



**9th Annual Conference of the
EuroMed Academy of Business**

Innovation, Entrepreneurship and Digital Ecosystems

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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 over 220 people from over 50 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

Many people and organizations are responsible for the successful outcome of the 9th Annual Conference of the EuroMed Academy of Business.

Special thanks go to the Conference Co-Chairs Dr. Katarzyna Śledziwska and Dr. Renata Gabryelczyk, the Conference Organising Committee, the DELab and the University of Warsaw, in Poland, for accomplishing an excellent job.

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

A NEW CONCEPTUAL MODEL FOR THE HOTEL INDUSTRY: SUSTAINABILITY VS OPEN INNOVATION

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ABSTRACT

Scattered hotel is born as a solution to develop tourism in an innovative way and can be considered a project of valorization of a territory in a sustainable view, even if literature doesn't provide a measurement of its level of sustainability. At the same time, scattered hotel is designed to offer an authentic experience of the "Italian life style" and it has been rewarded by UNDP (United Nations Development Program) for its innovation. While innovation in the hotel industry has been largely debated in literature, the emerging topic of Open Innovation is unexplored in SMEs operating in hotel industry. This paper aims at (1) providing a measure for both the level of sustainability and the level of Open Innovation in scattered hotels (2) creating a matrix SHSI-SHOI able to map scattered hotels on the base of these dimensions in order to draw development strategies. Drivers of SHSI (Scattered Hotel Sustainability Index) and SHOI (Scattered Hotel Open innovation Index) are chosen by means of literature. The two indices are got throughout an adaptation of the SERVPERF questionnaire. Paper results in a mapping of scattered hotels that allows tourist operators to draw paths of development.

Keywords: *Open Innovation; Sustainability; Scattered Hotels; SMEs; Innovation in Tourism; SERVPERF Questionnaire; Measurement; Likert Scale; Conceptual Model.*

INTRODUCTION

The paper contributes to the body of knowledge of two streams of research that are growing in popularity (Bramwell, 2015; Tejada and Moreno, 2013): sustainability and Open Innovation. These concepts are analyzed and contextualized in the accommodation sector, with a specific focus on small tourism enterprises. The positive links between sustainable tourism objectives and small tourism enterprises have been asserted by many authors (Horobin and Long, 1996; Revell and Rutherford, 2003; Vernon *et al.*, 2003). However, no literature exists about the possibility to develop tourism proposals in a more sustainable way by collaborating with external entities to obtain innovative

outcomes. Although Open Innovation approach (Chesbrough, 2003) states the opportunities related to opening up the organizational boundaries and to acquire ideas/knowledge by external actors, this approach has been accepted and implemented within large companies operating mainly in high-tech sectors (i.e., Spithoven *et al.* 2010; Giannopoulos *et al.*, 2011;). In this perspective, research is mainly focused on how large firms open their internal research and development department (R&D) and acquire knowledge by external sources for innovation (Chesbrough, 2003; Dahlander and Gann, 2010). Only few studies have investigated this phenomenon in SMEs (i.e., Brunswicker and Vanhaverbeke, 2014; Parida *et al.* 2012; Bianchi *et al.*, 2010; Lee *et al.* 2010; Van de Vrande *et al.*, 2009) and, also, scarcer are those focusing on SMEs operating in service sector (Mina *et al.*, 2014) and, especially, in hospitality industry (Souto, 2015). Therefore, there is clearly a need for more qualitative and/or quantitative studies to advance the understanding regarding the Open Innovation in this type of firms. To address these gaps in literature and to deepen the knowledge on the relationship between sustainability and Open Innovation within SMEs context, the paper proposes a theoretical model using an emerging form of “Small Medium Tourism Enterprise” named “Albergo Diffuso” (or scattered hotel in English), growing in popularity in the Italian hospitality industry. Scattered hotel offers authentic and complete experiences of the “Italian life style” (Paniccia and Valeri, 2010). The idea of this accommodation type is to sell a proposal characterized by the innovative combination of local tangible resources (i.e., environment, cultural heritage, agriculture and crafts) and distinctive intangible resources (i.e., knowledge, traditions, culture, social capital, etc.). Several research initiatives have been undertaken in Italy to analyze this type of accommodation (i.e: Paniccia and Valeri, 2010; Confalonieri, 2011; Silvestrelli, 2013), even if the concept remains under researched and it is largely unknown within the international context. In the scattered hotel the two aspects - sustainable tourism and innovation – seem to cohabit. In fact, it looks like a viable sustainable entrepreneurial innovation that increases a destination’s accommodation capacity in an inclusive and locally controlled manner. With this in mind, the paper aims at (1) providing a measure for both the level of sustainability and the level of open innovation (2) creating a matrix SHSI-SHOI able to map scattered hotels on the base of these dimensions in order to draw development strategies. Drivers of SHSI (Scattered Hotel Sustainability Index) and SHOI (Scattered Hotel Open innovation Index) are chosen by means of literature. The two indices are got throughout an adaptation of the SERVPERF questionnaire.

LITERATURE REVIEW

About the concept and features of the scattered hotel

In recent years, this typology of accommodation has caught the interest of tourists, professionals and institutions as a new form of “Small Tourism Enterprise” (STE). The “Albergo diffuso” began in

the hilltop towns of Italy and is based on the renovation of historic city centre buildings (often in poor condition or abandoned) into accommodation for tourists (Paniccia and Valeri, 2010). Small, locally owned tourism enterprises are viewed as one of the vehicles by which the economic, environmental and socio-cultural benefits of tourism can be spread. Several studies have been undertaken in Italy to analyze and gain an understanding about this type of accommodation (Paniccia *et al.*, 2010; Vallone *et al.*, 2013; Silvestrelli, 2013). However, the concept remains largely unknown within the international context. Scattered hotel is a type of accommodation often family-owned, small sized company utilizing traditional and local resources, culturally valuable surroundings and putting forward more a lifestyle rather than a staying as visitors or guests (Camillo and Presenza, 2015). It consists in a type of accommodation (and other hotel services) in the historical centre of a town or village with the scattered guest rooms, distributed or dispersed among several buildings within approximately 200 meters from the heart of the hotel. The Italian term *Albergo Diffuso* can be expressed in English as “horizontal hotel”, “multi-building hotel”, “integrated hotel”, “diffused hotel” or “scattered hotel”. The verb ‘diffuse’ means, broadly, ‘disperse’. From Latin diffuse - ‘poured out’, from the verb ‘diffundere’, from dis- ‘away’ + fundere ‘pour’. Within this context, it means “Spread out over a large area; not concentrated” (Oxford Dictionaries, 2014). Scattered hotel shows typical characteristics of a hotel, such as accommodation, assistance, catering, and common spaces and facilities for guests. However, it presents distinctive peculiarities that have been formalized in a set of guidelines elaborated by the Italian Association of *Alberghi Diffusi*. The term “diffuso” (diffused) denotes a structure that is horizontal, and not vertical like the one pertaining to standard hotels that are often not visually appealing. The reception, the rooms and the ancillary services are located in different buildings, although closed to each other. The facilities are housed in existing buildings after a careful process of restoration and conversion that must comply with the local laws and regulations. The intent is to give guests the direct contact with the local culture, and the experience of an authentic representation of resident life. The key requirements of a scattered hotel are: a) the presence of a living community (usually a small village, with a few hundred inhabitants); b) an owner operated management structure; c) an environment that is “authentic” made of fine homes, completely renovated and furnished; d) a reasonable distance between the guest rooms and common areas (usually no more than 300 meters); e) non-standard professional management, consistent with the proposal of authenticity of experience, and with roots in the community and region; and f) a recognizable style, an identity, a common feel that is identifiable throughout the facility buildings. Accordingly to Presenza *et al.* (2015), there are some first insights about this accommodation. The analysis of the profile of the customer highlights how foreign customers appreciate this accommodation very much; in fact, foreign demand is 46.4% of the total. Most of the customers are

represented by couples (54.8%), followed by families while seniors account for only 3.2%. Primary interests of the customers are the environment and nature, as well as the food and wine and the typical places. Considering 2012 as the reference year, it should be noted that the average stay is low (2.9 nights), while the average occupancy rate is 68%. In the scattered hotels employees are 4.7 on average and 75.8% of them are Italian. It is interesting to highlight that among the Italian staff, there is a prevalence of “territorial” personal (64.2%), i.e., employees who live in the vicinity of the structure. This means that is indeed possible to have a real contact with the residents, thanks to the staff who works there. The success of the initial entrepreneurs has led the development of other establishments and now they are about 100 (February, 2016) throughout Italy and other ones are under development (www.alberghidiffusi.it). The growing of this type of accommodation remarks the significance of the socio-cultural embeddedness of lifestyle approach. In fact, “a growing number of small-firm owners elect to ‘stay within the fence’ in order to preserve both their quality of life in their socio-environmental contexts and their ‘niche’ market position catering for travelers similarly seeking out alternative paradigms and ideological values” (Ateljevic and Doorne, 2000, p. 388). The search to distance themselves from a suffocating market environment has provided a niche opportunity.

Sustainable and innovative SMEs in tourism

Among the plethora of destination stakeholders, a pivotal role is played by small tourism enterprises (STEs) (Jones and Tang, 2005), and among the various types of STEs, the accommodation/lodging businesses are key-players (Jaafar, 2011). Roberts and Tribe (2008, p. 575) underline that “the numerical dominance of STEs, their central role in human activities, and their increasing importance within the framework of sustainable tourism development, all suggest that these entities have the potential to help tourism destinations progress towards sustainability objectives”. In this context, small, locally owned tourism enterprises are viewed as one of the vehicles able to create economic and socio-cultural benefits for tourism and to achieve the goals of sustainable tourism. There is a common conviction that local ownership of STEs will encourage community stability, raise the level of participation in the local economy and decrease the level of residents’ antagonism directed towards tourists and the industry (Dahles, 1999; Shaw and Williams, 1998). Local STEs have better chances to satisfy the “third generation tourist”, also known as “post-fordist tourist” (Urry, 1995). It is a way that is more observant of the local environment and culture (Tung and Ritchie, 2011; Wanhill, 2000). Arguably, there is the assumption that small-scale, locally owned developments that are environmentally focused are unequivocally (Swarbrooke, 1999; Wheeler, 1993). There is still considerable interest in small-scale, environmentally sensitive and locally owned developments that allows the equitable flow of tourism’s benefits throughout the community (Dahles, 1999). Such sustainable tourism developments, feasible to be undertaken by local residents, “have generated a

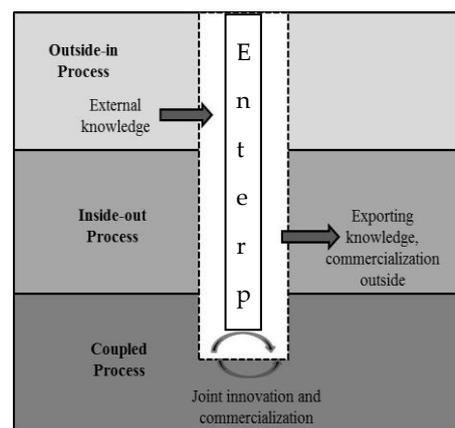
growing interest in encouraging micro businesses and small entrepreneurs” (Dahles, 1999, p. 2) to consider the benefits of sustainability based on key-concepts (i.e. centrality of the person, respect for the environment, the culture and the traditions, and preservation of the place’s authenticity). These concepts (or efforts) arose in response to the negative outcomes, ranging from environmental damage to impacts on society and standard cultures, associated with mass tourism and unrestrained tourism development (Krippendorf, 1987; Nash, 1992). In addition, to being plentiful within the tourism industry, smaller organizations are more aligned with sustainable development objectives because they tend to be locally; in this way they are able to create employment and economic benefits for tourism throughout the community (Dahles, 1999). This premise helps to reflect about this new form of accommodation - i.e. scattered Hotel - as a sustainable business: it stimulates social symbiosis in a place and recognizes and increases the value of cultural assets and traditions. This accommodation combines the use of local tangible and intangible resources, providing an interesting way to partially mitigate the socio-economic impact often linked to tourism development. The business concept of the scattered hotel is based on organic growth in a socially inclusive and locally controlled manner. Accordingly, the concept may mirror the characteristics and effects of “a bottom-up community based tourism initiative” (Zapata *et al.*, 2011).

Open innovation in SMEs and in hotel industry

Open Innovation approach fosters firms to acquire ideas and knowledge of external entities in their innovation processes, underlined that firms that are ‘too focused internally’ are ‘prone to miss a number of opportunities because many will fall outside the organization’s current business or will need to be combined with external technologies to unlock their potential’ (Chesbrough, 2003). Therefore, the boundaries between firm and its environmental are more porous, permeable and embedded in networks of different external knowledge sources (i.e., suppliers, customers, research centers, universities, competitors, and other companies) collectively and individually working toward developing and commercializing knowledge (Chesbrough, 2003). There are three core processes in OI (see fig. 1): outside-in, inside-out and coupled process (Enkel *et al.*, 2009). In the outside-in process firms improve their own knowledge through the use of external knowledge, emphasizing the relevance of dense networks of innovation, the forms of integration of customers/suppliers/entities and the use of third parties that facilitate interactions among different sources. In the inside-out process companies are oriented to external exploitation of their internal knowledge by carrying out ideas to market, selling intellectual property rights (IPR), licensing mechanisms and bringing technologies to outside environment. This core process aims at allocating and commercializing externally ideas and technological innovation derived by their internal R&D activities. Finally, in the coupled process, that combines the out-side and inside-out, the concept of co-creation with

complementary partners is relevant; it defines forms of collaboration with subjects operating in different sectors and having different interests. These complementary partners offer *ad hoc* solutions that can improve the company's innovations or can exploit solutions developed by company (Enkel *et al.*, 2009). Several studies have proposed potential advantages of opening up the innovation processes (Gassmann 2006; Dahlander and Gann, 2010; Lee *et al.* 2010; Hossein, 2015): shorter time to market with less costs and risk associated with product development; increased quality of products and services; exploitation of new market opportunities; increased knowledge base within organization; improved flexibility, adapting knowledge base to shifting market needs; access and participation to large networks.

Figure 1. The three core processes in OI Approach



Source: *personal elaboration*

First studies on the adoption of Open Innovation in SMEs underline how these firms have increased their activity in Open Innovation (i.e., Brunswicker and Vanhaverbeke, 2014) with out-side processes. In this way they seem to acquire ideas, knowledge and competences from external actors, to activate forms of collaboration for developing innovation projects, to reduce the costs of development, to improve the product development process and to take advantages of a wider range of market opportunities (Laursen and Salter, 2006; van de Vrande *et al.*, 2009; Parida *et al.*, 2012; Brunswicker and Vanhaverbeke, 2014). In this perspective, Open Innovation is the suitable approach for many SMEs to take. However, it has effectively defined and implemented in firms operating within the technology sector and, then, in the service industry (Mina *et al.*, 2014). But, the OI in hospitality field is still not common (Artic, 2013) and also scarcely implemented, even if firms operating in this sector need to develop new products/services faster and more effectively; this allows them to overcome the difficulties that characterize SMEs, independently by the sector of activities, and that are mainly linked to their scarcity of internal resources and capabilities, their lack of resources for R&D activities, their less structured approach to innovation and their restricted multidisciplinary competence base

(Chesbrough and Crowther, 2006; Laursen and Salter, 2006; van de Vrande et al., 2009; Parida et al., 2012; Brunswicker and Vanhaverbeke, 2014). Only Talwar (2012), considering the hotel industry forecasts until 2020, assigns a leading role to open innovation approach, while Artic (2013) underlines that in Slovenia the concept of open innovation is not known in most hotel companies, but some of them perform the concept through business cooperation.

METHODOLOGY

In recent years, the growing interest in innovation and sustainability in tourism has had an influence on the study of hotel industry. Despite the numerous attempts to define innovation and sustainability in this type of industry, there are not contributions concerning the analysis of these dimensions in a systemic way, in particular with regard to Open Innovation. For this reason, this theoretical paper aims at answering to the following research questions:

RQ1. How can we measure the level of sustainability and the level of Open Innovation in scattered hotels? RQ2. How can a scattered hotel be positioned on the base of these two dimensions?

The general goal consists in offering a descriptive and prescriptive framework in order to classify scattered hotels upon the basis of their level of sustainability and open innovation. This allows the creation of a matrix SHSI-SHOI able to map scattered hotels and draw development strategies. The methodology used consists of: (1) a systematic analysis of the drivers supported by literature with regard to sustainability and open innovation in the hotel industry and (2) the creation of a prescriptive model able to canvass all the aspects affecting these two dimensions and to provide them a suitable measure. The measurement model can be structured in terms of an adaptation of a SERVPERF questionnaire (Cronin and Taylor, 1992): (1) for the measurement of the level of sustainability of scattered hotels, consisting of three dimensions (environmental, social and economic dimensions) and 11 items; (2) for the measurement of level of Open Innovation, structured on three dimensions (In-side OI, Out-side OI and Coupled innovation process) and sixteen items. An adaptation of the SERVPERF questionnaire has been chosen because it allows to collect the level of agreement by interviews about several items describing the level of sustainability and open innovation in scattered hotels. In a first time, we selected, throughout a review of literature, the dimensions affecting sustainability and open innovation that constitute the main parts of the questionnaires. After this, we decided how to formulate the questions and their order on the base of an analysis of other questionnaires on similar topics. Measurement items of each questionnaire will be measured through a five-point Likert scale (1= strongly disagree to 5= strongly agree) (Table 1 and Table 2). In order to create the SHSI and the SHOI it is necessary to evaluate the SHSI and SHOI perceived by each single manager of Italian scattered hotel. This results in the average SHSI_j and SHOI_j of judgements provided by the same to the

11 items for the sustainability dimension and to the 16 items for the open innovation dimension.

11

$$(1a) SHSI_j = \sum_{i=1} (SHSI_{ij}) / 11$$

$i=1$

16

$$(1b) SHOI_j = \sum_{i=1} (SHOI_{ij}) / 16$$

$i=1$

Then, the average of the values of SHSI_j and SHOI_j registered for all the interviewees must be computed.

n

$$(2a) SHSI = \sum_{j=1} (SHSI_j) / n$$

$j=1$

n

$$(2b) SHOI = \sum_{j=1} (SHOI_j) / n$$

$j=1$

The statistical analysis of data will be carried out through SPSS. The model must be tested on a sample, asking respondents to express agreement or otherwise to the items for a specific dimension. The survey should be uploaded on a web platform and the link be sent to potential respondents. The reliability of the instrument and its dimensions requires to be tested by using Cronbach's Alpha, and appropriate convergent and discriminant validity tests must be undertaken to ensure the construct validity, stability and robustness of the measurement model. After these steps, we are able to cross the two dimensions (sustainability and open innovation in scattered hotels) and on the base of their values (low, medium, high) to classify them in different categories (Figure 1). On the base of their positioning in the matrix sustainability-open innovation it will be possible to draw different paths of development.

| | 1 | 2 | 3 | 4 | 5 |
|---|-----------------|----------|----------------------------|-------|--------------|
| Sustainability | Compl. disagree | Disagree | Neither disagree nor agree | Agree | Compl. agree |
| Environmental dimension | | | | | |
| Renewable energy is largely adopted in my scattered hotel (solar systems, eco-friendly chemicals and equipment) | | | | | |
| There is an increasing awareness in a smarter water use in my scattered hotel | | | | | |
| We are very careful to the recycling and waste management (composting and recycling) | | | | | |
| Social dimension | | | | | |

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|---|
| We are careful to assume also employees with disabilities |
| In this scattered hotel we are careful to needs of tourists with disabilities |
| The respect of tourists towards employees is strongly incentivized |
| We involve customers into sustainable practices application encouraging them to actively participate and collaborate in sustainable practices |
| We are very careful to the needs of every stakeholder |
| Economic dimension |
| We privilege the hiring of local employees |
| We privilege to buy local food and materials or produce by ourselves food/materials |
| This accommodation establishment has a local ownership |

Table 1. Questionnaire for the measurement of the level of sustainability of scattered hotels

Source: *Personal elaboration.*

| | 1 | 2 | 3 | 4 | 5 |
|---|-----------------|----------|----------------------------|-------|--------------|
| OPEN INNOVATION | Compl. disagree | disagree | Neither disagree nor agree | Agree | Compl. agree |
| OUt-SIDE OI Process | | | | | |
| We use technologies developed by others to manage bookings/invoicing/orders/ employees selection | | | | | |
| We are careful to develop a CRM system through social networks | | | | | |
| We profit of R&D/ educational programs provided by external research and education centers | | | | | |
| We ask suggestions to improve services/solve problems throughout online collaboration platforms or social media (crowdsourcing) | | | | | |
| We general finance our business or business expansion through non traditional financing such as joint-ventures/alliances | | | | | |
| IN-Side OI Process | | | | | |
| We externalize technologies that other hotels/organizations are able to commercialize better | | | | | |
| We grant our licences/patents | | | | | |

| |
|---|
| and/or know-how to create an adding incomes for the hotel |
| We are willing to sell results of our internal R&D, transforming programs of development in open source projects |
| Our smart people doesn't work for us so we must find and tap into the knowledge/expertise of bright individuals outside our company |
| We incentive internal innovation processes (that could be exported outside) in through multimedia channels, informal meetings, competition of ideas, etc. |
| Coupled OI process |
| We incentive the development of strategic partnerships with other hotels in order to get economic advantages |
| We try to make the best use of internal and external ideas |
| We use special cards that allow tourists to get different services |
| We develop strategic co-operations with other hotels in order to promote scattered hotels of our territory |
| We develop strategic co-operations with accommodations/tourist exercises to promote local products/services/information about local cultural heritage |
| We profit of external R&D to create value while internal R&D is needed to claim some portion of this value |

Table 2. *Questionnaire for the measurement of the level of open innovation of scattered hotels*

Source: *Personal elaboration.*

THE MATRIX SHSI-SHOI

Starting from the previous results it is very interesting to position scattered hotels on the base of their level of sustainability and open innovation that seem to cohabit. We cross the two dimensions, getting a nine-cell matrix. This allows to position scattered hotels on the base of the level (low, medium, high) they assume with regard to each single dimension. In such a way, these types of hotels could be classified in seven different "boxes" on the base of their position: (1) *Innovative distance runners*: these scattered hotels are those in the best position and they will be the benchmarks for other scattered

hotels; they show both a high level of sustainability and of Open Innovation. There is also an increasing belief that several potential drivers of innovation can impact on sustainable tourism (Ribaric, 2015), a continuous valorization of OI can create benefits to sustainability of the scattered hotel. (2) *Obsolete distance runners*: these scattered hotels are very careful to the aspect of sustainability but show a low level of innovation. Probably, they are focused on environmental, social and economic aspects of sustainability, but have a scarce propensity to innovate, undervalued the effect that innovation can have on sustainability (Schaltegger, 2011). An effort of investment in Open Innovation could push them toward the position of innovative distance runner. (3) *Marathon runners in training*: in this category there are all those scattered hotels that show a medium level in one dimension and a high level in the other one. They excel in innovation or in sustainability and are training them in order to reach the highest position in the other dimension. With a little effort in the less performing dimension they are able to reach the position of innovative distance runners. (4) *Hotels at work*: these scattered hotels show medium values for both the dimensions. For these hotels the game is open and it will depend on their ability to develop their innovation and their sustainability. (5) *Unsustainable open innovators*: these scattered hotels embrace the challenge of innovation but have a scarce interest to be sustainable. These are those hotels that don't consider sustainability as an important driver affecting competitiveness/attractiveness and invest their resources in order to use external sources of innovation within the firm, the external pathways for the purpose of developing and commercializing innovations (Chesbrough and Crowther, 2006) or for coupled innovation process. Given that innovation is important to ensure sustainable growth, a higher focus on sustainable innovation can results in the development or use of technologies allowing to save energy, to offer facilities to tourists with disabilities, etc. (6) *Out of training runners*: these scattered hotels are placed in a low position with regard to one dimension and in the middle position with regard to the other one. They are directed towards the position of unsustainable closed innovators and a recovery requires large investments in both the directions. (7) *Unsustainable closed innovators*: these are the scattered hotels in the worse position because they don't invest in innovation or in sustainability. This probably will affect negatively the level of their competitiveness because nowadays innovating and being sustainable are the imperative in order to remain competitive in an increasingly global environment.

| LEVEL SUSTAINABILITY (SHSI) | LEVEL OF OPEN INNOVATION (SHOI) | | | |
|-----------------------------|---------------------------------|------------------------------|-------------------------------|------|
| | | LOW | MEDIUM | HIGH |
| HIGH | Obsolete distance runners | Marathon runners in training | Innovative distance runners | |
| MEDIUM | Out of training runners | Men at work | Marathon runners in training | |
| LOW | Unsustainable closed innovators | Out of training runners | Unsustainable open innovators | |

Table 3. *The matrix SHSI-SHOI*

This matrix can constitute a framework for hotel operators, tourist organizations and managers in order to analyze the position of a particular scattered hotel and to draw suitable development strategies. This positioning is useful because allows managers of scattered hotel to know what dimension (sustainability or/and open innovation) must be valorized or supported or modified and in which way in order to develop this innovative type of accommodation.

CONCLUSIONS

The aim of this paper consists in providing a measure for both the level of sustainability and the level of Open Innovation in scattered hotels and in creating a matrix SHSI-SHOI able to map scattered hotels on the base of these dimensions. First, results of our conceptual paper provide a substantial contribution to the development of an emergent research area on Open Innovation – that represents the sustainable approach for several SMEs to take (Chesbrough et al., 2006) - in the hospitality industry and also to the literature on sustainable tourism (Dahles, 1999), replying to the two research questions not usually linked and investigated. From theoretical point of view, this is realized through the creation of a specific matrix SHSI-SHOI that permits to classify effectively scattered hotels on the base of their different level of sustainability and Open Innovation, providing different “types of runners”. This framework represents an innovative view in the literature of scattered hotel, often lacking in strategic models of analysis created on the base of their needs and features. In the future it would be useful also to assess the correlation between the two variables in order to know how one can affect the other one. From a managerial point of view, we suggest the adoption of this matrix by tourism organizations and we propose to consider seriously their different position in order to define and develop strategies oriented to improve their open innovation activities and their commitment in sustainable initiatives. Despite the importance of these results for the literature about scattered hotels, this paper should be considered at the light of important limits: first it proposes only a conceptual framework, not tested through its application to a real case; second, it doesn't validate the items used

through a Delphi methodology. Anyway, as this is a conceptual paper, a number of possible new future lines of research can be suggested, such, for example, the study of the level of sustainability and the level of Open Innovation considered in the framework in an empirical way, either by case studies (deep interviews of selected scattered hotels) or by quantitative analyses. Finally, in addition to the literature review, the suitability of different dimensions should be validated also by experts.

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EFFECTS OF THE USE OF INTERNET AND ICT-S ON EXPORT PERFORMANCES OF THE EU

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ABSTRACT

The paper aims to identify the impacts of digitization on the export performances of the European Union (EU). Based on the augmented gravity model, we estimate the regressions on panel data of export flows of the EU with the rest of the world over the time period 1999-2014, by employing Poisson pseudo-maximum-likelihood (PPML) estimator. Together with market and geography related variables, we control for the Internet usage and investments in ICTs in both reporter and partner countries. Our estimates highlight that use of Internet has boosting effects on export performances and investments in ICTs bring crucial contributions in utilizing comparative advantages of the countries in the sample.

Keywords: *international trade, Internet, ICT, gravity model.*

INTRODUCTION

Started by the Internet expansion in the 1970s and the subsequent large-scale adoption of the World Wide Web in the 1990s, information revolution have drastically changed business models and gave the birth to the new economic players. On the one hand, the Internet yielded remarkable implications on economies involved, once allowing creation of the new markets characterized by a large scale, increased customization, rapid innovation and collection and usage of detailed consumer and market data. And on the other hand, digital tools have created the new economic players - the Internet platforms represented by, for instance, e-commerce, online media, job matching, financial trading or social networking. The latter provided the powerful tools to considerably decrease transaction and other costs related to creating and distributing certain types of products and services, acquiring information about these goods, or most remarkably collecting and using data on consumer preferences and behavior. Consequently, in our century, digitisation, information communications technology (ICT) and the Internet have become key drivers of global wealth creation and socio-cultural development.

While describing the above-mentioned economic trends, one may reasonably argue that the recent literature on economic growth should put the research focus on building the common comprehensive understanding of new economic mechanisms and the ways in which new technologies change economies involved. This paper is such an attempt to bring the new insights in the literature on international trade by examining the impact of internet and ICT technologies on export performances of the EU countries.

We employ the augmented gravity model to estimate regressions on panel data of the bilateral export flows of the EU countries with the rest of the world in 1999-2014. Together with the standard gravity variables, our model controls for the usage of the Internet and the investments in ICT. Following recent advancements in the empirical trade literature, we estimate the model by PPML (see Silva and Tenreyro, 2006). Estimation results find that use of Internet as well as investments in ICT significantly increase the exports from the EU.

The rest of the paper is organized as follows: section 2 provides theoretical framework for the analysis and reviews the literature, section 3 specifies model and describes the data followed by estimation results in section 4. Finally the last section concludes findings of the paper.

LITERATURE REVIEW

The most popular methodology for empirical trade analysis is the theoretical framework of the gravity model introduced by the crucial work of Jan Tinbergen (1962) (see studies of Soloaga and Winters 2001, Ghosh and Yamarik 2004, Carrere 2006, Silva and Tenreyro 2006, Baier and Bergstrand 2009, Magee, 2008, Acharya et al. 2011). The model based on a law called the “gravity equation” by analogy with the Newtonian theory of gravitation reflects the relationship between the size of economies, the amount of their trade and the distance between the trade partners, in the following form:

$$X_{ij} = GS_j M_j \Phi_{ij}$$

where X_{ij} is the monetary value of exports from i to j , M_j controls for all importer-specific factors that make up the total importer's demand and S_j comprises exporter-specific factors that represent the total amount exporters are willing to supply. G is an independent variable such as the level of world liberalization and Φ_{ij} represents the trade costs between i and j countries. The latter is mainly represented as the country-pair-specific information such as contiguity and distance, common language, ethnic groups or borders, common memberships in regional trade agreements and tariff rates between trade partners.

Already in 1997, Hatzichronoglou stated that in the context of economic globalization, technology is a key factor in enhancing growth and competitiveness in business. Firms which are technology-intensive innovate more, penetrate new markets, use available resources more productively and as a result offer

higher remuneration to the people that they employ (Hatzichronoglou, 1997). There are few recent studies which examine the impacts of technological endowments on the trade intensities by introducing new measures based on the different technological indices. Namely, Filippini and Molini (2003) construct a technological distance between trade partners based on the technological indicator (TI, Archibugi & Coco, 2002) accounting for the creation of technology, diffusion of technology and development of human skills. The Technology Achievement Index (TAI) provided by the United Nations in its Human Development Report of 2001 is employed by Martinez-Zarzoso and Marquez-Ramos (2005) to capture the performance of countries concerning technology and human knowledge. Both studies find that the technological gap among countries strongly determines trade flows: countries tend to exchange more when there is little gap in their technology endowments.

However, the main problem in the empirical analysis still remains the data availability. Namely, the indices presented above have quite narrow coverage of the countries as well as the time periods. Additionally, they do not examine the impacts of the Internet explicitly. Therefore, instead of examining the impacts of technological size on the trade flows, we rather aim to cover the gap in the literature and contribute the research on the effects of the Internet use and ICTs.

MODEL SPECIFICATION AND DATA DESCRIPTION

Although the gravity model is already a commonly accepted and a standard tool to study the trade flows, the specification of the equation for estimation purposes differs according to the approaches of different authors. The most remarkably, Silva and Tenreyro (2006) in their seminal paper have raised a problem that has been ignored so far by both the theoretical and applied studies. In particular they argued, that the logarithmic transformation of the original model is not relevant approach to estimate elasticities. Namely, the multiplicative trade models with multiplicative error do not satisfy the assumption of the homoscedasticity of the error term since there is dependency between the error term of transformed log-linear model and the regressors, which finally causes inconsistency of the ordinary least squares estimator or the random and fixed effects estimator.

As an alternative, authors propose the estimation of the gravity model in levels using the PPML estimator. Besides tackling with the problem of heteroscedasticity of the error term, the estimator deals with the zero value observations in trade flows. Additionally, unlike to the standard Poisson approach, PPML does not require the data to be Poisson type, in other words, that it does not require the dependent variable to be an integer. Finally, PPML allows to identify effects of time invariant factors. The latter is very important feature for our analyses, since we aim to test the effects of several dummy variables indicating memberships in different regional agreements together with the time dummy controlling for the occurrence of crisis during the estimation period.

Following the contribution of Silva and Tenreyro (2006), we analyse the trade of all the EU members with the rest of the world based on the following estimation equation:

$$X_{ijt} = \beta_0 + \beta_1 \ln(Y_{it}) + \beta_2 \ln(Y_{jt}) + \beta_3 \ln |Y_{it} - Y_{jt}| + \beta_4 \ln(Z_{ij}) + \beta_5 D_{ij} + \beta_6 \ln(Int_{it}) + \beta_7 \ln(Int_{jt}) + \beta_8 \ln(ICT_{it}) + \beta_9 \ln(ICT_{jt}) + \mu_{ij} + \varepsilon_{ijt}$$

where X_{ijt} is the export flows from i to j at time t . As for the right hand side of the equation, we include independent variables approximating the market size, geography and digitization. Namely, market related variables are Y_{it} and Y_{jt} , which stand for the nominal GDPs of the trade partners; $|Y_{it} - Y_{jt}|$ that refer to the absolute value of the difference between the constant per capita GDPs of the importer and exporter countries at time t . Geographical variables are presented by Z_{ij} , which is the non-binary but time invariant information such as distance between the exporter and importer countries; D_{ij} which stands for contiguity and equals one when the trade partners share the common border and zero otherwise. The remaining variables approximate digitization: Int_{it} and Int_{jt} , measure Internet usage of the exporter and importer countries respectively and ICT_{it} and ICT_{jt} stand for the share of ICT in the gross fixed capital formation of the trade partners at time t . As for the last two components of the equation, μ_{ij} is the time invariant individual characteristics for each pair of trade partners and ε_{ijt} is the error term that is assumed to be normally distributed with mean zero. Exporter countries are the all 28 EU members while as importers, together with the EU countries we take the rest of the world consisting of 234 countries.

| Variable Name | Description | Source | Expected sign |
|---------------|--|--------|---------------|
| lnGDP_r | Natural logarithm of current GDP of a reporter country | WDI | + |
| lnGDP_p | Natural logarithm of current GDP of a partner country | WDI | + |
| Indiff_gdp | Natural logarithm of the absolute difference between the current GDPs of the importer and exporter countries | WDI | - |
| Indistance | Natural logarithm of geographical distance between the capital of the trading partners | CEPII | - |
| contig | Dummy variable standing for the neighboring countries | CEPII | + |
| ln_Int_r | Natural logarithm of the number of Internet users in a reporter country | OECD | + |
| ln_Int_p | Natural logarithm of the number of Internet users in a partner country | OECD | + |
| ln_ICT_r | Natural logarithm of the share of ICT in gross fixed capital formation in a reporter country | OECD | + |
| ln_ICT_p | Natural logarithm of the share of ICT in gross fixed capital formation in a partner country | OECD | + |

Table 1. Variables employed in the model

Source: own compilation.

The data of the export flows come from the Eurostat. The data of the current and per capita constant GDP levels in millions of US dollars are included from the World Development Indicators database compiled by the World Bank. The data for the other variables such as distance and contiguity are taken

from the CEPII database. Finally the data on Internet usage and share of ICT in gross fixed capital formation are compiled from OECD database. According to the data availability, the sample covers the period from 1999 to 2014.

ESTIMATION RESULTS

As discussed in the previous section, we estimate the augmented gravity model by PPML estimator, where all the variables, except the dependent variable and dummies, are taken in logarithms. The latter two are taken in levels. Table 2 reports the estimation results.

| | exports_millions |
|------------|-----------------------|
| lGDP_r | 0.533*** (9.86) |
| lGDP_p | 0.632*** (12.20) |
| lndiff_gdp | -0.261*** (-10.94) |
| lndistance | -0.848*** (-36.47) |
| contig | 0.274*** (4.81) |
| ln_Int_r | 0.326*** (4.95) |
| ln_Int_p | 0.164* (2.54) |
| ln_ICT_r | 0.0517** (2.97) |
| ln_ICT_p | 0.00416 (0.27) |
| _cons | -14.14*** (-24.85) |
| N | 2902 |

Table 2. Estimation results

t statistics in parentheses

Significance at the 10%*, 5%** and 1%*** levels

Source: own calculations, Stata (2013).

As Table 2 illustrates, current GDPs of the importer and exporter countries yield positive and statistically significant coefficients already at the 1% significance level, implying that the economic size of the trade partners increases exports from the EU. The absolute difference between the constant GDPs is also significant at the 1% significance level and yields negative sign as expected. This finding indicates that the economic similarity with the trade partner is positively correlated with the export flows. Distance gets the negative and contiguity positive and statistically significant signs. Thus, our geography variables also yield the expected signs and are in line with the literature findings.

As for the variables standing for the digitization of economies, estimations show that higher is the number of the internet users in trade partners, the higher are the export flows from reporters. As for the investment in ICTs, our estimates indicate that the higher is the share of the ICT investments in gross fixed capital formation in a reporter country, the higher are the exports flows to the rest of the world. However, ICT investments in partner countries (though yields a positive sign) is not statistically significant. Thus, while exports are positively affected by the internet usage in both trade partners, ICTs are significant only once invested in a reporter country. This finding might imply that investments in ICTs increase exporting potential of a given country and simultaneously reduces dependence on imports.

CONCLUSIONS

The paper aimed to identify the impacts of digitization on the export performances of the EU. Based on the augmented gravity model, we estimated the regressions on panel data of export flows of the EU28 with the rest of the world over the time period 1999-2014. Together with market and geography related variables, we controlled for the internet usage and investments in ICTs in both reporter and partner countries. We followed the recent advancement in the empirical trade literature and provided estimation results by PPML estimator.

Our estimates, indicated that the exporting potential is highly affected by digitization: higher is the number of the internet users in trade partners, the higher are the export flows from reporters. However, while exports are positively impacted by the internet usage in both trade partners, ICTs are significant only once invested in a reporter country. This finding might imply that investments in ICTs increase exporting potential of a given country and simultaneously reduces dependence on imports.

To conclude, our paper highlights that digitization indeed has boosting effects on export performances of given countries and investments in ICTs could yield crucial contribution in utilizing comparative advantages.

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GREEN TALK AND GREEN WALK: HOW OIL COMPANIES POSITION THEMSELVES IN SOCIAL MEDIA?

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ABSTRACT

Greenwashing is a deceptive action done to manipulate the public opinion on being green. In other words, it is a discrepancy between “green talk” and “green walk”. It is highly common especially in controversial industries. As being a controversial industry, oil companies turn to corporate social responsibility (CSR) to obtain legitimacy. The aim of this research is to explore how oil companies position themselves in social media. On that ground the social media postings- messages, pictures and videos- of the World’s top ten oil companies were analyzed. As a conclusion, “green talk” patterns for oil companies were revealed.

Keywords: *Green talk, Green walk, Controversial industries, Corporate positioning, Oil companies, Social media*

INTRODUCTION

Today marketplace is constituted by a great concern towards environment. Over the years, business and industry, the media, politicians, and the general public have been more and more talked about green issues, sustainability, and corporate social responsibility (CSR). Subsequently, environmental concern shifted from the “local scale (such as air pollution), to an increasingly global scale (as in global warming)” (Saha and Darnton, 2005 p.117). By the 1990s, environmental issues were one of the most mentioned social issues in the management field (Ramus and Montiel, 2005). For companies “being green” differs from having concerns in relation with ecology, conservation (planet and animal), fair trade, clean water, CSR, and sustainability.

Ecological issues are also affected consumers in a way that they are more open to the ecological alternatives. This growing consciousness of consumers, companies began to use green communication to promote their products. After three decades, “greenness” is still a hot topic. Correspondingly, “green washing” has emerged as a side effect of green marketing (Parguel et al., 2015). Greenwashing is defined as “disinformation disseminated by an organization so as to present an environmentally responsible public image” (Concise Oxford English Dictionary, 2010). In other words, greenwashing is “the act of misleading consumers regarding the environmental practices of a company or the

environmental practices of a company or the environmental benefits of a product or service” (Parguel et al., 2015 p. 2). There are mainly three types of greenwashed advertising: (1) using false claims; (2) omitting information that could help to evaluate environmental claim sincerity; and (3) using vague or ambiguous term (Carlson et al, 1993). Those could be summed up as “lying, lying by omission or lying through lack of clarity” (Parguel et al., 2015).

Previous research demonstrates that many products which make environmental claims commit at least one of the “seven sins of greenwashing” (TerraChoice 2010). The power of “green purchase” force companies to act more “green” and send environmental friendly messages. Indeed, many companies boast some shade of “green”; even companies in “dirty” industries proclaim their dedication to the environment more loudly than the others (Cherry and Sneirson, 2012). Companies in controversial industries, frequently find their organizational legitimacy being challenged (Palazzo and Scherer 2006). Public awareness and belonging to a certain industry (e.g., oil, tobacco, and alcohol) are likely to force them to “come clean”.

