanced Manufacturing Technology* 34 (9–10): 958–967.
- Lin (2009), "An Integrated Vendor–buyer Inventory Model with Backorder Price Discount and Effective Investment to Reduce Ordering Cost." *Computers & Industrial Engineering* 56 (4): 1597–1606.
- Ouyang and Chuang (2001), "Mixture Inventory Model Involving Variable Lead Time and Controllable Backorder Rate." *Computers & Industrial Engineering* 40 (4): 339–348.
- Ouyang, Wu and Ho (2007), "An Integrated Vendor–buyer Inventory Model with Quality Improvement and Lead Time Reduction." *International Journal of Production Economics* 108 (1): 349–358.
- Nematollahi, Hosseini -Motlagh and Heydari (2017), "Economic and Social Collaborative Decision-making on Visit Interval and Service Level in a Two-echelon Pharmaceutical Supply Chain." *Journal of Cleaner Production* 142: 3956–3969.
- Priyan and Uthayakumar (2015), "Trade Credit Financing in the Vendor–buyer Inventory System with Ordering Cost Reduction, Transportation Cost and Backorder Price Discount when the Received Quantity is Uncertain." *Journal of Manufacturing Systems* 33 (4): 654–674.

THE ROLE OF PERSONALIZATION AND HEDONIC MOTIVATION IN DRIVING CUSTOMER EXPERIENCE

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ABSTRACT

STUDY OBJECTIVE AND BACKGROUND

Customer experience (CX) has been a topic of interest to researchers and managers for several decades. CX is defined as consumer's internal and subjective response to any direct or indirect contact with a company (Meyer and Schwager, 2007). Rose *et al.* (2011) divided customer experience to two components: affective and cognitive experiences. According to Gentile *et al.* (2007), the emotional component involves consumer's affective system whereas cognitive component is related to consumer's conscious mental processes.

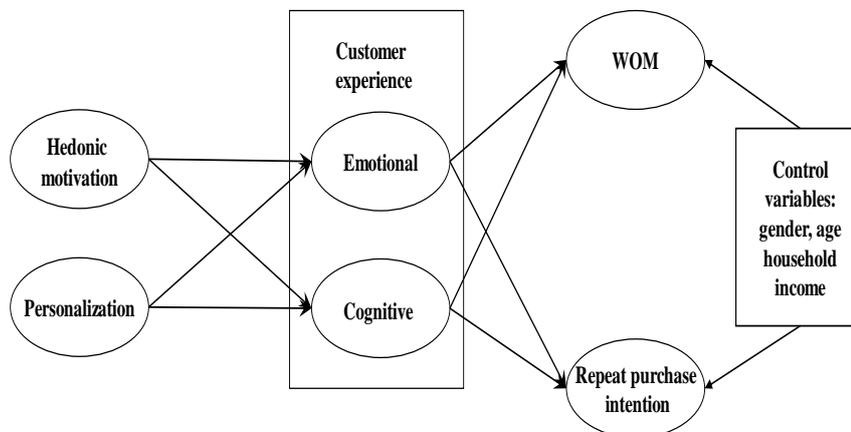


Figure 6. Research model

Prior research has not widely examined the relationships between customer's hedonic motivation and personalization with CX in omnichannel retailing context. Hedonic motivation is defined as fun or pleasure (Venkatesh *et al.* 2012) whereas personalization refers to "providing customers customized content, services, product recommendations, communications and e-commerce interactions based on knowledge about them" (Adomavicius and Tuzhilin, 2005, p.84). The objective of this study is to examine how personalization and hedonic motivation drive CX, and how CX in turn affects word-of-

mouth (WoM) and repurchase intention in an omnichannel retailing context. The Figure 1 shows our research model, which includes in total eight direct effects hypotheses.

METHODOLOGY AND RESULTS

The hypotheses are tested with a sample of 2,084 retailer customers in Finland using Smart PLS 3 software (Ringle, Wende, and Becker, 2015). The scales measuring the constructs were all derived from prior studies. Reliability and validity of the research model were acceptable. The model's predictive relevance (R^2) was 0.472 for cognitive CX, 0.628 for the Emotional CX, 0.439 for the repeated purchase intention and 0.555 for WoM. The results supported fully all the hypotheses. The findings show that both hedonic motivation and personalization have positive direct effects on the components of CX. In addition, the findings show that the emotional and cognitive dimensions of CX have positive effects on WoM and repeated purchase intention.

DISCUSSION

This research contributes to the existing literature in a number of ways. Our findings contribute to the literature of CX by showing that hedonic motivation and personalization are significant drivers of CX, and that CX drives both WoM and repurchase intention. Agreeing with the previous studies, we found support for the viewpoint that hedonic motivation (Hubert *et al.* 2017) and personalization (Rose *et al.* 2012, Pappas *et al.* 2014) have positive influence on CX. In addition our findings confirm the positive effects of CX on WoM (Klaus and Maklan, 2013) and on repurchase intention (Rose *et al.* 2012). In terms of managerial implications, our results indicate that creating more personalized offerings and advertisements improves total CX, which leads to more positive WoM and intentions to repeat purchase.

Keywords: omnichannel retailing, customer experience, personalization

REFERENCES

- Adomavicius, G. and Tuzhilin, A. (2005), "Personalization Technologies: A Process-Oriented Perspective". Communications of the ACM Vol. 48. No.10. pp. 83-90.
- Gentile, C., Spiller, N. and Noci, G. (2007), "Customer Experience: An overview of Experience Components that Co-create Value With the Customer". European Management Journal Vol. 25 No. 5. pp. 395-410.
- Hubert, M., Blut, M., Brock, C. and Backhaus, C. (2017), "Acceptance of smartphone-based mobile shopping: Mobile benefits, customer characteristics, perceived risks, and the impact of application context". Psychology & Marketing Vol. 34 No.2. pp. 175-194.
- Klaus, P. and Maklan, S. (2013), "Towards a better measurement of customer experience". International Journal of Market Research Vol. 55. No. 2. pp. 227-246.
- Lemke, F., Clark, M. and Wilson, H. (2011), "Customer experience quality: an exploration in business and consumer context using repertory grid technique". Journal of the Academy of the Marketing Science Vol. 39. No.6. pp.846-869.