The aim of this study is to explore how oil companies- one of the most criticized industry about greenwashing- position themselves in social media. More specifically, this research aims to answers the following questions:

- (i) What is the social media usage and statistics of the oil companies?
- (ii) What is the content of the oil companies’ communication in social media channels?

CONCEPTUAL FRAMEWORK

Greenwashing Concept

The changing business environment created an era of social responsibility that put pressure on firms to examine their actions on sustainability. During the last twenty years, social responsibility is one of the widely accepted concepts in the business all over the world (Lee, 2008). Today, the firms are using social responsibility activities and spending billions of dollars to differentiate themselves from their competitors and bolster their reputations (Ellen et al., 2006). Social responsibility takes many forms, such as philanthropy, humane employee treatment, environmental responsibility, and cause related marketing. However, the sincerity of the companies about being socially responsible is highly criticized since CSR activities are effective communication tools that can be easily use to misguide the stakeholders. One of the important forms of CSR is environmental responsibility because it is a scarce resource, and any kind of environmental pollution directly affects the life ongoing in the world.

The growing environmental consciousness, and consumers' preferences towards the green products and services force companies to act accordingly. The International Organization for Standardization (1996 p.2) defined a corporate environmental policy as a "statement by the organization of its intentions and principles in relation to its overall environmental performance, which provides a framework for action and for the setting of its environmental objectives and targets".

Nevertheless, this trend gave rise to "greenwashing", which is first used in 1986 by American environmentalist Jay Westerveld in response to a hotel's efforts to encourage guests to help the environment by reusing towels. Westerveld interpreted the reuse of towels was for to gain profit but not for to reduce water, energy, and detergent use as the hotel claimed. Greenwashing was derived from whitewashing- using white paint to cover over dirt in a superficial or transparent way. On that sense, greenwashing was used to signify "insincere, dubious, inflated, or misleading environmental claims" (Cherry and Sneirson, 2012 p. 141). Previous research questioned the ethics of marketing good corporate conduct (Stoll, 2002; Wulfson, 2001), and have criticized companies for false advertising to create "green" images in the minds of the public by misleading environmental claims (Lowenthal, 2001). Previous researchers reported a statistically significant relationship between an organization's environmental practices and its organizational behavior (Al-Tuwaijri et al., 2004; Clarkson, et al., 2011). Specifically, companies that engage in sound environmental practices such as companies operating in controversial industries- are more likely to disclose those practices; (Clarkson et al., 2011).

Greenwashed actions are a kind of "creative reputation management" by hiding deviance, deflecting attributions of fault, and hiding the nature of the problem or allegation. In the end, the aim is to ensure the company's reputation, and to seek a leadership position (Laufer, 2003). What is important for companies is to gain legitimacy from stakeholders; however, they merely symbolically adopt legitimizing practices (Marquis and Toffel, 2012). In other words, companies "maintain standardized, legitimating, formal structures, while their activities vary in response to practical considerations" (Meyer & Rowan, 1977: 357). Even if companies publicly announced activities demanded by stakeholders, yet did not implement them (Westphal and Zajac 1995, 2001). There are three elements of deception that greenwashing set up: (1) *confusion*, (2) *fronting*, and (3) *posturing* (Laufer, 2003).

Confusion is originated from "the complex nature of the corporate form, reliance on decentralized decision-making, and the practices of managerial winking" (Laufer, 2003 p.257). Companies manage confusion by controlling and limiting the documents and the information flow opened to the regulators and prosecutors. *Fronting* includes casting doubt on the severity of the problem, disclose or publish exaggerated claims, emphasizing uncertainty associated with problem, acknowledging problem by questioning available groups, and rebranding to avoid past association; use image advertising to suggest "green" association. It is accomplished through the representations of retained

counsel, compliance officers, ethics officers, and ethics committees. *Posturing* includes employing “front groups” or coalitions to support or oppose solution or legislation, using “front group” to promote moderate “middle ground” positions, using data to suggest that front groups enjoy widespread public or grassroots support, and employing front groups to examine, define and redefine industrial standards. Posturing seeks to convince both internal customers, and external stakeholders in terms of ethical behaviors.

Oil Companies and Sustainability Claims

Controversial industries may be defined on two grounds. One is derived from the goods or services that they provide and second one is how they conduct themselves in the process of achieving business objectives. In the first case, industries -i.e. tobacco, alcohol, gaming, and adult entertainment- are seen as controversial since their products are viewed as sinful by society based on social norms, their addictive nature, or potential undesirable social consequences resulting from their usage (Cai et al., 2012; Hong and Kacperczyk 2009). While in the second case the controversial base of the industry is defined in relation with having practices that will harm stakeholder interests or social expectations (Cai et al. 2012; Carroll 1979; Klein and Dawar 2004). The second group of industries includes companies conducting morally corrupt or unethical behaviors, socially or environmentally irresponsible practices, and product harm crises. On that ground, oil industry is controversial because there has been persistent, widespread engagement in unscrupulous business practices that entail adverse social, environmental, and ethical consequences (Du and Vieira, 2012).

The increasing regulatory and public pressure, the climate strategies of most oil companies have started to change (Kolk and Levy, 2001). In fact, the oil and gas sector has been among the leading industries in championing CSR. Indeed because of the highly controversial nature of the industry, oil companies face challenges in building the requisite legitimacy through their CSR endeavors. (Du and Vieira, 2012). They attach greater importance to their social and environmental impact and they engage more with local communities than they used to in the past. They applied corporate codes of conduct and social reporting; and also they embraced major international CSR initiatives such as Kofi Annan’s Global Compact and the Global Reporting Initiative. Indeed, Jo and Na (2012) found that risk reductions of controversial firms through CSR engagement is economically and statistically more significant than those of non-controversial firms.

Nevertheless, the effectiveness of these initiatives in the oil, gas and mining sectors has been increasingly questioned, since there is a gap between the stated intentions and their actual behavior. Some highly critical oil industry insiders have opinions such as “CSR is a waste of time”; “CSR is about managing perceptions and making people inside and outside the company feel good about

themselves; CSR is a red herring in terms of development projects” (Frynas, 2005 p. 583). The core business of an oil company, the production of oil and gas, inevitably leads to emissions of greenhouse gases both in the production process and with the end users’ consumption of the products. Saverud and Skjarseth, (2007) investigated the oil companies’ climate strategy formulations and implementation in the period 1998 to 2005. And they reached a conclusion that there was general consistency between the rhetoric and actions of oil companies- namely BP, ExxonMobil, and Shell.

Despite that, more research is called on sustainability communication since it tends to trigger stakeholder skepticisms and perceptions of corporate hypocrisy (Dawkins 2004; Du et al. 2010; Maignan and Ralston 2002). There are previous studies generated valuable insights, however, analyzing all the social media tools used by the worlds top ten oil companies did not studied. The purpose of this research is to explore how oil companies communicate and position themselves on that ground in social media. In other words, this research aims to analyze the focal points of oil companies’ messages, and to frame the content and pattern of their “green talk” with their stakeholders via social media.

RESEARCH METHODOLOGY

This study employed a qualitative research and the data is analyzed via content analysis. Content analysis manifests the content of a communication in an objective, systematic, and quantitative manner (Kolbe and Burnett, 1991).

Data Collection

The sample of the study consisted of the world’s top ten oil companies according to their revenues in 2015. In the research process, first of all, their social media connections were obtained from their official websites. Their names, revenues, and social media connections were given in Table 1. As a second step, their posts- such as messages, pictures and videos, were analyzed from their social media accounts and coded. Since this sampling frame generated a huge database, the last 200 sharings of each company in each social media account- totally 3000 postings- were examined.

Unit of Analysis

Six units that have been commonly used in content analysis literature are: word, word sense, sentence, theme, paragraph, and whole text (Weber, 1990). In this study, the words and phrases, photos and videos were chosen as a unit of analysis.

Reliability Measurement

Two coders, undergraduate students, were trained for coding. They were uninformed of the study propositions. After the training, the actual coding started. To determine to intercoder reliability percentage match was used. By doing so, the percentage of agreement between two judges was calculated. Percentage match was found as 92 % for the study which was higher than the recommended level of 85% (Kassarjian, 1977).

RESEARCH FINDINGS

The thematic analysis of the postings done by the top ten oil companies via their instagram, facebook, twitter and youtube accounts generated second-order and first-order thematic codes and as a result of the study, a communication pattern was revealed.

Table 1: World's Top Ten Oil Companies' Revenues and Social Media Accounts

| Company name | Revenue 2015 (US\$ billion) | Twitter | Facebook | Instagram | Youtube |
|---|--------------------------------|---------|----------|-----------|---------|
| Saudi Aramco | 478 | √ | | √ | √ |
| Sinopec | 455.499 | √ | | | |
| China National Petroleum Corporation (CNPC) | 428.62 | √ | | | |
| PetroChina | 367.982 | √ | | | |
| Exxon Mobil | 268.9 | √ | | | √ |
| Royal Dutch Shell | 265 | √ | √ | √ | √ |
| Kuwait Petroleum Corporation (KPC) | 251.94 | √ | √ | | |
| BP | 222.8 | √ | √ | √ | √ |
| Total SA | 212 | √ | √ | | √ |
| Lukoil | 144.17 | √ | √ | √ | |

As it is seen at Table 1, all of the top ten oil companies have Twitter accounts but only Shell and BP have more than three social media accounts. Some of these oil companies also have Flickr, Googleplus and LinkedIn accounts also. However, in this study Twitter, Facebook, Instagram, and Youtube accounts were analyzed due to active usage. Sinopec, CNPC and PetroChina do not give any link to their social media accounts from their website, while the rest give links from their website. All of these companies supply social responsibility and sustainability related information on their websites.

Table 2: Instagram Usage Information of Oil Companies

| INSTAGRAM | | |
|-----------|----------|-----------|
| Posts | Follower | Following |

| | | | |
|-------------------|-----|--------|----|
| Saudi Aramco | 193 | 23,8 k | 0 |
| Sinopec | | | |
| CNPC | | | |
| PetroChina | | | |
| Exxon Mobil | | | |
| Royal Dutch Shell | 413 | 61,8 k | 5 |
| KPC | | | |
| BP | 99 | 3529 | 83 |
| Total SA | 47 | 4051 | 0 |
| Lukoil | 53 | 3072 | 0 |

Only Saudi Aramco, Shell, BP and Lukoil have Instagram accounts. In Instagram, Shell has the highest number of followers. Saudi Aramco manages its Instagram account as a source of corporation communication professionally. In general they mention history (old photos), staff, technology, refineries, openings, collaborations, environmental projects, and R&D efforts. While they are mentioning those issues, they use hashtags such as Our History, Our Community, Our People. Both languages -Arabic and English- are used.

Shell refers to innovation, being global, technology, teamwork, energy efficiency, and future of energy. Also shares photos of eco-marathon, Formula 1, our future city competition, and several environment friendly actions. Shell is also professional in creating a corporate identity. However, as different from Saudi Aramco, uses hashtags of cities or countries for the photos of their staff – Saudi Aramco uses Our People hashtag. Bu doing so Shell highlights being global. In addition to that, Shell also shares photos from their history by using hashtag tbt- throwback Thursday and mentions several environmental friendly activities by partners.

BP is more different than the other oil companies in Instagram. They also use to communicate with the public however; they act more like an individual rather than a corporation. BP uses emojis, which are highly common in personal messages in social media. Emojis are like emoticons and exist in various genres, including facial expressions, common objects, places and types of weather, and animals. The other difference of BP is that, they send messages celebrating occasions such as Valentines Day, Chinese New Year. Third, they ask mathematical questions with the hashtag brainteaser and followers give answers. Hence, they create an interactive two-way communication. And also, they give reference to the person, who takes the photo and mention their name. Other than that, they shares photos of refineries, platforms, their support projects, and the every day products made of oil. But they do not share their environmental actions much.

Total has the lowest posting in Instagram. These posts are about mainly CSR activities such as scholarship programs, sponsoring students in humanitarian, environmental or innovation projects,

ideas for climate change, youth powering, and developing new energies. They often use hashtag make things better.

Lukoil shares mainly press meetings, awards, refineries, platforms, and operations in various regions. They mention just one project on environment- reproducing the biological sources.

In the case of **Facebook**; Shell, KPC, BP, Total SA and Lukoil have Facebook accounts, while Saudi Aramco and Chinese counterparts do not have one.

Shell uses a same language just like they use in Instagram, but they give much more detailed information in facebook. Mostly they share videos and use interrogative sentences such as Who is with us?, We will be there, will you?. The other common usage is “discover”, “learn more”, “see why” and “come and see”.

KPC uses Arabic language and shares only the photos of top managers in meetings, speeches and activities.

BP uses a parallel language with Instagram. Generally they share videos in Facebook. They give link to the sustainability report and annual report, and mention BP statistics. The speeches of top managers, and differently from Instagram, the talks of “their chief economist” are given.

Total displays a CSR orientation in Facebook also. They mention about challenges, their giant projects, and innovation around the world, but more than those, they share about their staff, environmental responsibility, solar power investments, and their commitment to better energy. They refer to “Total’s got talent!” when they are mentioning their staff. And they promote natural gas and express becoming a gas company is their fight against climate change. In their communication style, they give reasoning for their actions such as *“Because energy concerns everyone, Total created Planete Energies initiatives”* or *“Because progress is crucial in the energy industry, Total is innovating with its Partner”*.

Lukoil is much more active in Facebook than its other social media accounts. They share about cooperation agreements, partnership, CSR conference, overseas operations, shareholder meetings, and launch of operations. Mostly they share the photos of top management but not the staff and they give detailed information about their financial statements, production capacities and actual production data. They do not share much about environmental projects, just share their participation to the CSR conference.

Table 3: Youtube Usage Information of Oil Companies

| | YOUTUBE | | |
|--------------|-----------|-------------|-----------|
| | Joined in | Subscribers | Views |
| Saudi Aramco | 2013 | 7,917 | 1,065,329 |
| Sinopec | | | |

| | | | |
|-------------------|------|--------|------------|
| CNPC | | | |
| PetroChina | | | |
| Exxon Mobil | 2006 | 22,206 | 62,292,854 |
| Royal Dutch Shell | 2005 | 37,256 | 62,961,425 |
| KPC | 2010 | 659 | 165,046 |
| BP | 2010 | 20,723 | 23,089,180 |
| Total SA | 2013 | 21,842 | 53,883,594 |
| Lukoil | | | |

In Youtube usage Saudi Aramco, Exxon Mobil, Shell, KPC, BP and Total SA have accounts. Shell has the highest number of subscribers and views in Youtube.

All of the six companies in Youtube categorized their video sharings. The categorizations were summarized in Table 4.

Table 4: Youtube Categories of Oil Firms

| | Categories | | Categories |
|--------------|----------------------------|-------------------|---------------------------------------|
| Saudi Aramco | Our People | Royal Dutch Shell | Shell TV |
| | About Saudi Aramco | | Corporate |
| | Saudi Aramco Values | | Shell Eco-marathon |
| | Working at Saudi Aramco | | Shell Jobs and Careers |
| | Popular Uploads | | TV Commercials |
| | | | Shell Motorsports |
| Exxon Mobil | Featured Videos | BP | BP Energy Outlook |
| | Energy | | BP and Technology |
| | Education | | Committed to America |
| | Engineering | | BP Statistical Review of World Energy |
| | Global | | BP's US Economic Impact |
| | Who we are | | Energy Moving Forward |
| | | | The Energy Future |
| | BP Careers | | |
| | | | BP People: Our Stories |
| Total SA | About Us | KPC | About KPC |
| | Our Projects | | KPC Subsidiaries |
| | Our Products | | Reports |
| | | | Health Safety and Environment |
| | Motorsports | | KPC Initiatives |
| | Education | | Speeches and Interviews |
| | Careers | | Celebrations |
| | Corporate Responsibilities | | Awareness Videos |
| | Our Advertising | | KPC People |
| | | | KPC Regional Offices |

Saudi Aramco share videos in Arabic and English while KPC only shares in Arabic language. Differing from the others Saudi Aramco airs "about us" videos in Korean, Japanese, and Mandarin

Chinese languages. Total and KPC articulate about environment and corporate responsibility, while the others mention future of the energy. BP highlights its importance in the US economy and its commitment to America. However, Exxon spotlights the engineers and tries to point out their symbolic meaning in our lives as using a message: *“without engineers we would have been using pageants to communicate”*.

Table 5: Twitter Usage Information of Oil Companies

| | TWITTER | | | |
|-------------------|-----------|--------|----------|-----------|
| | Joined in | Tweets | Follower | Following |
| Saudi Aramco | 2009 | 3133 | 313 k | 14 |
| Sinopec | 2015 | 131 | 212 | 111 |
| CNPC | 2008 | 5 | 673 | 0 |
| PetroChina | 2011 | 47 | 1607 | 794 |
| Exxon Mobil | 2009 | 4981 | 181 k | 212 |
| Royal Dutch Shell | 2009 | 2059 | 363 k | 135 |
| KPC | 2010 | 1 | 307 | 2 |
| BP | 2013 | 4474 | 22,4 k | 149 |
| Total SA | 2009 | 8741 | 230 k | 386 |
| Lukoil (eng) | 2013 | 170 | 984 | 10 |
| Lukoil (rus) | 2011 | 890 | 5844 | 10 |

The Twitter usage information of oil companies was given in Table 2. According to Twitter usage, CNPC has the oldest (2005), BP and Lukoil (English version) have the youngest (2013) accounts. Total SA has the highest number of tweets, but Shell has the highest number of followers (363 k). The second highest follower amount belongs to Saudi Aramco.

The twitter usage does not differ from the other social media communications of the oil companies. However, there are several points that should be emphasized. Saudi Aramco uses both languages- Arabic and English- and tweets about the projects, business opportunities, meetings, forums, conferences, awards and speeches of the managers. Besides, Saudi Aramco uses *“meet us”, “join us”, “listen to”, “learn more”* phrases more often in Twitter. Exxon Mobil mentions energy, efficiency, climate change, their history, actions, innovation and investment. They also tweet about US Government’s decision on canceling planned lease sales off the coasts of Virginia, North Carolina, South Carolina, and Georgia as *“disappoint decision Atlantic energy development”*. In the case of environment, they also remark about emissions, natural gas as a clean technology and future energy report for 2040. They give information about how technology reduces our environmental footprints, but at the same time, they state petroleum as a key ingredient of every day products. Besides that, they value being an engineer like in their Youtube Channel. Shell talks about being global, high technology, and give links to download their annual report and free e-book on the colors of energy. Total, tweets about open innovation, sun power, challenges of off shore production, pay tribute to Brussels’ victims, cooperation and links to download annual report. They are, like in their other social

media accounts, talk more about their CSR orientation. They use “learn more”, “be part of”, “see how” phases more often. BP, in parallel with its Instagram account, shares statistics, energy outlook, and weekend playlist. They also give links to download annual report and sustainability report. KPC tweets in Arabic and give links to their Instagram account, while Lukoil give links to their Facebook account in every tweet. Chinese oil companies – Sinopec, CNPC and Petro China, only have twitter account in social media and they do not give any link to their twitter account in their websites. Besides that, Sinopec is more active in twitter and shares news, CSR, people, oil discovery, innovation and operations, while the other two are inactive. CNPC opened a Twitter account in 2008 but only shared five tweets- four in 2008 and one in 2009. They tweeted using adjectives such as “energize, harmonize, realize”, and “dynamic, loyal, honest, commitment”. Petro China gave information about the company, income, and their collaborations. But from 2014 their tweets are nonsense- about mobile games.

CONCLUSION

The aim of this research is to analyze the social media communication of top ten oil companies and to explore how they position themselves in relation with green talk and green walk. On that ground, the Twitter, Youtube, Instagram and Facebook accounts of Saudi Aramco, Sinopec, CNPC, Petro China, KPC, Exxon Mobil, Shell, BP, Total and Lukoil were reviewed, and in total 3000 sharings were analyzed. As a result, this research generated several conclusions:

First of all, Chinese oil companies are not active in social media, however they have sustainability and environment report in their websites. In China due to the censorship laws it is forbidden to participate in the social networks that dominate the rest of the world. Therefore China created its own social platforms and networks. China’s social-media sector is very fragmented and local. Each social-media and e-commerce platform has at least two major local players: in microblogging (or weibo), for example, Sina Weibo and Tencent Weibo; in social networking, a number of companies, including Renren and Kaixin001. Chinese oil companies do not give any link to any social media account.

Saudi Aramco, Exxon Mobil, Shell, BP, Total, KPC, and Lukoil are more active and have more than one social media accounts. There are differences and similarities among their communication styles. Total is the one emphasizing more on CSR including scholarships, community support, and environmental issues. Saudi Aramco in Twitter, Lukoil and KPC shares the photos of top management. Saudi Aramco in Instagram and Youtube shares about their staff and values them as “our people”, “our community”. Lukoil also commonly shares about the financial data and production capacity to underline their power, while Exxon Mobil empathizes their engineers as their

power. BP is more personal than the others by celebrating Valentines Day or New Year and asking several math problems. BP does not mention much about environment, but the need of petroleum in every product. And Shell focus on being global, innovator and high tech. They relate investing in technology with creating more environmental friendly products.

On the other hand there is a common ground in their communication. They all emphasize being global, doing a challenging work, and being an active participant in conferences and forums. They draw a common portray as that they are important for the continuance of life. They all share about "world water day", "international women day", having women engineers and managers in terms of diversity in the workplace. They give information about their capacity and energy demands. In the case of "being green", they give information about emission, they support natural gas as a clean energy, they mention several environment related projects such cleaning ports, supporting undersea researches etc. They talk about how huge and hard business they are in while not mentioning its environmental effects. They do not talk much green, but emissions, and technology. In general, their sharings give the impression that they are working to supply our demand. They share sustainability report, annual report, and energy reports to increase the awareness and knowledge.

This research is an exploratory study having limitations. First of all, in the study last 200 sharings and total 3000 postings were analyzed due to huge amount of database. Analyzing more archival data may generate a historical trend analysis. Also this study covers only the sharings of the oil companies but the messages, postings and answers of the public can be examined in order to reflect the reactions. That may help to draw a two-way communication pattern.

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EMOTIONAL INTELLIGENCE IN THE BANKING SECTOR – THE CASE OF LEBANON

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ABSTRACT

Emotional intelligence has faced many controversies over the years whether it is of significance and how it can be defined and labelled. It is of benefit to study this concept in a culturally-driven approach. Given that Lebanon differs from other cultures in its uniqueness, and finding no model of emotional intelligence that fits this culture, this paper aims to create a preliminary model customized for the Lebanese retail banking sector. Implementing emotional intelligence in the Lebanese retail banking sector will help the sector to improve over the years. The model will be developed and finalized in a further research that is based on this preliminary model. The model will be created based on existing models, interviews, theoretical research and secondary data. Interviews will be conducted with scholars to develop a scientific, well-built and structured model as well as with bank managers to shed the light on the variables found in the Lebanese culture which can be used in the EI model. This paper will help in spreading awareness on the importance of EI and its role in improving the Lebanese retail banking sector as well as setting a base for future research that will aim at finalizing this model.

Keywords: *Emotional intelligence, EI, Preliminary model, Lebanon, Lebanese retail banking sector.*

INTRODUCTION:

Studying the concept of emotional intelligence in the Lebanese culture is of great interest since emotional intelligence helps in enhancing organizations that are in the service field such as banks, which is the field of study of this paper. Therefore, emotional intelligence will facilitate the attainment of the goals that are set. The Lebanese culture, in nature, differs from other cultures since it gives much weight to communication, the fact that will ease the process of implementing and enhancing emotional intelligence and supporting the relationship marketing strategy that will be researched and linked to EI in the future as a continuation for this paper. Since the Lebanese culture is considered to be unique, there is a need to create an EI model that fits the Lebanese Retail Banking sector.

The aim of this research is to create a preliminary model of emotional intelligence that fits the Lebanese retail banking sector based on existing models, interviews, theoretical research and secondary data.

Towards the aim five objectives have been set:

1. Undertake an extensive literature review to construct the theoretical foundation of the research.
2. Identify potential models that are relevant to the model that this paper aims to create to fit the Lebanese retail banking sector.
3. Identify potential gaps in existing theory.
4. Undertake preliminary primary qualitative and secondary research to develop a preliminary model of emotional intelligence for the Lebanese retail banking sector.
5. Combine the research's theoretical findings with the preliminary primary research results to develop a preliminary model of Emotional Intelligence in the Lebanese retail banking sector.

Creating a preliminary emotional intelligence model for the Lebanese retail banking sector is of great benefit to the Lebanese service industry. It is a study that shows how the uniqueness of the Lebanese culture can be used to boost individual levels of emotional intelligence which will result in enhanced performance and ultimately better outcomes. There is still need for an EI model for different cultures, such the case with Lebanon. The Lebanese retail banking sector is in 'good shape'; however, bank managers seek continuous improvement on all levels. Spreading awareness of the concept of EI in the Lebanese retail banks and implementing it through their trainings will definitely show significant effect and will affect the Lebanese economy. Focusing on EI will help bank employees to better enhance their skills and satisfy their clients by providing suitable offers. The higher the growth of bank loans, more businesses will enter the market and invest their loans to generate profits. This will eventually lead to an improvement in the overall Lebanese economy.

THEORETICAL FOUNDATION:

1.1 Background to Emotional Intelligence:

Over the years, the concept and definition of emotional intelligence has evolved since the 19th century. Gabriel (2000) stated that in 1990, Peter Salovey and John Mayer discovered a universal pattern to study emotions after conducting research that showed that individuals are able to identify and recognize emotions through faces, certain designs and colors. However, in 1995 and 1998, the term "Emotional Intelligence" became more solid and structured and people became aware of this terminology as is evident in what Daniel Goleman wrote in "Emotional Intelligence: why it can matter more than IQ". Theorists such as Thorndike, Wechsler and Gardner were the first to generate

awareness of the concept of EI and have facilitated the emergence of current well known pioneers in the field of EI such as Peter Salovey and John Mayer, Daniel Goleman and Reuven Bar-On.

Emotional intelligence is one of the most vital factors that need to be highlighted and studied when it comes to success whether we are dealing with the educational or business sector.

1.2 Existing Models of Emotional Intelligence:

McCleskey (2014) pin-pointed the most critical basics of emotional intelligence by describing its progress throughout the years until reaching the current models. Several models were created to define, measure and analyze emotional intelligence. These models can be summed up into ability models, mixed-models also known as the emotional and social competence models and trait models that include many other sub-models.

Caruso and Salovey (2004) and Jordan et al. (2010) agree that the Mayer ability model is the most common model used to measure emotional intelligence as it is considered to be the “gold standard” for defining emotional intelligence. This model is based on a four-branch approach including four basic abilities which are: 1. Emotion perception, 2. Emotion facilitation, 3. Emotion understanding, and 4. Emotion regulation. Using the Mayer ability model means using the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) in order to measure the level of emotional intelligence.

The second category encapsulates the emotional and social competencies models (ESCs) which are also known as the mixed-models of emotional intelligence. The Goleman and Bar-On models are mixed models.

The third emotional intelligence model is the trait model. Petrides et al. (2007) stated that the four components of the trait model are as follows:

1. Well-being: self-confidence, happiness, and optimism.
2. Sociability: social competence, assertiveness, and emotion management of others.
3. Self-control: stress management, emotion regulation, and low impulses.
4. Emotionality: emotional perception of self and others, emotion expression and empathy.

Petrides (2010) defined the trait model as “the only operational definition in the field that recognizes the inherent subjectivity of emotional experience” and listed the numerous facets that the trait emotional intelligence comprises: 1. Adaptability, 2. Assertiveness, 3. Emotion expression, 4. Emotion management, 5. Emotion regulation, 5. Impulsiveness, 6. Relationships, 7. Self-esteem, 8. Self-motivation, 9. Social awareness, 10. Stress management, 11. Trait empathy, 12. Trait happiness, 13. Trait optimism.

The basic concepts of the three major models of emotional intelligence which were established by expert theorists in the field of EI are described below:

Table 1: Three Competing Models, all Labelled "Emotional Intelligence"; source: R. Sternberg (2000), *Handbook of Intelligence*, Cambridge, UK; Cambridge University Press, Page 401.

| Mayer & Salovey (1997) | Bar-On (1997) | Goleman (1995a) |
|---|--|---|
| Overall Definition | Overall Definition | Overall Definition(s) |
| "Emotional intelligence is the set of abilities that account for how people's emotional perception and understanding vary in their accuracy. More formally, we define emotional intelligence as the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others" (after Mayer & Salovey, 1997). | "Emotional intelligence is . . . an array of noncognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures." (Bar-On, 1997, p. 14). | "The abilities called here <i>emotional intelligence</i> , which include self-control, zeal and persistence, and the ability to motivate oneself." (Goleman, 1995a, p. xii). [. . .and. . .] "There is an old-fashioned word for the body of skills that emotional intelligence represents: <i>character</i> " (Goleman, 1995a, p. 28). |
| Major Areas of Skills and Specific Examples | Major Areas of Skills and Specific Skills | Major Areas of Skills and Specific Examples |
| <p><i>Perception and Expression of Emotion</i></p> <ul style="list-style-type: none"> *Identifying and expressing emotions in one's physical states, feelings, and thoughts. *Identifying and expressing emotions in other people, artwork, language, etc. <p><i>Assimilating Emotion in Thought</i></p> <ul style="list-style-type: none"> *Emotions prioritize thinking in productive ways. *Emotions generated as aids to judgment and memory. <p><i>Understanding and Analyzing Emotion</i></p> <ul style="list-style-type: none"> *Ability to label emotions, including complex emotions and simultaneous feelings. *Ability to understand relationships associated with shifts of emotion. <p><i>Reflective Regulation of Emotion</i></p> <ul style="list-style-type: none"> *Ability to stay open to feelings. *Ability to monitor and regulate emotions reflectively to promote emotional and intellectual growth (after Mayer & Salovey, 1997, p. 11). | <p><i>Intrapersonal Skills:</i></p> <ul style="list-style-type: none"> *Emotional self-awareness, *Assertiveness, *Self-Regard *Self-Actualization, *Independence. <p><i>Interpersonal Skills:</i></p> <ul style="list-style-type: none"> *Interpersonal relationships, *Social responsibility, *Empathy. <p><i>Adaptability Scales:</i></p> <ul style="list-style-type: none"> *Problem solving, *Reality testing, *Flexibility. <p><i>Stress-Management Scales:</i></p> <ul style="list-style-type: none"> *Stress tolerance, *Impulse control. <p><i>General Mood:</i></p> <ul style="list-style-type: none"> *Happiness, *Optimism. | <p><i>Knowing One's Emotions</i></p> <ul style="list-style-type: none"> *Recognizing a feeling <i>as it happens</i>. *Monitoring feelings from moment to moment. <p><i>Management Emotions</i></p> <ul style="list-style-type: none"> *Handling feelings so they are appropriate. *Ability to soothe oneself. *Ability to shake off rampant anxiety, gloom, or irritability. <p><i>Motivating Oneself</i></p> <ul style="list-style-type: none"> *Marshalling emotions in the service of a goal. *Delaying gratification and stifling impulsiveness. *Being able to get into the "flow" state. <p><i>Recognizing Emotions in Others</i></p> <ul style="list-style-type: none"> *Empathic awareness. *Attunement to what others need or want. <p><i>Handling Relationships</i></p> <ul style="list-style-type: none"> *Skill in managing emotions in others. *Interacting smoothly with others |
| Model Type | Model Type | Model Type |
| Ability | Mixed | Mixed |

1.3 Variables Affecting Emotional Intelligence:

2.3.1 Age and Emotional Intelligence:

The Lebanese society has a particular effect on the culture of banks and the weight placed on age. Age is correlated with experience and the degree of business wisdom and skills acquired. The dilemma arises when comparing the advantages of hiring new young employees who are in touch with the technological advancements, zeal to prove themselves in the field and fresh academic background pertaining to the banking field as opposed to older and more experienced professionals. The Lebanese HR managers tend to highly esteem professionals with seniority and experience.

Many believe that older individuals do have a higher level of emotional intelligence since they tend to be wiser and more skilled and patient. The reason behind this hypothesis is due to the fact that IQ levels are fixed; EI levels on the other hand are more flexible and tend to increase as the individual is subjected to life experiences. Mayer et al. (2000) stated that the level of emotional intelligence increases with age and experience since it is qualified as an ability and not a personality trait. Bar-On (2000) stated that older individuals tend to score higher on emotional intelligence since he believes that emotional intelligence is taught and improved through life experiences. Rodrigues (2013) used the ESCI and concluded that the level of emotional intelligence of leaders aging from 24 to 45 is constantly increasing; however, after it reaches its peak at the age of 45 it starts to decline in the fifth and sixth decade of life as a result of the decline of self-awareness competencies of older leaders.

However, not all researchers do agree that there is a positive correlation between age and the level of emotional intelligence. Bii et al. (2012) conducted a research to correlate the age of the manager and the level of emotional intelligence and found that it was statistically insignificant. There is a clear debate on whether age affects the level of emotional intelligence or not.

2.3.2 Managerial Position and Emotional Intelligence:

Many researchers debate that as an individual is placed in a higher managerial position, he/she is supposed to have higher emotional intelligence. Chen et al. (1998), Goleman (1998a) and Bennis (2001) agree on this theory as they believe that emotional intelligence is the key to success for organizational leaders. Van Der Zee (2004) conducted a study to check whether this assumption is true. Results were that top managers did score higher than reference groups tested. Fatt (2002) also supports the results of Van Der Zee as he stated that as individuals progress in their organization, they gain and improve their emotional intelligence. Goleman (1998b) stated that as individuals get promoted to higher positions in their organization, they are more likely to have a higher level of emotional intelligence and acquire more competencies on the way. Further research is suggested to check whether there is a significant link between emotional intelligence and managerial positions.

2.3.3 Gender and Emotional Intelligence:

The skills and abilities that pertain to each gender have been attributed to natural selection, genetics, society, access to education and the perspectives through which each gender sees and approaches dilemmas. One of these comparisons is that pertaining to emotional intelligence. Starting with Mandell and Pherwani (2003), they found that there is a difference in emotional intelligence between males and females as females scored higher, suggesting that females are better in controlling their feelings and emotions and managing others emotions better than males. Bar-On (1997b) stated

that “females are more aware of emotions, demonstrated more empathy and relate better interpersonally while men are more adept at managing and regulating emotions”.

Khalili (2011) studied the difference in emotional intelligence competencies scores between males and females. Khalili used the “Goleman’s Refinement Model of EI” where he delved deeper into the emotional intelligence competencies (both personal and social) and assessed them. Results showed that there are no significant differences between genders when scoring on self awareness, self management and overall emotional intelligence. However, there is a difference in relationship management whereby men scored higher (with a mean of 63.78) than women (with a mean of 49.22).

To conclude, human resources department must increase their training in order to develop and improve the level of emotional intelligence of employees and focus on the trainings that specifically contemplate on developing relationship management competencies.

2.4 Emotional Intelligence: Insights from the Lebanese context

Jamali, Sidani and Abu-Zaki (2008) studied the variations in emotional intelligence competency scores in Lebanon. These competencies are: self-awareness, self-regulation, self-motivation, social awareness and social skills. Cherniss (2001) stated that importance of cognitive intelligence is “overstated” as well as being considered a major predictor of work success. However, Mandell and Pherwani (2003) agree that the importance of emotional intelligence that was shown in the fields of business and psychology has highlighted a fact that intelligence quotient can be no longer used as the major predictor of work success. Fatt and Howe (2003) supported this fact by stating that the performance outcomes of individual’s performance can no longer be measured by the traditional intelligence quotient tools.

To summarize, the personal and social competencies building blocks for emotional intelligence as adapted from Bar-On and Parker (2000) and Kunnanatt (2004) are charted hereafter:

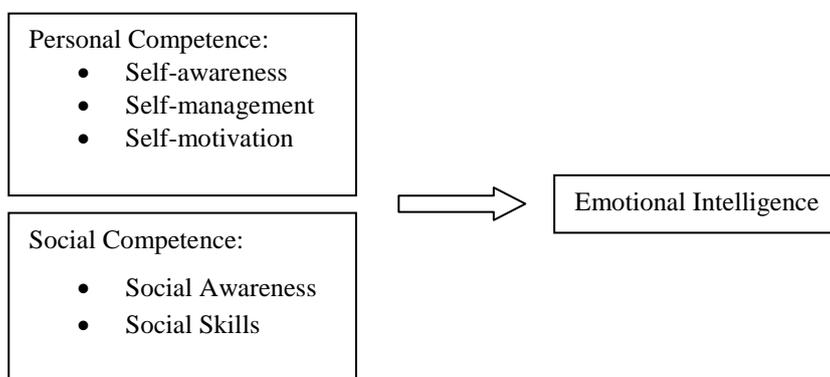


Fig. 1: personal and social competencies for emotional intelligence

Jamali, Sidani and Abu-Zaki (2008) stated the following results after conducting their research using the Emotional Quotient Inventory (EQ-I) technique to measure emotional intelligence and a final sample of 225 individuals working in different sectors such as banks, publishing organizations,

internet companies, auditing firms, universities, government organizations, and other sectors from Beirut, Lebanon. Results showed that the entire sample scored moderate levels of emotional intelligence and that males scored higher on self-regulation and self-motivation whereas females scored higher on self-awareness, empathy and social skills. There was no significant change in EI scores between genders except for self-regulation where males scored higher. Senior managers scored higher than staff or lower-level employees on self-awareness, self-regulation and self-motivation whereas middle managers scored lower than senior managers and staff on empathy. Differences in educational background, as there are three categories: high school, college and graduate degree, had no significance in emotional intelligence scores when testing for self-awareness, self-regulation, self-motivation, empathy and social skills. Moreover, difference in age had no significance in emotional intelligence score, except for self-motivation where the group ranging from 35 to 44 scored the highest and the group aging under 25 scored the lowest. Carrying emotional intelligence assessments at work can assist employees to detect their strengths and areas of development, and by implementing this technique in a safe and supportive environment, it can trigger and improve self-motivation.

Moreover, a research was conducted by Hejase, Al-Sayed, Haddad and Hamdar in 2012 to explore how emotional intelligence is applied in Lebanon. In the first part of their study, researchers highlighted the importance of emotional intelligence in business through existing frameworks. In order to explore emotional intelligence applications in Lebanon, both industry and service sectors were targeted. The sample included employees and managers of different backgrounds and gender. The final sample size was 110 individuals, and ten managers divided evenly between the service and industry sector. Results showed no significant distribution difference between genders in both sectors. To summarize the awareness of emotional intelligence: 2/3 of the respondents in both sector are not fully aware of the concept of emotional intelligence and have no deep knowledge on this concept. When identifying the sources that exposed emotional intelligence to the respondents in both sectors, none stated that they learned about it from their work setting. The sources were either from their education, media, or other mixed sources. The majority in both sectors agreed that EI has positive effects on an organization's profit and disagreed with the statement that adopting EI principles incurs a lot of costs in such a way that there is no point in investing in it. They also agreed that EI programs result in favourable results in employees' retention and disagreed that employees are required to work individually and not in teams when practicing EI principles.

2.9 Identified Gaps:

Emotional intelligence as any concept has gaps to be covered. Leung (2005) was one of the researchers who suggested that more research linking cross-cultural issues and EI are needed. Jamali,

Sidani and Abu-Zaki (2008) stated that there is an interest to uncover culture-specific factors that affects EI in Lebanese organizational settings. It will be of benefit to link EI and organizational outcomes in any way. Cross-cultural research is still limited when compared to organizational research. Jamali, Sidani and Abu-Zaki (2008) suggest finding culturally-related strength and weaknesses when studying emotional intelligence and study how culture influences the sub-competencies of EI which is the first identified gap.

The second identified gap was stated by Hejase et al. (2012) where they added that although EI is perceived to be effective in organizations and will help in creating better outcomes, the majority of people are not willing to engage emotions and emotional intelligence in the workplace since they believe that emotions in business will lead to irrationality and unexplained behaviours and decisions. However, studies conducted by Jamali, Sidani and Abu-Zaki (2008) and Suliman and Al-Shaikh (2007) within Middle Eastern countries, including Lebanon, suggest that emotions cannot be separated from a person when conducting business and is part of the individuals' personality whether the organization accepts that or not. Many are still caught with the traditional saying of "leaving emotions at home before coming to the job"; however, as stated before, emotions cannot be isolated from an individuals' personality when at work.

Hejase et al. (2012) also pointed a third identified gap as they suggested to study cross-multiple relationships between different concepts such as EI and other concept linked to management for example to discover a possible theoretical link that businesses can benefit from as they implement EI in their organizations.

METHODOLOGY:

The research aims and objectives are set to cover the gaps found in the literature review and interviews that were conducted with three Lebanese branch managers and one regional bank manager in retail banking. For this end, information was collected from primary and secondary data sources. Gaps have shown the need to create a new model of emotional intelligence that fits the Lebanese retail banking sector. This process utilized an inductive reasoning since the paper is using existing emotional intelligence models/theories to create a new model. Representative sampling was chosen to collect valuable and related data to the subject of study.

The fact that a phenomenological paradigm is utilized indicates that the methodology that fits this position is the qualitative method. The research method is a case study and the technique used is interviewing the representative sample chosen. The interview had semi-structured open-ended questions. Having in-depth interviews helps in collecting more valuable data, understanding the situation realistically and maybe uncovering some hidden gaps that are not stated in existing research

papers. This technique gives the interviewer the advantage of being able to remodel and restructure the questions when needed and also gives the interviewee the ability to better understand the aim of the study by familiarizing the latter with the concept of emotional intelligence.

The aim of a qualitative study is not to generalize results, but rather to research a case study that is focused on studying EI in the Lebanese retail banking sector. Therefore, there is no need for a large number of interviewees. After conducting the interviews and recording every interview, which took an approximate of an hour and a half, a pattern was constructed manually and data was analyzed by translating the interviewees' answers from Arabic and French to English since most banks in Lebanon use the French language at work. Gaps found through the literature review and interviews are used to create the preliminary EI model that fits the Lebanese retail banking sector.

The model that will be created in this paper is provisional for a final model of emotional intelligence for the Lebanese retail banking sector in a further empirical research. This model cannot be used and implemented at this stage rather than highlighting the variables that are highly suggested to be relevant based on existing research in this field and some preliminary interviews with banks managers. Additional interviews are required since four interviews were conducted with bank managers and the other four interviews were conducted with scholars to help in constructing a scientific questionnaire for the interviews and create a preliminary model of emotional intelligence for the Lebanese retail banking sector; thus, it is expected to find additional significant variables in a more advanced level. The variables of this preliminary model will be used to create the final model that is more practical and can be implemented by the Lebanese retail banking sector. Further research will focus on conducting a number of in-depth interviews with Lebanese retail banking clients to show which of the variables of this preliminary model are of significance and which cultural-based variables can be added to improve the final model and customize it to the Lebanese market.

The following are the questions asked:

1. How do you perceive the Lebanese Retail Banking sector and does it affect the Lebanese Economy?
2. Is there any gap in the Marketing or Management Department at the Lebanese Retail Banking sector?
3. Is there enough knowledge about Emotional Intelligence? How often trainings are held which tackle this concept?
4. Is the Lebanese culture unique? If yes, how is it so? And how does the Lebanese culture affects Emotional Intelligence?
5. Is there a need for a customized Emotional Intelligence Model that fits the Lebanese Retail Banking sector?

PRELIMINARY QUALITATIVE RESEARCH FINDINGS:

Lebanese retail bank managers confirmed that there is a significant link between retail banks performance and the Lebanese economy through providing the clients with different types of loans to energize the market through investments. Although Lebanon is in an unstable political situation the banks are still thriving. Due to the crisis that happened in Iraq, Egypt, Syria and Turkey, many large-size Lebanese banks have closed their branches in these countries and start focusing more on Lebanon and thus the competition is now higher than ever. Lebanese retail banks are pushed to perform better and one way is through training their employees to master all the details needed. Bank managers agree that EI is of significance and having trainings on this issue will help them grow and thrive in the market since they will gain a competitive advantage since there is still not enough awareness of concept in Lebanon. However, even by knowing this fact, banks still prefer investing their trainings on technical know-how and up-to-date products and services. Large-sized banks are able to conduct personal-oriented trainings more than medium and small-sized banks because of their budgeting system. Banks prioritize their trainings and thus the headquarters should note the EI of high importance and is capable of taking their performance to the next level. The Lebanese culture is unique, and it needs a customized model of EI based on the culture. Lebanese people are known to be multi-lingual, open, highly care about personal relationships and significantly affected by nepotism. Not all clients are treated the same, some requires the bank to break some rules because of their political and/or social power. Nepotism affects the Lebanese culture on a day-to-day base.

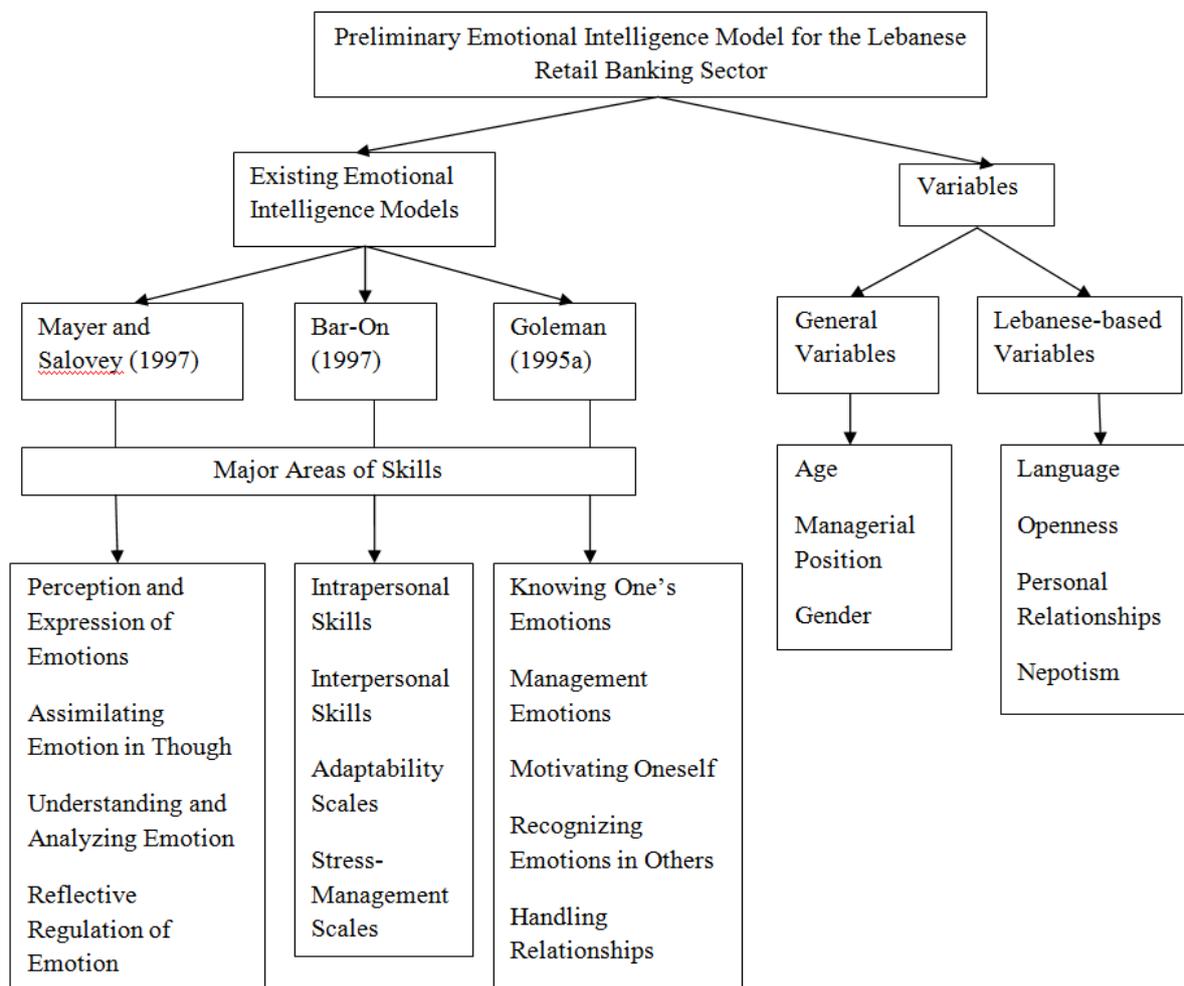
Relating the Interviews with the Established Models:

The interviews with the bank managers go hand-in-hand with the established EI models and overall analysis and orient us on what aspects of those established models should be given weight relative to the Lebanese example. In other words, a preliminary Lebanese Model that is customized to the Lebanese retail banking sector can be constructed in an inductive manner based on a multi-disciplinary approach. The emotional aspect of the Mayer and Salovey ability model can be utilized to target the 'pathos' and sentiments of the Lebanese clients who usually tend to feel more comfortable when they have a sentimental connection with their bank. The ability-based model of emotional intelligence describes the abilities to perceive, use, understand and manage emotions. By this token, showing clients joy towards their happy life events, compassion and sympathy regarding their sad occasions, moral support during times of weakness as well as malleability and emotional astuteness when dealing with difficult clients should be all components of the emotional chapter of the Lebanese EI Model. Furthermore, the weight given to the process utilized in implementing EI which was delineated in the Bar-On Model would be a suitable backbone and mesh on which our customized model can be built on. Bar-On and Goleman's models are mixed models, meaning they combine

emotional intelligence qualities with other personality traits. Goleman's Model which focuses on an individual's capabilities and personality in applying his/her consistent affects at work would be a great asset which can be utilized to tackle dilemmas at work and follow a suitable approach with clients. In essence, employees would be more aware of their own sentiments and emotions and more importantly would be aware of what aspects of those emotions should be expressed or hidden as well as comprehend the emotional status of their respective clients and absorb/tackle any feelings of discomfort, anxiety or distrust.

CONCEPTUAL DEVELOPMENT:

Following a search of literature and based on the interviews conducted, a new preliminary model of emotional intelligence that fits the Lebanese retail banking sector is needed. This new preliminary model will be divided into two sections: skills and variables. Common existing models such as Mayer and Salovey (1997), Bar-On (1997) and Goleman (1995a) are used to create this preliminary model. Each of these models has major areas of skills which will be all included since four interviews from the bank's point of view are not enough to eliminate any of these skills; however, in an advanced stage, interviews with retail banks' clients will be conducted which would focus on the skills of emotional intelligence that are needed. Therefore, only the skills related to the Lebanese retail banking will be included. Having said that and visualized a framework of the skills that should be included in this novel model, we move to the pertinent variables that need to be considered. These variables are divided into general and Lebanese-based variables. The general variables are chosen based on the literature review and are considered to have a direct link with emotional intelligence. However, the Lebanese-based variables are deducted from the four interviews with the bank managers. Having future interviews projected in the extrapolated study, additional variables are expected to be included.

Preliminary Emotional Intelligence Model for the Lebanese Retail Banking Sector**CONCLUSIONS, IMPLICATIONS AND FURTHER RESEARCH:**

The Lebanese retail banking sector plays a crucial role in the Lebanese economy through providing clients with loans of different types to invest in the Lebanese market and generate profits. Enhancing the performance of this sector will directly or indirectly lead to an improved economy. The awareness and implementation of emotional intelligence in organizations results in a significant overall performance improvement through generating more sales and profits as well as satisfying

clients and customers. As shown above, there are several models that exhibit the skills of emotional intelligence; however, the most common existing models are that of Mayer and Salovey, Bar-On and Goleman, were incorporated in the build-up of the preliminary model of emotional intelligence that fits the Lebanese retail banking sector. Following a search of literature, it was evident that age, gender and managerial position are directly and indirectly linked with emotional intelligence. This significant link between these variables and emotional intelligence will be further delineated and examined in a future extrapolated research study that will be conducted as continuation of this study. Based on four interviews with Lebanese retail bank managers, Lebanese-based variables were highlighted, and in turn this showed the uniqueness of the Lebanese culture and how it differs from other cultures. The model created is a preliminary one and not the final emotional intelligence model for the Lebanese retail banks. It is a general framework to start with when the second phase of this paper would be constructed. In this second phase, an approximate of 40 interviews will be conducted; however, those interviews will be conducted with Lebanese retail banks' clients and not with banks' managers. Consequently, it is expected to determine the contribution of each skill to the Lebanese retail banking sector regardless of which model they belong to. As for the variables, more Lebanese-based variables are expected to be added to the final model whereas the general variables will be tested to see if there is a link between them and EI in the Lebanese context.

Four interviews were conducted which shed the light on a number of interesting variables and showed how existing models are theoretically correlated with the Lebanese culture in addition to four interviews with scholars that helped in the construction of a scientific questionnaire and development of the preliminary emotional intelligence model for the Lebanese retail banking sector. However, additional interviews with bank managers might have revealed more Lebanese-based variables. In a future research, and after creating a final model of emotional intelligence for the Lebanese retail banking sector, there will be a study on how emotional intelligence and relationship marketing are related, which will be of high interest for corporations which are aiming at increasing their profits and enhancing their marketing departments.

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THE IMPORTANCE OF WORKFORCE DURING FINANCIAL CRISIS SITUATIONS: THE CASE OF THE SPANISH HOSPITALITY INDUSTRY

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ABSTRACT

As part of the recent global financial crisis, Europe has experienced a double dip recession, meaning that the effects of the crisis have been longer and more severe. Tourism, specifically the hospitality industry, is important for the economy of Southern European countries, where the crisis has been the worst. Therefore, to better manage the crisis impacts and anticipate future impacts, it is crucial to identify the contributing factors.

Here, we examine the performance of a sample of 7,293 Spanish hospitality companies based on data from 2008-2011. A multivariate regression analysis was conducted researching workforce revenue and cost variables. Results show the importance of investments in workforce qualifications. These findings help the hospitality industry to understand the relevant drivers and coping strategies associated with the hospitality industry during a financial crisis.

Keywords: *downturn performance, workforce performance, downturn direct effect, financial crisis*

A larger version of this paper is currently under review at Euromed Journal of Business.

INTRODUCTION

Current economic trends suggest that the 2007 global economic downturn is now ended (Bronner and Hoog, 2014). Varum and Rocha (2013), among others, have asserted that economic downturns negatively affect firm growth, both during and immediately following a crisis (Okumus and Karamustafa, 2005). Analyses of previous crises have found that both internal and external factors could be key issues in company performance during a financial crisis. The tourism industry is typically one of the most damaged during a financial crisis for a number of reasons. First, tourism is affected by reduction and changes in traveller spending (Cracolici et al., 2008; Smeral, 2009). Second, reduction in credit access and lower return of actives speed up financial problems (Fahlenbrach et al.,

2012). Third, financial crisis recovery may take a long time and can contribute to tourists favouring alternative destinations (de Sausmarez, 2013). Finally, domestic tourism falls sharply (Chen and Yeh, 2012), with consumers concentrating on indispensable consumer products such as food and clothing (Smeral, 2009). Thus, fierce competition will normally occur within a destination and between alternative destinations (Cracolici et al., 2008). As a consequence, in the case of tourism, financial crises could be considered continuous due to the long lag period before the full extent of the damage appears (de Sausmarez, 2013 cited Siomkos, 1992).

For the aforementioned reasons, understanding the performance of tourism companies during a financial crisis is crucial as it provides a predictor of future performance in subsequent crises (Fahlenbranch et al., 2012). On the other hand, tourism is a human-intensive industry, and human resources are basic to service quality (Baum, 2015). However, during times of crisis, companies reduce employment to cut expenses, with a result of a likely deterioration in service (Alonso-Almeida and Bremser, 2013) and loss of competitiveness (Cracolici et al., 2008; Ridderstaat et al., 2014). It is therefore important to understand how human factors help hotels face financial crises with the aim of managing crisis impacts properly and preparing for future crises. Nevertheless, limited research involving individual performance and influence factors of companies during this latest crisis has been reported.

To address this, we aim to identify the relevant factors for growth during times of crisis. Although people are frequently called the most valuable asset for tourism companies, the role of human resources in tourism companies in times of crisis remains underexplored (Baum, 2015). Thus, delving into workforce cost and productivity influence over company performance during a downturn is relevant to provide help to manage hotels during this difficult period.

To our knowledge, this report is the first attempt to specifically study human resource performance and growth of hotels during the latest financial crisis. While previous crises have been short, the current crisis in Europe has felt like a "double crisis" (the financial and euro crisis). For that reason, panel data are used with a total of four years of analysis over the period of the double dip recession (2008 to 2011) and when the financial crisis was hardest (Ridderstaat et al., 2014). Therefore, the novel approach of this study should help reveal the relevant drivers and success factors for the tourist industry during turbulent times.

To achieve these aims, the next section of this paper discusses the theoretical arguments regarding the model proposed. The following section describes the empirical design of the study. Sections 4 and 5 present a quantitative analysis, continuing with the study findings and discussion. The final section offers several conclusions drawn from the research and observed business practices.

LITERATURE BACKGROUND

Financial crisis and workforce in hospitality: Impact on growth performance

Competitive operational performance has been related to good performance during downturns (Claessens et al., 2012). The authors noted that lower internal costs can provide a competitive advantage during a fall in demand. In line with this reasoning, Kunc and Bhandari (2011) have also asserted that during financial crises, companies seek cost efficiencies. Given that workforce costs used to be the main expense in human-intensive industries such as tourism, to address the impacts of a global economic recession, hotels used to maximize their benefits with limited resources through correct resource allocation and operation strategies. Moreover, Flouris and Walker (2005) observed that operational flexibility was crucial to achieve good performance during financial crises. Thus, companies with operational capabilities could be better able to cope with turbulent times (Lee et al., 2009). Among others, workforces with more distinctive skills and scalability could be key for growth during this period (Nijssen and Paauwe, 2012; Baum, 2015).

Chen and Yeh (2012) found that hotels in Taiwan with higher labour productivity (calculated by the total operation revenue against number of employees) were more likely to survive under financial crisis situations. Hjalager (2010) suggested that innovative tourist companies are able to face turbulent environments, although it could cause an increase of cost in the short term due to an increase in employee costs and revenues by employees. In fact, Komninou et al. (2014) asserted that specialization and value added to services produced significant variations in productivity measures. Thus, a more specialized workforce could increase the cost of employees but also improve performance (Baum, 2015). Therefore, the following hypotheses are proposed:

H1a. Workforce cost is directly and positively related to hotel growth during financial crises.

H1b. Workforce productivity is directly and positively related to hotel growth during financial crises.

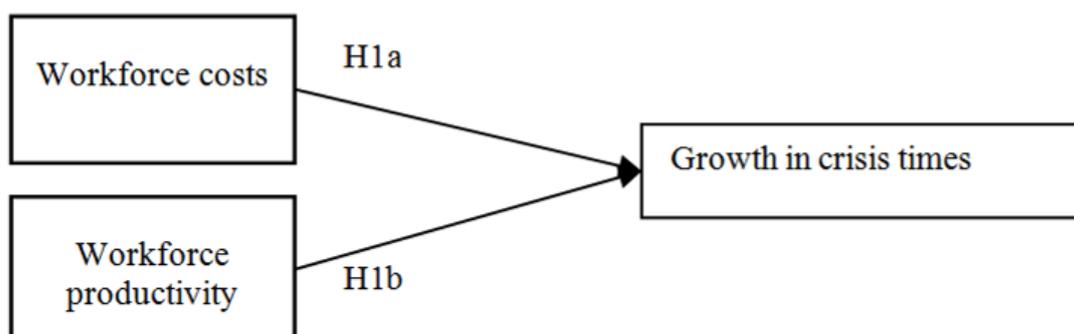


Figure 1 summarizes the proposed study model.

METHODOLOGY

Sample and data collection

The data used to conduct the study were taken from the Iberian Balance Sheet Analysis System (SABI), which contains financial information on Spanish companies from 1996 onward. Yearly information was extracted for 2008-2011. To ensure that the financial data used dated back to company inception, only companies that had been running within the 2008-2011 timeframe were included. In total, information on 7,293 hospitality companies was gathered. Table 1 shows some descriptive data of the sample in 2011. It can be observed that the sample is composed mainly of independent micro (75.1%) and small hotels (62%) with less than 20 years in the business (72.5%).

| | Age | | | Size | | | Group | |
|--------------|-------|------|-------------------|-------|-------|-------|-------|------|
| | N | % | | N | % | | N | % |
| 0-5 years | 563 | 7.7 | 1-10 employees | 3471 | 47.6 | No | 5478 | 75.1 |
| 6-10 years | 1755 | 24.1 | 11-20 employees | 1050 | 14.4 | Yes | 1815 | 24.9 |
| 11-20 years | 2969 | 40.7 | 21-100 employees | 1389 | 19.05 | | | |
| 21-50 years | 1947 | 26.7 | 101-250 employees | 194 | 2.66 | | | |
| 51-100 years | 55 | .8 | > 250 employees | 85 | 1.17 | | | |
| >100 years | 4 | .1 | N/A | 1104 | 15.14 | | | |
| Total | 7.293 | 100 | Total | 7.293 | 100 | Total | 7.293 | 100 |

Table 1. Descriptive statistics of the sample

The hotel industry was selected for two reasons. First, tourism is extremely important for Spain and is the largest industry in the country, accounting for 11.9% of its gross domestic product (GDP) and employing over 2 million people, which is about 15% of the total workforce in the country (Exceltur, 2013). Second, Spain is the fourth most popular worldwide destination for foreign travellers (e.g., during 2014, 64.99 million foreign tourists arrived to Spain) and second by tourist income (Frontur, 2015).

Research methods

The dependent variable used to test the hypotheses was company growth. Company growth was the ratio of year-to-year logarithmic variations in the number of employees (GEMPL) (e.g., Claessens et al., 2002; Clarke et al., 2012; Alonso-Almeida, 2013). The rate of variation was defined as:

$$TVX_{i,t} = r(X_{i,t}) - r(X_{i,t-1})$$

where $X_{i,t}$ denotes company changes at time t .

In addition, two types of independent variables (see Table 2) were used to represent internal drivers. Revenue per employee (REVEMP) and cost of employee (COSTEMP) were extracted from the SABI database to analyse workforce productivity and workforce cost respectively. Next, the model tested is presented:

$$GEMPL = \beta_0 + \beta_1 * REVEMP + \beta_2 * COSTEMP$$

| Variable | Measure | Adapted from |
|--------------------|---|--|
| INTERNAL variables | | |
| Workforce | | |
| REVEMP | Numerical continuous variable. Mean of operational revenue by employees during the period 2008-2011 | Anderson et al. (2000); |
| COSTEMP | Numerical continuous variable. Mean of cost of employees during the period 2008-2011 | Anderson et al. (2000); Pestana (2010) |

Table 2. Independent variable descriptions

RESULTS

An initial descriptive analysis was performed, and values from independent variables are shown in Table 3.

| Variable | N | Min / Max | Mean | Standard deviation |
|-----------------------|-------|------------------|-------|--------------------|
| Dependent variable | | | | |
| GEMPL | 5,720 | -1 / 101 | | |
| Independent variables | | | | |
| REVEMP | 5,490 | 3.87 / 15,857.82 | 89.86 | 265.82 |
| COSTEMP | 5,532 | 2.47 / 920.76 | 25.58 | 25.23 |

Table 3. Descriptive analysis of the independent variables

With the aim of testing the hypotheses, a multivariate regression analysis was performed. In the regression, workforce costs obtained a value of 0.510 which is highly significant whereas workforce productivity turned out to be non-significant (value 0.019) The goodness-of-fit of the model is greater than 0.25. Therefore, we can consider that our model has a high explanatory power.

DISCUSSION OF RESULTS

The statistical analyses validate most of the model proposed in the previous sections. Individual hypotheses are contrasted here, and the findings are explained. These findings shed light on how hotels can manage internal factors to face financial crisis situations and outline approaches for handling the most relevant external factors.

Hypothesis H1a is significant and is therefore accepted. This finding confirms a stronger influence from human resources on competitive operational performance and growth during crisis. Thus, it suggested that hotels should deploy a strategy based on adding value to customers. These types of strategies usually involve some investments in training or additional employee expenses to differentiate products or services with an associated employee cost increase (Benur and Bramwell, 2015).

This finding also stressed the idea that the workforce is challenging (Baum, 2015). Thus, higher salaries seem to be associated with higher hotel performance. A possible explanation for this is that

more satisfied employees are more compliant with hotel and quality service and, as a consequence, directly influence hotel performance (Alonso-Almeida et al., 2012).

Contrary to expectations, hypothesis H1b is not significant and therefore rejected. Two reasons could explain this. Hotels could experience difficulties increasing revenue per employee due to customers having reduced holiday time and/or expenses (Smeral, 2009). Moreover, revenue per employee can also increase when the total number of employees decreases due to lay-offs or dismissals providing immediate cost savings in a downturn. This strategy has been considered to be risky and short-sighted because it damages long-term competitive advantage (Alonso-Almeida and Bremser, 2013).

CONCLUSIONS

Evidence of a number of pertinent conclusions for academics, managerial practice and policy makers is provided for the hospitality industry during a financial crisis.

First, Kunc and Bhandari (2011) asserted that the main characteristics of the most recent financial crisis were reductions and changes to consumer spending, organizations seeking cost efficiencies, increase in unemployment, and lower return on investments. Therefore, appropriate balancing of human resource competitiveness with careful investments in training can help hotels face crises under falls in demand. Using this approach, hotels can avoid the difficulties caused by shortcomings in capabilities and a greater dependence on so-called big customers (e.g., tour operators and suppliers).

Second, operational efficiency is vital to competitiveness, and it is vital that hotels improve their decision-making effectiveness regarding their production activities and deployment of scarce or costly resources (Pestana, 2005). Therefore, a downturn situation could provide an opportunity for hotels to strengthen capabilities by means of implementing structural changes and reinforcing workforce skills (Smeral, 2009). Operation efficiency is crucial for profitability in both good times and downturns. For this reason, hotels should make the most of optimizing internal resources in good economic times, therefore anticipating and preparing for economic downturns.

Thus, these findings provide a useful framework for managerial practice during turbulent financial times and highlight the importance of a dynamic business strategy focusing on highly qualified human resources. In the last decade, the hospitality industry has been working in quality service, improving infrastructure and promoting hotel positioning. Although these strategies are necessary, they do not guarantee survival and growth in turbulent times. Copying newly founded hotels introducing creative business strategies can provide valuable insights for elder companies.

Finally, from the recommendations by Ridderstaat et al. (2014), policy makers should invest more resources in tourism promotion and other tourism-related activities such as communication,

infrastructure and tourism entrepreneurship in order to increase the number of innovative, new hotels. Our findings suggest that a focus on innovation and employee qualification can improve a hotel's crisis resistance significantly.

In addition, researchers could further investigate the influence of employee costs, analysing their composition and the way money is spent in order to detect where costs are best allocated to increase performance even further.

In summary, this study contributes to the literature by providing a firm-level analysis (rather than an industry-level analysis) and offers an almost complete picture of a specific geographical area. Future research should address the performance of other tourism industries in times of crisis, such as restaurants and travel agencies, and the relationships between performances in different tourism industries. Regarding the limitations of the paper, the main limitation is associated with the use of panel data from an official database. These include problems in the design, data collection, and data management of panel surveys. A minor limitation is basing the paper on solely on tourism. More conclusions could be drawn by comparing tourism to other sectors.

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TRANSFORMATIONAL LEADERSHIP AND CREATIVITY SUSTAINABILITY IN THE ORGANIZATION

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ABSTRACT

The aim of this exploratory research is to shed light on the roles of Transformational leadership (TL) and its impact in motivating creativity of companies in three sectors of the economy in the United Arab Emirates (UAE) industries. The focus of this study is to examine TL behavior that enhances creativity process in their organizations.

After studying a sample of 125 companies in three sectors (namely manufacturing, services, and agricultural sectors) representing a 53 percent of the total companies in Abu Dhabi Emirate, Only 115 enterprises returned their forms and these forms were used in the data analysis representing a 92 percent response rate which was acceptable statistically.

It was concluded that there were a positive concerns for TL in their companies' intent to motivate employees' creativity but important effect in five variables : Employees' commitment, Flexibility at work, Employees' Experience & knowledge, Diversity at work, Employees' trust, were found to be an important motivator factors of encouraging creativity in their businesses. Also, TL is crucial for affecting and encouraging creativity on individual through psychological empowerment, and organizational levels positively through its capability to create new knowledge and creative processes that are difficult to imitate.

Keywords: *Creativity, Sustainability, Transformational Leadership, UAE*

INTRODUCTION

In any organization the leaders' behavior in their organization is to enhance drive their employees' creativity, encouraging, enhancing and fostering them in their exploratory thinking and challenges. In this respect leaders are motivating, providing, and encouraging their employees in generalizing new ideas to achieve the organizations' mission and visions. As creativity is driving the success of the organization TL is the catalyst of organizational creativity (Ahmad et al., 2010). Since the employees' creativity and initiatives is the basis for any profitability of their organization, thus understanding the

form of leadership and its effect on such employees' initiatives is crucial. Irrespective to the type of leadership, TL meaning which is convenient to our research is, the workplace, encouragement, accepting risk management, challenge and inspirations (Lizano, 2015). Thus TL leadership will maximize their employees' expectations, and stimulating their intellectual capabilities.

Creating and encouraging creativity environment or as a culture within the organization by transformational leader, employees is likely to respond to any challenge through exhibiting more creativity and self-efficacy due to such support of their leaders. Such environment supporting by leaders' emotional attachment will motivating them for more initiatives, ideas, and solutions in their tasks (Packard, & Jones, 2015). Such leader' charisma, encouraging inspiration of creativity, individuals' behavior and stimulating employees' intellectual capabilities, are mainly behind the transformational leaders' success, and raising expectations in their organizations (Burns, 1978).

Since the introduction of the TL theory by Burns in 1978, empowering employees is still important to regard the creativity concept as an ongoing process in businesses today, and as an attempt to raise employees' personal values and their performance expectations. Such understanding is compatible with our research explanation that creativity is the production of ideas by the employees benefiting the organization, along with TL in creating creative environment (Kaiser, McGinnis, & Overfield, (2012). Therefore, it is the mechanisms underlying the effects of TL on creativity concept in the work environment.

Creating knowledge within the organization is regarded as valuable sources for creative processes that are difficult to imitate and for its success. In this respect integration between TL and different types of knowledge is needed. Going beyond the organizations' boundaries is important for the organizational survival. In other words, an internal capability is not enough for creating an environment of creativity. In fact its sustainability is vulnerable to the challenges, as the organization living in a continuous changing environment (Birasnav, Rangnekar, & Dalpati, 2011).

Empowering employees' within the organization by their leaders is crucial for the creativity process, as new ideas or inventions may be stems from one individual or many employees in accomplishing his/their daily tasks. Invention new ideas or tasks may arise from the lower or the middle levels in different department of the organization. It is accepted to say that employees have different capabilities and thinking and it is the nature of the human being. Such difference in their capability and knowledge is the ground floor for their innovation and creativity as become visible. Empowering the employees will result in increasing their confidence and contributions, doing the job well, trust in their leaders, enhancing motivation for creativity and achieving better performance. This is a valuable aspect, that the leaders should concerns' about it (Lengnick-Hall, Beck, & Lengnick-Hall, (2011). Therefore, when employees' feeling is that their organizations values their contribution, their

commitments and loyalty will increase. This will enhance the sharing of knowledge between them, and their leaders will improve the network for better transformation of information or knowledge. When creativity expectations is the result of understanding between employees and their organization, transformation and sharing knowledge between them, and improvement in the network of communication, then one may expect that leadership influencer is essential and significant (Kesting, & Ulhøi, 2010).

In general and from the above discussion one may concludes that factors motivating creativity are: Employees' commitment, Working with colleagues, Working under pressure, Flexibility at work, Employees' Experience & knowledge, Diversity at work, Efficiency & efficacy, Employees' trust, Efficiency & efficacy, Friendly environment. Transformational leadership may enhancing employees' creativity through the listening to the employees' new ideas with openness, the integration of knowledge in a creative way , challenging with each other's ideas, and group diversification.

From the above discussion one may conclude that, leadership is a fundamental asset for the organization to be competitive, as they are directing employees' intent, technology, the organization's strategy, in an effective way for implementing and encouraging creativity for development and success.

Influence of TL from employees and organizational perspectives becomes important and influencing performances of both. Even though such influence in organization development processes have received little attention, in the industry in the UAE. In this research the researchers will highlighted on which factors existed in the companies in the sample which motivating creativity and the role of the leadership/management in this context. The purpose of the present research is to understand the influences of TL on their employees' creativity in a real setting in their organizations. Also this research is a trial to fill the gap concerning the TL in the UAE industries.

TRANSFORMATIONAL LEADERSHIP AND CREATIVITY SUPPORT

In business creativity is necessary and an important factors of many behind the innovation and the success of the organization. Such understanding play a pivotal role is such success and in building effectiveness and the competitive advantage of organizations. But the continuous changes in the business environment need a new ways in the long run for managing the organization and coping with such changes which is necessary for innovative ways in managing the business. Thus, creativity for many organizations is regarded as an important goal for having the potential influence on the organizational performance. Those leaders who have the skills and knowledge for encouraging their employees to be creative are not prone and far from taking their organizations to the stage of restructuring or downsizing in an attempt to solve problems and work to avert the need for such

circumstances (Agbor, 2008). The creativity concept in the organization is not emerging suddenly. Such understanding requires a direction and power by leaders to harness the implementation of such concept/understanding within their organization. What required from those leaders is to control efforts, creating a creativity culture, and transform the creativity process effectively and efficiently to accomplishment. Looking for a competitive advantages, leadership regarded culture, strategy, inspire employees, technology and the required sustainability in the long term, as vital aspects towards the success of the organization, and such leadership becomes a sources and crucial for a compatibility environment. Thus, organizations have to proceed of employing the right leadership whom are interested in creativity at the required place. Otherwise they were stifling the creativity process in their organization. With leadership authority, responsibility and the capabilities the organization is able to lead the creativity process. As they are professionals, they should have the ability to exploit any opportunity for development; otherwise, if the leaders', ambitious and demonstrate reactive rather than proactive attitudes they are impeding success and the creativity process in their organization Leadership has to convince the employees that they were benefiting with other tools from their organizational cultural change (Packard, et.al., 2015).

Leaders working in organizations' having the command and control, assigning resources, less empowering employees, such organization are less successful in their business. In such organizations, employees believe that all the outcomes are ultimately the responsibility of all as a teamwork, and organizational process working smoothly. Adversely when organizations working in environment where leaders are not extended their authority and will, empowering employees will be creative and productive (Parjanen, 2012). In this respect we have to understand that leaders didn't achieve organizational objectives or creating creativity a single-handedly, rather, encouraging the involvements of employees with their skills and knowledge. Such effort will transform and bring their organization to greatness and success

In any organization leadership opportunity should be existed at every level of the organization, and not confine only to the top of the organization, in fact such organization will not survive in the future, because there is no individual by himself only able to have time, skills, ideas , knowledge, and to handle all tasks of the leadership. Organization must benefit from the creativity of its employees and harnessing or controlling its leadership abilities. This is the new understanding for the contemporary leadership. It is the leadership ability to empowering the employees and inspires them which induce a great influence in the organization (Carmeli, Gelbard, & Gefen, 2010).

Organizations are living now in a knowledge-based era and required for employees sharing the experience of serving as a leader, sharing knowledge, aspiration and values, loyalty, commitment and working as teamwork or as one family to bring success to their organization (Lunenburg, 2011).With

such consistency within the organization, employees have time to think, optimizing their creativity, improving their performance, and a releases and get rid of suffocating dependence on top management /leader. Argument such as that the success of an organization may be achieved through the dependence on employee's collaborations, multiple sources of leadership at all organizational level rather than dependency on command and control leadership, may be acceptable in businesses today. Within this healthy environment, the organization is building and encouraging, employees' trust, self-esteem, optimistic and confident employees, becomes vibrant and not stifles creativity with effective leadership. Through the allocation of the available resources, such as financial support, information, time, design work groups, or any logistical support, leaders may fostering employees' creativity in their organizations (Cottrill, Lopez, & Hoffman, 2014).

Creativity needs a business environment to demonstrate and incubating a new creative ways in the organization, and it has a crucial role for the survival of the organization through the penetration in the marketplace, as creativity refers to generating ideas for the development in the long run. Thus, creativity in such context refers to those employees involved in this process and the organizational culture that facilitate and sustain creativity. In such environment employees are providing new ideas which represent a possibility of enhancing the organizational images in the markets or the society, in addition creating better communication and employees' commitment at all levels of the organization (McBeath, et.al, 2015). Advance network of communication within the organization is improving creativity, due to the accumulation of knowledge, sharing and developing ideas between employees. Although Innovations is not really the focus of this study, innovation needs creativity but creativity does not necessarily lead to innovation, and the employees' creativity induces a fundamental contribution to the organizational innovation, effectiveness, provide new solutions and possibilities that benefit the organizational enhancement and survival in the long run. For creativity, employees' should be willing and able to be creative. In this respect their experience, diversity of knowledge, skills, perspective, and motivation is necessarily to generate ideas, better solutions and creative performance (Hyypiä, & Parjanen, 2013). This creative insight is probably the result of diversity within the organization, specifically employees with different attributes and perspectives.

SUSTAINING CREATIVITY: PERCEPTIONS AND DIMENSIONS

Creativity Within the organizations depends on the employees' willingness to suggest and invent new ideas, and the leadership capacity to fostering such initiatives effectively, interpreting such direction through their beliefs, values, and adaptation themselves to harmonize behaviors with the organizational goals and objectives (Nkomo, & Hoobler, 2014).

Such leaderships' behaviors are enhancing trust and strong relationships with their employees, not concealed from the employees, and building a healthy working environment. Employees' then perceived their leaders as a supporter to their ideas and this situation reflects the creativity atmosphere. In fact is a relational transparency between them.

Organizational environment is the basis and the ground to establish and planting a creative workplace climate. Sustainability of employees' creative performance need logistical support to be designed and allocated at all levels of the organization. Therefore employees are free and not afraid of expressing their ideas. Such climate is aspiring the employees and, stimulating creative behavior (Kerman, et.al, 2012). In any organization employees may suggests unconventional ideas and conflict opinions as far as they are free to express their ideas. In this stage leadership responds is to express the constructive feedback and corrections in a developmental manner and a respectable behavior. This will increase employees' respect and trust in their leadership, and induce them to create innovative suggestions and practical solutions. For Morrison, & Arthur, (2013), employees will not afraid of punishment and such higher situational control will increase the level of creativity and decreasing the level of changes, taking initiatives as they realized that their leaders' proactive behaviors and engagement is for positive development.

To improve the organization's internal images between employees leaders are keeping their eyes for any steps or behavior from their sides to modify attitudes and beneficial creative activities of those employees, as far as creativity may be affected and influenced by their leadership characteristics (Follesdal, & Hagtvet, 2013). Leadership has a crucial role in fostering creativity environment through employees' attitudes, enhancing the perception of support with the employees, and traits. The required behavior from the leadership is to consider the complexity of the organizational setting, and at the same time encouraging knowledge sharing between employees.

In line with this is that the employees' creativity may be enhanced through the TL supportive supervision, facilitate their skill development and showing them ways to achieves goals within their tasks. With such recognition is likely to do their work effectively and efficiently. Empowering employees psychologically which is another source of creativity, will energize them with intellectual stimulation to explore different dimensions of their tasks and are more likely to exhibit creative behavior. Such leadership behavior is providing the employees with personal autonomy and might increase their achievement, builds employees self-confidence and heightens personal development when such behavior became an organizational culture at all managerial level, which, in turn, leads to providing meaning and challenge to their work (Iachini, Cross, & Freedman, 2015). Thus, employees' creativity will be affected by such characteristics of their organizations' climate. Such workplace environment affecting the employees' perceptions, in accepting and encourages risk taking, and with

the organizational resources which are allocated to supporting creativity TL can affect creative behavior, a climate supportive of creativity and employees' improving their performances.

For Selden, & Sowa, (2015), a positive relationship between TL and the organizational climate should be existed. Such TL supportive supervision is one determinant from many for encouraging creativity and employees' interest in their tasks within the organization. This type of supportive leadership and inspirational creativity is likely to enhance employees' skill development and challenges, the excitement and meaning that employees attribute to their performance and willingness to focus in their work. Within this context the organizational tendency to creativity is the achievement of its objectives value, and its success in the market, society and the economy (Lindberg, & Meredith, (2012). Employees are the source and the fundamental for the foundation of organizational creativity. Those employees are developing the adequate plans for implementing and executions their ideas and more likely come up with solutions. Moreover, creates a spillover effect serving the whole organization (Ladkin, & Taylor, 2010). In this meaning TL could bring significant changes effect to employee's performance.

As the UAE is a developing country jobs demands intellectual, and has become complex. Therefore, to sustain effective performance and progress as an ongoing process, organizations' needs leadership quality, encouraging creativity, also employees' participating in declaring their attention on the success of the organization. Building organizational commitment is one way of fostering TL, employees' loyalty, commitment and declaring their attention to sustain development. Such existence of connectivity is enhancing employees' job satisfaction, efficiency, and behavior. Creating conducive climates for the development of creativity in the organization is urge employees to create new ideas and fundamentals solutions for the problems. Transformational leadership then can be directed employees to achieve superior performance that faces renewal and transformation demands. Attention is then to build trust and respect to motivate their employees to exceed expectation (Thamrin, 2012), also more efforts for increasing creativity, amount of energy and organizational commitment in initiating a task and in challenging unpredictable circumstances. Ideally, what is needed is a leadership with excellent communications of his/her vision capability and imagination, confidence and ability to work with the employees and generate enthusiasm and inspiration for it.

METHODOLOGY AND ANALYSIS

The major contribution of this study is investigating how transformational leadership influence employees' creativity attitudes and how leadership awareness and assessing the factors encouraging creativity.