- Meyer, C. and Schwager, A. (2007), "Understanding customer experience". *Harvard Business Review*, February. pp. 117-126.
- Pappas, I., Kourouthanassis, P., Giannikos, M. and Chrissikopoulos, V. (2014), "Shiny happy people buying: the role of emotions on personalized e-shopping". *Electron Markets* Vol. 24. pp. 193-206.
- Ringle, Christian M., Wende, Sven, and Becker, Jan-Michael. (2015), *SmartPLS 3*. Bönningstedt: SmartPLS. Retrieved from <http://www.smartpls.com>
- Rose, S., Hair, N. and Clark, M. (2011), "Online Customer Experience: A Review of the Business-to-Consumer Online Purchase Context". *International Journal of Management Reviews* Vol. 13. No.1. pp. 24-39.
- Rose, S, Clark, M., Samouel, P. and Hair, N. (2012), "Online Customer Experience in e-Retailing: An empirical model of Antecedents and Outcomes". *Journal of Retailing* Vol. 2. No. 88. pp. 308-322.
- Venkatesh, V., Thong, J. and Xin, X. (2012), "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology". *MIS Quarterly* Vol. 36. No.1. pp. 157-178.

WEALTH OF NATIONS AND INTELLECTUAL CAPITALS: ADAM SMITH

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ABSTRACT

INTRODUCTION

Adam Smith has invisible hands view. It is laissez faire. Adam Smith also has liberal economy view. Thirdly, it has absolute advantage theory view in international marketing. This study discusses comparative advantage theory of Ricardo for international marketing. For example, Cyprus has comparative advantage in grape business against Turkey; while Turkey has comparative advantage in iron industry. Smith discusses those notions as wealth of nations. Further, this study discusses intellectual capitals as wealth of nations.

In international marketing, second important thing is customer value. If firm aims to attract customers, it must have customer value. First important thing is comparative advantage theory. There are central economy and environment economies in global economy. Central economies are, for example, USA-NAFTA, Germany-EU, and China-Asian economies. In exporting, central economy buy and sell every kind of products; however, environment economies apply comparative advantage theory. Finally, there might be two policies of international marketing and economy: comparative advantage theory and customer value perspectives.

INTELLECTUAL CAPITAL

This paper argues intellectual capital as wealth of nations. It may be considered as a new approach in wealth of nations. Adam Smith has two principles: absolute advantage and laissez faire. Absolute Advantage describes competitive advantage of nation. For example, Portugal has absolute advantage in wine business.

Smith discusses both variables as wealth of nations. This study adds third dimension to wealth of nation: It is intellectual Capital. An intellectual capital has knowledge. It makes innovations in company by technical knowledge. In industry 5.0, to become competitive, firms are to possess intellectual capitals and innovations. Industry 5.0 is described with technology development. and an intellectual capital may develop new technologies through their company innovations. Moreover, human resource management field gains priority in industry 5.0; Because HR differentiates firm's products. Because HR are core competence of firms. In industry 4.0 each economy or each firm produces similar products that make competition severe. That policy is called as isomorphism. Because as a technology and capital, economies are closer to each other. Thus, firms are to differentiate

their products in industry 5.0 to become competitive. For example, VW are to develop new engines that runs with air and water or soil. This is differentiation policy. Toyota focuses on developing small, less consumption, hybrid auto's.

Michael Porter (2011) discusses competitive advantage of a nation in Diamond Model. An intellectual capital, such as Muhtar Kent, may be competitive advantage of nation. or Steve Jobs, Jack Welch, Lee Iacocca, Bill Gates become intellectual capital of nations. Because their firms gain competitive advantage in markets. Thus, intellectual capital becomes wealth of nations through firm performance and GDPs. and Intellectual capitals are human resources.

ADAM SMITH AND PRINCIPLES

David Ricardo furthered absolute advantage with comparative advantage theory (Skousen, 2014). For example, England has comparative advantage against Portugal via iron industry.

Adam Smith possess three principles: Laissez faire, liberal economy, invisible hands, and absolute advantage theory. Smith obtained laissez faire from France (Skousen, 2014). In addition, America uses liberal economy principles. Chandler says that corporate managers are visible hands of markets (Livvarçin, Kurt, 2017). Managers manage the markets in USA.

RESEARCH

Lee Iacocca and Steve Jobs are intellectual capitals of their firms. Iacocca and Jobs carried their firms no.1 in markets.

HUMAN RESOURCE MANAGEMENT AND ECONOMY

Connection between HRM and economy appears on talent management (Uysal, 2019). In this case, talents are managers of company.

Assumption is that firms generate GDPs in macro economy. and managers manage the corporate including CEO, CFO, CMO, CKO, others. In USA, there is "oligarşi tunç law". Few people manage the corporate, and make decisions. Therefore, economy-HR relationship is key to organizational success. According to oligarch tounche, 4-5 people manages the country and company in board of directors.

There are several business functions in firm management: marketing, production, finance, logistics, accounting, etc. Each function has manager and departments. Production manager, marketing manager, accounting manager, finance manager, and so on. HR appoints talents to those positions. i.e.

HR determines who become marketing, production, finance manager. Secondly, HR recruits talents for managerial positions in staffing process.

GDP is defines as sum of production and sales of firms. and managers manage the company. and HR recruits and appoints those managers. Therefore, HRM and economy link appears on talent management and GDP variables.

For example, it is slogan that, good for GM is good for America (Parasız, 2002). GM produces part of USA's GDP. And corporate managers manage the company. and HRM appoints, finds, and recruits managers (talents) for company.