The present study employed survey type and involved the leadership/management of these companies in the sample. The population of the study was selected through stratified sampling. Questionnaires were sent to the managers of 125 companies (represent more than 53% of the industrial firms, according to Abu Dhabi Chamber of Commerce, 2015 Annual Report) with significant responsibility for leadership/management contribution to motivating creativity – oriented management. From 125 questionnaires distributed, 115 managers completed back their questionnaires, result in 92% responses. Measures were adopted and used to weigh each of the (9) variables of motivating creativity, namely, Employees' commitment, Working with colleagues, Working under pressure, Flexibility at work, Employees' Experience & knowledge, Diversity at work, Employees' trust, Efficiency & efficacy, and Friendly environment.

Only five motivators were found significant for motivating creativity between these three clusters in the economic sectors in the sample. Therefore one-way ANOVA analysis is used to assess such similarity. The study used a five-point rating scale, i.e. from 1 (strongly disagree) to 5 (strongly agree). The research is to investigate the status of these constructed variables as enablers for motivating creativity in industrial sector (Table 1).

From Table 1, the F value between factors motivating creativity factors within the companies surveyed in the sample was high and significant in 0.01. The rank of " F " value indicators for Employees' commitment, Flexibility at Work, Diversity at work, Having Employee's' Trust and as the highest is: 2.35, 3.11, 2.15, 8.17, and 5.70 respectively. The Diversity at work in the first rank, Employees' trust the second, Flexibility at work in the third rank, Employees' commitment in the fourth rank and Employees' experience & knowledge is last rank. Using P-value method, Efficiency & efficacy was found 0.81, and Employees' commitment is the least 0.15. However such P-value has a rather high value. The alpha value of 0.87 indicates that the research instrument enjoys a rather high validity.

Table 1: Factors Motivating Creativity: Similarities/Differences

| Factors Encouraging Creativity | Manufacturing group I | | Services group II | | Agriculture group III | | One-way ANOVA & Scheffe's test | | |
|--------------------------------|-----------------------|------|-------------------|------|-----------------------|------|--------------------------------|---------|----------------|
| | Mean | SD | Mean | SD | Mean | SD | F | P-value | Scheffe's test |
| Employees' commitment | 3.41 | 0.96 | 3.99 | 0.63 | 3.61 | 0.72 | 2.35 | 0.15 | |
| Working with colleagues | 3.81 | 0.76 | 3.75 | 0.76 | 3.51 | 0.76 | 0.29 | 0.68 | |
| Working under pressure | 2.41 | 0.95 | 2.46 | 0.65 | 2.71 | 0.70 | 0.70 | 0.33 | |
| Flexibility at | 3.69 | 0.65 | 4.05 | 0.70 | 3.73 | 0.59 | 3.11 | 0.08 | |

| | | | | | | | | | |
|-----------------------------------|------|------|------|------|------|------|------|-------|-------------------|
| work | | | | | | | | | |
| Employees' experience & knowledge | 3.61 | 0.94 | 3.09 | 1.02 | 3.32 | 0.59 | 2.15 | 0.20 | |
| Diversity at work | 3.01 | 0.86 | 3.25 | 1.11 | 3.23 | 0.63 | 8.17 | 0.00* | |
| Employees' trust | 2.13 | 0.73 | 2.71 | 0.80 | 4.08 | 0.80 | 5.70 | 0.00* | |
| Efficiency & efficacy | 3.01 | 0.76 | 2.92 | 0.96 | 3.02 | 0.70 | 0.10 | 0.81 | III > II, III > I |
| Friendly environment | 3.34 | 0.82 | 3.84 | 0.63 | 3.64 | 0.67 | 2.31 | 0.21 | III > I |
| Alpha Value 0.87 | | | | | | | | | |
| *P < 0.01. | | | | | | | | | |

The mean values on a five-point scale (1= strongly disagree; 5 = strongly agree) of the five indicators concerning motivating creativity were: 17.35, 18.28,

12.95, 36.57 and 19.56 for Employees' commitment, Flexibility at work, Employees' experience & knowledge, Diversity at work, Employees' trust respectively. The mean value of Diversity at work management perceptions is 36.57 in the high ranking, indicating that management in the firms surveyed is encouraging diversity at work, and the open door system, high participation for employees in the decision making process, and is aware that motivating creativity plays a significant role in the success of the organization. Employees' trust is in the second ranking 19.56, indicated that solving organization problems through teamwork was high and the management empowering their employees with the responsibility. This indicator is compatible with the third ranking elements, the Flexibility at work which value is 18.28. In fact, the respondents believe management and employees in these firms are judged enough, by what they do and the knowledge of departing employees is not passed pervasive on to successors. In fact, such issues reflects that these companies has a suitable network of knowledge workers, further more they believe there is an active program for developing idea. The Employees' commitment element is in the fourth rank with value of 17.35. From the score the clear interpretation for such situation is that the employees and their companies have been acting rather effectively in case of regular and wide exchange of knowledge, and using of information system and communication have been higher than average. Employees' experience & knowledge is in the last rank with a mean value of 12.95. The lower level of value indicated that employees have had s simple

knowledge about the creativity concept. The mean of creativity motivation factors was 117.620, which indicated that respondents in the sample believed that management efforts for creativity concept between employees with respect to the present criteria along with the companies' internal environment were less than the average (Table 2).

Table 2: Statistics Analysis

| The Variables | Mean | Std. Deviation | Kurtosis | Skewness |
|-------------------------------------|---------|----------------|----------|----------|
| Employees' commitment | 17.35 | 7.7 | - 0.065 | - 0.523 |
| Flexibility at work | 18.28 | 8.7 | - 0.203 | - 0.651 |
| Employees' experience & knowledge | 12.95 | 7.1 | - 0.272 | - 0.751 |
| Diversity at work | 36.57 | 10.1 | - 0.313 | - 0.433 |
| Employees' trust | 19.56 | 9.1 | - 0.079 | - 0.017 |
| Total Factors Motivating Creativity | 117.620 | | | |

Through the discussion with those managers in the companies surveyed, the researchers asked respondents to elaborate on their answers. Respondents mentioned other motivational variables for creativity in their firms. The researchers believe that leadership/managers' education was probably behind such revelations. Motivational factors mentioned by those managers may be specified such as: internal or external competition, organizational culture, no fear of criticism by the management, financial and economic resources, and management risk tolerance. To assess if the education element is behind such problems' expectations we used the Kruscal-Wallis techniques. Results are in (Table 3).

From (Table 3), results revealed that there is a relationship between the Diversity at work, Employees' trust, and Flexibility at work, and total creativity motivational factors with employees' and the managers' education level. With ($K\partial f=2.000$, $P< .01$), the value of the construct variables are: ($K\partial f =34.329$), ($K\partial f =19.236$), ($K\partial f = 14.903$), ($K\partial f=17.881$). There were no significant differences between education and the other two motivational variables (i.e., Employees' Experience & knowledge and Employees' commitment).

Table 3: Kruscal-Wallis Test

| | Diversity at work | Employees' trust | Flexibility at work | Employees' commitment | Employees' experience & knowledge | Total Factors Motivating Creativity |
|-------------|-------------------|------------------|---------------------|-----------------------|-----------------------------------|-------------------------------------|
| Chi-Square | 34.329 | 19.236 | 14.903 | 6.973 | 5.175 | 17.881 |
| Asymp. Sig. | 0.000 | 0.000 | 0.000 | 0.695 | 0.219 | 0.005 |
| df | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 |

CONCLUSIONS

The aim of this exploratory research is to shed light on the roles and to understand the effects of TL in motivating employees' creativity in their organizations in the United Arab Emirates (UAE) within their organizations. The paper is an attempt to investigate the level and the extent of leaderships' involvement in these organizations in motivating creativity in the manufacturing, services and agricultural sectors of the economy.

This paper increases the understanding of how TL in the UAE industries affects an employees' ability to enhance their creativity and the organizations' ability by recognizing the factors encouraging creativity, therefore, TL characteristics are needed in order to influence employees.

The analysis shows that creating cultural environment of diversity at work, better knowledge sharing, employees' trust, flexibility at work, employees' commitment, is conducive and sustains creativity process in these organizations; also TL is positively associates of their impact on these variables. The analysis demonstrated that TL has a greater influence on employees' creativity and strengthening such attitudes within the organization.

LIMITATIONS OF THE STUDY

The study has some limitations. Our research provides an insight of leadership roles in three sectors of organizations venturing in the UAE. Therefore, research in other sectors of the economy may provide additional information on the creativity situation of companies in these sectors. Additional research could conclude other variables that leaders may involve in. Another study may be needed to explore what type and degree of diversity is most beneficial to the organization development processes.

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THE HEALTH SYSTEM MANAGEMENT IN COUNTRIES WITH FINANCIAL NEEDS (CFN)

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ABSTRACT

There are few studies about the health system coordination, integration, effectiveness, efficiency, reliability, accessibility, equity, public-private involvement and community participation on health services of globalization [Zakus, Lysack, 2001]. Nowadays, modern diseases cross the national borders with international migrants bringing more questions to the health management. The first one is focused on the improvement of „global health” of population once the global health services problems are understood in today’s world changing needs [Global Health Policy and Health Research, 2002].

All nations are members of the *World Health Organization* (WHO), but health systems are very different, especially in *countries with financial needs* (CFN), where sometimes health care is critical task for these governments, due the limited financial resources in these countries.

Health systems face numerous constraints in low-income countries, but they should be carefully addressed and focused on multiple horizontally of the (general services providing prevention health problems) programs in synergy with the need for more vertical financing of specific health conditions within limited finance, human resources and managerial capacity [Elzinga,2005]. Not surprisingly, three components of verticality (intervention strategy, monitoring and evaluation, and) are found frequently where poverty and epidemics prevail. It will be difficult for national programmers to move rapidly towards efficient intervention without international cooperation. International agencies and donors rethink their priority program in connection with vertical–horizontal strategies.

Keywords: *health services functioning, healthcare management, integration, countries with financial needs*

THE FUNCTIONING & OBJECTIVES OF THE HEALTH SYSTEM

Health systems required various approaches. From systems theory we know the concepts of inputs (human, material, medical services and technologies, financial resources), processes (workplace or roads safety, weather predictions, antismoking legislations, dietary recommendations, formal and informal interactions of individuals and populations), outputs (final „product“ of health, social and individual goals), feed-back regulations, continuity, dynamics etc. It is important to clarify types of interaction with external environment (physical materials, energies, information, local and national regulation, economic, social and technological conditions, local parameters, national variables), and how to adjust system in time. In practice health systems management is a mixture of two approaches: USA model based on predominant private service tax (all tax payers contribute for all or partial expenses for certain required financial inputs), or public partially free medical services.

WHO stipulated and defined four key functions of a health system: “providing services; generating the human and physical resources that make service delivery possible [McCoy, 2003]; raising and pooling the resources used to pay for health care; and, most critically, the function of stewardship” [Braverman et al, 2001]. The *World Health Report 2000* also defines the three main objectives for health systems: improving the health of the population; responding to people’s expectations; providing financial protection against the costs of ill-health [World Health Report, 2000].

WHO promoted the strategy of *primary health care* (*Alma Ata Declaration* in 1978), which invite countries to accept basic level of health services through public or private providers, and mix financing of the government or of the local communities combined with population insurances [Bannerman, 1983)].

A poor health system it is often related with the economic crisis and absence of resources. This is partially or, in some cases, totally inaccurate since the problem doesn’t lie in the lack of resources, but in an inefficient and ineffective management. As a result doctors can prescribe to patients excessive quantities of drugs, managers from health industry can increase the salaries of hospital employees without sustaining the increase of the operation costs, scale inefficiency of hospitals, unbalanced report between remuneration and performance.

Since we know the results the focus is now on inefficiencies causes. It is common that key decision makers are not stimulate to work efficiently (moving from entry to top management is not related with the work performance but with external factors like political decisions). Also decision makers may be forced in their ability to make efficient choices; for example, they may lack knowledge or experience of what to do.

Many governments focus on the public health domain, often disregarding the privately financed health sector [Baru, 1998]. In CFN, the access to health services has a poor quality, and financing function or insurance schemes are precarious.

| Stewardship – Government function | Real Situations | Generated Situation |
|--|--|---|
| Investment/Resources in Health Logistics | Training & Coaching the Health Professionals | Unpredictable Expenditures Lack of insurance |
| Inappropriate Investments in Healthcare Sector | Poor incentives | Losses in Budget |
| Health Programs, Equipment, Salaries, Medicines and Treatments External Allocations | Disabled Health Sector | Outside Cash Flows Corruption Malpraxis |
| | Major difficulties | |
| | Performing and Qualitative Health Services | |
| | Ill Labour Force | |
| | Weak Economy Development | |
| | Lack of External Recognition | |

Figure 1: *Diagram of Function of Health system in CFN (personal approach)*

Stewardship (administrator) is a key function of the health system, usually done by governments. CFN limited managerial capacity and recurrent costs are a considerable problem. Also, **investment/resources** in health infrastructure, training of health professionals, poor incentives and collecting patients' payments or unpredictable insurance expenditures are major difficulties. In short, many CFN governments' incapacity to provide qualitative health services contributed to poor or unorganized health sector. In consequence there are difficulties to reach objectives of responsiveness and fair financial contribution to health system.

SYSTEMS-LEVEL MECHANISMS

The ultimate goal of healthcare system is to promote or protect people's health through the intermediary role of many agencies involved with financing, planning, administration, regulation, provision of any other health-related function. At the systems level, tools available to decision makers include: *regulation and legislation, resource allocation options and financial incentives*.

Decision makers can use regulation and legislation to set minimum standards of care, for example educating providers and users to prescribe of safe drugs on a large scale. In some situations, regulatory controls are ineffective, or even encourage illicit activities. A more acceptable strategy is the explicit rationing requires to public acceptance of drugs, clinical discretion, and public involvement in the prioritization process.

Resource allocation schemes have an important role in many CFN population groups and medical staffs. The World Bank formulas prioritize area allowances costs of delivering health services. Where

staff capacity and facilities are limited is needed specific disease programs. Experience in South Africa and Uganda suggests that the **financial incentives** can be powerful tools for influencing providers' or users' behaviour, but further studies are needed.

SERVICE-LEVEL MECHANISMS

The managers and health workers can prioritize their efforts providing a framework of resources. The experience of the *Tanzania Essential Health Interventions Program* highlights the gains that a decentralized health management structure [Jamison et al, 2006]. The education on major causes of ill health, understand patient rights, chose adequate drugs and medical services, accurate public information on medicines play a decisive role for appropriate decisions and expectations, especially in developing countries. To improving health outcomes and strategy for poorest countries facing malaria, tuberculosis, leprosy and other few most severe diseases, the main efforts should be devoted to build up the basic health service infrastructure to deliver health interventions directly to households dispensing immunization vaccines, anti-malarias drags or antibiotics. The experiences from China, Pakistan etc. showed that the disease control programs can become in time more advisory and less managerial. These countries developed programs for specific disease control, ensuring funds to health service infrastructure, started immunization campaign in which mobile teams vaccinated all children in a particular age group, increased management of diseases control.

RESEARCH PRIORITIES

The *Alliance for Health Policy and Systems Research* located in Geneva and based on WHO recommendation [GHPSR] to identify health policy and systems research for health outcomes in low and middle income countries estimated in its 2004 Report [Global Forum for Health Research] that financing in medical research accounted less than 0.02% of the total annual health expenditure of developing countries. The recent studies found that most researches are at small scale, with little methodological rigor, ask for larger finance interventions, and in some cases research outcome has limited applicability. On methodological practice for example, hospital autonomy reforms and decentralization are still inadequate, is lacking types of governance and institutional arrangements, it is not clear strategies to achieve specific interventions in various epidemiological context combined with cultural contexts. Many ethical issues arise in studying problems unrelated to the local context. It is desirable to improve operational programs and research agenda, including setting priorities, translate research evidence into practice, deliver cost-effective interventions.

ORGANIZATIONAL FRAMEWORK

The managers knowledge, experience, and intuition (acquired over time) is a component which include systematic activity (education, research, informal reading) or in hazardous manner (particularly in traditional CFN therapist/ healers). The medical and health research activity, ecology related policy, and management is focused more and more at private sector companies, universities, or on the international level.

A key element of health system is **provider network** composed of physicians, hospitals, doctors association, nurse association, socio – religious centres and other providers that offer health services to members, based or not to an insurance plan. The health insurance requires to have assigned a primary physician who coordinates all other health care services of patient. The lack of “personal doctor” avoids the responsibility for coordinating prevention and healthcare, and also cost-sharing involves for paying of health insurance companies. In countries with limited insurance coverage costs of health services is higher and impoverishes the patient family. The figure below shows the types of providers and institutions of a health system (public health, doctors association, nurse association, socio – religious centres, consultation and treatment, provision of drugs, physical support for the disabled persons, and management of unpredictable and costly health expenditure [Standing, Bloom,2002].

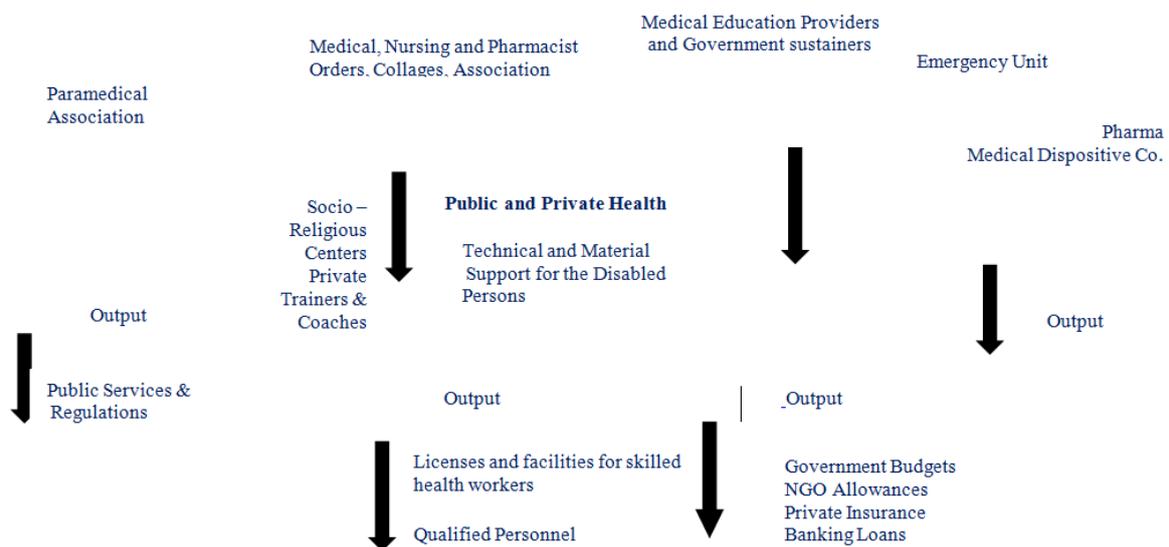


Figure 2: Typology of Actors on the Health Care Market in CFN

Providers and institutions are classified into *unorganized health sectors* (includes *marketed* services, such as those given by unlicensed private providers, and the *non-marketed* services provided by household members and neighbours), and *organized health sector* (public services run by the government and licensed private providers). For each national health system it is important to know in what sector the service is provided in order to have rational health planning. For example, in Niger 16% of obstetrical services are provided in non-marketed sector (by family members), in Sri Lanka

97% of births are attended by trained personnel, India increased considerably the number of primary care centres and in public service facilities, even private health providers are widely used.

Organizational culture is a relevant theory to management, learning aspects of national cultures, rites and rituals, myths and traditional cultural issues, different aspects of national life. Leadership in health system began to occupy a more innovative role taking into account organizational culture.

Private donor agencies are also growing in importance in global health approaches. The medium- to small-sized NGOs and community-based organizations require further attention is the evaluation of the impact of health assistance and services, being in close proximity to communities and people.

Individual provider belonging to formal professional associations or unlicensed individuals directly provide services to patients. In the CFN they have a large impact on health resource utilization and health outcomes. In developing countries, health services and education system reproduce the social inequalities that are present in society. The experience varies in different countries, but for example hospitals are often not used due to the distance and cost, because the lack medicines, cost and “free” are higher, their staff may discriminate or simply can be ineffective. The WHO estimates approximately 4 million health service providers, with large diversity on regions, professional skills, ethnic, gender, educational institutions, or competence, responsiveness, productivity, financial incentives and remuneration [WHR, 2006].

National management of health system as a structural approach can affect, through their outcomes, the entire system performance. As Zakus mentioned [Zakus, Lysack, 2001], the national context includes [Zakus D, Bhattacharyya O, 2007]: • the organisational structure, • the interaction systems working between public and private sector, • regulative principles and procedural norms, • the cognitive factor linked to the pharma big business position in the market, • the handiness of health-related technologies and treatments (effectively recognised by the government corresponding specialised bodies).

In practice, the social environment let in [Zakus D, Bhattacharyya O, 2007]: the ownership positive motivational influence towards providers, details on payment modalities, the way the assessment and auditing activities are developed, and the patients and other actors' expectations of the considered residential area. The providers represent the other level [Zakus D, Bhattacharyya O, 2007], with appropriate competences, skills and training, with new opportunities and challenges for long life medical education, their weaknesses with regard at the degree to which they can face the pharma industry influence, and their quality to perform on real time evidence-based practice. The way the different partners of the medical actions operate can give a good image of the consequences following the caseloads registrar [Zakus D, Bhattacharyya O, 2007]: the daily number of seen patients; the provider's power and competences to pick up the right approach and management; the availability,

acceptability, and affordability of this approach. All these factors have an integrated influence in establishing the correct behaviour and management in evaluating the patients' health conditions.

Governments regulation imply the stipulation of licensing, registration, salary, training, equipment standards, pharmaceuticals safety and supply lists, pricing, hospitals accreditation and its budgets, medical structures and tuition etc. Regulations concern government surveillance: implementation of laws, adjust the private or public system to protect citizens health, enforcement of various standards on health professions (licensing, training, salary, registration), technical specifications, pricing, supply and approval for sale of pharmaceuticals and high-technology equipment, governance, accreditation, budgets, structures, and even procedures for hospitals, insurance plans and funds etc.

Over the past decades an important strategy in achieving greater efficiency was decision-making closer to place where it expected political and economic greatest impact. *International Monetary Fund* (IMF) recommends [Zakus D, Bhattacharyya O, 2007] that any decentralization activity alongside with structural adjustment policies that favoured budget cuts to social services, including primary health care, promotion of user fees, and privatization. Majority of word countries have health systems in which both the public and private sectors is controlled by the government.

Health managers easily recognize that they often cannot control all the necessary *inputs* for ensuring good health, ambulatory care, and adjacent services (laundry, food production, maintenance). The protection of the people's health is reached with the contribution of many agencies involved in financing, planning, administration, regulation, any other health-related function: ministries of health, finance, labour, agriculture, transportation, education, insurance organizations, public and private sector players, professional unions, voluntary organizations, universities and health education institutions, even international fora (WHO, symposia etc.)

A key component of any health system is the *human resources* (medical profession continues to dominate health services, hospitals as the centre of most health systems, implementation of competency-based criteria in getting good health service). An extended list of accreditation criteria includes specified competences, permanent training, standardization, control of professional associations, improve the standards.

Decentralization from central to local levels of government is a recent policy and includes options that are transferred from central institutions to local or others institutions at the periphery in forms of:

- ✓ Administrative tasks relocation from central government to local offices of central government ministries.
- ✓ Transfer of responsibility to regional or local government (with or without financial responsibility).
- ✓ Responsibilities assignment to local organizations outside such as quasi-public (nongovernmental, voluntary) organizations, but with a central government indirect control.

- ✓ Transfer of ownership and government functions from public to private bodies, with some degrees of government regulation. In sub-Saharan Africa, private providers deliver at least 50% of the health services under full governmental stewardship of their markets and services.
- ✓ Private-Public Partnerships - the most CFN governments enter quite effectively into partnerships with the private businesses, national aid agencies, non-governmental organizations (NGOs), private voluntary organizations (PVOs), churches or private philanthropic organizations for the delivery of various medical services. The WHO's emphasis on improving of partnering between governments, civil society, and the private sector in dealing with worldwide health problems, like infectious diseases by creation of the Global Fund for HIV/AIDS, Tuberculosis and Malaria.

ABOUT THE HEALTH REFORMS IN AFRICA

In 1978, the WHO and UNICEF conference organized in Alma-Ata formulated the strategy to achieve "Health for all by the year 2000" on a global basis and multi sectorial approach, linking health provision with other aspects of socio-economic development. The outbreak of HIV infection in African region in the early 1980s, incidence of acute respiratory infections, diarrheic diseases, malnutrition and malaria causes increase of morbidity and mortality on the continent. Due to wars and other complex emergency situations, sub-Saharan African countries were confronted in the 1980s with severe decline of services in the health sector. In May 1987, during the African countries conference health ministers hold in Mali, a new strategy was adopted as "Bamako Initiative"; this initiative was later approved as a resolution of OAU (*Organization of African Unity*) by heads of state and governments representatives. This document expressed the generic training idea of *district health management teams* (DHMTs) with the goal to ensure access to essential health services. Program "Health-for-All in 21st century" introduces also some new strategic issues, including *primary health care* (PHC), and the *sector-wide approaches* (SWAps) as a long-term partnership led by national authorities with civil society and external partners. In the fact SWAps have been developed as a process to facilitate development in member countries, referring initial for bank sector.

In March 1996, the *United Nations Special Initiative on Africa* (UNSLIA) launched a sustainable package to reform health sector in Africa through SWAps. During the 1999 meeting of *WHO African Regional Committee*, the relevance of the principles developed by the PHC for the African countries was confirmed by the African countries (South Africa, Ghana, Kenya, Lesotho, Malawi, Mozambique, Tanzania, Uganda, and Zambia) that adopted SWAps, to facilitate donor relationship and management support of financing health sector. There was the interest to improve the capture of all government and non-government funding sources and expenditures, and health professionals desire to absorb human and financial resources, often with unsustainable standards and insufficient building

of local sources. SWApS allow introduction of common management arrangements, monitoring on financial management and procurement of goods and services. [Chatora et al, 2002]

DHMT developed district health development plans on a regular basis, inclusively establishment of community health funds, or to detect *desperately poor* community members that are given freely health assistance (for instance immunization).

There are examples of successful methods of implementing community interventions in order to achieve positive outcomes for example in reduction of infant mortality. In many African countries already DHMTs are now body for the management of the district health system (DHS) of its population. Also, structural transitions of Malawian health infrastructure focused on improving resource allocation and its use, bureaucratic decentralization and increased public participation. Trained DHM coordinators utilized management systems focused on information, logistics, budgeting, handheld wireless technology (HealthNet Malawi) to link health staff to planners [Joint program of work for health sector SWAp 2004-10]

IMPROVING THE GENERAL HEALTH SYSTEMS

A health system is the core of a long-term future sustained health improvement. The health of the system must be carefully considered whenever major new programs are put in place.

Sometimes health programs focus on disease or a specific effort because you need to address to an urgent problem. However the effort should be concentrated on the long-term system strengthening. Countries must avoid having multiple vertical programs competing for limited human resources and managerial capacity. Over time, as horizontally organized services strengthen, the need for more vertical financing and delivery strategies will lessen.

A central focus should be on reforms that have an impact on organizational structures and human resource management. These will play a key role in improving health system performance. Successful changes should be gradually implemented rather than high intensive reforms. Stability of policies and consistent implementation are required.

Linking financial incentives to performance, whether through contracts with health care providers or through performance-related pay, may bring rewards if careful monitoring is possible; however, evidence on the sustainability of such arrangements is lacking, and effective monitoring may require long-term external involvement. Evidence is needed on alternative approaches to improving performance.

Organizational reforms must keep the goal of improved health outcomes, equity, and responsiveness in sight. Doing so requires paying special attention to users' demands, to primary care and first-level hospitals, to quality of care, and to technical backup for disease control programs.

Capacity-strengthening efforts in most settings must encompass action at all levels, from increasing leadership of the ministry of health at the national level through strengthening support for peripheral levels.

CONCLUSIONS

Any health system should design its organisational structure based on fundamental principles that can make the medical act and services deliverable, accessible, equitable and providing good quality to all citizens. Based on the principle of inter sectorial collaboration such approach could be feasible as illustrated in Figure 3. The basic functions required to improve (health) equity are: appropriate stewardship, developing human resources for health, mobilizing and allocating adequate finances and other key resources, developing and maintaining a well-functioning health information system and ensuring equitable access to essential medical products, vaccines and technologies.

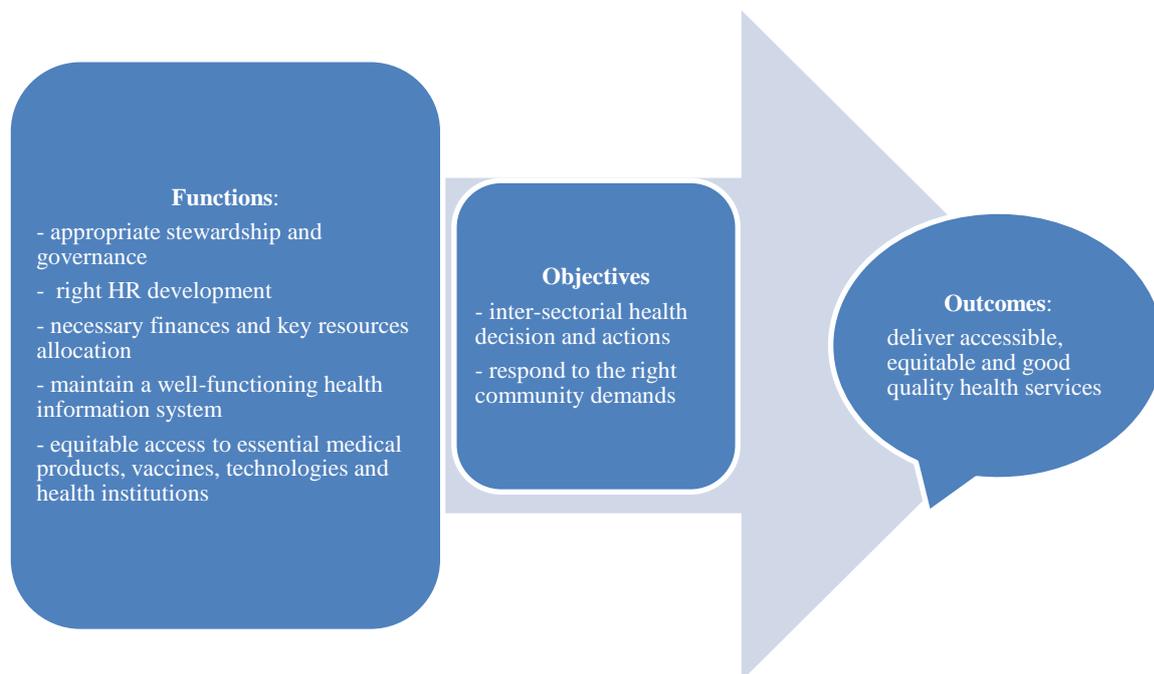


Figure 3: *The sound diagram of the national health systems (personal approach)*

The management of health organizational structures and human resource plays an important role in improving system's performance. However, evidence suggests that changes are desirable to be successfully implemented in a gradual manner rather than on "shock" reforms bases. Stability and consistent of policies are also required.

In CFN area arrangements and international monitoring may require a long-term involvement. Linking financial incentives to performance is possible via government arrangement and monitoring, whether through contracts with private providers or through private – state partnership. However, at every step are needed alternative approaches to improve performance.

Managerial and organizational reforms must improve health outcomes, equity, and responsiveness in every national health system. Having in mind the priority of feedback between output (users' demands) and input (quality of care) requires paying special attention to technical backup for disease control programs.

Health related functions (public health, medical goods, support for ill and disabled, expenditure) in marketed, non-marketed, or organized health sector are strengthening are guaranteed if action efforts encompass all levels, from increasing stewardship of the ministry of health for peripheral levels.

The World Health Organization as the specialized United Nations agency for global health matters, with a Secretariat of the *WHO Regional Committee for Africa* in Pretoria – South Africa, 46 liaison offices located in member states, has a consistent presence in the region: expanded the essential community health services based on *District Management Health Teams* and from the *Public-Private Partnership*, achieved polio eradication, eliminate neonatal tetanus, control measles and yellow fever, increase the coverage of over 90% vaccine for diphtheria, pertussis, tetanus, expanded modern contraceptive and prevention of mother-to-child HIV transmission and other critical basic health practices. New partners associated to finance and implement the health reform in countries with financial needs: International Aid Association (IDA), United Nations Children's Fund (UNICEF), United Nations Development Program (UNDP), the European Union, the United States Government, and the African Development Bank.

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**CO-CREATION IN SMALL-MEDIUM ENTERPRISES AND OPEN
INNOVATION INTERMEDIARIES: THE CASE OF
“MERCATODELLINNOVAZIONE.IT”**

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ABSTRACT

Co-creation research has been gaining momentum recently and when considering Open Innovation (OI) it identifies coupled processes as the only ones leading to co-creation, while OI literature has identified only interactive coupled processes as leading to co-creation. Open Innovation Intermediaries (OII) and their web-based platforms are considered instruments which could facilitate these OI coupled processes. These third parties are able to support firms in their OI processes due to their functions and tailored services. Nonetheless, no study has yet considered the role of OII in coupled interactive processes. Aspects which need to be considered include the peculiarities of small-medium enterprises (SMEs) that are willing to realize these processes. This paper aims to answer two specific research questions: *in which stage does co-creation emerge in SMEs OI processes supported by OII? How does co-creation evolve in the relationship involving SMEs and OII?* The paper attempts to build a theoretical framework to illustrate how different types of OII can stimulate co-creation in SMEs willing to start OI interactive coupled processes, clarifying OII’s role in this domain. We then analyse the qualitative explorative data to answer these questions. The findings could help us to understand co-creation in the stages of OI coupled processes better, by supporting SMEs in choosing the most suited OII for each process at each stage.

Keywords: *Co-creation, SME, Open Innovation Intermediaries, Open Innovation processes, Coupled processes*

INTRODUCTION

Co-creation has gained momentum recently, even if it has different interpretations and appears in different streams of marketing literature including Service Management, Service-Dominant Logic, many-to-many marketing and the so-called “*post-modern*” marketing (Alves *et al.*, 2015) – as well as in the business network (e.g., Mele and Polese, 2011) and strategic management literature (e.g. Prahalad and Ramaswamy, 2000; Ramaswamy and Ozcan, 2014). Above all, in the strategic management research sphere, co-creation is used only when referring to Open Innovation (OI) coupled processes.

OI should be understood as “a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization’s business model” (Chesbrough and Bogers, 2014, p. 27). It considers the involvement of external actors in innovative activities, including customers, suppliers, experts, universities, private/public R&D institutions and competitors (Chesbrough, 2003). Coupled processes consider the simultaneous development of OI inside-out and outside-in processes (Enkel *et al.*, 2009) and have recently been studied in more depth by Piller and West (2014). These authors distinguish between “bi-directional” and “interactive” coupled processes, linking co-creation only to the latter. They define co-creation “as an active, creative and collaborative process between a firm and individuals during a new product/service development process in which participants contribute to a task initiated and facilitated by the firm” (Piller and West, 2014, p. 39). Even though Piller and West (2014) design an OI process model for coupled processes, some gaps in literature still remain to be filled in this domain.

One of the most interesting points to be answered, concerns tools and dedicated infrastructure, especially Open Innovation Intermediaries (OIIIs) (Diener and Piller, 2010; Aquilani *et al.*, 2016). Due to the complexity of coupled processes, the SME domain would appear more interesting, where OIIIs can intervene in supporting firms. Indeed, for many years SMEs have been excluded from mainstream discussions in OI research (Lee *et al.*, 2010; Wynarczyk *et al.*, 2013), even though innovation ‘by nature’ has an external focus for them (Edwards *et al.*, 2005) due to the liability of smallness (Parida *et al.*, 2012; Brunswicker and Vanhaverbeke, 2014). Nonetheless, benefits have been recognized for SMEs which open up their business models (Lee *et al.*, 2010). Moreover, SMEs show distinctive traits such as; 1) the need for a tailor-made search strategy to embrace OI; 2) a special focus on the selection of partners and practices; 3) the need for new management paradigms to reduce the costs and running time of collaboration with external partners (Hossain, 2015), which in turn increase their chances of launching new products (Spithoven *et al.*, 2013); and, finally, 4) an *ad hoc* patenting strategy to fully benefit from innovation (Zhang and Chen, 2014), given that SMEs new product turnover is mainly driven by patent protection (Spithoven *et al.*, 2013). Thanks to their characteristics, OI performance largely depends on

the resources of OI partners employed to implement their strategies (Colombo *et al.*, 2014a). Among these partners, OIIs could play an important role thanks to their functions, services, etc. However, until now, the literature has not focused on this topic. Therefore, the aim of this paper is to start to fill this gap, answering two research questions: a) in which stage does co-creation emerge in SMEs OI processes supported by OII? b) How does co-creation evolve in the relationship involving SMEs and OIIs? The paper starts with examining research focused on OII types and their potential contributions to OI interactive coupled processes initiated by SMEs. This gives us a theoretical framework, considering OII types in the interactive process identified by Piller and West (2014). However, unlike the Piller and West model, our framework focuses on interactive processes, as the only ones leading to co-creation. Moreover, it considers for the first time, both the peculiarities of SMEs and the role OII types can play with them. We then make a qualitative explorative analysis, based on the case-study method, involving SMEs for a New Product Development (NPD). This study opens new avenues of research linking OI, OIIs and SMEs research and could help managers to choose the most suitable OII to perform OI interactive-coupled processes at each stage.

OPEN INNOVATION INTERMEDIARIES: CONTRIBUTIONS AND TYPES IN SME OPEN INNOVATION COUPLED PROCESSES.

OIIs can be considered to be third parties (Mantel and Rosegger, 1987), whose objective is to foster, enable and support interactions and collaborations among different players involved in innovation processes (Howells, 2006; Hakanson *et al.*, 2011; Colombo *et al.*, 2014a). They change the value creation systems and bridge the gap between knowledge resources internal and external to organizations. Although OIIs develop different functions (Howells, 2006) and provide numerous services (Aquilani *et al.*, 2016) within their web-based platforms, their roles can be summarized as follows (Aquilani *et al.*, 2016): networking (Gassmann *et al.*, 2011; Agogue *et al.*, 2013); knowledge transfer/experience sharing (Diener and Piller, 2010); brokering for problem solving (Agogue *et al.*, 2013); scanning information/needs (Diener and Piller, 2010). In general, OIIs could help firms and above all, could aid SMEs to maximise innovation opportunities, increase the likelihood of success in developing new outcomes and could impact their OI performance (Hossain, 2015). Indeed, Colombo *et al.* (2014b) argue that SMEs largely depend on the resources of their OI partners to implement their strategies. This makes the role of OIIs important also in supporting SMEs in co-creation processes. Obviously, selecting the right OII for each firm, especially for SMEs, is a relevant choice for effective implementation of OI (Aquilani *et al.*, 2016) as well as to co-create.

According to Colombo *et al.* (2014a), OIIs can be divided into four categories – *collectors*, *brokers*, *mediators* and *connectors* – using two dimensions linked to the intermediary process. These dimensions

include *access* and *delivery*. Firstly, *access* to disseminated knowledge deals with the way in which OIIs interact with their collaborative network in terms of sources (knowing exactly who has the appropriate knowledge necessary for the seeker's problem) and proposals (posting the query to their entire network of experts in different areas). Then, *delivery*, related to the method OIIs, utilize to sustain seekers, distinguishing between OIIs capable of providing 'turn-key' solutions to their problems and only those required to offer contacts with knowledge sources. OIIs activity could be related to finding contacts and proposals in various ways, involving both OII *mediators* and *connectors*, in that players are involved in those processes which are at the same time *inside-out* and *outside-in*. *Mediators* are intermediaries, who offer contacts to their clients, selecting the most appropriate solvers based on the fit between their capabilities, expertise and the client's request (access sources). They seek to interpret and elaborate their clients' problems and select the most suitable sources of knowledge. In doing so, they provide access to their contacts and foster potential collaboration (delivery contacts) (Colombo *et al.*, 2014a). On the other hand, *connectors* are intermediaries capable of providing contacts with their network of globally distributed solvers and using proposals for collaboration. They collect information about the competencies and experience of members of their network, who can collaborate with their clients (access proposals) and then, allow their clients to select the most appropriate individuals or firms for specific problems (delivery contacts) (Colombo *et al.*, 2014a). However, it seems clear that *mediators* and *connectors* are more appropriate for large companies, due to characteristics such as culture, organization, strategy and above all, resources they can allocate to OI activities. Conversely, in the case of SMEs, so-called *collectors* could also be considered as they ask their innovation network members to provide solutions to problems faced by their customers (access proposals). Afterwards, they help their clients to select the most appropriate solution (delivery solutions). This last OII category could be relevant for SMEs which intend to adopt OI because they may limit their lack of managerial capabilities able to sense, acquire, assimilate and apply external knowledge sources (Spithoven *et al.*, 2013) or to create collaboration networks.

Building on these OII categorizations, we now develop our theoretical framework illustrating how different OII types can stimulate the various stages of interactive coupled processes performed by SMEs.