There are two contributions of intellectual capital in this study (Savaş, 2007): an intellectual capital might be considered as competitive advantage of nation, and wealth of nations. Because intellectual capital improves GDPs of nations through firms' market success. For example, Steve Jobs improved Apple's earnings through iPad, iPhone inventions. Apple company becomes number1st in market via these innovations. In addition, Lee Iacocha as a CEO saved Chrysler form bankruptcy in early 1980s. Because firms create GDPs in economy, and intellectual capitals contribute the firm's success. Intellectual capitals are bright and brilliant personnel of organization, and it contributes to firm performance positively. HRM field is related with economy discipline via GDP production. Firms affect nation's GDP via production and intellectual capitals.

Intellectual Capitals make innovations in their company. ICs are bright and brilliant person of their company. ICs have accumulated knowledge that is used in innovation.

CONCLUSION

Intellectual capital represents two properties: innovation and star employee. Intellectual capital has innovation capability in firms, and ICs are star employees of their company. Steve Jobs is leader of iPhone inventions, Bill Gates and Marc Zuckerberg are founders of Microsoft and Facebook, and Lee Iacocha developed firm performance in Chrysler in 1980s. In intellectual capital approach, government support is important. Because USA government strictly supports new entrepreneurs such as in Google, Facebook. This study explores intellectual capital variable for firm performance as it considered as a wealth of nation in this study.

REFERENCES

1. Livvarçin, Ö. & Kurt, D. (2017). 49 People 49 Theory, Beta, Istanbul.
2. Parasız, İ. (2002), Inflation, Crise, Arranges.Ezgi Publishing, Bursa.
3. Porter, M. (2011). Competitive Advantage of Nations, Simon and Schuster, Boston.
4. Savaş, V.F. (2007). History of Economy, Siyasal Publishing, Ankara.
5. Skousen, M. 2014). History of Economic Thought: Building Modern Economy. Adres Publishing, Ankara.

6. Uysal, G. (2019). Wealth of Nations and Intellectual Capitals: Adam Smith Approach. *Journal of Modern Accounting and Auditing*, 15(8), 411-414.

THE PECULIARITIES OF THE PROCESS OF INNOVATION CREATION AND IMPLEMENTATION IN SMEs: A CASE OF LITHUANIA

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ABSTRACT

Lithuania was the moderate innovator among EU countries in 2019 (European Innovation Scoreboard, 2019). Due to European Structural funds qualitative changes in Lithuania's innovation ecosystem were achieved, however, according to OECD (2016) – Lithuania's innovation performance, notably business innovation, remains low. Although, Lithuania achieved the highest rate of innovation performance increase (53,9 %) during the period of 2011 - 2018 among EU countries, innovation performance impact onto economy and society (e.g. employment) still is very weak (European Innovation Scoreboard, 2019). Companies' innovativeness process is driven by external and internal factors (Claudino et al, 2017). The above mentioned reports demonstrate high achievements of Lithuanian innovation ecosystem leading to the assumption, that companies' internal factors are the biggest barriers of innovation development.

Considering importance of innovation to the competitiveness of SMEs and the country in general, the *aim of this study* is to identify the peculiarities of innovation creation and implementation process in Lithuanian companies (barriers, sources of innovations, fostering factors, etc.) and to analyse differences of innovation creation and implementation process in the companies which introduce innovations and companies which do not.

A survey of 116 SMEs in Lithuania was done in December of 2018. A convenient sampling approach was used, but efforts were made to reach potentially innovative companies that participate in the Lithuanian innovation ecosystem. A company's innovativeness drivers and barriers were measured by using operationalized Funnel model as well as methodological considerations of Fernando Galindo-Rueda and Adriana van Cruysen's (2016) and Claudino et al (2017). The research was funded by Lithuanian Agency for Science, Innovation and Technology.

The main findings: Micro-enterprises (n = 77, 66.4%) and small enterprises (n = 28, 24.1%) most often demonstrate innovative performances. Those companies mainly reside in the two largest counties of Vilnius and Kaunas.

Data analysis shows statistically significant differences between companies which demonstrate innovative performance and companies which do not demonstrate innovative performance in such factors like appropriate organizational culture and governance to innovate, adequate resources and activity in various forms of partnership with external partners such as other firms, research and higher

education institutions or consultants. During the analysis the characteristics of the innovation process, significant differences emerge from the implementation phase and continue until the end of the process. This shows that companies that do not demonstrate innovative performance get stuck not because of a lack of ideas, but because of their disability to implement them.

Keywords: Innovativeness of SMEs, fostering factors of SMEs innovativeness, innovation creation and implementation process, Funnel model, Lithuania.

REFERENCES

- Claudino T.B., Santos S.M., Aquino Cabral A.C. & Naiula Monteiro Pessoa M, (2017) Fostering and limiting factors of innovation in Micro and Small Enterprises, RAI Revista de Administração e Inovação 14 (2017) 130–139 <https://doi.org/10.1016/j.rai.2017.03.007>
- Fernando Galindo-Rueda F. & Van Cruysen A (2016) Testing innovation survey concepts, definitions and questions: findings from cognitive interviews with business managers, OECD Science, Technology and Innovation Technical Paper.
- European Innovation Scoreboard (2019) European Commission, Luxembourg: Publications Office of the European Union, <https://ec.europa.eu/docsroom/documents/36281>
- OECD (2016), OECD Reviews of Innovation Policy: Lithuania 2016, OECD Reviews of Innovation Policy, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264259089-en>

INVERTED HOCKEY STICK EFFECT IN THE EUROPEAN INDUSTRY: INVENTORY REDUCTION IN THE LAST FISCAL QUARTER

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ABSTRACT

PURPOSE

Inventory management decisions are critical to industrial companies' efficiency and performance. This paper aims to identify a pattern, coined by (Hoberg et al., 2017) as "Inverted hockey stick effect", of a systematic reduction of inventory (of raw materials, work in progress, finished products and the sum of these) in the last fiscal quarter, in European industrial companies (based on a preliminary 54 companies' sample). Such reduction would correspond to a conscient management decision, with an impact on the supply chain, something that may not be in line with strictly operational needs.