OPEN INNOVATION INTERMEDIARY CONTRIBUTIONS AND TYPES IN INTERACTIVE COUPLED PROCESSES DEVELOPED BY SMES: A THEORETICAL FRAMEWORK

To develop a theoretical framework (Table 1), we have used the Piller and West (2014) model, which has been chosen because it is the most recent one solely focusing on coupled OI processes. Our

framework, which could be claimed is the only one that leads to co-creation due to interactive coupled processes, does however follow the same stages used by Piller and West (2014). Albeit, we should add that the fourth stage has not been considered as “leverage” is related to value capture from each partner involved in the OI coupled process, and not on co-creation developed outside firm boundaries (Piller and West, 2014).

| Process Stage | Key activities | Types of OII | OII potential contribution domains |
|-----------------------------|---|---------------------------|--|
| Defining | Problem formulation | Mediators and Collectors | OIIs could contribute to problem formulation. |
| | Institution and rules | | OII could help in building shared institutions and rules to collaborate. OII could support SMEs in order to make an IP arrangement seen as “fair” from the perspective of potential participants. |
| | Resource allocation and strategic commitment | | OIIs could help SMEs in defining the right resources and amount of them to be allocated to these processes. OIIs could support the top management to be open minded and to share the right amount of information with partners. |
| Finding Participants | Identifying participants with right characteristics | Connectors and collectors | OIIs could support SMEs in identifying participants or follow SMEs needs. OIIs could help the firm identify the right characteristics of participants. |
| | Motivating and retaining a critical mass of collaborators | | OIIs could help SMEs define the best way to motivate the right partners for collaboration. OIIs could help SMEs create tailored incentives for partners, identifying the right mix of monetary and social or intrinsic incentives for any given task. |
| | Selecting the right participants | | OIIs could support firms in evaluating the right partner. OIIs could play a role in knowledge evaluation to recruit participants. |
| Collaborating | Governance of collaboration process: organizing, monitoring, policing | Mediators and collectors | OIIs could play a role in the governance process of collaboration (organizing, monitoring, and helping in policing). OIIs could facilitate knowledge transfer and exchange during the collaborating stage of interactive coupled processes. OII could support SMEs in balancing the trade-off between revealing too much information in a task and providing the right detail of input for productive contributors. OIIs could mediate the trade-offs between partners and their changing reciprocal requests. OIIs could grant that co-creation is run for the benefit of all collaborating partners. |
| | Interaction platform and other tools | | OIIs could make tools and services available to effectively run collaboration. |
| | Openness of firm attitudes, structure and processes | | OIIs could help SMEs in assuming a more open mind-set. OIIs could suggest the most suitable structures |

| | | | |
|--|--|--|--|
| | | | and processes to SMEs for co-creation with partners. |
|--|--|--|--|

Table 1 – THE FRAMEWORK

Indeed, the proposed framework distinguishes three stages i.e.: i) defining; ii) finding participants; iii) collaborating, identifying key activities which OIIs could perform for SMEs at each stage of their OI interactive coupled processes. While the first two columns can easily be recognized as parts of the Piller and West model (2014), the two remaining columns are the main contribution of this paper and will be discussed below.

i) Defining

An interactive coupled OI process starts with crafting the problem statement (Jeppesen and Lakhani, 2010; Sieg *et al.*, 2010) or having a well-defined strategic direction to follow the co-creation perspective. Therefore, the objective of the *mediator* OII is to sustain the definition of a task description attracting external contributors, as well as to consider the characteristics of such contributors. In other words, they support the SME in defining its strategic direction to reach their goals. This leads external individuals to submit either a solution proposal or simply indicate their interest in further collaboration or their availability to collaborate. Writing such specifications involves many challenges, such as defining the problem (and the scope), using terminology that will be clear to potential solvers with knowledge from other fields and preserving the confidentiality of a firm's current/future technology needs (Spradlin, 2012).

The various engagement rules and institutions, together with SME problem formulation must be defined. In dyadic OI – whether outside-in or coupled – firms acquire the rights to knowledge via a contract that assigns all necessary rights (Jeppesen and Lakhani, 2010). As the output control level within collaboration contexts might discourage rather than encourage participation by individual contributors, firms use a variety of selective openness strategies to maximize goal alignment while attracting outside participants (West and O'Mahony, 2008). Indeed, IP protection is a difficult task for SMEs to handle, as they have limited financial resources to pursue active patenting strategies. Furthermore, most companies believe that the approach should be customized according to the type of project, partners and objectives of the parties involved (Munster, 2011). They can obtain maximum value from collaborating with OII *collectors* as they solve their clients' problems (Colombo *et al.*, 2014a, p. 141).

Initiating a sustained process of collaborative innovation, a firm must commit their entire organization and dedicated resources to the process. Thus, what is often neglected is providing feedback to contributors. This becomes crucial to motivate future contributions and avoid developing a negative

reputation. Moreover, firms may be more successful integrating external inputs if they have explicit norms/procedures for OI. Here, OII *collectors* provide specialized services in supporting firms from a strategic and organizational point of view, even if they suggest solutions and support choices, when operating as consultants (Aquilani *et al.*, 2015; 2016).

ii) Finding participants

Barriers to OI arise when SMEs start to interact and collaborate with external partners (Van de Vrande *et al.*, 2009), reaching the second stage of the framework, i.e., finding participants. Indeed, it is difficult to evaluate external ideas and partners rather than internal ones as there is much less first-hand information available on external players, their goals and as a consequence, their ideas (Menon and Pfeffer, 2003). In this case, the contribution of OIIs, and especially *connectors*, could be relevant because they could help individuate partners with the right characteristics and help SMEs to identify the best ones for each stage of its OI coupled process. This activity should take into account the nature of participants in a coupled OI initiative, which can span a broad range of players, as well as their ability and willingness to participate in co-creation efforts. The latter depends on “potential task involvement of participants, their creativity and the experience in generating new product ideas” (Füller *et al.*, 2009, p. 93).

In coupled OI, motivating external participants to engage in collaboration with the firm and emphasizing incentives (Dahlander and Gann, 2010) is another important task for OIIs. Not surprisingly, the pecuniary questions on OI are explicit about firm success, thus addressing monetary incentives. Because the supply of innovations to other firms corresponds to the inside-out mode of OI, initial work on OI has assumed that firms would be selling, licensing, or otherwise providing innovation in exchange for payment (Piller and West, 2014). Even though external contexts are often organized around financial incentives (Jeppesen and Lakhani, 2010), firms when collaborating with external communities, may find that individuals are motivated through non-economic (or indirect) incentives such as ego, reputation, notoriety and/or career visibility (West and Gallagher, 2006; Boudreau and Lakhani, 2009). OIIs, as *collectors*, should support SMEs in creating the right incentives when selecting participants. This should ensure to the SME to afford what is promised, obtaining the expected contributions from individuals involved in co-creation processes.

iii) Collaborating

The key co-creation phase in the framework is obviously collaboration. Even after a decade, OI has a lot to learn from research on co-creation that has focused on how firms collaborate with external partners in an exchange of knowledge and benefits. This includes the creation and implementation of the

collaboration process (Prahalad and Ramaswamy, 2004) as well as providing tools (such as IT-enabled platforms) oriented to facilitate this process (Diener and Piller, 2010). In the collaboration stage of coupled OI, three areas emerge, i.e.: governance of collaboration processes, tools and dedicated infrastructures as well as internal attitudes and capabilities of firms involved in this collaboration.

From a firm's perspective, an important point is to define the span of control that a firm gives to external co-creators (O'Hern and Rindfleisch, 2010). This means that when setting up interactive coupled OI, defining the span of control is a key decision for OII *collectors* supporting these processes (Piller and West, 2014). Additionally, they help to bring about agreements between clients and solution-providers, who have been selected in the previous phase. Indeed, they assist their clients in conducting negotiations with solution providers and help set up non-disclosure agreements (NDAs) to stimulate discussions and more definitive arrangements pertaining to the transfer of technological knowledge/IP or joint knowledge creation (Roijakkers *et al.*, 2014). Furthermore, they can facilitate interaction with a solution provider, allowing participants to communicate through face-to-face talks, clarifying nuances of unresolved conversations.

At this stage, OIIs could also provide the right tools and dedicated infrastructures to SMEs willing to co-create, as they often do not have enough resources to create an *ad hoc* platform and deploy the tools necessary to collaborate on interactive coupled processes (Aquilani *et al.*, 2014). This is above all because they develop opportunities outside their boundaries and need to be carefully followed by the OI *collector*. Here, it is clear that internal attitudes and capabilities of SMEs willing to initiate interactive coupled processes need to be developed or externally acquired as necessary. Obviously, OI *connector* could support the firm by: 1) in helping its employees run the OI process; 2) in combining the SME's knowledge; 3) in providing the right consultants to collaborate with SME partners at all stages of the collaborating process. The choice between these alternatives, which can be considered almost as a continuum or a combination of them if and when suited, will obviously depend on SME resource gaps as well as on co-creation subject matter.

METHODOLOGY

To fulfil our objectives, this paper is based on an explorative qualitative analysis aimed at providing useful exploration, description and interpretation of the phenomenon under investigation. Specifically, we used a case study approach, considering "an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (Yin, 1994, p. 13). Although the case-study method does not aim to generalize study populations (statistical generalization), as other

methods do (i.e., experimental approaches), it aims to generalize theories (analytical generalization; Yin, 2013). In this paper, the first Italian OII – Mercatodellinnovazione.it – was selected, being the only intermediary on the OI Italian scene (Aquilani and Abbate, 2013). Mercatodellinnovazione.it was founded in 2010 by Chiara Cremonesi and Fabio Montini as the first attempt of intermediation in Open Innovation processes in Italy. It aims at being a leader in supporting innovation processes for Italian SMEs, usually focused on closed innovation, with limited financial resources and mainly concentrated on Italian partners for innovation (www.mercatodellinnovazione.it; Istat, 2011). Thanks to its web-based platform, Mercatodellinnovazione.it mainly offers their customers the following services; innovation search, consultancy on innovation proposal preparation and contacts. The case study is based on accurate data gathering using different types of materials, methods and investigators (Denzin, 1974). Firstly, a preliminary desk research was carried out to identify and acquire information already existing in documents, internal reports, dossiers and articles in order to obtain a good understanding of Mercatodellinnovazione.it. Descriptive material and other documents available on the OII website were also examined. Secondly, field research through in-depth interviews with the OII entrepreneur who supported an SME in an NPD process was carried out, elaborating questions principally research-derived on which the above framework is based.

Given that data collection in case studies should not be driven by pre-formulated propositions (Eisenhardt, 1989), the theoretical framework was used here as a telescope (Berg, 1974), aiming to direct the researcher's attention on certain aspects of the evolution of agents' interaction and subsequent co-creation dynamics. The interviews were conducted in April 2016 following methodological prescriptions on data collection through personal interviews (Lee, 1999). To validate our qualitative analysis, the results were shown to the respondent for feedback, amendments and some changes were discussed. The results are presented in the following section.

DISCUSSION

The paper describes the main challenges affecting OI interactive coupled processes initiated by SMEs and supported by the interviewed OII in the domain of the NPD. The articulation of this section reflects the distinction, underlined in the theoretical framework, in three different steps: i) defining, ii) finding partners iii) and collaborating.

i) Defining (problem formulation; institution and rules; resource allocation and strategic commitment).

Here, the questions were as follows: "how does mercatodellinnovazione.it contribute to problem formulation?", "how does mercatodellinnovazione.it contribute to building shared institutions and

rules to collaborate?", "how does mercatodellinnovazione.it help SMEs to define the right resources and how much to be allocated to these processes?", "how does mercatodellinnovazione.it support top management to be more open-minded and share the right amount of information with partners?". In the "defining" step, the role of the OII is fundamental for problem formulation, offering a global view of the innovation problem and the identification of solutions. OIIs, who almost always act as *mediators*, support SMEs mainly as a "patent expert" able to look at the nuances of the problem and to identify solutions, translating needs into product functionalities and promoting them to the right partners effectively and quickly. In building shared institutions and rules to collaborate, the intermediary stimulates information exchange and enhances dialogue among partners thanks to their ability to stimulate the use of a "common language".

Defining the right resources and how much to be allocated to the process is not easy. In fact, resource allocation mostly depends on the industry/activity or on the target market. Of course, the role of the OII *mediator* is crucial at this stage, broadening the limited view that the company usually has and providing a general view of the entire process. OII supports top management to be open-minded and in sharing the right information with partners. However, the opportunity for the OII to support this stage is influenced by the needs of the SME to initiate the OI process and by the curriculum, competences and personality of the OII. If companies are not conscious of the benefits and difficulties related to an OI coupled interactive process, the risk of looking at partners as if they were competitors is high. Furthermore, only a smart intermediary can support partners in facing the obstacles common to information sharing. The OII *collector* can make an IP arrangement seem "fair" from the perspective of potential participants assuming the role of "*trade d'union*" between partners. Because IP is a critical factor in OI processes, especially in interactive coupled processes, sometimes other professionals might be involved in the process supporting both the intermediary and the partners.

ii) Finding participants (identifying participants with the right characteristics; motivating and retaining a critical mass of collaborators; selecting the right participants).

For this stage, questions similar to the following were asked: "how does mercatodellinnovazione.it recruit participants?"; "how are external participants motivated by the OII to become engaged in collaboration?"; "how does mercatodellinnovazione.it identify the right mix of monetary and social or intrinsic incentives for a given task?"; "how does mercatodellinnovazione.it support firms in evaluating the right partner?".

How the OII *connector* recruits participants mostly depends on the extension of the network around the intermediary and on the opportunities related to the generation of the innovation demand and the offer

of exchange. The OII helps the firm in identifying the right characteristics of participants, thanks to information about partners from *ad hoc* meetings. External participants are motivated by the OII to engage in collaboration to update processes and information exchange within well-defined and shared deadlines. Maintaining contact with partners, or even simply to exchange basic information, is fundamental for external partners, who would otherwise abandon the process when there is no feedback.

Regarding incentives and, specifically, the mix of monetary and social or intrinsic incentives, the interviewed OII indicated that presently, these were mainly economic or consisted of material goods. This does not mean that these were the only ones considered effective. Furthermore, other kinds of incentives could be deployed to achieve objectives, although, these must be planned and quantified in a budget. Specifically, in identifying the right mix of incentives for any given task, the OII acts as a “*super partes*” able to give well-balanced guidelines in order to reach a satisfying agreement for all partners.

Concerning OII support for firms in evaluating the right partner, the width of this support depends on the specific competences the intermediary has of the product and the target market. If the intermediary is considered qualified, the company will include it even during the subsequent selection process. The OII *collector* could play an important role in knowledge evaluation of recruiting participants based on competences of the target market and the innovative product. This is due to the fact that firms rely on the *collector* when facing problems that require a quick and effective exploration of a large number of alternatives.

iii) Collaborating (governance of collaboration process: organizing, monitoring, policing; interaction platform and other tools; openness of firm attitudes, structure and processes).

Here, the questions asked were as follow; “what roles does *mercatodellinnovazione.it* assume in the governance process of collaboration (organizing, monitoring, helps in policing)?”, “what kind of tools and services does *mercatodellinnovazione.it* provide to effectively collaborate?”, “how does *mercatodellinnovazione.it* help a firm assume a more open mind-set?”, “how does *mercatodellinnovazione.it* support a firm in creating the right structure and processes to collaborate and co-create?”.

Within the governance of the collaboration process, the role played by the OII depends on the kind of established agreement and on the level of interaction that the teams are able to deploy. Agreement is necessary in order to define the activities and objectives of the project. Furthermore, agreement employing direct interaction with partners helps to develop the trust necessary to face the next challenging stages of the process.

The best way to support knowledge transfer and exchange is by activating and sustaining continuous and structured information sharing. Remaining in touch in the long term is possible thanks to new technology. In order to nurture a structured contact, the role of the person or team is crucial in defining a timeline establishing deadlines, to make lists, achieving goals, problems etc.. Only in this way can the project achieve common goals. In balancing the trade-off between revealing too much information and providing the right input for productive contributors, especially when the project involves SMEs, the identification of goals, timing and a realistic budget by the OII are strategic issues. Subsequently, it is important to sign a Non-Disclosure Agreement (NDA) in order to protect the involved partners, simply to declare that the company has an interesting project to create and that it considers the intermediary a good partner to discuss it with.

With the role assumed by the OII in mediating trade-offs between partners and their reciprocal requests, the intermediary must have a strategic view of the problem. The role of *mediator* assumed by the OII requires a clear notion of what the goals are. *Mediators* must possess this requirement and competence in order to follow the process to its conclusion, during which unexpected events will probably emerge.

Regarding the kind of tools and services the OII offers to collaborate effectively, a ready-made tool-set of specific services for SMEs does not really exist. The scope of all kinds of information and communication systems allows both knowledge-acquiring and sharing among partners to improve. These tools are useful to check the trends, goals and economic performance of the innovative processes. Furthermore, partners' expert in using digital instruments can also use social platforms to share documentation.

Finally, we can state that the OII helps the firm develop a more open mind-set. The OII itself is an agent promoting OI techniques and values – for example, the values of opening up, discussing, identifying common goals and collaborating. The OII is an “ambassador” of these values. In order to transform these values into effective and productive behaviour and to achieve goals, a professional background combined with managerial and communication skills are necessary for the OII to remain in contact with the team. OIIs can also support the firm by suggesting good structures and processes in order to collaborate and co-create. The experience and knowledge acquired by the OII through involvement with the company are also necessary to support the firm at this stage too. This gives the OII the opportunity to be involved. On the other hand, the role of the intermediary will mainly be the role of a consultant.

CONCLUSION

This empirical study has spotlighted some interesting insights into the role of OIIs in OI interactive coupled processes initiated by SMEs in the NPD domain. It clarifies the various ways in which OIIs could intervene in supporting SMEs, also by integrating its knowledge base and resources or acting as a consultant. It is therefore possible to say that, at least in three of the process stages of the proposed framework – defining, finding participants and collaborating (Piller and West, 2014) – OIIs, support SMEs in their co-creation processes thanks to their capabilities. From the empirical case-study, it would seem clear that joint knowledge creation evolves first between the SME and the selected OII and subsequently also includes other partners involved in a circular process. The OII plays the crucial role of both mediator and integrator of other resources to be successful in the whole co-creation process. Additionally, focusing on different types of OII – *mediator, connector and collector* –, the analysis suggests that the OII *collector* could play a relevant role in developing and performing various key activities in the coupled processes, offering numerous services oriented to explore alternative solutions regarding problems faced by clients as they arise.

These insights could help firms, especially SMEs, to choose OII types, whilst also considering their resource limitations for co-creation activities, and to identify which OII could be more helpful in developing NPD projects. The case study also has some interesting managerial implications for OIIs, giving insights into the challenges emerging in supporting co-creation activity. In many cases, the respondent showed how the effectiveness of the intermediary activity depends on the width of its experience and on its own personal reputation. This is a crucial aspect which could influence OII support for top-management to be more open-minded, in evaluating the right partner for innovation and in suggesting the correct structures and processes for SMEs to collaborate and co-create. From a theoretical point of view, the paper adds insights into research on OI coupled processes, OII's potential contributions to OI processes and OI in SMEs, leading to a better understanding of co-creation emergence and development in OI interactive coupled processes supported by OIIs initiated by SMEs. Obviously, this study has certain limitations that point to further research opportunities. Because of the exploratory nature of a single case-study analysis, it is not possible to statistically generalize results to all corporate populations. Therefore, further confirmatory empirical analyses using for example, representative samples of NPD projects developed by SMEs through OIIs supporting them in interactive coupled processes should be carried out. What is missing in this empirical research, is therefore the SMEs point of view. It would be interesting to carry out through involving SME entrepreneurs who collaborate with the OII, thus giving relevant insights also for OIIs. Indeed, future avenues of research could include collecting qualitative data through direct interviews of SMEs' entrepreneurs, with explicit reference to real cases of NPD, on which this paper is focused on.

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IMPACT OF ENTREPRENEUR & ENTREPRENEURIAL PROCESS IN CREATIVE WORK INVOLVEMENT WITHIN ORGANIZATION

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ABSTRACT

Today, more and more specialists consider studying and approaching the concept of entrepreneurship, which became central in the market activities. The main concerns of both managers and leaders no matter the size of their business refer to those successful organizations that identified and apply entrepreneurship skills to their daily work. Innovative entrepreneurial skills became the core of economic development, economic growth, increasing productivity, improving international competitiveness, and greater mobility in the world's markets to get the most benefit of their efforts. They also contribute to the development of an entrepreneurial culture at all organizational levels and to do creation of entrepreneurial teams in the organization. In fact, in order to be considered creative and successful any organisation needs creative and successful people working for it.

The purpose of this paper is to study the skills, ability, and challenge that an entrepreneur faces during the entrepreneurial program within the organization; to better understand the needs and the importance of the entrepreneur and the impact of the entrepreneurial process in the organization's development and economic growth in the business world.

Keywords: *Entrepreneurship, entrepreneur, innovation, entrepreneur's impact on the organization, models and type of entrepreneurial process.*

INTRODUCTION

One of the distinguishing features of today's economy and global companies is exposed to rapid changes in this competitive world. Most traditional organizations, which are not too far from bankruptcy and dissolution, can create an influential evolution for them by bringing an entrepreneurial process and an innovative entrepreneur in all levels of their companies. In the current situation where most of the large organizations and holding companies have serious problems because of the bad economic situation, the best rescuing way out of this disaster is by adopting an organizational entrepreneurship and by having entrepreneurial leaders.

In fact, those countries can be successful economically and take the risk, by improving the productivity and being successful in terms of competition with other companies by innovative

entrepreneurs and utilize organizational entrepreneurship. Can say that the entrepreneurship is a symbol of innovation and led to success in commercial affairs and business. Entrepreneurs are pioneers of this new idea related to the basic changes in the structure of the administrative system of the organization for the increase of efficiency and effectiveness organizations had to pay the market value of their creative activities and new ideas along with the freedom of action and the impact of entrepreneurial economy, they need employees who follow the new opportunities and constantly improve their work environment.

Particularly in a knowledge-based economy, organizations face rising needs to not only increase productivity, but also creativity among their workers and employees. The speed at which technologies change, as well as globalization and the rapid increase in new competitors, domestically and internationally, cause a sense of distrust towards traditional management practices in organizations between the workers and leaders, exit a large numbers of the best works of the organizations in order to start an independent entrepreneurial activity, all together putting pressure on companies to be first on the market, quick at solving problems and developing new groups of individuals who are able to work together as creative team and of course the leaders can play an important roles for the employees, in terms of the innovation and creativity.

ENTREPRENEURSHIP AND ENTREPRENEURS

Entrepreneurship is the concept and the most effective economic potential in world history, has emerged about three decades ago and has been proposed and consists of this category, being carried out a lot of advanced in the entrepreneurial education process. Most people believe that the entrepreneurial process is an engine of economic development in emerging countries, although a few people think entrepreneurship can be a scary process because it's risky and there is no guarantee.

The entrepreneur might lose money for the first few years, but there are three main reasons for developed countries to pay attention to the entrepreneurship process: increasing wealth, technology development and productive employment, while this concept is wrong in my country (Iran) and simply become it is synonymous with job creation and only entrepreneurship can solve the employment problem in order to go forward.

In the late '70s in many developed countries a wave of small businesses and self-employed people emerged due to a change in the values and attitudes of society and demographic changes and because of the deep impact of this phenomenon many studies have been done in four perspectives of economics, management, sociology and psychology. Although many researchers -like any other human science concepts- put an effort in order to have a definitive definition of entrepreneurship however this is difficult and even impossible.

The evolution of this concept, self-contained, many interesting points and features many factors such as risk-taking, innovation, and the creation or restructuring of a single economic, social, personal satisfaction and independence to this concept. The best compliment that can be given is that innovation and entrepreneurship from the process of taking advantage of opportunities, the efforts and persistence combined with financial risk, psychological, social and motivated financial gain, so that achievement, personal satisfaction and independence occur.

In addition to individual entrepreneurs, during the recent decades, along with the concept of corporate entrepreneurship, another concept - intrapreneurship – promotes the idea of coordination with the social and economic environment changes. Thus, a new definition of the entrepreneur created an idea that he takes responsibility for innovation within the organization is responsible.

The entrepreneur may both innovate and invent, as he is always someone who knows how to turn an idea into a profitable reality.

There are several aspects common to all definitions of entrepreneurship, risk-taking, creativity, independence, the best definition of entrepreneurship is; the process of creating something new and acceptable all the risks and benefits of it. In other words, entrepreneurship is the process of creating something new and valuable by devoting the necessary time and effort and taking financial risks, psychosocial and achieves personal satisfaction and financial independence for reach to the goal. This definition has four basic aspects:

- Entrepreneurship requires the creation process for creating something valuable and new. This should create a contact for entrepreneurs and the creation of value has been done for him.
- Entrepreneurship requires thinking about the inevitable risk during the process.
- Entrepreneurship will have more personal satisfaction with the independence work.
- Entrepreneurship requires dedicated time and effort.

Entrepreneurship is also considered to be a vital component in the process of economic growth and development for various reasons as it is a mechanism by which society converts technological information into products and services (Shane & Venkataraman 2005).

Entrepreneurship can be in different units in an organization. An organization can create an environment for the workers and employees to have the best performance in the entrepreneurial task. In entrepreneurship organization, the entrepreneur always has his own resources and relies on what people are doing, what they need more the letter relying on themselves with the last measurement criteria, but with the next standard of comparison.

Entrepreneurship is not limited to the specific kind of organization or business size; every business and any organization small or large, new or traditional established can apply the entrepreneurship process, and entrepreneurship can act as a synonym for change in small or new companies as the big

vehicle in the competitive world. Entrepreneurship can work as the key factor for innovation and for the creative process, to improve the productivity, economic growth and create many new jobs in all fields.

To increase the benefit of utilizing the entrepreneurship process, one needs to be under the supervision of educated and trained leaders, since leaders have the biggest impact and effects in each organization in the process of entrepreneurship are leaders. In fact, the leaders can play a vital role in this process at any kinds of organization.

Entrepreneurship includes formal and informal activities that aim to create new businesses, new products and processes and to stimulate market development. New research on the definition of entrepreneurship and business features three concepts: renewal strategy (strategic renewal / restructuring the organization), innovation (offering something new to the market) and enterprises within the enterprise (corporate entrepreneurial activities that lead to business which are new within the parent company).

They tend to be entrepreneurial in response to the rapid increase in the number of competitors, the lack of trust in the traditional business, the massive movement of the elite to the creation of independent small businesses, the international competitiveness by an increase in productivity need, an increase in well. The new revolution in new companies to facilitate and appreciate of intrapreneurship is on-going.

Today, by developing technology and increasing communications among people, we can see different types of entrepreneurship referred briefly as follows: (1) Independent entrepreneurship, (2) Organizational entrepreneurship or intra-organizational entrepreneurship, (3) Corporate entrepreneurship, (4) Public entrepreneurship, (5) Tele- entrepreneurship, (6) Social or non-profit entrepreneurship, (7) Informational entrepreneurship, (8) Co entrepreneurship, (9) Techno entrepreneurship, (10) Women entrepreneurship. Different relations could also emerge with analysis between:

- *Entrepreneurship and employment* - entrepreneurship in job creation also plays an important role in developed countries, nowadays half of the employees are working in small businesses.

Small businesses create most new jobs and the share of these businesses in the labour market is on the rise. Since 1980 more than 34 million small businesses created jobs in the American economy while the number of employees in large companies in these countries has been decreased.

- *Entrepreneurship and economy* - the impact of entrepreneurship on society is very broad from Social value changes to the economic growth. The researchers have introduced various changes that entrepreneurship, culture in a community reviewer and its effects are discussed from different perspectives, some of the effects mentioned include several aspects and processes, such as: ■creating

wealth, employment, creation and development of technology, encouraging investment, identification, create and develop new markets, increasing prosperity, and organization of an effective use of resources. The positive implications of the entrepreneurship development in the country's economy are taking into consideration more than anything their effects, such as job creation and economic growth. According to researchers, entrepreneurs achieve an economic system of static balance and prevent opportunistic behaviours due to their aggressive action to provide economic opportunities for the entire system. Countries in which entrepreneurial activity is higher due to the nature of entrepreneurship and have ability to adopting these changes, able to earn a better position in the world economy. Research has shown that economic growth is positively correlated with the level of entrepreneurial activity. For example, (GEM General Entrepreneurship Monitor), which annually entrepreneurial activity and its impact evaluated in different countries and in more than 20 countries have already done, this result is obtained the rate of economic growth of a country has a significant relationship with the level of entrepreneurial activities.

- *Entrepreneurship and the growth of technology and opportunities*: Entrepreneurship opportunities exist within an economy at any given time waiting for the entrepreneurs exploit them (Kirzner, 1973). More than 67 percent of innovations in the field of technology and 95 per cent of innovations in the field of industry and innovation works occurs and led to increasing consumer choices in the market, attracting a large number of consumers and increasing demand and purchase, increasing health, facilitating communication and enhancing the quality of life of human beings. Most of the entrepreneurs have created a new generation of products that can be used from PCs, mobile phones, buying from the internet and by making use of software industry and so forth.

- *The necessity of entrepreneurial education in global developments* puts entrepreneurs at the forefront of technological development and economic development. Education, in entrepreneurship is one of the most important aspects in the development of special interest is located. According to many last type of research that show many characters and the skill of entrepreneurs are acquired and not inherited and entrepreneurial education becomes one of the most important activities in many of the universities. (Solomon, Duffy, and Tarabishy, 2002) conducted one of the most comprehensive empirical analyses on entrepreneurship education. In their review of entrepreneurship pedagogy, they stated: *a core objective of entrepreneurship education is that it differentiates from typical business education. Business entry is fundamentally a different activity than managing a business* (Gartner & Vesper, 1994); *entrepreneurial education must address the equivocal nature of business entry* (Gartner, Bird, & Starr, 1992). To this end, entrepreneurial education must include skill-building courses in negotiation, leadership, new product development, creative thinking, and exposure to technological innovation (McMullan & Long, 1987; Vesper & McMullen, 1988). Other areas identified as important for entrepreneurial

education included awareness of entrepreneur career options (Rik Donckels, 1991 Hills, 1988), sources of venture capital (Vesper & McMullen, 1988; Zeithaml & Rice, 1987), idea protection (Vesper & McMullen, 1988), ambiguity tolerance (Ronstadt, 1987), the characteristics that define the entrepreneurial personality (Hills, 1988; Hood & Young, 1993; Scott & Twomey, 1998), and the challenges associated with each stage of venture development (McMullan & Long, 1987; Plaschka & Welsch, 1990).

The main purpose of entrepreneurship education has, in general, three functions:

a) Motivation - consisting in a simulation of motivation in those workers which they have good skills to understanding better of their ability and more motivate them. The main tasks of entrepreneurship education incentives such as a desire to earn more money, achievement, independence, desire to build something new, do not accept the existing practices, the lack of a social base that deserves etc. It causes the person to get on the path to becoming an entrepreneur.

b) Fostering features - meaning cultivating different new qualities that are required, but not inherited by different people. Sometimes, there are people some people that in a specific environment can acquire and develop more qualities required to become a good entrepreneur through training programs. These new features may be linked to other qualities obtained by education: creative thinking, enhancing the risk appetite, increasing tolerance for ambiguity, loss of confidence, opportunity recognition.

c) Training: specific tutorials could get several dimensions: a) Before entering or setting up a company, b) while within the company, c) After founding a new company (corporate governance). Prior to founding a new company, an entrepreneur should know to set up a business and its steps, how to learn teamwork and communication skills, and so on. Since founding the field of finance, market knowledge, management principles, insurance, economics, law, legal affairs, knowledge and expertise necessary to manage the development and growth business, finding new ways to compete and maintain position in the market. Finding new markets requires entrepreneurial skills too. All of the above objectives and to motivate people and create new entrepreneurs, informing, guiding and encouraging entrepreneurs to acquire the necessary skills and provide the necessary training for entrepreneurs the skills they need to take and pass the courses for entrepreneurs who have no history of success and provide the environment for them.

ENTREPRENEUR

Some questions are looking for answers when the concept of entrepreneur is analyzed: what is the best definition of an entrepreneur; what are their economic characteristics making them distinct from other actors of the market. Not much time to repeat the words of entrepreneurship in various media

and everyone to his own taste of the new term to refer as the managers, successful people, financiers, investors, exporters, brokers and traders use it. Although each of these people may not be entrepreneurs, but none applies fully to this concept. Who is really an entrepreneur? We will take a look at history definition of it, The English word entrepreneur is a derivative of the French verb 'entreprendre', which means literally, to "undertake". Many literatures have dealt with the definition of entrepreneurs from different perspectives. In its history, entrepreneur was first used as a technical, economic term by the 18th-century economist Richard Cantillon, who defined it as an agent who buys factors of production at certain prices in order to combine them into a product with a view to selling it at uncertain prices in future. A little further definition was developed by Jean-Baptiste Say, an aristocratic industrialist, who associated entrepreneur with the functions of coordination, organization and supervision. According to his theory, an entrepreneur is one who combines land, labor and capital and then, produces and sells the product in the market to make profits for him or her after interests, rent and wages are paid off. Entrepreneurs are creative people with new ideas and identify new opportunities to mobilize resources to create a new, innovative organization and business even with growing the venture, but they prefer activities with moderate risk. In other words, they accept the responsibility of activities in which there is no possibility of success and it is risky, but the entrepreneurs must dare to take the risk and have their own destiny, even in uncertain conditions, he can consider all aspects to solve problems and reduces mistakes in the process, with all the effort, knowledge, skills and capital. Entrepreneurs are a confident person and they are known for their confidence. They believe that they can achieve all of their expectations. In other words, they are more successful than they seem. Entrepreneurs are innovative and constantly use new ways and methods in the new situation. They use their creativity, imagination and their own resources to find new ways to put together things and make new goods. They are full of questions. Entrepreneurs do not feel fatigue and looking for solutions to solve the problems quickly. They know how to work effectively, to achieve their goals. They are handling a lot of task and duties such as: being aware about the environment and other organization's position, organizes work and production, innovation and introduce new products in the market, decides, planning for the future, selling the goods and increase the profit and investment. An entrepreneur is someone who perceives an opportunity and pursues it to make a perfect organization. He is looking for the profit and grow the business with the establishment and ruled the main characteristics of innovation and strategic management.

Common grounds of the entrepreneurs: Risk taking (moderate and calculate risk), needs for success, innovation, creativity, new idea, confidence, diligence, idealism, pioneer, opportunity-oriented (seeking opportunities), result-oriented, futurism. In a current world managers and entrepreneurs more than others should know the basic principles of success and work for it, because in the

uninterrupted process of globalization, challenges are important things in the business trade and economy, like many other things. Here describes some characteristics of the entrepreneurs that will be considered by applying the principles of success have been able to increase the profit in business and persistence at the challenges in business activities. This feature helps each individual and governmental entrepreneur to have a positive performance.

- Prospective and vision:

Entrepreneurs have completely transparent, obvious and free from any ambiguity vision and therefore it is transferable to others. Having such a vision can help entrepreneurs consistently and without confusion and directly toward to the target. Entrepreneurs are looking to see the reflection of their performance for awareness of the situation to reflect their performance is good or bad. Without this information it is very difficult to continue working for them. Entrepreneurs are goal oriented in everything they do, they are always thinking about their long-term goals and other thing they do is in the one line to reach the future goals. They always have something to follow the target and goals because of this, they call entrepreneurs ambitious.

-Determination:

Another distinctive feature is the entrepreneurs determination, that will give entrepreneurs necessary energy and commitment to succeed, the entrepreneur is determined renunciation any new ideas and opportunities and ignore other job offers and in contrast will stand in what have to be chosen by the more certainty, this certainty and determination in the process of setting up a decision can protects entrepreneur against the impair of any relatives and acquaintances and also cannot be affected by others uncertainty or a doubt and even others uncertainty will resolve by this determination.

- Motivation:

The need for self-actualization is one of the most important motivations of entrepreneurs in fulfilling their vision. The result is a strong need on the path towards the goal, everything else in lower priority occurs. Personal relationships, interests outside of the landscape or financial projects, all of which is compared with the target, priority will vanadium lower profits are rarely motivational for entrepreneurs because money alone cannot make all the efforts needed to start a business it takes an entrepreneur, although entrepreneurial activity is a good benchmark for measuring success.

- Positive thinking and optimistically:

A positive attitude is the primary embodied mind that initially it'll grow points and the positive things. The positive thinking is the greatest element for improving the entrepreneurial capabilities. Many successful people, cleverness are much higher than others, but we have to call them "genius". Certainly a positive mind of these people, force them to think more and more and this power more efficient and more accessible to innovate a new product. In fact, with free minds from any fear or

doubt and with the positive vision, positive thinking and the realization of the hopes and dreams, the entrepreneurs will be more creative and inventive, this creativity is rooted in positive attitude, with this positive attitude, they dare to face the problem and before they lose opportunities and situations - which is not in the control-, they will try to solve and fix it.

- Devotion and self-sacrifice:

Entrepreneurs have dedicated their lives to work. They are very hard working and exemplary perseverance. They work towards their goal, with clear vision and combine it with optimism and risk-taking. Entrepreneurs dedicate themselves to the fulfillment of their plans, visions, and dreams, and that tenacity of purpose generates electricity throughout the whole organization. One of the biggest reasons that companies fail is because they lose focus on their work. One of the characteristic of entrepreneurs is devotion, he loves his work and his duties in fact, this kind of love can sustain the entrepreneur to go forward and reach to the goal, even in the toughest situations and will help the entrepreneurs to work more efficiently and focus on their work and increase the productivity. Entrepreneurs are individuals or groups that operate independently or from on organizational systems, establish new organizations or innovate and renew the organization that has already existed (Chrisman and Kellermanns, 2006).

-Risk bearing:

Entrepreneurs have calculated the risk, they have to decide deliberate to participate in economic projects with high attention, care and make the condition to gain the most benefit of accepting this risk and then contribute, therefore medium-risk are more attractive for entrepreneurs. For entrepreneurs there is no definite and certain expectation of benefit of producing new products and they are facing many risky situations while working in a competitive business world. To confront and deal with all risks an entrepreneur should have a high risk tolerance, if any mistake happens the individual entrepreneurs is responsible for it, therefore he needs to have sufficient capacity to take, bearing and accepting the risk.

THE ROLE OF UNIVERSITIES AND EDUCATION CENTERS IN IMPROVE AND DEVELOP THE ENTREPRENEURS

The most reason for developing and economic growth in the country is the quality and quantity of the human resources education and their training programs. Nowadays the developing countries, try to concentrate on the enhancing the innovation in the country and develop and growth the entrepreneurs and entrepreneurship process in the system, for this aim they try to have a considerable change in the education system and implement the new orientation in the education system to growth the number of entrepreneurs and innovators in the schools and at universities. In

the late 50's, Japan was the first country started to promote the function and the culture of entrepreneurship training at the high school level and then they improve it in the high levels of training at universities and others education centers. Between 1970 and 1992 more than 96% of industrial innovation that developed and promote the Japan's position in the global economy was with the entrepreneurs performance and entrepreneurship process. The entrepreneurship training policy has the direct effects on the quantity and quality of the entrepreneur's supply in the society. That is why in many countries, particularly the developed countries which they have been overcome the barrier of the entrepreneurship implementation, the government started to develop and promote the potential of the people, and enhance the quality of education systems and training courses. Education is very important, especially for the small producers.

The implementation of this policy follows the variety of purposes and aim such as, identify the opportunities and profitability, exploitation of them, understanding the new technology and implement them in the system and apply the new method and practice in the business and management. Education can be in two models: 1) long term, such as education in high school and after high school in university 2) short term such as courses and training classes .

CONCLUSION

There are many research and studies about the process of entrepreneurship and entrepreneur, in this research after a brief description about the entrepreneurship process and entrepreneur, tried to clearly show the need and importance of utilizing the entrepreneurship in organization and discover the relationship between developing the economy by using the innovative way to make products among the organization and effectiveness of it. Researched showed that the undeniable importance of entrepreneurship and addressing it in the organizations, is the current needs of all countries and made clear the role of entrepreneurship and entrepreneurial development initiatives addressing the main part of the program countries. So for developing the entrepreneurship process and utilize successful entrepreneurial programs and increase the innovation in the country, we need to pay more attention to educational organization system such as universities as the main centre of education system in any country to grow and educate more entrepreneur skills. Universities play a vital role to creates activates in support of entrepreneurship and entrepreneurs, an add-on to business education, with supplying an elective course and training courses, training new entrepreneurs, workshop and finally as a concentration, major or a program, to guiding entrepreneurs toward gaining the necessary skills and provide them with the necessary skills to raise the level of their success in their businesses. It is teachers and professors who presently must be approve by an established faculty from other fields and courses currently fit into the existing curriculum, grading system, and calendar of students and

educate, promoting the spirit of entrepreneurship, entrepreneurial culture and creating the opportunities for creative people and encouraging them to focus on their ability. Entrepreneurship is new and it is about continual innovation and creativity. It is the future of business universities and it should begin to move into all -privates and governmental- organizations and can design more customized entrepreneurship systems that better maximize wealth creation for organizations, for their managers (Kuratko et al.), for staff (Monsen, 2005; Hayton, 2005), and for society (Schendel & Hitt, 2007) to the developing countries and creating the large number of entrepreneurs.

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SOCIAL ENTREPRENEURSHIP IN THE CZECH REPUBLIC

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ABSTRACT

The paper describes the up-to date situation in social entrepreneurship in the Czech Republic. The aim of the paper is to analyze incidence of social enterprises in the Czech Republic and analyze them based on chosen variables. In the theoretical part, literature review and various legal forms of enterprise are presented. The secondary data from the Czech Social Enterprise website are used. The sample consists of 219 companies registered in the website's database by 22nd March 2016. Quantitative approach with descriptive statistics used describes social enterprises according to their distribution in Czech regions, date of establishment, legal form, activity of social enterprise, and frequency of offering indemnification. Main findings are that perception of social entrepreneurship in the Czech Republic is often narrowed down to issues of employment of the handicapped or otherwise disadvantaged people. Most social enterprises are registered in the capital city of Prague, South Moravia, Olomouc, and Moravia-Silesian region. Distribution of social enterprises in the Czech Republic is uneven and for instance in Karlovy Vary region, social enterprises are represented very poorly. Most social enterprises were founded between the years 2007 and 2013, focusing on business areas like gardening and cleaning services, food production, sales, and provision of accommodation and food services. Finally, a case study of international NGO Ashoka which consists of more than 1 800 social innovators is presented. The main contribution of the research is description of the current state of social innovators in the Czech Republic and its structure. The originality of the paper is based on uniqueness of gaining and analyzing data about social entrepreneurship in the Czech Republic as such data has not been systematically collected or analyzed.

Keywords: *social entrepreneurship, Czech Republic, Ashoka*

INTRODUCTION

The term "social economy" was first used in France in 1830 by Charles Dunoyer (Dohnalová, 2011). There is a space between the state and its establishments and the market and its institutions, this gap is called the third sector or social economy. Social economy is on the border between the state or public sector and the private sector, i.e. for-profit market. It is a range of public goods which the market is not

capable of distributing or is not willing to do so, and in the meantime the state waives their distribution (Hunčová, 2007). Social economy produces goods of general interest (common goods) with positive social externalities (effects) with impact on social capital (in Hunčová, 2009). In literature, the third sector is also called social economy, the social sector, non-profit sector, voluntary sector, community sector, or civic sector (Dohnalová, 2006).

In almost all industrialised countries, we are witnessing today a remarkable growth in the 'third sector', i.e. in socio-economic initiatives which belong neither to the traditional private for-profit sector nor to the public sector. These initiatives generally derive their impetus from voluntary organisations, and operate under a wide variety of legal structures. In many ways they represent the new or renewed expression of civil society against a background of economic crisis, the weakening of social bonds and difficulties of the welfare state (Borzaga, Defourny, 2003).

The aim of this paper is to describe the current state of social entrepreneurship in the Czech Republic. For this purpose, the legislation concerning companies engaged in social entrepreneurship was presented first. The practical part presents division of social enterprises by legal form of business, by foundation, by distribution in the regions of the Czech Republic, by activity of social enterprise, and by providing the so-called facultative compensation.

LITERATURE REVIEW

In the Czech Republic the awareness about the content of social economy is generally low. One of the reasons may be lack of legislative framework and absence of authority the agenda of which would be social economy. Nevertheless, studies show that social economy and social enterprise exist in the Czech Republic (Dohnalová, 2011). It is interesting that most Czech social entrepreneurs independently agree that in the Czech business environment the term "social" arouses rather negative connotation, and that the expression "social innovation" may appear misleading and incomprehensible. In contrast, in Western Europe and the USA the adjective "social" rather evokes positive connotation. It occurs frequently in relation with expansion of the concept of corporate social responsibility which acquires, to some extent, even strategic character. This assumption is confirmed by the expansion of new hybrid cooperatives in the UK, the reviving debate about the role of cooperatives and social economy in spreading social entrepreneurial movement in France, and the growing popularity of master degree majors focusing on social entrepreneurship in the American approach of contemporary management education. Such linguistic oddity largely prevents not only the development of cooperative business in the Czech Republic, but it also represents a barrier for social entrepreneurs and social sector of the economy as a whole (Polícar, 2010).

Due to different ways of defining social economy, there is no accurate way of measuring its economic contribution (Dohnalová, 2011). However, some governmental and international institutions are showing an effort to create a certain procedure or standard of impact measurement of the social economy. For instance, the European Commission has developed such an initiative based on the following assumption. Where public funding is used efficient delivery of outcomes, or savings in public spending must be demonstrated. A consistent way of measuring social impact is therefore needed. In October 2012 a Social Impact Measurement expert sub-group was set up by the GECES ("Groupe d'Experts de la Commission sur l'Entrepreneuriat Social") in order to advise on a methodology which could be applied across the European social entrepreneurship sector (European Commission, 2014).

Social economy is a broad and multidimensional topic. The actors of social economy may or may not participate in the market and achieve profit or even loss, they also may or may not benefit from philanthropy or public sources; but always through redistribution of profit they achieve not only individual, but collective benefits within their own apolitical civic consensus of objectives and means (Dohnalová, 2011).

The objectives of social economy put focus on people. We may imagine social or ethical economy as the economy of "people for people" unlike the economy "for the market". The economy and the people participate in the market not only for profit but also other values (livelihood, stability of the economy, social stability). Market economy can also be regarded as social in case it produces positive social externalities, as well as the public sector, especially if it supports the development of social economy indirectly. The aforementioned inclusion underlines the potential ethical values hidden in every economy and even possible reciprocity of the private and public sectors in terms of achievement of (social) benefits (Hunčová, 2007).

Social economy is the way how citizens economically develop their own solidarity through collective initiatives and their willingness, and modernize the current welfare state while maintaining coverage of social risk at an acceptable level, as well as providing social services which are currently not covered by the state, market, or communities (in Hunčová, 2009).

Social economy can also be regarded as means by which the state returns the responsibility for social risks back to the citizens and creates certain supportive conditions like law and partnership in decision making. If an individual becomes involved in a difficult life situation (threatening his social status, exclusion from the labor market), it is possible to rely on the assistance of the state or charity. Whereas the concept of social economy assumes that such individuals are given a helping hand so that in the context of the civic sector and mutual self-help they are able to actively resolve their situation by themselves (Hunčová, 2007). The persistence of structural unemployment in many countries, the need to reduce state budget deficits and to keep them at a low level, the difficulties of traditional social

policies and the need for more active integration policies have naturally raised the question of how far the third sector can help to meet these challenges and perhaps take over from public authorities in some areas. Of course there is no simple answer to this question, and the debate is still wide open (Borzaga, Defourny, 2003).

| Public sector organization | Criteria | Entity of social economy |
|---|---------------------------|---|
| No explicit aim. | Aim | The main aim of a social enterprise is to serve its members, community or society as a whole. |
| Democratic control over the organization is not required. | Control over organization | Excludes entities that do not operate on democratic principles. |
| Any profit distribution is unacceptable. | Use of profit | Limited income redistribution is permitted. |

Table 1. *Different attributes of public sector organizations and entities of social economy according to criteria.*

Source: Dohnalová (2011)

According to Schumpeter, a social enterprise is a socially oriented, implemented, innovative intent achieved through economic activity in the presence of real economic risks (Schumpeter, 1934). Organisation for Economic Cooperation and Development (OECD) defines social enterprises as any private activity conducted in the public interest, organized with a business strategy the main objective of which is not to maximize profit, but to achieve certain economic and social objectives, and which have the capacity to bring innovative solutions to problems of social exclusion and unemployment (OECD, 1999).

The concept of social enterprise is built on a self-governing partnership of the public and the private social sector while implementing policies mentioned below (Hunčová, 2007). Social enterprises meet the employment policy, social cohesion policy, regional development policy, and sustainability policy. Employment policy means providing equal opportunities for disadvantaged individuals in the labor market. Supporting the growth of social capital and social inclusion, as well as provision of social services are included in the social cohesion policy. Regional development policy should be understood as local economic capital growth through support of employment, entrepreneurship, and involvement of local resources. Support in care for the environment, cultural heritage, landscape, and inter-generational solidarity is the subject of sustainability policy (in Hunčová, 2009).

A social enterprise is a business entity that operates in the market while offering employment of disadvantaged individuals. Social enterprise primarily caters local needs and uses primarily local resources (in Hunčová, 2009). Social enterprises are majorly small and medium businesses. At least a minimum amount of unpaid labor is often present in their activity as for instance volunteering or self-help. Voluntary membership and openness are the core qualities of a social enterprise, and on the

contrary, its main goal is of a non-profit character and not primarily return on capital. The enterprise is responsible to those who it serves (Hunčová, 2007).

Social enterprises, regardless of their legal form, can generally be identified and distinguished from voluntary organisations through a set of criteria or features, such as those identified by the EMES network (www.emes.net). These criteria are: a continuous activity producing goods and/or selling services; a high degree of autonomy; a significant level of economic risk; a minimum amount of paid work; an initiative launched by a group of stakeholders; a decision making process not based on capital ownership; a participatory nature, which involves the persons affected by the activity; limited profit distribution; and, an explicit aim to benefit the community (www.emes.net). These criteria have to be seen and applied in an open and flexible way (OECD, 1999; Mouves, 2012).

Social enterprises are autonomous (self-governing communal citizen initiative), voluntary, and undergo significant economic risks while meeting economic and social objectives (Dohnalová, 2011). Innovations in the means of providing services to citizens, especially socially excluded citizens, who are more difficult to integrate into society are typical for such enterprises. They contribute to local and regional development. Such enterprises respond to the new emerging needs of society by creating and providing the necessary types of products, and public and social services (Dohnalová, 2011).

| Type | Characteristics |
|---|---|
| Natural entity / individual – Trade licence | Trade licence is regulated by the Act on Trade licencing no. 455/1991 of the Legal Code. Trade is defined as "continuous activity carried out independently, in own name, on own responsibility for profit and under the conditions set by this Act" (Act no. 455/1991). General conditions for individuals to obtain such licence are: Reaching the age of 18, Legal capacity, Clean criminal record. |
| Limited liability company – s.r.o. | The registered capital of this legal entity is composed of contributions made by its shareholders. The minimum contribution for each shareholder to the registered capital is CZK 1. It may be established by a natural or a legal entity (only a single legal entity is permitted). The company's liability is limited to all its assets, while the limited partner's liability is limited to the amount of outstanding deposit. The supreme body of the company is the General Assembly composed of shareholders and the statutory body is represented by the Executive Director or by the sole shareholder exercising the powers of the General Assembly. The advantage is credibility of the legal form (Law no. 90/2012 of the Legal Code). |
| Joint-stock company – a.s. | A joint-stock company is established by articles of association by one or more shareholders (whether individuals or legal entities). The capital is divided into a number of shares of a nominal value. Without public offering, its amount is set to a minimum of 2 000 000 CZK, in case of public offering the minimum capital is 20 000 000 CZK. The liability is limited by company's property, individual shareholders are not liable for company debts. The statutory body of the company is represented by the Board of Directors, the highest authority is the General Assembly. Furthermore, the Supervisory Board oversees the performance of the Board of Directors and the company's activities. The advantages are credible legal form and larger capital (Law no. 90/2012 of the Legal Code). |
| General partnership – v.o.s. | General partnership is an association of persons or an unincorporated company formed by two or more persons created by agreement, proof of existence and estoppel. The owners are personally liable for any legal actions and debts of the company, which is its main disadvantage. All partners share equally both responsibility and liability of the company. If |

| | |
|----------------------------------|---|
| | a partnership defaults, the partners' personal assets are subject to attachment and liquidation. A partnership may be represented exclusively by an appointed natural person. |
| Cooperative | A cooperative is a community-based entity for business purposes or for provision of economic, social, or other needs of its members. A cooperative must consist of at least 3 members, a maximum number of members is not determined. A cooperative is liable for its debts with all its assets, members are not liable for the cooperative. The essence of the cooperative is that its members do not deposit money, but mostly other material asset. The law does not determine a minimum amount of capital, but the share must be equal for all members. The supreme body of the cooperative is the Members' Assembly, the Board of Directors is a statutory body, the basic document is called Articles of incorporation, and the supervisory body is represented by the Control Committee. The law also regulates the Housing Cooperative and Social Cooperative (Law no. 90/2012 of the Legal Code). |
| Social cooperative | Social cooperative is a new legal form introduced in 2014 which supports social entrepreneurship. Generally it represents a cooperative focusing on social entrepreneurship. Voluntary associations which are now transforming have the option to transform either into a new form of voluntary association or become a social cooperative. Business Corporations Act defines a social cooperative as follows: Social cooperative is a cooperative that consistently develops for-impact activities aimed at promoting social cohesion for vocational and social integration of disadvantaged people in the society with the preferential of satisfying local needs and exploiting local resources in place of residence and scope of the social cooperative, especially in the area of job creation, social services, health care, education, housing and sustainable development. (Act no. 90/2012 Coll.) Social cooperatives are not NGOs although their activities bring public benefit. Profit from operation of a social cooperative may be redistributed among its members. Social cooperative may, if permitted by the articles of incorporation, distribute a maximum of 33% of its disposable income among members. Conditions of membership in a social cooperative are stricter than in voluntary association. Only a legal or natural entity who carries out social work in the cooperative based on employment contract or voluntary basis, or a natural person who is the recipient of the services provided by the social cooperative may become its member. (Act no. 90/2012 Coll.) |
| Charitable organization – o.p.s. | This type of organization is no longer considered a separate legal form since 1st January 2014. The existing organizations may remain o.p.s., or convert into voluntary association, foundation, or endowment fund. O.p.s. providing public services of general interest and its economic profit must not be used for the benefit of the founder, but to provide public services. |
| Voluntary association – o. s. | Under the new Civil Code, a voluntary association is to be called association. The main aim of this legal entity remains unchanged. Associations are founded to fulfil certain goals which are primarily non-for-profit. Within the period stipulated by law they must adapt and their legal names (up to 2 years) and articles of incorporation (within 3 years). Since 1st January 2014, the new Civil Code (Act no. 89/2012 Coll.) comes into force and allows the following newly formed legal forms: Association, Cooperative, Foundation, and Endowment fund. |
| Ecclesiastical organization | Ecclesiastical organization under the Act on Churches and Religious Societies remains in force. Under this Act, new legal persons may be established. Legal entity registered under this Act may be a body of a registered church or a religious society, or a special-purpose entity established to provide charitable services. Business and other for-profit activities may only be a complementary activity. Register of churches and religious societies is managed by the Ministry of Culture. |

Table 2. *Comparison of legal forms of social enterprise*

RESEARCH DESIGN AND FINDINGS

In the Czech Republic, there is neither an official database of social enterprises, nor the exact number of social enterprises is known. Due to lack of legislation defining and determining the criteria for social entrepreneurship, we can only speculate what can be derived from the recommended standards.

One of the most comprehensive resources in the Czech Republic is the Czech Social Entrepreneurship website, which contains 219 registered social enterprises in its database by 16th March 2016. The directory includes organizations that are committed to the idea of social entrepreneurship. The register was created based on telephone surveys in autumn of 2012. The source of contacts used for surveying the businesses was a list of social enterprises created by the organization TESSEA. Businesses may also add their own data into the database. They shall simply fill in a questionnaire on the website of the Czech Social Entrepreneurship which is then assessed so the given company is either added to the register of social enterprises, or the request is refused.

The following information on social enterprises was analyzed: year of establishment, legal form, area of business, city, county, social entrepreneurship, website of the social enterprise. The "social enterprise" section provides information on why the business is considered social in its sole discretion. Detailed examination of this data also provides other features of Czech social enterprises.

It should be noted that although such register of social enterprises is a unique source of information about social entrepreneurship in the Czech Republic, some social enterprises are not included in the list even though companies are regarded as social. It is speculative whether it is due to the fact that the company has not been approved, or that the list is incomplete. For instance, a voluntary association *Nový prostor* which provides employment for homeless individuals by selling the magazine called *Nový Prostor* is not included in the register. Nevertheless, the company was included in the book "Social Business 10 successful examples in Europe." (Meszáros, 2008).

DISTRIBUTION OF SOCIAL ENTERPRISES (SE) BY LEGAL FORM OF BUSINESS

In the Czech Republic, the most common forms of social enterprise are a limited liability company (s.r.o.) represented by 44.7% of cases, a charitable organization (o.p.s.) by 25.6% of the business units, followed by voluntary associations (o.s.), and entrepreneurs doing business under the Trade Licensing Act. Cooperatives, which are a typical legal form of social entrepreneurship, occurred only in 7.3% of cases. The reasons why the most preferred form of social enterprise a limited liability company are facile founding, where only a single executive director is needed, and low requirement for capital. In contrast, cooperatives, according to the law no. 90/2012 of the Legal Code, must be founded by at least three members, also legal regulation of their activity is different (e.g. arrangements for decision making or rights and obligations of members).

| Legal form type of social enterprise | % |
|--------------------------------------|------|
| Limited liability company (s.r.o.) | 44.7 |
| Charitable organization (o.p.s.) | 25.6 |
| Voluntary association (o.s.) | 9.6 |
| Trade licence (osvč) | 7.3 |
| Cooperative | 6.4 |
| Ecclesiastical organization | 3.2 |
| Joint-stock company (a.s.) | 0.9 |
| General partnership (v.o.s.) | 0.5 |
| Other | 1.8 |

Table 3. SE distribution by legal form of business ($n = 219$). Source: authors' construction based on analysis

YEAR OF ESTABLISHMENT OF SE

Social enterprises began their establishment in the 90s of the last century in the Czech Republic. The largest increase in the number of social enterprises was between the years 2009-2014 when every year at least 10 such companies were founded. The record number of 47 new social enterprises was achieved in 2012, also years 2011 and 2013 were considerably strong when 38 and 32 new social enterprises were established respectively.

Programs for social entrepreneurship support played a major role in this process. The concept of social economy and social enterprise became popular in the Czech Republic in connection with the possibility to draw resources from the European Structural Funds to support development (Hunčová, 2009). In 2007-2013, it concerned the operational funding program Human Resources and Employment. In the previous period, support of the development of social economy was hidden under the concept of local development, partnership between the public and private sectors under EQUER and LEADER+ programs (Hunčová, 2007). Today, operational programme 2014-2020 is being prepared, therefore stagnation or growth of emergence of social enterprises may be expected.

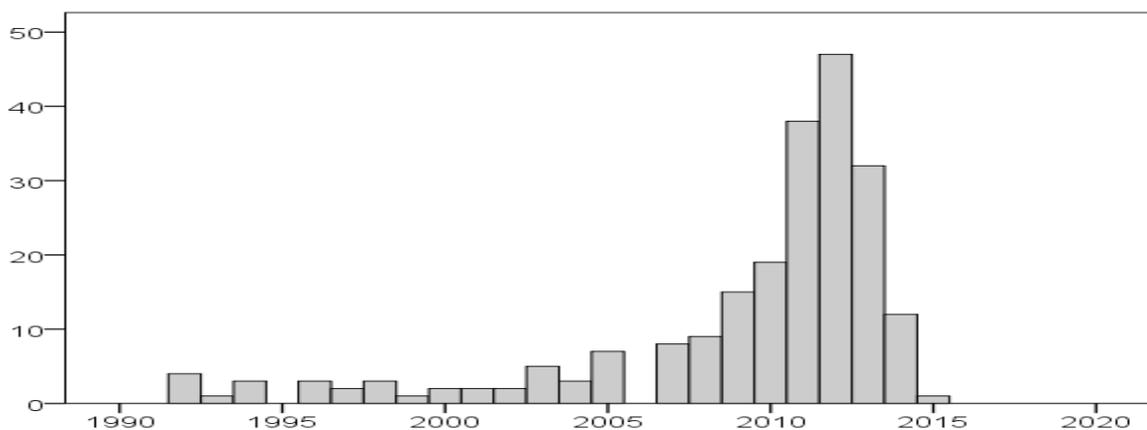


Figure 1. SE distribution by year of establishment

SE DISTRIBUTION AMONG REGIONS IN THE CZECH REPUBLIC

While analyzing the distribution of social enterprises among regions in the Czech Republic it is possible to identify three largest clusters in which the concentration of social enterprises is by far the highest. The first cluster comprises 66 enterprises in the city of Prague and Central Bohemia, which represents 30% of the total number of SEs in the Czech Republic. The reason is that in this region, concentration of economic activities in the Czech Republic the most significant in general, and most companies are registered in this area. The second most numerous cluster of social enterprises in the South Moravian region which houses 25 social enterprises (11.4% of the total number). The third and fourth most numerous clusters of social enterprises are in the Olomouc and Moravian-Silesian regions where each counts over 20 social enterprises (9.1%). In contrast, the least social enterprises are located in the region of Karlovy Vary (3 companies) and Liberec (4 companies), then in the Pardubice region (7 companies), in the Vysočina region (8 companies), and the Pilsen region (9 social enterprises). The fact that Karlovy Vary region is the least active in social entrepreneurship is not very surprising since it is a region with generally the lowest economic performance in the Czech Republic, on the other hand, the development of social entrepreneurship would certainly benefit this region considering its structural unemployment rate as well as the highest number workers with just primary education who would be able to find adequate employment in social enterprises.

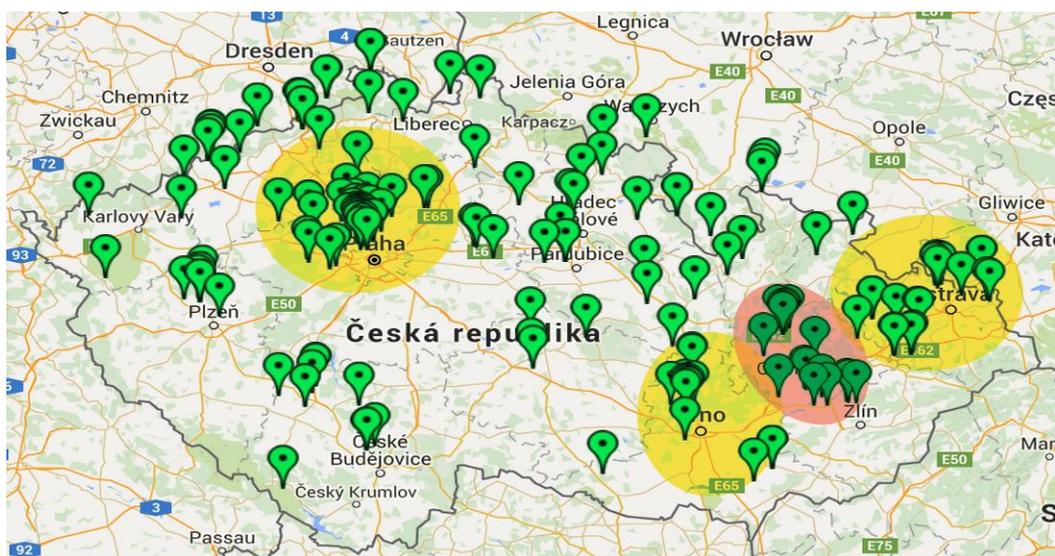


Figure 2. SE distribution among regions in the Czech Republic. Source: <http://www.ceske-socialni-podnikani.cz/cz/adresar-socialnich-podniku/mapa-podniku>

AREA OF BUSINESS OF SES

Business areas of social firms are divided according to NACE classification into 15 groups. Areas that often occurred form their own group (i.e. gardening, cleaning). Those that did not occur often are

categorized as others. Forestry, cardboard manufacturing and glass manufacturing may be found among others. Some social enterprises operate in multiple areas of business, those were classified according to the activity which was prevalent.

Most enterprises are engaged in gardening services, landscaping, property maintenance, and cleaning work (26% of companies), followed by food production and sales (18.7%), sales in general (18.2%), accommodation and food service activities (17.8%), training and requalification (16.9%), decorative manufacture, production of glass and ceramics (9.1%). It is obvious that social enterprises operate in various sectors mostly providing services and involving in small-scale manufacture. Conversely, industrial production does not belong among the main fields of business in social enterprises. Dividing area of activity by sector (primary, secondary, and tertiary), 20.2% of social enterprises are involved in activities which fall within the secondary sector, and 79.8% of enterprises are engaged in activities falling within the tertiary sector.

| Group | Area of business | |
|-------|--|-----|
| A | AGRICULTURE, FORESTRY AND FISHING | 57 |
| C | MANUFACTURING | 94 |
| D | ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY | 3 |
| F | CONSTRUCTION | 19 |
| G | WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES AND MOTORCYCLES | 40 |
| H | TRANSPORTATION AND STORAGE | 6 |
| I | ACCOMMODATION AND FOOD SERVICE ACTIVITIES | 39 |
| J | INFORMATION AND COMMUNICATION | 22 |
| K | FINANCIAL AND INSURANCE ACTIVITIES | 4 |
| M | PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES | 15 |
| N | ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES | 29 |
| P | EDUCATION | 37 |
| Q | HUMAN HEALTH AND SOCIAL WORK ACTIVITIES | 32 |
| R | ARTS, ENTERTAINMENT AND RECREATION | 22 |
| S | OTHER SERVICE ACTIVITIES | 59 |
| | TOTAL | 501 |

Figure 3. SEs by fields of activity according to NACE (n = 501). Source: authors' construction

PROVIDING FACULTATIVE COMPENSATION

In the sense of regulation §81 and following Act No. 435/2004 of the Legal Code on employment, the term „facultative compensation“ means that an employer with more than 25 employees in permanent employment must employ 4% of persons with disabilities. For failing to fulfill this obligation, a contribution to the state budget must be paid (in 2014 the amount of 62,090 CZK, in 2015 the amount grew to 62,946 CZK per employee with disabilities). An alternative solution to deal effectively with this

issue is purchasing products or services from a company that employs more than 50% of employees with disabilities (value corresponding the amount of 176,253 CZK in 2015 per a disabled employee).

The current analysis shows that only 19.6% of the monitored 219 social enterprises provide facultative compensation while the remaining more than 80% do not.

ASHOKA

Another significant and also the most recent mapping initiative of the activities of socially beneficial projects in the Czech Republic is a map of social entrepreneurs created by the international organization Ashoka in cooperation with an Austrian analytical agency FASresearch, and Karel Janecek Foundation (see Fig. 3). Ashoka systematically performs network analysis of social entrepreneurs worldwide. Besides the mapping itself, this project aims to link and make more visible those entrepreneurs who provide unique and innovative solutions to social issues (Ashoka, 2015).

In the Czech Republic, the mapping was carried out from October 2014 to February 2015 using the so-called snowball sampling technique. This method works on the principle of addressing the key players in the field and finding out whom they perceive as other significant innovators, experts, or supporters of social entrepreneurship. The result of this project is a map containing 1,840 drivers of social change. The map was compiled based on a limited number of interviews with social innovators. While choosing the respondents, the balance of interest fields and roles was taken into account. It should however be noted that such map is neither a complete list of social entrepreneurs, nor a scale to measure their success. The map does not include all names of all the respondents, partly due to space restrictions, and partly because not all the respondents wished to be listed on the map, or responded negatively to permission to be listed. Ashoka states that it is aware of the limitations, but still sees the underlying mapping as an important first step towards systematic observation of the social innovation field in the Czech Republic, and will seek to enhance the quality of mapping in the future. The organization also makes this map accessible to general public as a potentially useful guide to finding partners across the thematic areas and roles (Ashoka, 2015).

| Fields of activity | Roles |
|---|-----------------------|
| Strengthening civil society and transparency, local development | Established innovator |
| Education and support of interest in science and research | Newbie innovator |
| Healthy lifestyle, healthy nutrition, and access to health care | Expert |
| Socio-economic inclusion and integration | Supporter |

Table 4. *Entrepreneurs and innovators on the map are divided into groups by fields of activity and roles. Source: Ashoka (2015)*

Ashoka primarily addressed 500 selected respondents and received responses from 310 of them. Subsequently, a network of 1,840 nominees for social entrepreneurs, innovators, and supporters

emerged from the interviews. In some cases, the persons interviewed met nominations in all the named categories. These individuals act as unique connectors within the network. Comparison with Austria (287 interviews and 1,213 people) or Italy (443 interviews and 1,061 people) suggests that Czech civil society is characterized by a relatively high degree of openness and interconnection between innovators, experts, and supporters (12.2 nominations per person versus 4.2 nominations in Austria). Likewise, representation of both genders in the Czech Republic is relatively balanced (43% women, cf. Italy 20-40% depending on the region). Ashoka claims that despite targeted efforts to direct nominations into regions and from regions outside Prague, the map shows its strong central position as for interconnection, number of participants, and sources of support. Therefore, in the future, the organization wants to focus more on the network in other regions of the Czech Republic (Ashoka, 2015).

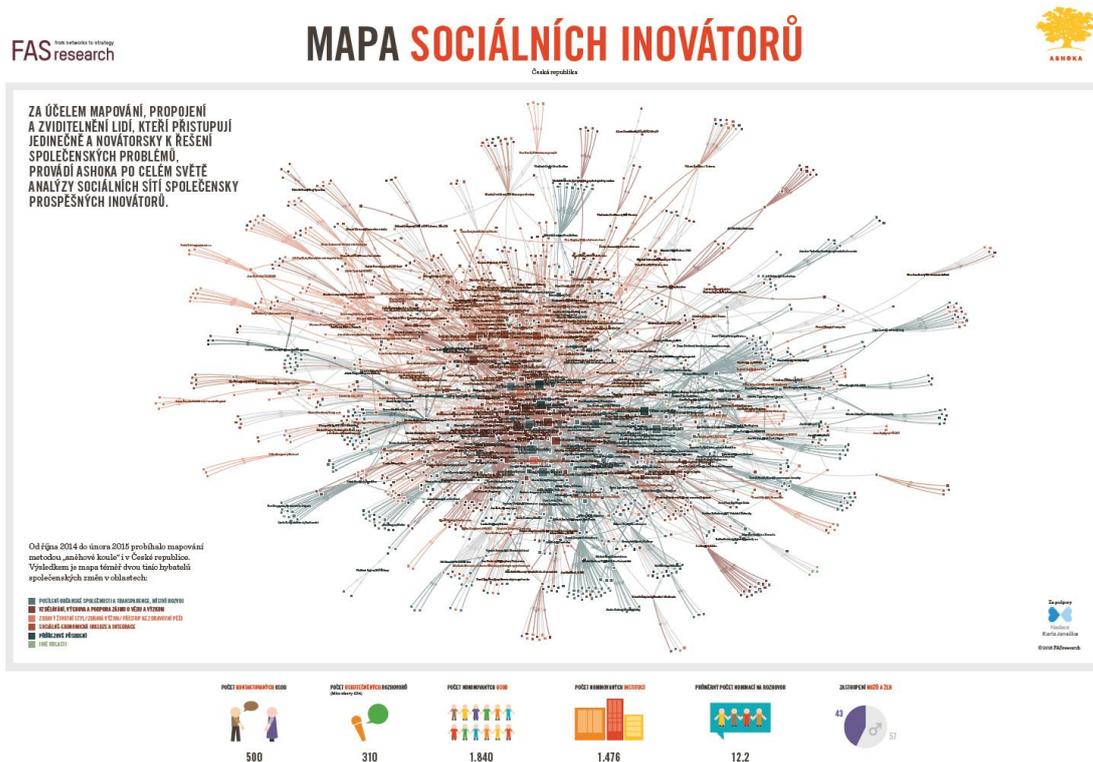


Figure 4. Map of social entrepreneurs in the Czech Republic. Source: Ashoka (2015). The full map is available in high resolution on: <http://www.ashoka-cee.org/czech/wp-content/uploads/sites/5/2015/04/Changemaker-map-Czech-Republic.pdf>

SUMMARY

Social entrepreneurship appropriately combines economic and social objectives of society. Legal environment that poorly supports social entrepreneurs and innovators in general prevents greater

development of social entrepreneurship in the Czech Republic. In the Czech practice, an enterprise itself decides on whether to define itself as social or not, or it does not consider such view at all. Perception of social entrepreneurship in the Czech Republic is often narrowed down to issues of employment of handicapped or otherwise disadvantaged people. Social entrepreneurship put focus on community and local development, it contributes to solving collective or social issues, not only issues of individual subjects.

The main contribution of this article is description of the structure and the current state of social economy in the Czech Republic. The originality of the paper based on uniqueness of gaining and analyzing data about social entrepreneurship and its key actors in the Czech Republic. Based on the analysis conducted, it is possible to say that most of the 219 observed social enterprises that operate in the Czech Republic, most is registered in the capital city of Prague, South Moravia, Olomouc, and Moravia-Silesian region. Distribution of social enterprises in the Czech Republic is uneven and for instance in the Karlovy Vary region, social enterprises represented very poorly. Legal form of the majority of social enterprises is either a limited liability company, a charitable organization, or a voluntary association. Most social enterprises were founded between the years 2007 and 2013, focusing on business areas like gardening and cleaning services, food production, sales, and provision of accommodation and food services. Four-fifths of social enterprises included in the assessed database do not provide facultative compensation. According to the research made by the international NGO Ashoka in 2015, there are more than 1 800 active social innovators, i.e. individuals and entrepreneurs involved in social economy in the Czech Republic.

ACKNOWLEDGMENT

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MANAGERIAL INSIGHTS FROM SERVITIZATION LITERATURE: PRELIMINARY DESCRIPTIVE RESULTS FROM A CONTENT ANALYSIS

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ABSTRACT

Servitization, meant as the addition of services to the product, is one of the most relevant phenomenon of the modern economy. Although the concept was described many years ago, only in the last decade, many authors, coming from different research streams, have been dealing with servitization. While literature is rich, it results quite fragmented, lacking in classifications of the mainstreams and of the practices and techniques useful to carry out servitization.

Thus, the aim of this paper is to map and analyze the existing managerial literature on the servitization in order to identify its general characteristics and describe the managerial implications that it is possible to draw upon.

The analysis of the literature was carried out through the content analysis technique.

Keywords: *Servitization, Content Analysis, Services, Product-Service Systems, Service Strategies, Service Marketing.*

INTRODUCTION

One of the most important phenomenon of modern economy is *servitization*, conceived as the evolution of the offering from a simply material product to a product-service system (PSS) which in turn is made of a variable mix of tangible (the product) and intangible components (service) (Vandermerwe and Rada, 1988; Goedkoop et al., 1999; Baines et al., 2007). One of the main motivations pushing managers to servitize firms' business seems to be the willingness to match customers' needs (Baines et al., 2010) delivering a high customized offering that is tailored on their needs and capable to create a strong consumer relationship (Tukker, 2004). The servitization fosters the rise of a new service-dominant logic, where marketing becomes a process of doing things in

interaction with the customer who is a co-creator and a co-producer of services (Vargo and Lush, 2004).

The issue of the add of services to the product has been faced by many scholars coming from diverse research streams with different research perspectives and cognitive goals (even being characterized by multiple definitions of the phenomenon).

It emerges that the boundaries and the composition of literature is controversial. Indeed the existing literature reviews, that are very few (Pawar et al., 2009; Baines et al. 2013; Reim et al., 2014), do not propose a unique way of systematizing servitization literature. Each review identifies an own set of research streams omitting of analyzing and comparing the mainstreams among them.

Another feature of literature is the lack of a clear classification of the practices and techniques that firms could employ to servitize themselves (Reim et al., 2014).

Thus, the work aims to reach two goals.

Firstly, it analyzes the main features of literature identifying the mainstreams and classifying the managerial insights proposed by scholars in their works and secondly it studies the traits of each research stream.

LITERATURE REVIEW

The concept of servitization is not recent, as Vandermerwe and Rada conceptualized it for the first time in 1988, but only in the last decade it has been extensively investigated. Through the servitization firms add value to their corporate offerings through services; thus, firms' offering is represented by a bundle of goods, services, support, self-service and knowledge (Vandermerwe and Rada, 1988). This bundle has been named by Goedkoop et al. (1999) as Product-Service System (PSS).

Generally speaking, the term *servitization* is used by scholars to call the shift from selling the pure product to selling a bundle of product and services, by which firms deliver value in use (Baines et al., 2009), increase the differentiation (Neely, 2008), meet the complex needs of the customers and changes in their behavior finding out new opportunities for profit (Baines et al., 2013) and obtaining a competitive advantage (Oliva and Kallenberg, 2003).

The literature on servitization appears quite fragmented as contributions come from different research fields, each adopting a different perspective, with different research objectives and often using a variety of names while referring to the same phenomenon.

An initial analysis of literature has brought to the identification of four different mainstreams. Papers belonging to each of them have a common group of main authors, specific goals and refer to servitization with precise names, different from other mainstreams.

The first group of studies is here named as *PSS-Servitization* mainstream (Vandermerwe and Rada, 1988; Goedkoop et al., 1999; Mont, 2002; Baines et al., 2007; Neely, 2008; Baines et al., 2013). All these studies agree on the seminal definition of servitization given by Vandermerwe and Rada (1988) and Goedkoop et al. (1999). From this mainstream emerges that servitization is a strategy that entails a transition along a continuum which goes from the offering of pure products to that of pure services (Tukker, 2004). The mainstream has two main characteristics. First many authors are not interested in the managerial or economic aspects of the phenomenon, aiming at studying its ability to improve the environmental sustainability. Second, many scholars who deal with the phenomenon come from the operations studies, which gives the mainstream a strongly pragmatic trait.

The second mainstream, here called *Service Strategy*, consists of works that consider the phenomenon mainly as a strategy option, which is a recurring word, by which it is possible to extend the existent firm business providing services too (Gebauer et al., 2005; Gebauer et al., 2011; Kowalkowski et al., 2013). This mainstream does not even use an ad hoc term to identify the phenomenon. It aims at identifying the types of strategy that firms can adopt to differentiate themselves and to beat the competitors. The reasons for servitization are purely financial. No environmental goals are considered.

In the *Integrated Solutions* mainstream (Brady et al., 2005) scholars mainly look at capital goods firms and aim at creating solutions which are tailored on customer needs (Davies, 2004; Brady et al., 2005; Windahl and Lakemond, 2006). The bundle is sometimes called Complex Product System (CoPS) (Davies, 2004). Authors consider the phenomenon strictly linked to the existence of a network of agents, where the customer acts as a key actor and fundamental value co-creator. Often works are interested at identifying the competences that the focal firm, also named system integrator, needs in order to manage the network.

Finally, the *SD-Logic* mainstream found in marketing field (Pawar et al., 2009). It is based on the work of Vargo and Lusch (2004), who propose a new logic of economic transactions not more based on goods but on services, entailing that the consumer exchanges to acquire services and he acts as co-producer for the firm (Vargo and Lusch, 2006; Lusch et al., 2007).

Concluding, literature about the phenomenon of servitization is composite and heterogeneous as it consists of different contributions coming from diverse fields: authors with different backgrounds (management, production, informatics, environmental sustainability), research perspectives and cognitive goals.

METHODOLOGY

Research technique

The analysis of literature is performed by using the “content analysis” technique which allows to reduce a complex phenomenon in a set of defined categories, facilitating its analysis and interpretation (Berelson, 1952; Krippendorff, 1980; Losito, 1996; Harwood and Garry, 2003).

The content analysis was chosen for two reasons.

Firstly, the units of analysis consist of textual data (articles published in academic journals). Secondly, this technique is considered the best methodological choice to categorize and code the textual data (Stemler, 2001).

The first step of the content analysis was the creation of a conceptual map identifying the main dimensions of the existing literature on servitization, which has therefore sustained the creation of the analysis form (having the same structure of a questionnaire) to be used for paper analysis.

The main dimensions are three:

- a) *Paper ‘demographics’* – year of publication, research methodology (empirical or theoretical), research approach (qualitative or quantitative), geographical area of authors’ affiliation;
- b) *Main features of the phenomenon* – literature mainstreams papers belong to (PSS-Servitization, Service Strategy, Integrated Solutions and SD-Logic) and triggers driving the servitization (financial, political and ethical reasons);
- c) *Managerial insights* – managerial aspects investigated by the scholars (general organization which refers to firms’ intra-organizational factors such as capabilities, culture, strategies; management of the supply chain; firm-customer relationship; process design; financial impact of servitization; management of human resources) and papers’ managerial implications (frameworks, i.e., theoretical systematizations of the phenomenon; tools to sustain the implementation of servitization inside the firm; guidance, advice on how to support the implementation of the servitization).

Sampling procedure

Two types of coding units were adopted for this work: sampling units and content units.

The sampling units are the keywords used to search for the papers.

The keywords represent a huge definition of servitization, created following the insights by Pawar et al. (2009) and Reim et al. (2014). An initial list of published research papers was identified using the following keywords: servitization, servitisation, product-service systems (PSS), service strategies, after sale services, SD logic, integrated solutions, product-service bundle, service infusion.

The content units are the title and the abstract of the papers where the keywords were found.

The search was conducted on the most relevant databases for the subject: Ebsco, Emerald, JStore, Science Direct and Discovery.

From a list of over 150 articles, only the papers approaching the study of the servitization from a managerial point of view - and assuming the perspective of the firm - were selected. Works limited to the review of existing literature were ruled out too. Other papers were added by using the citation analysis that consists of the references analysis for each article in order to find out papers overlooked during the initial search.

The search led to a final number of 89 papers to be analyzed.

Starting from the previous conceptual map, a coding form of 19 items (similar to closed questions) was developed in order to collect the data from the 89 articles.

DESCRIPTIVE RESULTS

Data were processed through univariate and bivariate analyses.