DESIGN / METHODOLOGY / APPROACH

The theoretical basis of this paper is the study from (Hoberg et al., 2017), where a systematical inventory reduction in the last fiscal quarter was detected in a sample of 4877 North American industrial companies between 1990 - 2010. The effect was identified through a multivariate linear regression with inventory days (ID) as a dependent variable. Inventory days, presented in equation (1), is calculated from the end-of-quarter value of inventory (I) and the same quarter COGS (Hoberg et al., 2017, Chen et al., 2005, Chen et al., 2007). Subscript *i* denotes a company observation, *t* denotes the year and *q* denotes the quarter.

$$ID_{itq} = (I_{itq} * 365 \text{ days}) / COGS_{itq}$$

The use of inventory days as a variable, integrates companies' economic activity by taking into consideration the COGS, when analysing inventory behaviour.

As stated in equation (2), total inventory value is given by the sum of the three inventory components:

$$\text{Total inventory} = \text{Raw material (RM)} + \text{Work in progress (WIP)} + \text{Finished product (FP)}$$

Because a reduction of inventory can result from a peak of sales, the "inverted hockey stick effect" reduction of inventory must be noticeable in all three components (RM, WIP, FP).

The quarterly data concerning the period 2008 - 2017, were obtained from Compustat® using the S&P Capital IQ® interface, filtered by region (Europe) and classification (Industry).

In this preliminary study, we state the following propositions:

Proposition 1 – Companies promote inventory reduction in the last fiscal quarter

Proposition 2 – The inventory reduction in the last fiscal quarter is identified in all three components (RM, WIP, FP)

For Proposition 1, the consolidated data from the 54 companies that present complete records for the 40 quarters (2008-2017) are used to calculate inventory days and checked for a reduction in the Q4 when compared with Q3. In parallel, the same analysis is done considering each year of the period.

For Proposition 2, the same calculations from Proposition 1 are done for each inventory component, RM, WIP and FP.

PRELIMINARY RESULTS

The sample (composed by 54 European industrial companies representing a global yearly average COGS of 394.584M€), presents a consolidated reduction of 8,4% in inventory days in Q4 when compared with Q3 (table 1). The reduction is identified, not only for 2008-2017 but also for each year (Proposition 1).

Year	Q1	Q2	Q3	Q4	Q4<Q3	ΔQ4 vs Q3
2008	92,2	89,7	94,6	91,4	Yes	-3%
2009	98,3	86,2	84,6	74,3	Yes	-12%
2010	83,5	77,8	77,3	74,0	Yes	-4%
2011	83,6	79,7	82,7	79,2	Yes	-4%
2012	85,6	84,1	83,0	75,7	Yes	-9%
2013	89,1	82,1	82,3	72,8	Yes	-12%
2014	89,1	87,0	86,4	77,8	Yes	-10%
2015	92,5	86,7	85,1	79,2	Yes	-7%
2016	97,3	90,7	93,7	84,5	Yes	-10%
2017	96,2	91,4	92,2	82,8	Yes	-10%
2008-2017	91,0	85,9	86,5	79,2	Yes	-8,4%

Table 1 – Quarter inventory days and Q4 to Q3 evolution – Total Inventory

For the period 2008-2017, the three inventory components present a reduction of 8.0% - RM, 7.9% - WIP and 8.7% - FP in inventory days in Q4, when compared with Q3 (table 2).

Year	Raw material		Work In Progress		Finished Product		Total	
	Q4<Q3	ΔQ4 vs Q3	Q4<Q3	ΔQ4 vs Q3	Q4<Q3	ΔQ4 vs Q3	Q4<Q3	ΔQ4 vs Q3
2008	Yes	-2%	No	0%	Yes	-5%	Yes	-3%
2009	Yes	-10%	Yes	-14%	Yes	-12%	Yes	-12%
2010	Yes	-7%	Yes	-7%	Yes	-2%	Yes	-4%
2011	Yes	-7%	Yes	-2%	Yes	-4%	Yes	-4%
2012	Yes	-6%	Yes	-10%	Yes	-9%	Yes	-9%
2013	Yes	-10%	Yes	-13%	Yes	-12%	Yes	-12%
2014	Yes	-7%	Yes	-8%	Yes	-11%	Yes	-10%
2015	Yes	-7%	Yes	-6%	Yes	-7%	Yes	-7%
2016	Yes	-11%	Yes	-8%	Yes	-10%	Yes	-10%
2017	Yes	-9%	Yes	-10%	Yes	-11%	Yes	-10%
2008-2017	Yes	-8,0%	Yes	-7,9%	Yes	-8,7%	Yes	-8,4%

Table 2 – Q4 to Q3 evolution – Per inventory type

The reduction is also identified for each year with one exception – WIP in 2008, where there was an increase inferior to 0.2% (proposition 2).

RELEVANCE / CONTRIBUTION

This preliminary study is the first quantitative study of the inverted hockey stick effect in inventory for the European industry and points to a possible conscient management behaviour with impact on the industrial supply chain.

CONCLUSION

This paper finds the same type of behaviour in Europe, like the one identified in the North American case (Hoberg et al., 2017), i.e., a reduction of inventory in the fiscal Q4, both in total inventory and in the three components (RM, WIP and FP). For the studied period, this reduction is in average 8% (total inventory) representing an average reduction of 8.306M€ for each year from Q3 to Q4.

Keywords: Inverted Hockey Stick Effect, Inventory, European Industry, Inventory Management

REFERENCES

- Chen, H., Frank, M. Z. & Wu, O. Q. (2007), "U.S. retail and wholesale inventory performance from 1981 to 2004", *Manufacturing and Service Operations Management*, Vol. 9, No. 4, pp. 430-456.
- Chen, H., Wu, O. Q. & Frank, M. Z. (2005), "What actually happened to the inventories of American companies between 1981 and 2000?", *Management Science*, Vol. 51, No. 7, pp. 1015-1031.
- Hoberg, K., Badorf, F. & Lapp, L. (2017), "The inverse hockey stick effect: an empirical investigation of the fiscal calendar's impact on firm inventories", *International Journal of Production Research*, Vol. 55, No. 16, pp. 4601-4624.