The univariate was performed in order to extract the main features of literature, in particular the types of the managerial insights proposed by scholars and the percentage of each mainstream in the composition of the sample.

Regarding the bivariate analysis, it was carried out to study in depth the mainstreams identifying their main features.

Univariate analysis

The univariate analysis related to the variable *year* shows that the majority of the works were carried out during the years 2012 and 2013, accounting for the 33% of the works. The peak of publications is recorded in the year 2013.

More than 50% of papers were published after 2010, explained by the growing interest of institutions and the world of economy toward servitization as a solution to the environmental sustainability problem.

Going to the methodology and the approach adopted by the authors, it emerges that 87.6% of the papers are empirical and 74.2% use a qualitative approach.

Thus, data show that few works are theoretical or use the quantitative approach.

Going to the analysis of the geographical area of authors' affiliation, it appears that the issue of servitization is of interest where the role of service in the economy is very relevant and where the sustainability is a critical theme. In fact the phenomenon is investigated by authors affiliated to research schools of Northern Europe like UK and Sweden, although there is a group of works which

comes from other countries like Italy and Switzerland. Surprisingly very few works come from the USA.

Regarding the triggers, almost all the papers consider the financial goal as the main trigger of the servitization. Few scholars consider political (6.7%) and ethical reasons (18.7%) as drivers.

The content analysis corroborates the existence of four mainstreams dealing with the issue of servitization (see section 2), clustering on phenomenon denomination and definition and main references.

The mainstream which has produced more works is the PSS-servitization which accounts for the 61.8% of the sample (table 1).

Table 1. Mainstreams

| Mainstream | N. | Percentage |
|----------------------|----|------------|
| PSS-Servitization | 55 | 61.8 |
| Service Strategy | 17 | 19.1 |
| Integrated Solutions | 10 | 11.2 |
| Others | 4 | 4.5 |
| SD-Logic | 3 | 3.4 |
| Total | 89 | 100 |

Going to the managerial aspects, the main fields studied by the authors are those regarding firm general organization (firms' intra-organizational factors such as capabilities, culture, strategies) and the management of the supply chain (table 2).

Table 2. Managerial Aspects

| Managerial Aspects | N. | Percentage |
|----------------------|----|------------|
| General Organization | 55 | 51,9 |
| Supply Chain | 20 | 18,9 |
| Customer | 11 | 10,4 |
| Design | 10 | 9,4 |

| | | |
|------------------|-----|-----|
| Financial Impact | 6 | 5,7 |
| Human Resources | 4 | 3,8 |
| Total | 106 | 100 |

Customer relationship is the third most studied field but the number of the papers is quite low. Scholars are more interested in the management of the supply chain than in the relationship between firm and the customer, despite the fact that this aspect is considered by relevant works as a key element for the full implementation of the servitization.

Not many papers are about the process design aspects related to servitization, the financial consequences of the phenomenon for servitized firms and the management of human resources.

The poor attention given to the financial effects of servitization is surprising because, as previously shown, generally speaking the financial motivation is considered to be the most important trigger of servitization. Moreover, scholars focusing on the financial impact of servitization on firm performance do not agree whether it is positive or not.

Going to the managerial implications, the univariate analysis shows that the most recurring managerial implication is represented by guidance, i.e. advice on how to support the implementation of the servitization, followed by frameworks and tools (table 3).

Table 3. Managerial implications

| Managerial Implication | N. | Percentage |
|------------------------|-----|------------|
| Guidance | 57 | 54,8 |
| Frameworks | 36 | 36,6 |
| Tools | 11 | 10,6 |
| Total | 104 | 100 |

The guidance is often represented by tips that can help firms to manage servitization from a network point of view. Works suggest to closer integrate the value chain; to align the incentives to involve the employees, sharing information inside the firm in an intra-organizational perspective; to involve the customer, considered a co-producer of the bundle.

The second common type of managerial implication is represented by frameworks, i.e., theoretical systematizations of the phenomenon.

The presence of many frameworks could mean that the topic of servitization is still an open issue and that scholars need to classify and categorize its different aspects.

Usually the frameworks aim at classifying the types of strategies that firms can adopt to servitize. Another group of frameworks is about the capabilities needed by the firm which wants to servitize. Useful insights for the management also stem from those frameworks that allow identifying the main factors and stakeholders involved in the servitization process.

As shown in table 3, literature is not rich of tools to carry out servitization. Tools are mainly about the design process needed to create the PSS. Only one is devoted to anticipate customer decisions.

4.2. Bivariate analysis: Literature mainstreams' managerial insights

The bivariate analysis allows drawing the managerial insights of each of the previously identified mainstreams.

Analysing the managerial fields of interest for each mainstream it emerges that they mainly deal with the aspects of general organization, management of the supply chain and customer relationship (table 4).

Table 4. Managerial aspects from the Mainstreams

| Managerial Aspects | PSS-Servitization | Integrated Solutions | Service Strategy | SD-Logic | Others | Total |
|----------------------|-------------------|----------------------|------------------|----------|--------|-------|
| General Organization | 29 | 8 | 11 | 3 | 3 | 55 |
| Supply Chain | 13 | 3 | 3 | 0 | 1 | 20 |
| Customer | 4 | 1 | 2 | 3 | 1 | 11 |
| Design | 10 | 0 | 0 | 0 | 0 | 10 |
| Financial Impact | 4 | 0 | 2 | 0 | 0 | 6 |
| Human resources | 3 | 0 | 1 | 0 | 0 | 4 |
| Total | 106 | | | | | |

All the four identified mainstreams consider the impact of the servitization on firm's organization (capabilities, culture and strategies). The implementation of servitization inside the firm and its management is considered as a main focus by the authors.

The supply chain is studied by all the mainstreams except for the SD-Logic, which focuses mainly on the customer relationship.

The other aspects are more related to specific mainstreams.

Whilst the financial impact of servitization and the management of human resources are studied by the PSS-Servitization and Service Strategy mainstreams, the issue of process design is specific of PSS-Servitization.

To complete the study of each mainstream, it is useful to highlight the managerial implications drawn by each of them (table 5).

Table 5. Managerial implications from the Mainstreams

| Managerial Implications | PSS-Servitization | Integrated Solutions | Service Strategy | SD-Logic | Others | Total |
|-------------------------|-------------------|----------------------|------------------|----------|--------|-------|
| Guidance | 34 | 7 | 11 | 1 | 4 | 57 |
| Frameworks | 18 | 5 | 10 | 2 | 1 | 36 |
| Tools | 11 | 0 | 0 | 0 | 0 | 11 |

Each mainstream proposes guidance which, except for the SD-Logic, is the most common managerial implication.

As for the guidance, all the mainstreams propose frameworks while tools for the implementation of servitization are given only by the PSS-Servitization mainstream.

Now it is possible to give a portrayal of every mainstream from a managerial perspective.

The Integrated Solutions mainstream, which is strongly concerned with the existence of a complex network of actors essential to create the CoPS, focuses on the need to manage the network, mainly looking at the supply chain while devoting scarce attention to the relationship with the customer. In particular, most works are about firms' intra-organizational enhancing factors.

The mainstream ignores aspects such as the management of human resources and process design and it is not interested at all in the financial impact of servitization.

No tools are proposed for a phenomenon that requires, according to the scholars of this mainstream, above all network capabilities.

The PSS-Servitization mainstream is the most various. Papers study mainly how to carry out servitization inside the firm and how to manage the relationship with suppliers.

Many authors of this mainstream are interested in typical issues of operations such as the design process. Its main characteristic is being the only mainstream proposing tools for firms that intend to servitize.

The role of the customers is not much studied, as this field has the lowest percentage for this aspect compared to the others.

As the previous mainstream, the Service Strategy focuses above all on the internal organization and the management of the network, even though it also looks at the financial impact of servitization and at the management of the relationship with the customer.

This mainstream has the highest value for the identification of frameworks as managerial implication. This datum reflects the need of the mainstream authors, who consider servitization as a strategy option, to systematize the different strategies that can be implemented by the firms to servitize.

The last mainstream, the SD-Logic, is mainly interested in the intra-organizational aspects of servitization and in the management of firm-customer relationship. It tends to be a theoretical mainstream. All the papers are theoretical and aim to present the framework initially portrayed by Vargo and Lusch. The theoretical tendency is confirmed by the absence of any tool proposed to implement servitization. Nevertheless guidance is given, typically regarding the management of the relationship with the customer, the most relevant actor of the network.

CONCLUSIONS AND IMPLICATIONS

The aim of this paper was to map and analyze the existing managerial literature on servitization. The work highlights that servitization is a relevant phenomenon characterized by a rich and recent literature and considerable managerial implications.

From the univariate analysis, some general features of literature can be drawn.

First, despite servitization is not a recent topic, it has been studied all over the last decade arousing the interest of scholars and governments.

While seminal works often focus on the environmental sustainability stemming from servitization, most articles recognize only the financial drivers circumscribing the phenomenon.

Sampled papers are usually empirical and they adopt a qualitative approach, generally case studies. Few works are theoretical or quantitative.

Regarding the managerial aspects investigated by authors, articles tend to focus on the internal implementation of servitization, mainly looking at the strategic intra-organizational factors and, in a lesser extent, at the management of the supply chain.

Despite the central role of the customer in the new business model accompanying servitization processes, few articles composing our sample are about it and, as a consequence, few managerial implications regarding the management of the customer relationship can be extracted from literature.

This datum is not consistent with the theoretical elaborations of the seminal works, where customer centricity is considered one of the main aspects brought by servitization.

Furthermore, data show that most of the works focusing on the customer relationship, though providing a theoretical contribution to the knowledge, generate few practical implications for

marketing practitioners. These results represent a call for further empirical research works which could test and measure the impact of the servitization on the company market shares or on the consumer needs; empirical research is also needed to understand how the offering of a bundle of service/product can affect the traditional marketing tools (i.e. distribution or promotion). Moreover, work needs to be done in order to measure how and how much the servitization affects the final value generated for both the consumer and the firm.

Same considerations for the study of the financial results of firms implementing servitization, which is still a controversial issue. More works and evidence are required to investigate this aspect.

Regarding the managerial implications, they are mainly strategic. In fact, authors are more concentrated in giving strategic indications than in identifying tools useful to face the practical problems generating from the implementation of servitization. Thus practical insights to implement servitization are still very few.

Many frameworks are proposed by authors.

This datum could be explained by the fact that many aspects of servitization still require to be clarified and systematized.

Going to the bivariate analysis, it allows to synthetize the features of each mainstream.

The PSS-Servitization mainstream is the most various mainstream, focusing on all the types of managerial aspects.

In particular, it mainly studies the issue of the internal implementation of servitization and the management of the supply chain.

The number of guidance is almost double compared to framework and it is the only mainstream proposing tools, showing also a pragmatic trait absent in the other mainstreams.

The Integrated Solutions mainstream is focused on the intra-organizational and strategic factors that allow the implementation of servitization as well as on the management of the supply chain.

However it is not interested in practical aspects of the implementation of servitization. This is confirmed by the absence of identified tools.

Frameworks and guidance are elaborated in order to classify and identify the competences that firms need to manage the supply chain.

The Service Strategy mainstream, as the previous one, studies above all the internal aspects related to the implementation of servitization, focusing also (in low percentage) on others, such as the management of the supply chain, the relationship with the customer and the financial consequences of servitization.

The management of the supply chain is not studied so much as in the previous mainstreams. In this mainstream, the role of the supply chain is recognized but it is not stressed as done by the other

research streams.

This is the only mainstream where frameworks have almost the same frequency as guidance.

Generally, frameworks are used by authors of this mainstream to identify and classify all the possible strategies to servitize.

The last mainstream, the SD-Logic, is purely theoretical and customer oriented.

The mainstream focuses on the customer while it does not give the same importance to the other actors of the network such as the suppliers.

The mainstream is not interested in practical aspects, such as the design process of PSSs or the management of human resources.

LIMITATIONS

The work has some limits that cannot be denied.

The sample is limited to the academic journals. Thus, important works, such as books, reports and proceedings are not considered.

Second, the selection of the papers were made using specific keywords: servitization, servitisation, product-service systems (PSSs), service strategies, after sale services, SD logic, integrated solutions, product-service bundle, service infusion.

Furthermore, the sample consists of articles about servitization adopting a managerial point of view. This decision ruled out those works focused on the environmental sustainability and engineering aspects of servitization.

As a consequence, the sample does not represent the totality of the production about the phenomenon.

Finally, the descriptive analysis is influenced by the choice of the dimensions included the conceptual map. Different dimensions could bring to different conclusions.

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CONSIDERATIONS REGARDING THE SUSTAINABLE DEVELOPMENT OF INTELLIGENT SYSTEMS THAT ARE INFLUENCING THE ACTUAL ECONOMIC ENVIRONMENT

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ABSTRACT

This research paper addresses issues that are contributing to the development and better implementation of Intelligent Systems (IS). The actual economic environment is characterised by a high dynamic and complexity due to the rapid expansion of the Internet and the automatization of all logistical channels. This drove the development to high rhythms and helped the implementation of Intelligent Systems; this came along with a massive gap in the capability of exploiting the systems and using them to their real, maximum capacity. As a major consequence, legal issues related to policies and strategies in implementing IS came along

The rapid development of the industrial sector has led to an increase of pollution, especially in the urban areas (Rizzi & Zamboni, 1999). As we can all see, climate change is drastically affecting us due to the rising levels of the oceans, melting icebergs from the Earths poles and the increase of temperatures (Mulgan & all 2007).

Keywords: *intelligent systems, logistics, innovation, infrastructure, ecological economy, development, complex systems*

1. INTRODUCTION

The progresses made by the automotive industry, as well as in other economical and industrial areas in the course of rapid development, are very important, but now more than ever we must pay great attention to environmental protection. It is very important for all the governments around the world to start investing more and more in the scientific and research area aimed to reduce the emissions of pollutants into the atmosphere and to monitor their implementation and progress. Today, unfortunately, this type of research is not relevant for many of the leading governments in the world. Few people pay attention to the fact that humanity has become a hostage

of the automotive industry and of the ICT industry as well. The ecological situation in many countries has become a serious problem due to its impact on the wellbeing of its society and thus we need to take measures to reduce emissions from all the means of transport, especially from the industrial sector.

We consider that the importance of implementing new and “green” Intelligent Systems (IS) in all the industrial sectors, especially in the transportation and logistical sector, is represented by introducing Intelligent Transportation Systems (I.T.S.) (Mortensen & all, 2002). It should represent the most important detail that all the governments should develop in the near future, because only by protecting the environment and implementing and developing new and reliable IS, they can assure a prosperous setting for its inhabitants.

In terms of people, the gas emissions resulted from the auto/transportation sector, lead to many diseases. The emissions of pollutants resulting from the transport sector have a negative impact on soil, plants, water tanks etc.

As people have understood that they represent a part of nature, and the earth's resources are very limited, together with this planet as a whole, along with that the disorder produced, will be transmitted to the entire globe. The interest and concern for environmental protection surrounding human society at all levels has increased in the last decade.

2. THE NEED TO IMPLEMENT AND DEVELOP IS (INTELLIGENT SYSTEMS) IN URBAN AREAS

Since the early decades of the twentieth century the shape of the metropolitan areas worldwide started to be increasingly larger thus the existing urban centres lose their position as the main actors in terms of economic and social development and the new suburban communities in the predominantly rural areas have relatively started to develop more and more in an uniform but deficient way because their ability to ensure the vital functions of a community (leisure, art, culture, ways of interacting between community members, easy access to shopping malls etc.). This phenomenon manifested itself more strongly in the USA but at the present time we can observe it today both in the developed countries and also in developing ones.

If we study carefully the experience from the other countries that have faced the issue of the development of metropolitan areas, we can see that there are adverse effects associated with this phenomenon especially when urban planning is flawed or missing entirely.

In our opinion and after the studies we conducted, the most economical way that this problem of the rapid development of the metropolitan areas around cities can be resolved is by implementing

Intelligent Systems (IS) for improving the traffic control (Intelligent Transport Systems – ITS), public illumination, waste collection, water management, reducing carbon emissions etc.

If we do not use a well develop plan in order to better implement the expansion of cities, in our opinion, we can face the following problems:

- the increase of air pollution and CO₂ emissions;
- reducing the possibilities of constructing big and well develop real-estate projects;
- loss of farmland;
- reducing the green spaces and parks;
- a bigger pressure on the local budgets because of the need to develop new infrastructure;
- aesthetic deficiencies.

In order not to encounter all the problems listed above we highly recommend the use of Intelligent Systems in urban planning and especially in the developing cities that are struggling with the lack of technology because if we started to implement more and more IS. The economic development and the wellbeing of the citizens will highly increase.

3. THE INFLUENCE OF INTELLIGENT SYSTEMS UPON THE ECONOMIC ENVIRONMENT

The concept of Intelligent Systems (IS) is not a new one. The concept appeared together with the development of the internet infrastructures worldwide and it has known an unprecedented growth in the last decades. In order to develop new and sustainable IS it is necessary to take into consideration the concept of green infrastructure; a concept that has begun to be more and more popular among scientists, practitioners, economists and also the general urban planning experts.

The concept of green infrastructure is well connected with the field of Intelligent Transport Systems (I.T.S.) which is part of the IS architecture. As we all know, in order to have a performing, sustainable and green economic environment and development, it is necessary to protect the actual infrastructure (both economic infrastructure and urban/planning infrastructure) with all the risks and all the costs that involves using Intelligent Systems.

The key components of the concept of “green infrastructure” are represented by the focal points and routes or connections between them. This concept has three major concepts:

- the structure and interconnection between different points inside an urban area is not fragmenting the landscape;
- designing these new and intelligent networks as infrastructure systems turn them into a part of the urban areas;

- using “green” energy and resources provided by the actual site conserves the actual landscape and other resources.

As we can observe in figure number 1 the intelligent concept of “Green Infrastructure” can be influenced by a number of factors such as:

- market opportunities – the development of a metropolitan area of an urban area can be easily influenced by the opportunities that the real-estate sector has to offer;
- stakeholders desires – in order to develop and implement a new, clean, green and prosperous concept first of all we have to take into consideration the desires of the stakeholders which have a powerful impact upon the decision process that involves the development of a metropolitan area;
- organizational capacity and capabilities – regardless of the request of the citizens or the stakeholders a new concept such as the concept of “Green Infrastructure” which is part of an IS cannot be implemented if the organization that is implementing the concept does not have the necessary capabilities or capacities;
- strategies – if we want to implement new and more complex and intelligent systems we need to take into consideration of developing a strategy on a short, medium and especially long term in order to be sustainable and provide an economical comfort.



Fig. 1 The factors that are influencing the concept of “Green Infrastructure”

Source: Proposed model by the authors

The unplanned extension of cities to the periphery has become a process that increasingly concerns several categories of stakeholders: from environmental groups and citizens to local authorities, non-profit organizations and the business sector. This is why we recommend to the local authorities

worldwide, to use and implement Intelligent Systems (IS) in order to develop a sustainable economic environment.

4. CONCLUSIONS AND RECOMMENDATIONS

The road, rail, aerial and waterways transport will get an unprecedented development in our opinion, both in construction motor vehicles and route management issues, whether they are institutional or privately owned. The development of I.T.S. (Intelligent Transportation Systems) will represent the major key in the expansion of the logistical networks and the enlargement of application of I.C.T. (Information and Communication Technology) in all places around the world.

Further research on the topic of sustainable development of IS that are influencing the actual economic environment will require, undoubtedly, a complex team of specialists and scientific researchers in the field of complex studies, economics, logistics, environmental issues, transport, electronics and computer science.

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HOW CAN CUSTOMER EDUCATION IN THE COFFEE SECTOR INCREASE CUSTOMER SATISFACTION?

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ABSTRACT

Customer education has been widely recognized to play a key role in client satisfaction, particularly in the context of industrial markets (Business-to-Business or B2B). However, little is known about the effect of customer education on customer satisfaction within the B2D (Business-to-Distributors) sector. To address this gap, the paper develops a comprehensive model of consumer education applied to the mass consumption of coffee and seeks to verify its suitability relative to this industry. After reviewing the international literature on customer education, an analysis of Honebein and Cammarano's (2011) model allows the development of an adapted framework and then to validate it through a case study of a major private coffee distributor - a pioneer Italian company in the industry. The findings illustrate that this adapted model fits well with the coffee industry and identifies six dimensions of customer education which would lead to increased customer satisfaction. Despite the fact that this is an explorative study and needs to be applied to a larger number of cases, and testing via subsequent regression analysis, some early managerial implications from the retailer perspective are provided. Finally, the conclusion offers avenues for future research.

Keyword: *Customer education; Consumer behavior; Customer satisfaction; Customer relationship management; Experience marketing; Coffee sector.*

INTRODUCTION

It has been shown that it is six to seven times more expensive to gain a new customer than to retain an existing customer (*White House Office of Consumer Affairs*, cited in Forbes, www.forbes.com, 2015). For example: 55% of consumers who intend to make a purchase back out because of poor customer service and 40% of customers begin purchasing from a competitor because of their reputation for great customer service (Zendesk, as cited, *ibid*). Admittedly based on limited data, one can see how customer satisfaction is the lifeblood of business. This research aims to verify how 'customer education' can improve customer satisfaction and if customers find value in the services that such

education offers in a sector more and more involved in these educational programs. Customer education (CE) can be defined as a company's role in providing consumers with the information, skills, and abilities needed to become a more informed buyer. While CE can take many different forms (Aubert and Gotteland, 2010; Monnot, 2010, cited in Volle, 2012, pp. 31-32), it is most effective when used to engage online shoppers and in-store customers. However, while intended messages remain the same, these two areas of customer education can vary significantly (Aubert and Gotteland, 2010) albeit with an objective to give consumers all relevant information regarding the product or service at hand. Many authors have claimed that trust and its implications is essential for developing and building efficient customer-relationships. In distinguishing themselves from competitors, businesses should - according to Bitner *et al.* (1994) - pay attention to service quality. For example, especially in mature product markets, service quality is a key asset for competitiveness and success (Bell and Eisingerich, 2007). According to Sharma and Patterson (1999), customer education can be considered as the extent to which service employees inform customers about service-related concepts and explain the pros and cons of service products they recommend to customers. Bell and Eisingerich (2007) showed that perceived technical and functional service quality can have a significant and positive effect on trust by testing several hypotheses in an empirical model. On the other hand, customer education can also significantly and positively affect customer trust. The positive and significant relationship between CE and functional service quality indicates that the impact of functional service quality on customer trust can be stronger when CE is high. Furthermore, a negative relationship between technical service quality and CE can be further weakened as customer expertise atrophies. Finally, Bell and Eisingerich (*ibid*) showed that the positive moderating impact of CE in the interaction between functional service quality and trust is reinforced as customer expertise increases. They concluded in line with previous research that CE has a significant, direct, and positive impact on customer trust. Not only in supporting customers in using critical information, CE is likely to create further credibility with customers about the sincerity of an organization's efforts. Especially when confronted with intangible products, it was shown that customers perceive an organization's effort to provide product information as an important and valuable service augmentation. Aubert *et al.* (2007) investigated the effects of customer education on the skills level, usage behavior and satisfaction of customers. In analyzing 321 consumers who owned a digital camera for a certain period of time and by using structural equation modeling to validate the model, they found that CE had a significant impact on consumers' skills improvement, which in turn, positively impacted satisfaction. They further showed that skill improvement had a significant positive effect on product usage intensity and the variety of functionalities that customers can use via a camera after having been 'taught'. On the other hand, they also showed there was no direct interaction between product usage intensity and

satisfaction. In order to investigate how CE can increase customer satisfaction, this paper addresses the following research questions juxtaposed to the general question of how CE works with regard to an SME in a located in a B2D market: RQ1. How can Honebein and Cammarano's CE model be used in the coffee sector to create customer satisfaction? RQ2. Is Honebein and Cammarano's CE model appropriate for building customer satisfaction in the coffee sector? In exploring and answering these research questions, this paper first reviews the CE literature, and proposes and adapts Honebein and Cammarano's CE model. Second, this model is applied, through an in-depth interview with the Marketing Director, to an Italian major private coffee distributor. Finally results of this depth interview are discussed in order to offer nascent managerial implications and draw conclusions of the paper.

THE ROLE OF CUSTOMER EDUCATION (CE)

In the last years there has been increasing demand for CE because of usage criteria (Aubert, 2006), complex services and novice consumers (Burton, 2002). Such education can be delivered through educational programs such as professional advice, blogs, seminars, advertising, forums and other online and offline activities (Suh *et al.*, 2015). CE can result in several organizational advantages: it enhances individual product knowledge, facilitates product purchases (Zhou *et al.*, 2013), enhances customer loyalty through perceived service quality (Suh *et al.*, 2015) and can have great potential for attracting and retaining customers. The purpose of any educational approach is often to change behavior (Honebein and Cammarano, 2011). Bloom (1956) developed an important model that promotes higher forms of thinking in education, such as analyzing and evaluating, rather than just teaching students to remember facts (rote learning) and shares learning in three domains: cognitive, affective and psychomotor. Nevertheless, when applying this early model in practice, it turned out that it did not always work to change behavior. Therefore, Gilbert (1978) discovered along with other colleagues new solutions for changing behavior, many of which were not focused on education in the traditional sense. This concept became known as 'human performance' (as discussed by Cammarano and Honebein, 2011). In designing education, it is essential to clearly define what an audience can and may learn. Thus, a content and task analysis needs to be carried out. For developing content, existing content sources, interview subject-matter experts, and other educational material can be considered. Nevertheless, these sources only answer the question of what customers need to know partially. Therefore, it is important that businesses ask their customers what they need to know and what they would like to do. This aspect is part of the innovatory aspects of CE, as it gives the taught group or individuals the opportunity of self-designing their education. This approach is thus not primarily teacher-centered, but more student-centered, or business-centered in the case of business (Honebein

and Cammarano, 2011). In order to adopt such an approach, companies might organize groups of customers, provide them with a general description of what the company does, and then ask the customers to write down any questions they may have about the subject. With these questions, the content and delivery format of the teaching program can be adjusted. Follow-up discussion to the questions involves comprehension of why a customer needs to know the answer to the question she or he posed before and to prioritize the questions. The question “Why?” as a response to the customer becomes thus an essential part of the teaching, as it enables the customer to explore the answers to her or his questions personally. Trust plays a very important role in this context. Before a customer can develop a certain attitude toward a brand (as described in Bloom’s 1956 model), the customer needs to have certain knowledge or skills that may eventually align with the attitude (Honebein and Cammarano, 2011). When preparing the content for the customer teaching, it is crucial to prioritize topics and to find the most essential aspects, as too much content might not be recalled (Honebein and Cammarano, 2011). In general, there is a strong relationship between marketing and customer education, so it is beneficial to adopt an integrated marketing communications approach for disseminating CE. Such a concept seeks to appropriately mix advertising, personal selling, public relations, direct marketing, and sales promotion media channels in a customer-oriented manner. Every customer touchpoint should be seen as an opportunity for education (Honebein and Cammarano, 2011). Other models developed different aspects of customer education. An important model, for example, has been developed by Temerak *et al.* (2009): this is an overarching model of the relationship between customer education and customer participation. It consists of consists of four basic parts, namely, forms of customer education, forms of customer participation , psychological mechanisms mediating customer education – participation relationships and contextual factors moderating customer education effects.

INTRODUCTION TO THE MODEL OF CUSTOMER EDUCATION

Honebein and Cammarano (2005) connected Gilbert’s (1978) concepts with respect to ‘human performance’ with their own approach and coined their term as ‘customer performance’. This revised term necessitates orchestration of four crucial elements in creating a customer experience focused upon changing a customers’ behavior so that this customer can successfully accomplish jobs and tasks. These are shown and modelled in Figure 1:

- (1) Vision: goals, feedback, and expectations that guide and shape performance;
- (2) Access: the experience environment includes processes, tolls, interfaces, and information, that enables performance;

(3) Incentives: Rewards and punishments that motivate performance;

(4) Expertise: Customer education that enhances the knowledge, skills and attitudes required for performance (Honebein and Cammarano, 2005).

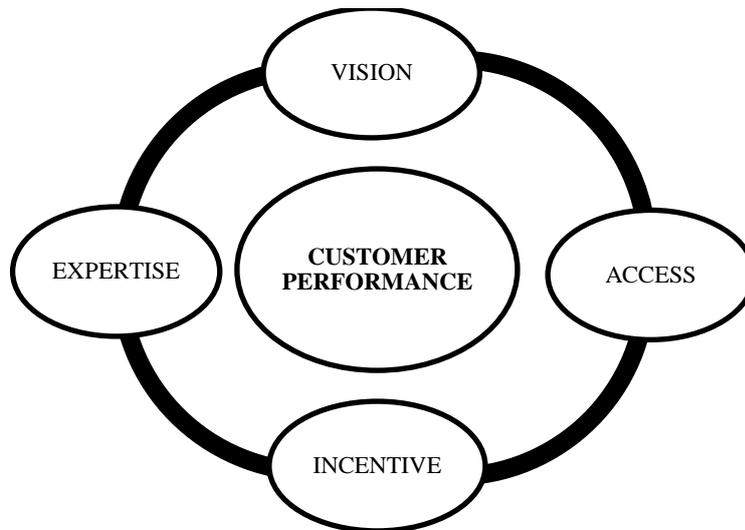


Figure 1. *The customer performance model*

Source: *Adapted from Honebein and CAMMARANO (2005)*

The nature of the task is not of principle importance, as an experience that effectively orchestrates the four elements permits better customer performance and thus successful completion of the respective task, which leads to greater customer satisfaction. It is thus important to associate “customer performance” with “customer education”, as the performance experience is crucial for education (Honebein and Cammarano, 2005). According to Honebein and Cammarano (2011), six qualities of well-designed CE need to be embraced. These qualities are shown below and synthesized through the model in Figure 2.

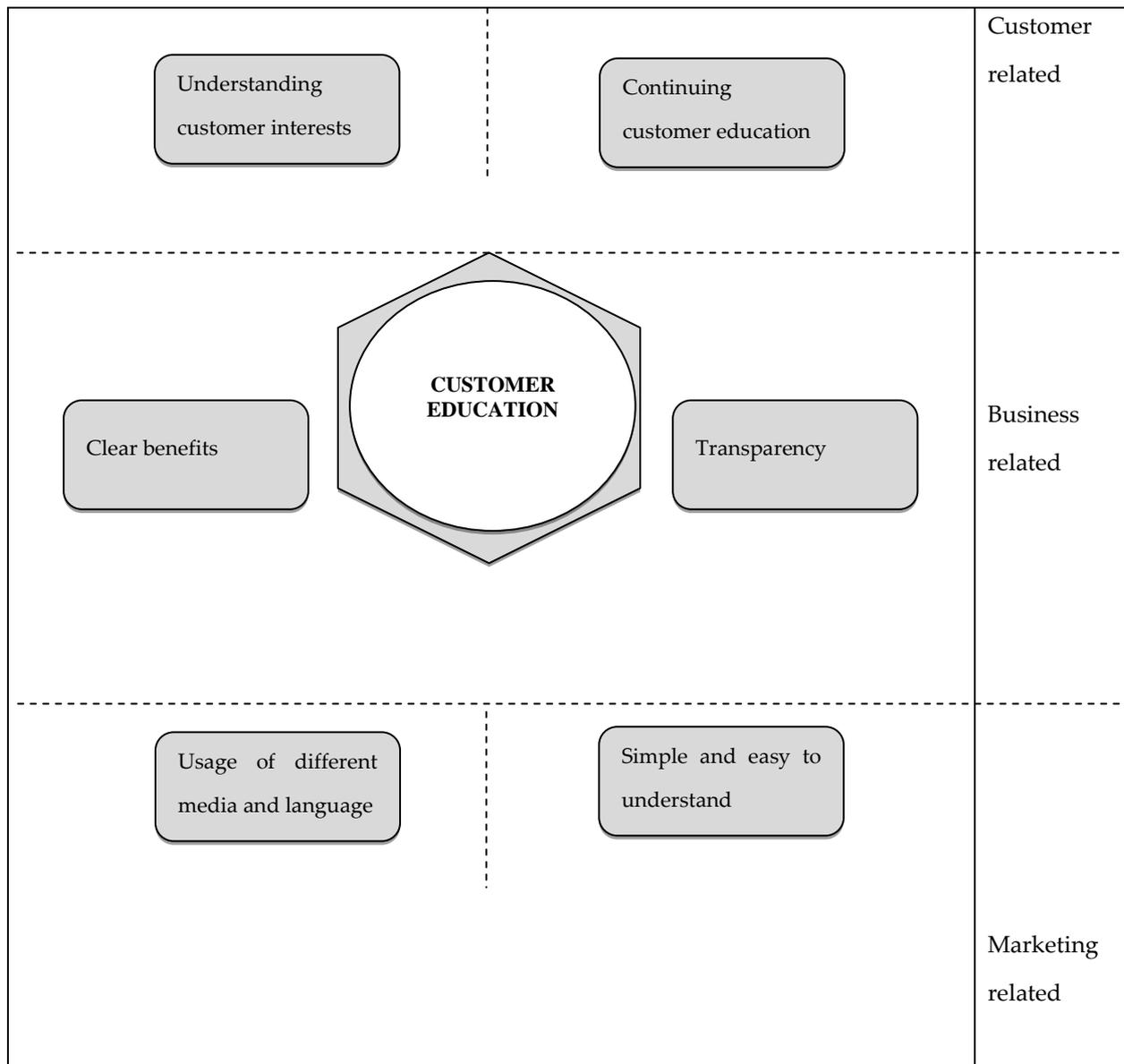


Figure 2. *The Customer education model*

Source: *Our own elaboration based on Honebein and Cammarano (2011)*

Transparency (1) is very important for CE, as customer concerns may increase otherwise. It is essential to pro-actively disclose information that smart customers might interpret wrongly, so business may use transparency to reinforce customer trust. Another crucial aspect is that customers need to be educated about the benefits of the teaching (2). Businesses position product features as benefits. Another issue is that CE consists of rationally-framed benefits that sometime do not generate attention or interest or may be obtuse. The usage of different media and language (3) is also very important. Usually, this concerns the employees of a business, as they can serve as brand ambassadors. At the same time, other media can be used for transmitting CE messages. Language and imagery play an important role in this context. It is also crucial that such education be continuous (4), as it is more

effective when it is designed as a process and not as an event. It is commonly agreed that effective education relies on repetition. The usage of simple language (5) is another crucial aspect for educating customers. There are quantitative and qualitative concepts for ensuring this. A quantitative rule is that only a certain number of information bullet points should be communicated, and that easy expressions without the usage of passive voice should be used. A qualitative technique is to consider three learning styles: verbal, visual, and kinesthetic. Last but not least, trying to understand the customer's interests (6) is also essential for customer education. The needs and interests of a customer can be considered by questioning them, but it is important to provide the opportunity for a customer to dig further in a certain topic that is especially important to them. A so-called 'opt-in' concept is recommended, as teaching only minimalistic information might incite customers to become more interested in a special issue (Honebein and Cammarano, 2011).

THE CASE STUDY: APPLICATION OF AN EMPIRICAL TEST OF THE MODEL FOR A MAJOR PRIVATE COFFEE DISTRIBUTOR

Methodology

In order to illustrate whether and how CE can increase customer satisfaction we seek to verify if the model of Honebein and Cammarano can be applied to the coffee sector and indeed if it is suitable to create customer satisfaction, leading on to an exploration of the two research questions. In order to arrive at this point we describe the different qualities affecting Honebein and Cammarano's model throughout the literature review, before adapting the model. Then we apply the adapted model to the Italian case of a major private coffee distributor. Case study methodology can be defined as "*An empirical inquiry about a contemporary phenomenon (e.g., a "case"), set within its real-world context-especially when the boundaries between phenomenon and context are not clearly evident* (Yin, 2009, p. 18)". In particular, it can be used in different situations (Yin, 2012) such as: (1) when the research addresses a descriptive or an exploratory question as we do here i.e. RQ1: How can Honebein and Cammarano's Customer Education Model be used in the coffee sector to Create Customer Satisfaction? (2) by emphasizing the study of a phenomenon within its real-world context, it favors the collection of data in natural settings, compared with relying on "derived" data (Bromley, 1986, p. 23), that is data collected throughout the interview to the Marketing Director of the company. For these reasons the case study method is suitable to the topic to be investigated. The coffee sector is selected because in the last years it has invested many efforts in the development of programs of CE. In addition, this company is chosen because the six qualities of the Honebein and Cammarano's model are well emphasized and applicable. In this company the word innovation is claimed to be immediately translated into education, a program able to educate customers to transmit the qualities that

characterize this coffee. We seek an in-depth understanding of the interaction between CE and purchase context. After a first round of data collection of the company and its culture, an in-depth interview was carried out with the Director of Marketing. This was structured into six sections aimed to investigate: (1) the level of presence of the six drivers (understanding of customer interests, clarity of benefits, usage of different media and language, continuing customer education, transparency, ease of understanding) through open questions. (2) the level at which they affect customer satisfaction asking the interviewee to express his level of agreement about several items through a 5-point Likert scale (1= total disagreement; 5= total agreement). This methodology allows us to explore the research questions which lead to nascent theoretical and managerial implications.

Presentation of the case study

A mix of experience and passion for three generations

The company has produced toasted coffee since the beginning of 1900 and claims to be a historic coffee company. It has been coordinated by a single family for three generations and represents an example of a modern industrial business with a strict relationship between tradition and innovation. In particular it tries to develop its customers in order to do business together (The company website). The company has coffee roasting as core business but it also has active investments in other companies in the catering and bar sector, operations in shopping malls, and direct management of a number of prestigious venues where their coffee is marketed. Coordinating this important group that unites different skills, but all related to the channel of a food service industry sector that sells food and/or beverages, has enabled them to acquire complete experience in managing venues, which range from classic cafes, bars, through to restaurants where they are able to be close to their customers. Recently they have built new headquarters with state of the art production facilities to guarantee their highest quality standards, and to face new market challenges. Their current production capacity exceeds three million kilos of coffee per year. The new headquarters contain a large training area and a specially designed Tasting Room, where the coffee are selected and where the Caffè of this company blends are expertly created and studied (The company website).

Customer Education in the company opinion

“In our *School Drink Different*”- explained the Marketing and Communication Director of the company – “we organize several courses delivered by qualified teachers and structured in different levels. In this way we transfer know-how, allowing participants (that it is service staff who use the company’s coffee in preparing hot or cold drinks) to learn several notions about the coffee plant, its manufacturing and the correct use of professional tools. We allow them to assist in tasting, to see how

to prepare main coffee products and refined cocktail drinks, happy hours, a perfect 'mise en place' and specific topics about the management of a bar . At the end of the course we deliver a participation attestation and the Coffee Passion guide. Up to now the typical barman who attends our courses is between 20-45 years old, is the bar owner or an employer, has a secondary school degree, sometime in the catering sector”.

School “Drink Different”

“We believe that investing in training is of increasing importance to enable developing a business and increase its competitive edge. Our specialized “School Drink Different” twinned with our precious experience in the world of coffee can transfer all of our know-how and our espresso culture to you, in your territory”. Throughout this school the company offers customers the possibility to acquire professional skills and to distinguish themselves from others, providing also specialized training to preselected staff members of the company. The training, organized at different levels, transmits fundamental notions about: the coffee plant, its processing, the proper use of professional equipment, interesting sampling tests, the right methods to prepare coffee products, the refined Drink Different cocktails, and in-depth information on how to properly set up, arrange and run a bar.