STRATEGIC COMMUNICATION IN DYNAMIC ENVIRONMENTS: HOW DESIGN THINKING CAN COMPLEMENT PLANNING

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ABSTRACT

Communication planning is in transition. While conventional approaches of the 1980s and 1990s focus on linear models, there has been a call for more agile approaches in recent years. Business, societal and political environments have become VUCA. Within a more volatile, uncertain, complex and ambiguous world, strategic communication planning has to adapt to new circumstances. The aim of this presentation is to discuss how and where the conventional toolset of communication planning can be expanded. Based on elements of design thinking, a non-linear, stakeholder-centered model is developed.

BACKGROUND

In a world that is changing, corporate communication is faced with many challenges. Formerly rather stable contexts have become unpredictable (volatility). It is more difficult to anticipate how events will unfold and to forecast the outcome of management decisions and strategic communication (uncertainty). Furthermore, the world seems to be more complex (complexity) and contradictory than ever (ambiguity). Within the VUCA environment (Bennett and Lemoine, 2014), corporate communication has to adapt, too.

As a management function, corporate communication aims at „(...) effectively coordinating all means of communication with the overall purpose of establishing and maintaining favorable reputations with stakeholder groups upon which the organization is dependent“ (Cornelissen, 2014, p. 5). Thus, corporate communication is based on goal-oriented systematic planning. Communication planning frameworks are specific and vary across corporate communication's three subdomains marketing communications (see for example: Holm, 2006; Schultz, 1992), public relations (see for example: Vieira, 2019; Smith, 2017; Cutlip *et al.*, 2006) and internal communications (see for example: Ruck, 2015; FitzPatrick and Valskov, 2014, pp. 41-57). However, all conventional frameworks share the idea of a linear process logic. They mostly derive from a four-step model (Cutlip *et al.*, 2006, p. 283) of analyzing, strategizing, implementing and evaluating. In the first step, a situation analysis is conducted in order to define the communication problem (“What is the problem?”). In the second step, a strategy is designed (“What should we do and say, and why?”) and, in the third step, implemented (“How and when do we do and say it?”). Finally, in the fourth step, the program is evaluated (“How did we do?”).

AIM OF THE PAPER

Conventional planning frameworks draw from milestone-based project management and propose a sequence of closed hierarchical process phases, which follow a predefined order, are strictly separated and often require an extensive documentation. Whenever the circumstances change, former findings or decisions have to be reevaluated and it may be necessary to start the process again. Such frictions could require a substantial amount of time and resources. Within dynamic environments, linear approaches have distinct limitations for an agile strategic corporate communication. As to Doleski (2015, p. 7), “there is now a greater need than ever for innovative complexity management solutions and methods”.

The aim of this paper is to discuss how and where the conventional toolset of communication planning can be expanded. Based on elements of design thinking, a non-linear, stakeholder-centered model is developed. As a result, we propose an integrated model for corporate communication planning which complements conventional communication planning frameworks with multi-sequential iterative proceedings from the design thinking discipline. From a VUCA perspective “(...) design thinking helps to obtain a multi-perspective comprehension of a complex and ambiguous problem.” (Meinel and Leifer, 2011, p. xvii). It is defined as an “approach to creative problem solving” (von Thienen *et al.*, 2019, p. 13). Being deeply rooted in stakeholder orientation (Lindberg *et al.*, 2012, p. 231; Plattner, 2016; Meinel and Leifer, 2011), iterative design thinking frameworks can offer a new spin to conventional planning. A growing number of companies implement design thinking frameworks in order to foster a more agile culture and boost innovation processes (Leifer and Meinel, 2018, p. 4; von Thienen *et al.*, 2019, p. 13).

METHOD

This paper is based on an evaluative literature review and a qualitative study. In the latter, we analyze the communication planning frameworks of selected communication agencies and consultancies in Germany through an exploratory approach. Do these frameworks expand the conventional toolset of communication planning towards a more agile process? If so, how do they address dynamic environments and their effects? Are there any differences between integrated corporate communication frameworks on the one hand and particular models within marketing communication, public relations or internal communication planning on the other hand? Based on these insights from literature and practice, the expansion of the conventional toolset of communication planning is discussed. Furthermore, elements of the design thinking discipline will help develop the non-linear, stakeholder-centered communication planning model.

CONTRIBUTION FOR THEORY AND MANAGEMENT

With regard to theory building, this paper advances the body of literature on strategic corporate communication and in particular agile planning. Addressing VUCA contexts, the proposed model integrates marketing communication, public relations and internal communication by combining analytical techniques with problem solving patterns built upon heuristics and situational reasoning. As a contribution for managerial practice, this model could offer a more agile approach to strategic planning within corporate communication. Based on design thinking, it might help communication managers to “bridge the gap between a company’s need for reliable control of their processes and resource flows and an open and entrepreneurial approach” (Lindberg *et al.*, 2011, p. 15) to communication planning.

Keywords: corporate communication, communication management, strategic planning, design thinking, communication planning framework, agile development

REFERENCES

- Bennett, N. and Lemoine, G. J. (2014), “What a difference a word makes: Understanding threats to performance in a VUCA world”, *Business Horizons*, 2014, 57, pp. 311-317.
- Cornelissen, J. (2014), *Corporate communications. A guide to theory and practice*, Sage, London (UK).
- Cutlip, S. M., Center, A. H., Broom, G. M. (2016), *Effective Public Relations*, Pearson /Prentice Hall, Upper Saddle River, NJ.
- Doleski, O. D. (2015), *Integrated Business Model: Applying the St. Gallen Management Concept to Business Models*, Springer, Wiesbaden (Germany)
- FitzPatrick, L., Valskov, K. (2014), *Internal communications. A manual for practitioners*, Kogan Page, London (UK).
- Holm, O. (2006), “Integrated marketing communication: from tactics to strategy”, *Corporate communications: An International Journal*, 11, 1, pp. 23-33.
- Leifer, L. and Meinel, C. (2018), “Introduction: Reflections on Working Together: Through and Beyond Design Thinking”, in Plattner, H., Meinel, C. and Leifer, L., *Design Thinking Research: Making Distinctions – Collaboration versus Cooperation*, Springer Nature, Cham (Switzerland), pp. 1-13.
- Lindberg, T., Meinel, C. and Wagner, R. (2011): “Design Thinking: A Fruitful Concept for IT Development?”, in Plattner, H., Meinel, C. and Leifer, L., *Design Thinking: Understand – Improve – Apply*, Springer, Berlin/Heidelberg (Germany), pp. 3-18.
- Lindberg, T., Köppen, E., Rauth, I. and Meinel, C. (2012), “On the Perception, Adoption and Implementation of Design Thinking in the IT Industry”, in Plattner, H., Meinel, C. and Leifer, L., *Design Thinking Research: Studying Co-Creation in Practice*, Springer, Berlin/Heidelberg (Germany), pp. 229-240.
- Meinel, C. and Leifer, L. (2011), “Design Thinking Research”, in Plattner, H., Meinel, C. and Leifer, L., *Design Thinking: Understand – Improve – Apply*, Springer, Berlin/Heidelberg (Germany), pp. xiii-xxi.
- Plattner, H. (2016), “Preface”, in Plattner, H., Meinel, C. and Leifer, L., *Design Thinking Research: Making Design Thinking Foundational*, Springer International, Cham (Switzerland), pp. v-vi.
- Ruck, K. (2015), „Internal Communication Planning“, in Ruck, K., *Exploring internal communication. Towards informed employee voice*, Gower, Farnham (UK), pp. 119-132.
- Schultz, D. E. (1992), “Integrated Marketing Communication”, *Journal of Promotion Management*, 1, 1, pp. 99-104.
- Smith, R. D. (2017), *Strategic planning for public relations*, Taylor & Francis, New York, NY.
- Vieira, E. T. (2019), *Public relations planning. A strategic approach*, Taylor & Francis, New York, NY.

von Thienen, J. P. A., Clancey, W. J. and Meinel, C. (2019), "Theoretical Foundations of Design Thinking Part II: Robert H. McKim's Need-Based Design Theory", in Meinel, C. and Leifer, L., *Design Thinking Research – Looking Further: Design Thinking Beyond Solution-Fixation*, Springer Nature, Cham (Switzerland), pp. 13-40.

THE QUALITY OF FINANCIAL STATEMENTS IN GREEK LISTED FIRMS: THE MAJOR ISSUES

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ABSTRACT

Greek economy has different characteristics from other European and Mediterranean countries, for that reason it is useful to understand how much and in what directions these affected the financial statements quality of Greek listed firms. The Greek firms are characterized by: a) concentrated ownership, b) weak market for corporate control and c) family ownership. In addition, regarding legal framework is a compulsory legislation (Law 3016/2002) rather than a code of best practices (“comply or explain”) as in Anglo-Saxon countries. All the above characteristics make Greek environment to substantially differ from the other developed European countries. This paper attempts to determine these gaps and examine the accounting literature regarding Athens Stock Exchange (ASE) for the years 1991 to 2017.

TOWARDS HUMAN-CENTERED SOCIETY: THE ROLE OF EMOTIONS IN THE COMPANY

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“Humans are uniquely able to give and receive love, and that’s what differentiates us from AI. I can responsibly tell you that AI has no love”¹.

ABSTRACT

INTRODUCTION AND THEORETICAL BACKGROUND

We are in the core of the Industry 4.0 era, where the connection between physical and digital systems allows companies to explore new opportunities and make production processes more efficient (Theorin et al., 2017). This transformation has consequences for the use of human capital and for the skills required in the job market. In this context, companies emerge as being oriented towards enhancing soft skills in their training activities and professional paths. These skills refer the set of non-specific skills and abilities that refer to each individual’s knowing to be. More specifically, they are interpersonal qualities, also known as people skills, and personal attributes that one possesses (Robles, 2012). These skills are used by individuals both in work contexts and in the field of interpersonal relations.

Emotional intelligence (EI) has emerge as one of these soft skills. Nowadays, it is considered strategic and vital for companies because it allows to consciously recognize, understand and manage the emotions of those working for the organization at different level (Goleman et al., 2013). Specifically, EI is the ability to motivate oneself, to persist in pursuing a goal despite frustration, to control impulses, to modulate one’s moods, avoiding that suffering prevents one from thinking, being empathetic (Goleman, 2006).

The older literature has emphasized the importance of hard skills in the context of work environment. However, emotionality and soft skills have now acquired a new meaning in business contexts, both at the level of managers and at the one of employees. In this guise, it has been suggested that the organizational climate influences the company’s results and positive emotions can boost productivity (Akgün et al., 2007; Heffernan et al., 2008; Miao et al., 2018). Despite this, there are few empirical studies on EI. Therefore, we still know little about the role of emotions in companies and how they

¹ Kai-Fu Lee at TED2018 - How AI can save our humanity.

affect success, strategies and behaviours in the company. According to this, this paper aims to answer to the following questions:

1. Is it possible to identify company's emotions?
2. Is it possible to intervene in such a way as to restore harmony and promote corporate growth?

METHODOLOGY

To answer to the two research questions, this research employs an empirical research involving in-depth interviews with a group of small and medium enterprises operating in northern Italy and a survey research approach with a group of students of the School of Management and Economics of the University of Turin. The questionnaire was administered to 462 students who were about to graduate and enter the workplace, with the aim of understanding whether and how emotional intelligence and emotions will play a significant role in the world of economic organizations, and to assess the use of this tool for the personal and professional development of human resources within companies. Questions were taken from previous studies (Oatley et al., 1987; Gross, 1998).

Qualitative interview was carried out on a sample of 30 SMEs and structured professional studios in northern Italy with a number of employees between 5 and 60, with the aim of collecting the personal opinions and subjective interpretations of the respondents regarding the relationship and use of their emotions in the business context. Specifically, the qualitative interview is aimed at understanding the degree of awareness and the ability to manage the emotions of the company leader, as well as the real role of emotions within the company context (Goleman, 2013). The interview is divided into 10 open-ended questions designed to leave space for respondents to tell specific episodes and examples.

FINDINGS AND CONCLUSIONS

Overall, the results obtained from questionnaire administrated to students and from the qualitative interviews with entrepreneurs showed a particular attention to the importance of emotional skills, in line with the recent literature on EI (Huy & Zott, 2019).

In particular, from what emerges from the survey, students are self-aware regarding their emotional skills such as resilience, social intuition, perspective and empathy. The same applies to entrepreneurs who have tended to say that emotions play an important role in their daily work, both in their position as leaders and in their relationship with customers. In addition, the entrepreneurs interviewed showed awareness of the importance of emotions to enhance the management of human resources, to create cohesion, promote motivation and, consequently, to increase business productivity.

The survey with students shows how aware and driven they are towards the emotional dimension, and this can only be a positive sign that companies will have to grasp and exploit. Regardless of whether these students become leaders or collaborators, emotional intelligence and emotional management will help them to interact positively with colleagues and customers in future job.

The leaders of the companies interviewed have shown that emotional skills are essential for good management of employees and can become useful indicators to detect the demotivation of staff or any tensions and problems in the work, especially when dealing with change. They also recognized that the emotions of the leader can influence positively or negatively the work team. Therefore, a good leader must first of all work on his or her emotional intelligence so that his or her collaborators can channel his or her emotions and focus his or her energies on completing daily tasks and achieving the company's objectives.

In conclusion, the research findings confirm that it is possible to detect company's emotions (RQ1) as both students and entrepreneurs were able to report specific emotions associated with episodes of professional life, as well as to describe the emotions of employees in certain situations.

Finally, to the question "Is it possible to intervene in order to restore harmony and encourage business growth?" (RQ2) the answer is affirmative because from what emerged from the research, the leader has a fundamental role in terms of harmony of the working group and, consequently, the organizational climate (Goleman et al., 2013). A serene business climate promotes productivity and cohesion, making the teams motivated and aligned with the company's mission and vision. Entrepreneurs should therefore work constantly on the development of their emotional intelligence and use tools, such as questionnaires, interviews or focus groups, to detect the development of emotions within the company to verify the existence of critical issues and intervene quickly. This is especially important for companies that are constantly changing.

In conclusion, emotions in the company play an extremely important role, because what differentiates human beings from AI is precisely the emotions and empathy. AI can be a valid support, but it cannot replace human beings, because emotions and empathy are an integral part of the working method.

Keywords: Emotional intelligence, Human Resource Management, soft skills.

REFERENCES

- Akgün, A. E., Keskin, H., Byrne, J. C., & Aren, S. (2007), "Emotional and learning capability and their impact on product innovativeness and firm performance", *Technovation*, Vol. 27, No. 9, pp. 501-513.
- Robles, M. M. (2012), "Executive perceptions of the top 10 soft skills needed in today's workplace", *Business Communication Quarterly*, Vol. 75, No.4 , pp. 453-465.
- Goleman, D. (2006), "Emotional intelligence", Bantam.
- Goleman, D., Boyatzis, R. E., & McKee, A. (2013), "Primal leadership: Unleashing the power of emotional intelligence", Harvard Business Press.

- Gross, J. J. (1998), "Antecedent-and response-focused emotion regulation: divergent consequences for experience, expression, and physiology", *Journal of personality and social psychology*, Vol. 74, No.1, pp. 224.
- Heffernan, T., O'Neill, G., Travaglione, T., & Droulers, M. (2008). Relationship marketing: The impact of emotional intelligence and trust on bank performance. *International Journal of bank marketing*, Vol. 26, No. 3, pp. 183-199.
- Huy, Q., & Zott, C. (2019). Exploring the affective underpinnings of dynamic managerial capabilities: How managers' emotion regulation behaviors mobilize resources for their firms. *Strategic Management Journal*, Vol. 40, No. 1, pp. 28-54.
- Miao, C., Humphrey, R. H., & Qian, S. (2018), "A cross-cultural meta-analysis of how leader emotional intelligence influences subordinate task performance and organizational citizenship behaviour", *Journal of World Business*, Vol. 53, No. 4, pp. 463-474.
- Oatley, K., & Johnson-Laird, P. N. (1987), "Towards a cognitive theory of emotions", *Cognition and emotion*, Vol. 1, No. 1, pp. 29-50.
- Theorin, A., Bengtsson, K., Provost, J., Lieder, M., Johnsson, C., Lundholm, T., & Lennartson, B. (2017), "An event-driven manufacturing information system architecture for Industry 4.0", *International Journal of Production Research*, Vol. 55, No. 5, pp. 1297-1311.

EMOTIONAL LABOR, EMPLOYEE AND TEAM OUTCOMES: A MULTILEVEL ANALYSIS IN SALES TEAMS

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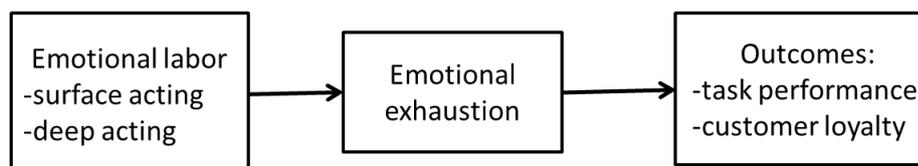
ABSTRACT

Emotional labor (EL), i.e. sales employees' display of expected emotions, provides important contribution to the successful customer services (Ashforth & Humphrey, 1993). Since the seminal work of Hochschild (1983), EL has received burgeoning research interest (Brotheridge & Grandey, 2002; Chi & Grandey, 2016; Grandey, 2003; Groth, Hennig-Thurau, & Walsh, 2009; Humphrey, Ashforth, & Diefendorff, 2015). Yet, most of these studies focus on general service encounters of individual service employees (e.g. Allen, Diefendorff, & Ma, 2014). In the marketing practice, team-based selling is increasingly used by organisations in retail stores (Ahearne, MacKenzie, Podsakoff, Mathieu, & Lam, 2010). By integrating organizational behaviour and marketing research, this study will contribute to bridging the two disciplines and enhancing our understanding of how sales teams perform better at both individual and team levels.

The necessity for emotional labor has been seriously called into study with strong evidence linking it to sales team outcomes in the increasing prevalent sales team working environment. However, the distinct working environment and working relationships in the sales team make extant findings in individual-based selling model difficult to draw reliable conclusions about the effects of emotional labor in retail team-based selling model. The aim of this study is to unpack the effects of two emotional labor strategies –surface acting and deep acting–on retail sales teams' performance with a focus on the mediating role of emotional exhaustion.

Figure 1 presents our research model which links the emotional labor, employee exhaustion, task performance and customer loyalty to the sales teams.

Figure 1. Research Model

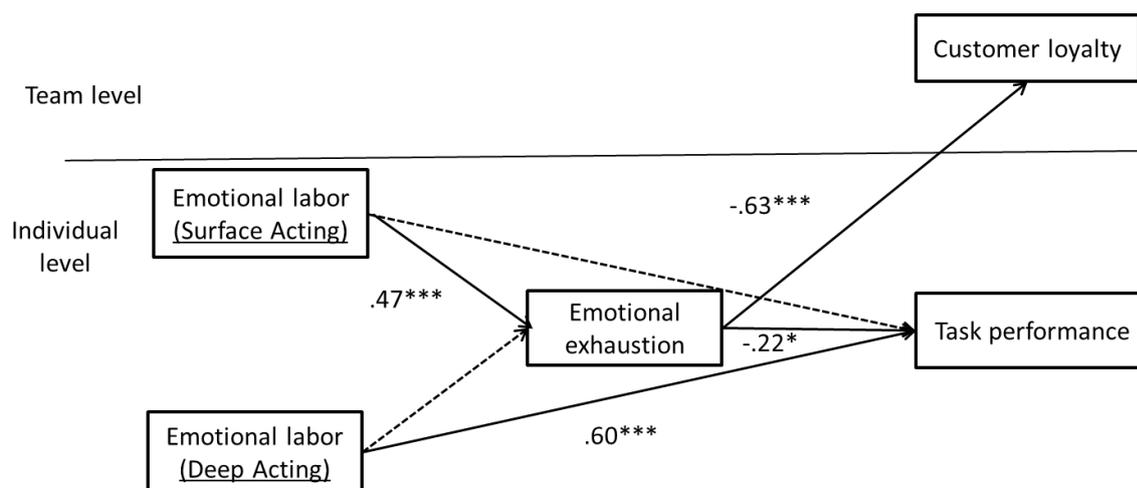


Data were collected from Chinese retail sales team employees and customers via hard-copy survey in a large electronics appliances retailer, which operates an electrical appliances retail chain with more

than 1,700 stores in over 400 cities in China. Due to the strong support from the HR manager in the sample organization, all surveys were returned within one week's time. In total, data were collected from 270 respondents (75%) nested in 89 sales teams (100%) working in different product categories. This study adopts multi-source data collection techniques where in addition to employee data collection, data were collected from customers. In total, 1035 responses were received (78%). After matching the team members and customers, 82 sales teams have both team members and customers and are used in the analysis. All constructs were adopted from published studies.

Figure 2 presents the results from multi-level modelling analysis. It shows that in sales team, the surface acting and deep acting influence customer-related performance and employee-related performance in distinct ways. Specifically, surface acting increases emotional exhaustion more strongly than in individual selling model, which in turn decreases sales team members' task performance and customer loyalty, supporting a full mediation model. Deep acting was not linked to emotional exhaustion but directly and more powerfully increases team members' task performance than in individual selling model.

Figure 2. Results of Multi-level Modelling Analysis



Note: N = 229 * $p < .05$. *** $p < .001$.

This study highlights the impact of deep acting and surface acting in retail sales team. It warns managers to notice the fake displays and provide suggestions on how to build and manage emotional labor strategies for sales teams. This study extends emotional labor effect from the individual perspective to the team perspective. Our findings indicate that there are some differences between the mechanism of emotional labor in the individual-based selling model and the mechanism of emotional labor in team-based selling model.

Keywords: Emotional labor, surface acting, deep acting, emotional exhaustion, task performance, customer loyalty

REFERENCES

- Ahearne, M., MacKenzie, S. B., Podsakoff, P. M., Mathieu, J. E., and Lam, S. K. (2010). The role of consensus in sales team performance, *Journal of Marketing Research*, 47(3): 458-469.
- Allen, J. A., Diefendorff, J. M., and Ma, Y. (2014). Differences in emotional labor across cultures: A comparison of Chinese and US service workers, *Journal of Business and Psychology*, 29(1): 21-35.
- Ashforth, B. E., & Humphrey, R. H. (1993). Emotional labor in service roles: The influence of identity. *Academy of management review*, 18(1), 88-115.
- Brotheridge, C. M., and Grandey, A. A. (2002). Emotional labor and burnout: Comparing two perspectives of 'people work', *Journal of vocational behavior*, 60(1): 17-39.
- Chi, N. W., and Grandey, A. A. (2016). Emotional Labor Predicts Service Performance Depending on Activation and Inhibition Regulatory Fit, *Journal of Management*, 10: 1-28.
- Grandey, A. A. (2003). When "the show must go on": Surface acting and deep acting as determinants of emotional exhaustion and peer-rated service delivery, *Academy of management Journal*, 46(1): 86-96.
- Groth, M., Hennig-Thurau, T., and Walsh, G. (2009). Customer reactions to emotional labor: The roles of employee acting strategies and customer detection accuracy, *Academy of Management Journal*, 52(5): 958-974.
- Hochschild, A. R. (1983). *The managed heart: Commercialization of human feeling*. Berkeley, CA: University of California Press.
- Humphrey, R. H., Ashforth, B. E., and Diefendorff, J. M. (2015). The bright side of emotional labor, *Journal of Organizational Behavior*, 36(6): 749-769.