Application of the model

Replies to the two research questions are provided throughout the case study. In order to reply to the first research question “How can Honebein and Cammarano’s CE Model be used in the coffee sector to Create Customer Satisfaction?” the model shown in Figure 2 has been applied to a major private coffee distributor, providing the following results: (1) *Transparency*: while customers demand transparency, being completely transparent with customers is something most utilities find challenging (Honebein and Cammarano, 2011). The concept of transparency in this company is mainly addressed to a specific type of consumers, that is bar operators or pastry chefs, given these are the participants to their educational programs. These programs are communicated by web, by brochure and through territorial sellers. Communicative style used in delivering courses is simple and easy to understand. Also information is easily accessible by participants, lessons are delivered by qualified dependents who assist participants during the course both for theoretical and practical part. Most of relationships with consumers are managed through territorial sellers and, only in few cases, by mail addressed to specific offices. This aspect (transparency) has an important effect because generally it increases trust also if only up to a certain point (Horvath and Katuscakova, 2015). For this motivation, the company considers the level of transparency of information offered as a winning driver to get trust by customers. (2) *Clear benefits*: According to the company benefits deriving by the attendance of

courses organized are communicated clearly and the most used channels are web, brochures and sellers. It is important to consider that utilities sometimes mistakenly position features as benefits (Honebein and Cammarano, 2011). This company is also very careful to verify, by means of territorial sellers, the perception of consumers about these benefits. A clear communication of benefits offered by these courses contributes to increase customer satisfaction. (3) *Usage of different media and language:* Since there is a tight relationship between marketing and CE, it is advisable to adopt an integrated marketing communications (IMC) approach (Tafesse and Kitchen, 2016) in order to disseminate customer education. In particular this approach should involve blending advertising, personal selling, public relations, direct marketing and sales promotion media channels (Honebein and Cammarano, 2011). The company uses different media to transmit consumer education concepts (media, brochures, sellers) also if there are no specific channels to specific types of customers. A relevant importance in the communication of educational courses and of information about products is played by the word-of-mouth. This is a very important tool of communication because word-of-mouth referrals have a strong impact on new customer acquisition (Trusov *et al.*, 2009) and generally, both negative and positive word-of-mouth, increase performance (Liu, 2006). According to the Marketing Director of the company the usage of different languages allows to reach a higher number of consumers. (4) *Continuing customer education:* as suggested by Honebein and Cammarano (2011) customer education must be designed as a process and not an event. This company adopts this approach, delivering courses every week. In fact to be effective, customer education must be repetitive. This is a very important aspect for the company because it allows to satisfy every type of participant and pursue educational objectives. This aspect is considered important in order to increase customer satisfaction. In fact, customer education affects customer perceived value in terms of benefits (Ben Youssef *et al.*, 2016) and, in particular, customer satisfaction (Bonfanti and Brunetti, 2014). (5) *Usage of simple language:* in this company the usage of a simple language is the rule: only information considered fundamental for each specific level of course are provided, transmitted for key points through verbal, visual and practical styles. This reflect the rules of a simple communication proposed by Honebein and Cammarano (2011): organization of elements throughout bullet points, usage a design that incorporates the three primary learning styles : verbal, visual, and kinesthetic. Relatively simple use of language is considered as very important in order to educate and satisfy consumers. (6) *Understanding of customer interests:* the company develops specific courses on the base of the customers' needs. These are analyzed by observing customers and via continuous dialogue with them. In fact, as supported by Honebein and Cammarano (2011) CE is always constructed based on the needs of an audience and these can be discovered through audience analysis, that initially should be broad in scope, given limited customer information stored in the information system and the costs of acquiring primary

data about customers. The relevance of contents of the courses delivered by the company is constantly monitored and can contribute to increase customer satisfaction. Results show a particular attention by the company to all dimensions of the customer education framework proposed in the figure 2; in the company's opinion the dimensions higher able to affect customer satisfaction are continuing CE and usage of simple language. In the application of these six qualities is emphasized also the relationship between CE and satisfaction, replying in this way also to the second research question ("RQ2. Is Honebein and Cammarano's Customer Education Model appropriate for building customer satisfaction in the coffee sector?). Each of these qualities contributes to develop customer satisfaction in different ways: transparency can affect positively trust, while clear benefits can improve the perception of the company by customers.

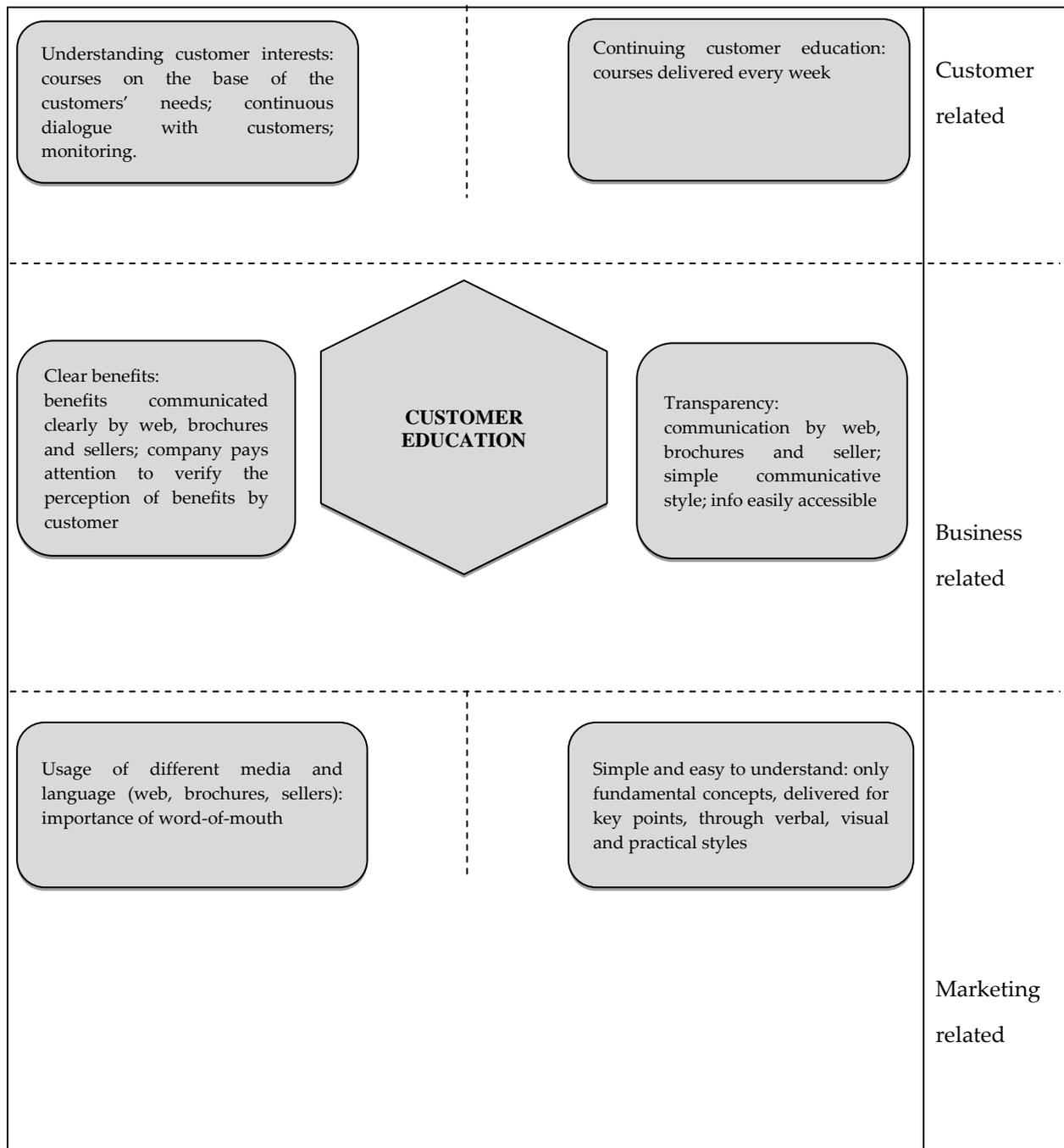


Figure 3. *The Customer education model applied to a major private coffee distributor*

Source: *Our own elaboration based on Honebein and Cammarano (2011)*

In addition throughout the usage of different media and language the company will be able to reach a higher number of consumers, more aware of the company's products, while continuing CE allows to satisfy different kinds of participant; finally usage of simple language makes easier for participants to understand contents of courses while understanding of customer interests allows to provide them the best solutions.

CONCLUSIONS AND IMPLICATIONS

By integrating ideas from CE, consumer behavior and satisfaction, this exploratory paper provides an adaptation of the CE model by Honebein and Cammarano (2011), showing how this can be considered and used in a sector of the B2D sector to create customer learning and satisfaction. Also through the case study of a major private coffee distributor we emphasize the role played by the six dimensions (Fig. 1 and 2) in order to enhance customer satisfaction. Particular attention is given by the company to the provision of continuing CE, considering it as a process and not a single event and to the language used in communication that must (to them) be simple both at the qualitative (verbal, visual, etc.) and quantitative (bullet points) level. So, this paper provides a helpful approach in designing CE to the important Italian coffee industry. Results show how transparency, simple communication, clear benefits, CE, understanding of customer interests and usage of simple language are qualities playing a very important role in CE by an SME in the coffee industry. For motivation I in this industry it suggests businesses develop a prioritized body of content and to consider education as a process and not only an event. Furthermore companies in this sector need to embrace these qualities that will help them to ensure that their CE is effective, efficient and appealing. This adapted model could represent a potential referential framework for B2D firms interested in developing educational programs in order to increase customer satisfaction. Of course, this is only a starting point, and further quantitative work is anticipated. From the theoretical point of view this paper shows how a generic customer education model can be applied to specific industries, like that of coffee. In addition it provides a map of qualities supported by literature and confirmed by the case, able to increase the level of customer satisfaction. In particular, it demonstrates how these qualities reach this objective: transparency can increase trust, clear benefits, if well communicated, can be perceived better by customers, usage of different media and language allows to reach a higher number of consumer that will be more aware of the company's products, continuing customer education allows to satisfy every type of participant and pursue educational objectives, usage of simple language ease a better understanding of the concepts by participants, understanding of customer interests allows the company to provide the right courses, in the right way and time. Furthermore, this research offers a number of managerial implications for managers in the coffee industry who want to improve their customer education. First, it describes how customer education can contribute to increase the skills of customers and their satisfaction. Second, the development of the company's knowledge by customers can ease the process of co-creation of product/service. Furthermore, if companies can adopt this tool using a high quality communication they will be able to enhance the effectiveness of customer education. This would allow companies to verify if they are using the right channels to communicate with their customers, if the language used during the courses is appropriate for participants, if their

periodicity satisfy the needs of consumers, etc. A high attention should be devoted also to the preparation of educational materials that should be able to provide the right concepts to participants in a very simple way. Finally, companies should consider investing more in CE and consider it as a tool that, if adequately incorporated, can lead to customer satisfaction.

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PERCEIVED EMPLOYMENT EXPERIENCE AS AN ANTECEDENT OF AFFECTIVE COMMITMENT IN EMPLOYER BRANDING

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ABSTRACT

In this paper affective commitment as an outcome of positive employment experience (EE) and healthy employer brand is examined. The analysis reported here applies quantitative survey of 1105 employees of Lithuanian higher education institutions (HEIs) utilizing Organizational Attractiveness Extraction Scale (OAES), comprising 67 items, and measuring EE dimensions, i.e. Organizational Culture, Fairness & Trust, Teamwork, Academic Environment, Strategic Management, Job Satisfaction, Supervisor Relationship, Compensation and Benefits, Training & Development, Work-Life Balance, and Working Conditions. Affective commitment was found as a consequence of all 11 EE attributes if tested separately, but observing the combined influence of OAES dimensions, only five were found to be predictors, namely Job Satisfaction, Training and Development, Teamwork, Compensation and Benefits and Strategic Management, but Strategic Management was found to have a negative effect. Affective commitment prediction equation was produced based on EE inputs.

Keywords: *employment experience, affective commitment, employer branding, organizational attractiveness*

INTRODUCTION

There are sufficient grounds to assert that building a salient employer brand stands for the most important element of finding the right talents (EB Insights, 2011), since people want to work for organizations with strong and positive reputation and prestige (Rousseau, 2008) in preference to higher wages, thus expecting a pride which will be provided by organizational membership (Cable and Turban, 2006). According to Coffman (2000), becoming an employer of choice should deliver five business outcomes: retention, productivity, profitability, customer loyalty and safety. Employer branding also helps organizations to define the kind of the desired applicants, with right abilities and cultural fit, in this way sifting out blank shots and increasing the number of high quality candidates. Next, employer's attractiveness or, simply, being a 'great place to work' helps an organization outperform its competitors and achieve financial success; it creates reputation which attracts talents; it

reduces turnover, fosters creativity and innovation of employees, sets a high-quality standard on culture, increases resistance against downturns or market shocks and eventually provides higher levels of customer satisfaction and loyalty (Great Place to Work, 2014).

Notwithstanding this, „employer brands are not really about talent attraction, but about that pot of gold at the end of the rainbow: employee engagement“ (CIPD, 2008: 10) and is by no means a key driver of it. Specifically, employer branding helps to build a more consistent *employment experience* (EE) and communication (EB Insights, 2011), and retain current employees assuring their commitment and engagement in the culture and strategy of the company they work for (Ambler and Barrow, 1996; Backhaus and Tikoo, 2004; EB Insights, 2011).

Therefore, the purpose of this study is to examine the mechanism through which employer brand, and specifically EE influences affective commitment and assists organizations in becoming an attractive employer, and staying competitive in the marketplace.

This article suggests that a more positive perception of EE will be associated with higher perceived affective commitment. The following objectives have been set to reach this goal:

- to explore the relationship of affective commitment and employer branding;
- to address affective commitment as a consequence of perceived EE and healthy employer brand.
- to identify EE attributes predicting affective commitment in Lithuanian and *provide practical implications*.

AFFECTIVE COMMITMENT AND EMPLOYER BRANDING

The concept of commitment refers to employee attachment and loyalty and is closely related to job satisfaction and engagement (Armstrong, 2003). Mowday, Steers and Porter (1982: 226) define organizational commitment as “the relative strength of an individual’s identification with and involvement in a particular organization”. It has been found by Porter et al., (1974) to consist of three components: 1) a strong desire to remain a member of the organization; 2) a strong belief in and acceptance of the organization’s goals; and 3) willingness to do one’s best on behalf of the organization. In addition, Barrow and Mosley (2011) have found the terms of ‘commitment’ and ‘engagement’ to be defined as a sense of pride and belonging, belief in the organization’s products and services, satisfaction with the immediate job or career opportunities and advocating the employer to others.

Allen and Meyer (1990) have conceptualized commitment as a three-component model, integrating affective, continuance and normative commitment, where *affective commitment* draws largely on Mowday’s *et al.* (1982) concept quoted above and is considered as an “affective or emotional attachment to the organization such that the strongly committed individual identifies with, is

involved in, and enjoys membership in, the organization" (p. 2). The continuance commitment refers to the perceived costs of leaving the organization and the normative commitment denotes feelings of obligation to remain with the organization.

As summarized by Armstrong (2003), a strong commitment is likely to result in lower labor turnover, high level of effort and employee's intention to stay. An affective commitment was found to be a mediator between job satisfaction and job performance (Zhang and Zheng, 2009), and to have an indirect effect on job performance through commitment to the supervisor (Vandenberghe *et al.*, 2004). Barrow and Mosley (2011) regard engagement as a more immediate state (like weather), and view commitment as a more enduring belief in the company (like climate), though "it is possible for an engaged people to lack longer term commitment, and for a committed employee to feel temporarily disengaged" (p. 89). Furthermore, Saks (2006) suggests that organizational commitment is an attitude and attachment towards organization, whereas engagement is not an attitude but individual's work-related attention, dedication and absorption.

Although the definition and meaning of both the commitment and engagement overlap, for the purpose of this paper a commitment and more specifically, an *affective commitment* is observed for the effects of EE attributes that are packaged and promised by the employer brand "to *emotionally connect* employees so that they in turn deliver what the business promises to customers" (Sartain and Schuman, 2006: vi).

EXPECTED RELATIONSHIPS

The positive outcomes of employer branding such as commitment (Ambler and Barrow, 1996) can be well-founded on the delivery of the deal between organization and employee. Therefore, employer branding can be seen as an attempt to express a psychological contract with employees, as far as an employer brand contains attributes that are transactional (i.e. tangible) and relational (i.e. intangible). Following psychological contract literature, employer branding allows organizations to build a consistent EE through packaging and delivering the particular employment benefits and rewards. Moreover, keeping the promise should lead to positive attitudinal outcomes, such as affective commitment, which is referred here as an emotional employee attachment and loyalty to an organization. Hence, affective commitment is a consequence of perceived EE making organization attractive as an employer.

EE is an organization-specific employment offering determining organizational attractiveness and differentiating organization's characteristics as an employer from those of its competitors (Backhaus and Tikoo, 2004: 502). This primarily means answering the fundamental question for the employee "What's in it for me?" if I work there and touches every dimension – from training, performance

management, compensation to rewards, promotion and communication – of the employee's relationship with the organization (Sartain and Schuman, 2006: 43).

Extending on the assertion from marketing literature that brands play functional, rational and symbolic roles related to the performance or representation of product or service (Kotler et al., 2009), EE will therefore encompass the totality of tangible and intangible reward features provided to and valued by employees, cumulatively constituting an authentic employment value proposition (Simmons, 2009). This, in turn, brings "focus and consistency to the employee's experience of the organization" (Barrow and Mosley, 2011: 117) and is a most compelling and common reason given for employees' commitment, engagement and loyalty to the organization. Accordingly, the specific research question is: *does more positive perception of EE associate with higher perceived affective commitment?*

Elaborating on employer branding outcomes with a particular focus on affective commitment, this study was carried out in Lithuanian higher education sector since "in many countries the career patterns and employment conditions of academic staff as well as the attractiveness of the academic workplace for the coming generation are of a major concern" (Enders and Weert, 2004: 12). Academic profession, continuously experiencing lowering salaries, increasing work load, loss of status and job security, external scrutiny and accountability, gradual diminution of professional self-regulation, rush towards part-time and short-term contracts and deepening culture of mistrust (Enders and Weert, 2004; Court and Kinman, 2008; Edwards et al., 2009; Altbach, 2000; Tytherleigh et al., 2005; Teichler and Höhle, 2013), is "under stress as never before" (Altbach et al., 2009: 1).

Considering the fact that the demand for highly qualified employees will strongly increase in the years ahead and officially acknowledged potential of higher education to „help deliver jobs, prosperity, quality of life and global public goods“ (European Commission, 2011: 2) it is crucial to ensure that academic workplace as a "substantial reservoir of knowledge, talent and energy" (European Commission, 2012: 11) will recover the lost ground offering "working conditions appropriate to the academic environment that encourage creativity and innovation" (Enders and Weert, 2004: 5) and will "again become a profession-with appropriate training, compensation, and status ... to attract talented young scholars and to keep them in the profession" (Altbach et al., 2009: 1).

METHODOLOGY

An Organizational Attractiveness Extraction Scale (OAES) (Bendaravičienė, 2015) was used to measure perceived EE in Lithuanian HEIs. OAES comprises 67 items, measuring 11 dimensions, i.e. Organizational Culture, Fairness & Trust, Teamwork, Academic Environment, Strategic Management, Job Satisfaction, Supervisor Relationship, Compensation and Benefits, Training & Development,

Work-Life Balance, and Working Conditions. In order to test reliability of OAES with the present study data, a series of Cronbach's alphas were calculated for each of the 11 factors ranging from 0.675 to 0.953 with only one factor (Work-Life Balance) returning coefficient lower than 0.70. The organizational attractiveness inventory was found to be highly reliable (67 items; Cronbach alpha = .985).

All 67 instrument statements were positively worded. The list of scale items was randomly mixed not to provide the respondents with a clue as to what dimension is being measured and to avoid inertia and bias. 10-point Likert scale was used for evaluation of each item capturing employees' *perceptions about the actual EE* in the particular HEI. Respondents were asked to assess whether the statement reflects actual EE in the particular HEI, with "1" used to indicate "least experienced" (lowest perceived EE), and "10" – "most experienced" (highest perceived EE).

The original eight-item Affective Commitment Scale developed by Allen and Meyer (1990) was included to measure employees' "emotional attachment to, identification with, and involvement in the organization" (Meyer et al., 2002: 21). In alignment with the authors' recommendations (Meyer and Allen, 2004), a 7-point disagree-agree scale of response options was converted to a 10-point scale, with negatively keyed items being reversed avoiding potential confusion. The scale was also translated into Lithuanian. Evaluation of items, such as "I would be very happy to spend the rest of my career with this organization", "This organization has a great deal of personal meaning for me" or "This organization has a great deal of personal meaning for me" ranged from "1 = strongly disagree" to "10 = strongly agree".

Additionally, demographics of age, gender, tenure in organization, job position (supervising and subordinate) and group (academic and administrative staff) were examined.

An internet-based survey was preferable to mail or telephone surveys and was used as a research tool. The study reported here was carried out in 19 Lithuanian higher education institutions – 7 universities (N = 715) and 12 colleges (N = 390) in 2012-2013. Table 1 below shows demographic characteristics of the total sample (N = 1105).

| Total sample | Universities | | Colleges | | | |
|------------------------|--------------|------------|-----------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage | | |
| Characteristics | Frequency | Percentage | Frequency | Percentage | Frequency | Percentage |
| Gender | | | | | | |
| Females | 636 | 59.6 | 378 | 53.0 | 258 | 72.9 |
| Males | 431 | 40.4 | 335 | 47.0 | 96 | 27.1 |
| Age | | | | | | |
| <=25 | 25 | 2.30 | 20 | 2.7 | 5 | 1.4 |
| 26-35 | 317 | 28.9 | 219 | 30.0 | 98 | 26.8 |
| 36-45 | 308 | 28.1 | 203 | 27.8 | 105 | 28.8 |

| | | | | | | |
|--------------------------|-----|------|-----|------|-----|------|
| 46-55 | 239 | 21.8 | 144 | 19.7 | 95 | 26.0 |
| >55 | 206 | 18.8 | 144 | 19.7 | 62 | 17.0 |
| Employee group #1 | | | | | | |
| Academic staff | 808 | 74.1 | 559 | 77.0 | 249 | 68.0 |
| Administrative staff | 282 | 25.9 | 165 | 22.7 | 117 | 32.0 |
| Employee group #2 | | | | | | |
| Subordinate staff | 837 | 77.3 | 575 | 79.6 | 262 | 72.2 |
| Supervising staff | 246 | 22.7 | 145 | 20.1 | 101 | 27.8 |
| Tenure | | | | | | |
| <5 | 294 | 26.9 | 158 | 21.8 | 136 | 37.2 |
| 6-10 | 255 | 23.4 | 168 | 23.1 | 87 | 23.8 |
| 11-15 | 189 | 17.3 | 143 | 19.7 | 46 | 12.6 |
| >=16 | 354 | 32.3 | 256 | 35.3 | 97 | 26.5 |

Table 1. *Demographic characteristics of the sample*

On-line research methods allow sample size calculation only hypothetically and, usually, having information about population a confidence interval with a chosen confidence level is calculated after the survey. According to the information of Statistics Lithuania (2013), there were 22168 full-time equivalent staff members in Lithuanian higher education as of academic year 2011-2012. It should be noted there that it was not possible to obtain information about staff members in separate HEIs. Therefore the population from which the sample was made was $N = 22168$. Altogether, $n = 1105$ questionnaires were returned, from which $n_1 = 715$ with proportion of $p = 0.65$ represented universities, and $n_2 = 390$ with proportion of $p = 0.35$ represented colleges. Sample size calculations were performed using a confidence level of 95 and showed that the confidence interval with a sample size of $n = 1105$ would be $\pm 2.87\%$. Therefore, the sample size of $n = 1105$ allows to generalize to the whole population with the confidence level of 95 % and the confidence interval of $\pm 2.87\%$.

RESULTS

The data of the survey was analyzed applying IBM SPSS Statistics 19 for Windows software package. Analysis of data included means and standard deviations for each OAES dimension. Total mean of Affective Commitment Scale responses was also calculated.

Regression analysis as a form of predictive modelling technique was applied. Linear regression analysis is a statistical technique that is used to analyze the relationship between a dependent (criterion) and one or more independent (predictor) variables (Hair, 2010; Hanneman *et al.*, 2013). In

other words, regression concentrates on predicting an outcome or value of the dependent variable on the basis of values of one or more independent variables (Hanneman *et al.*, 2013; Babbie, 2013).

A series of simple linear regressions were used to predict Affective Commitment (AFFCOM) from EE attributes Organizational Culture (ORGC), Fairness & Trust (FAIRT), Teamwork (TEAMW), Academic Environment (ACADE), Strategic Management (STRATM), Jobs Satisfaction (JOBS), Supervisor Relationship (SUPR), Compensation and Benefits (COMPB), Training & Development (TRAIND), Work-Life Balance (WORKLB) and Working Conditions (WORKC).

As Table 2 indicates, ORGC statistically significantly predicted AFFCOM, $F(1,939) = 536.345$, $p < .05$, $R^2 = .364$. ORGC added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 2.825 + 0.652 \cdot \text{ORGC}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.825 | .198 | | 14.278 | .000 |
| | ORGC | .652 | .028 | .603 | 23.159 | .000 |

Table 21. Simple Regression Results Using Organizational Culture as the Independent Variable

As Table 3 shows, FAIRT statistically significantly predicted AFFCOM, $F(1,976) = 490,897$, $p < .05$, $R^2 = .335$. FAIRT added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 3.729 + 0.541 \cdot \text{FAIRT}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.729 | .168 | | 22.249 | .000 |
| | FAIRT | .541 | .024 | .578 | 22.156 | .000 |

Table 32. Simple Regression Results Using Fairness and Trust as the Independent Variable

As Table 4 demonstrates, TEAMW statistically significantly predicted AFFCOM, $F(1,988) = 500.646$, $p < .05$, $R^2 = .336$. TEAMW added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 1.843 + 0.743 \cdot \text{TEAMW}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.843 | .246 | | 7.492 | .000 |

| | | | | | |
|-------|------|------|------|--------|------|
| TEAMW | .743 | .033 | .580 | 22.375 | .000 |
|-------|------|------|------|--------|------|

Table 43. Simple Regression Results Using Teamwork as the Independent Variable

As Table 5 informs, ACADE statistically significantly predicted AFFCOM, $F(1,1006) = 471.444$, $p < .05$, $R^2 = .319$. ACADE added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 2.072 + 0.734 \cdot \text{ACADE}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.072 | .243 | | 8.535 | .000 |
| | ACADE | .734 | .034 | .565 | 21.713 | .000 |

Table 54. Simple Regression Results Using Academic Environment as the Independent Variable

As Table 6 depicts, STRATM statistically significantly predicted AFFCOM, $F(1,972) = 484.029$, $p < .05$, $R^2 = .332$. STRATM added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 3.215 + 0.611 \cdot \text{STRATM}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.215 | .192 | | 16.760 | .000 |
| | STRATM | .611 | .028 | .577 | 22.001 | .000 |

Table 6. Simple Regression Results Using Strategic Management as the Independent Variable

As it is shown in Table 7, JOBS statistically significantly predicted AFFCOM, $F(1,973) = 652.431$, $p < .05$, $R^2 = .401$. JOBS added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = -0.099 + 0.921 \cdot \text{JOBS}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.099 | .291 | | -.342 | .733 |
| | JOBS | .921 | .036 | .634 | 25.543 | .000 |

Table 7. Simple Regression Results Using Jobs Satisfaction as the Independent Variable

As Table 8 indicates, SUPR statistically significantly predicted AFFCOM, $F(1,1009) = 296.703$, $p < .05$, $R^2 = .227$. SUPR added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 3.729 + 0.450 \cdot \text{SUPR}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.729 | .211 | | 17.668 | .000 |
| | SUPR | .450 | .026 | .477 | 17.225 | .000 |

Table 8. Simple Regression Results Using Supervisor Relationship as the Independent Variable

As Table 9 lists, COMPB statistically significantly predicted AFFCOM, $F(1,987) = 515.178$, $p < .05$, $R^2 = .343$. COMPB added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 4.158 + 0.546 \cdot \text{COMPB}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.158 | .147 | | 28.312 | .000 |
| | COMPB | .546 | .024 | .586 | 22.698 | .000 |

Table 9. Simple Regression Results Using Compensation and Benefits as the Independent Variable

As it is set in Table 10, TRAIND statistically significantly predicted AFFCOM, $F(1,1012) = 599.092$, $p < .05$, $R^2 = .372$. TRAIND added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 3.130 + 0.625 \cdot \text{TRAIND}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.130 | .176 | | 17.783 | .000 |
| | TRAIND | .625 | .026 | .610 | 24.476 | .000 |

Table 10. Simple Regression Results Using Training and Development as the Independent Variable

As Table 11 shows, WORKLB statistically significantly predicted AFFCOM, $F(1,1029) = 230.739$, $p < .05$, $R^2 = .183$. WORKLB added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 4.168 + 0.445 \cdot \text{WORKLB}.$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 4.168 | .210 | | 19.819 | .000 |
| | WORKLB | .445 | .029 | .428 | 15.190 | .000 |

Table 11. Simple Regression Results Using Work-life Balance as the Independent Variable

As Table 12 informs, WORKC statistically significantly predicted AFFCOM, $F(1,1009) = 383.335$, $p < .05$, $R^2 = .275$. WORKC added statistically significantly to the prediction, $p < .05$, the regression equation can be presented as:

$$\text{AFFCOM} = 3.601 + 0.539(\text{WORKC}).$$

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 3.601 | .193 | | 18.631 | .000 |
| | WORKC | .539 | .028 | .525 | 19.579 | .000 |

Table 12. Simple Regression Results Using Working Conditions as the Independent Variable

Overall, the results of simple linear regression indicated that a dependent variable AFFCOM can be explained by all independent variables to a certain extent. The most important predictors are found to be JOBS ($R = .634$; $R^2 = .401$) and TRAIND ($R = .610$; $R^2 = .372$), the least important predictors are found to be WORKLB ($R = .428$; $R^2 = .183$) and SUPR ($R = .477$; $R^2 = .227$).

Next, in order to reach conclusions not only about the precision of the prediction and the size of effect separate independent variables have on the dependent variable, but also about the simultaneous contribution of eleven predictors to AFFCOM and the relationship between the dependent variable and the independent variables, controlling for the other independent variables, the simple regression models are extended to multiple regression.

According to the reported R-squared statistics, R^2 of AFFCOM predicted by combination of eleven EE attributes is 0.477 therefore it is possible to explain 47.7 percent of the total variance in affective commitment by taking into consideration a combination of these predictors. This indicates that regression model predictions are quite precise. Additionally, the assumption that the residuals are not correlated serially from one observation to the next was checked using Durbin-Watson Statistic ranging from 0 to 4, where value close to 0 indicates a strong positive correlation, a value of 4 indicates strong negative correlation, and a value close to 2 indicates that residuals are not correlated. For this analysis, the value of Durbin-Watson is 1.957 (see Table 13) and it falls into the interval of critical values (1.83; 2.17) indicating no serial correlation.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|------|----------|-------------------|----------------------------|---------------|
| 1 | .691 | .477 | .469 | 1.596 | 1.957 |

Table 13. Affective commitment and EE attributes: Model Predictions

Determining whether the model is a good fit for the data F-value was examined in ANOVA and indicated that it is because p is less than .05 and the R^2 result is statistically significant ($F(11,719) = 59.6$, $p < .05$) (see Table 14). Accordingly, this leads to the rejection of null hypothesis that no independent variable has an effect on Y .

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|------|
| 1 | Regression | 1671.068 | 11 | 151.915 | 59.641 | .000 |
| | Residual | 1831.406 | 719 | 2.547 | | |
| | Total | 3502.475 | 730 | | | |

Table 145. *Affective commitment and EE attributes: Goodness of Fit*

Having passed the global hypothesis test, partial effects are examined in a multiple regression model. Based on unstandardized coefficients for each predictor the equation for the regression line is:

$$Y(\text{AFFCOM}) = 0.052 - 0.010 \cdot (\text{ORGC}) + 0.011 \cdot \text{FAIRT} + 0.198 \cdot \text{TEAMW} + 0.070 \cdot \text{ACADE} - 0.187 \cdot \text{STRATM} + 0.507 \cdot \text{JOBS} - 0.023 \cdot \text{SUPR} + 0.139 \cdot \text{COMPB} + 0.246 \cdot \text{TRAIND} - 0.035 \cdot \text{WORKLB} + 0.067 \cdot \text{WORKC}$$

Using Student t-tests it could be seen from Table 15 though that only five partial effects are statistically significant ($p < .05$). Further, assessing the degree and impact of multicollinearity VIF of 10,409 for ORGC indicates the linear dependence of this independent variable on other independent variables. If collinearity is a problem, the first choice solution is the elimination of independent variables with large VIF from the analysis (Hair, 2010). However, this method is misguided if the variable is selected due to the theory of the model which is the case with ORGC. Therefore the model is left as it is, despite multicollinearity, while the lowered level of overall predictive ability is acknowledged and more emphasis is placed on simple correlations (Ibid.).

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | | Collinearity Statistics | |
|--------------|-----------------------------|------------|---------------------------|--------|------|--------------|---------|-------|-------------------------|--------|
| | B | Std. Error | Beta | | | Zero-order | Partial | Part | Tolerance | VIF |
| 1 (Constant) | .052 | .385 | | .135 | .893 | | | | | |
| ORGC | -.010 | .096 | -.009 | -.101 | .920 | .596 | -.004 | -.003 | .096 | 10.409 |
| FAIRT | .011 | .075 | .012 | .151 | .880 | .579 | .006 | .004 | .119 | 8.416 |
| TEAMW | .198 | .070 | .152 | 2.822 | .005 | .577 | .105 | .076 | .250 | 4.001 |
| ACADE | .070 | .069 | .054 | 1.015 | .310 | .566 | .038 | .027 | .259 | 3.865 |
| STRATM | -.187 | .082 | -.172 | -2.283 | .023 | .576 | -.085 | -.062 | .128 | 7.804 |
| JOBS | .507 | .072 | .336 | 7.083 | .000 | .637 | .255 | .191 | .323 | 3.094 |
| SUPR | -.023 | .040 | -.024 | -.564 | .573 | .475 | -.021 | -.015 | .415 | 2.408 |
| COMB | .139 | .052 | .147 | 2.679 | .008 | .592 | .099 | .072 | .241 | 4.152 |
| TRAIND | .246 | .057 | .237 | 4.344 | .000 | .620 | .160 | .117 | .245 | 4.085 |
| WORKLB | -.035 | .043 | -.033 | -.826 | .409 | .441 | -.031 | -.022 | .450 | 2.224 |
| WORKC | .067 | .053 | .064 | 1.254 | .210 | .532 | .047 | .034 | .276 | 3.627 |

Table 156. *Affective commitment and EE attributes: Partial Effects and Collinearity Diagnostics*

In determining which independent variables contribute significantly to explaining the variability in the dependent variable, a sequential search method of *stepwise estimation* was employed. This procedure enables to examine the contribution of each independent variable by selecting the independent variable having the highest correlation with the dependent variable first, testing whether

the percent variation explained is statistically significant, adding next independent variable, recomputing the regression equation and continuing this procedure by examining all independent variables. Variables that do not make a significant contribution are eliminated until the best model is determined.

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------|-------------------|---|
| 1 | JOBS | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100). |
| 2 | TRAIND | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100). |
| 3 | TEAMW | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100). |
| 4 | COMPB | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100). |
| 5 | STRATM | . | Stepwise (Criteria: Probability-of-F-to-enter <= .050. Probability-of-F-to-remove >= .100). |

Table 167. Variables Entered/Removed

Table 16 tells which variables were included in the model at each step: "JOBS" was the single best predictor (step 1), and "TRAIND" was the next best predictor (added the most) after "JOBS" was included in the model (step 2), and "TEAMW" was another best predictor after "JOBS" and "TRAIND" were included in the model (step 3), and "COMPB" was another best predictor after "JOBS", "TRAIND" and "TEAMW" were included in the model (step 4), and (STRATM) was the last best predictor, after "JOBS", "TRAIND", "TEAMW" and "COMPB" were included in the model (step 5). Variables ORGC, FAIRT, ACADE, SUPR, WORKLB and WORKC were excluded from the model.

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------|----------|-------------------|----------------------------|---------------|
| 1 | .637a | .405 | .404 | 1.69049 | |
| 2 | .676b | .457 | .456 | 1.61590 | |
| 3 | .683c | .466 | .464 | 1.60380 | |
| 4 | .686d | .471 | .468 | 1.59744 | |
| 5 | .689e | .475 | .471 | 1.59318 | 1.921 |

a. Predictors: (Constant), JOBS

b. Predictors: (Constant), JOBS, TRAIND

c. Predictors: (Constant), JOBS, TRAIND, TEAMW

d. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB

e. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB, STRATM

Table 178. Model Summary

R-squares in Table 17 inform that with "JOBS" alone (step 1), 40.5% of the variance in AFFCOM was accounted for, and 47.5% of the variation in AFFCOM is explained by having JOBS, TRAIND, TEAMW, COMPB and STRATM in the model. Five F-tests (see Table 18), one for each step of the procedure, had overall significant results ($p < .05$).

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|---------|-------|
| 1 | Regression | 1419.173 | 1 | 1419.173 | 496.605 | .000a |
| | Residual | 2083.302 | 729 | 2.858 | | |
| | Total | 3502.475 | 730 | | | |
| 2 | Regression | 1601.569 | 2 | 800.784 | 306.681 | .000b |
| | Residual | 1900.906 | 728 | 2.611 | | |
| | Total | 3502.475 | 730 | | | |
| 3 | Regression | 1632.498 | 3 | 544.166 | 211.558 | .000c |
| | Residual | 1869.977 | 727 | 2.572 | | |
| | Total | 3502.475 | 730 | | | |
| 4 | Regression | 1649.847 | 4 | 412.462 | 161.634 | .000d |
| | Residual | 1852.628 | 726 | 2.552 | | |
| | Total | 3502.475 | 730 | | | |
| 5 | Regression | 1662.259 | 5 | 332.452 | 130.978 | .000e |
| | Residual | 1840.216 | 725 | 2.538 | | |
| | Total | 3502.475 | 730 | | | |

a. Predictors: (Constant), JOBS

b. Predictors: (Constant), JOBS, TRAIND

c. Predictors: (Constant), JOBS, TRAIND, TEAMW

d. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB

e. Predictors: (Constant), JOBS, TRAIND, TEAMW, COMPB, STRATM

Table 189. ANOVA

Unstandardized coefficients that determine the least-squares regression line indicate how AFFCOM is predicted to increase for a one-unit change in four independent variables JOBS, TRAIND, TEAMW and COMP. Interestingly, AFFCOM is predicted to decrease for a one-unit change in STRATM. Thus, the prediction equation found in the regression model step 5 is:

$$Y(\text{AFFCOM}) = 0.168 + 0.495 \cdot \text{JOBS} + 0.263 \cdot \text{TRAIND} + 0.204 \cdot \text{TEAMW} + 0.153 \cdot \text{COMPB} - 0.144 \cdot \text{STRATM}$$

Identifying which independent variable has the bigger effect controlling for affective commitment, standardized coefficients were analyzed (see Table 19). The standardized coefficient for JOBS is 0.328, indicating that increase of one standard deviation in AFFCOM is associated with increase of 0.328 standard deviation in JOBS.

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 5 | (Constant) | .168 | .364 | | .462 | .645 | | |
| | JOBS | .495 | .067 | .328 | 7.363 | .000 | .366 | 2.733 |
| | TRAIND | .263 | .055 | .253 | 4.797 | .000 | .261 | 3.825 |
| | TEAMW | .204 | .059 | .157 | 3.472 | .001 | .355 | 2.815 |
| | COMPB | .153 | .047 | .161 | 3.225 | .001 | .291 | 3.441 |
| | STRATM | -.144 | .065 | -.133 | -2.211 | .027 | .201 | 4.978 |

Table 1910. Coefficients

Observing standardized coefficients of other independent variables, it could be said that predictive substantive role of JOBS is greater than of TRAIND (beta = 0.253) and almost twice greater than of TEAMW (beta = 0.157), COMPB (beta = 0.161) and STRATM (beta = -0.133).

CONCLUSIONS AND IMPLICATIONS

In terms of theoretical contribution, this study complements the research on affective commitment as a consequence of perceived EE making organization attractive as an employer. It also provides a methodological contribution to the operationalization of employer's branding construct. The 11-dimensional Organizational Attractiveness Extraction Scale (OAES) with 67 items to collect the data was administered in 19 Lithuanian higher education institutions (N = 1105).

In terms of practical implications, research results allow to identify EE attributes that lead to positive attitudinal outcomes, specifically, an affective commitment, this is referred therein as an emotional employee attachment and loyalty to an organization and therefore, that require a particular employers' attention and efforts to attract talented candidates and retain existing employees.

Considering one of the key named benefits of employer branding which is a power to build employee commitment (e.g., Ambler and Barrow, 1996), a series of simple linear regressions and multiple regression analysis was used in this study to test if EE attributes significantly predicted affective commitment levels.

All eleven OAES dimensions were used in the analysis and it was found that Organizational Culture (F(1,939) = 536.345, $p < .05$, $R^2 = .364$), Fairness and Trust (F(1,976) = 490.897, $p < .05$, $R^2 = .335$), Teamwork (F(1,988) = 500.646, $p < .05$, $R^2 = .336$), Academic Environment (F(1,1006) = 471.444, $p < .05$, $R^2 = .319$), Strategic Management (F(1,972) = 484.029, $p < .05$, $R^2 = .332$), Job Satisfaction (F(1,973) = 652.431, $p < .05$, $R^2 = .401$), Supervisor Relationship (F(1,1009) = 296.703, $p < .05$, $R^2 = .227$), Compensation and Benefits (F(1,987) = 515.178, $p < .05$, $R^2 = .343$), Training and Development (F(1,1012) = 599.092, $p < .05$, $R^2 = .372$), Work-life Balance (F(1,1029) = 230.739, $p < .05$, $R^2 = .183$) and Working Conditions (F(1,1009) = 383.335, $p < .05$, $R^2 = .275$) significantly predicted affective commitment. The most important predictors were found to be Job Satisfaction and Training and Development, the least important predictors were found to be Work-life Balance and Supervisor Relationship.

Consequently, since interesting job and creativity enhancement are most significant benefits associated with attractive employer, job enrichment should be explored redesigning jobs and increasing the range and complexity of tasks so that they were more challenging and less repetitive. Employees should be also provided ample opportunities for vertical and horizontal career growth as well as continuous learning development.

These findings are consistent with previous research (e.g., Allen and Meyer, 1990) that found affective commitment to be a consequence of following experiences of employment: job challenge, role clarity, goal clarity, goal difficulty, management receptiveness, peer cohesion, organizational dependability, equity, personal importance, feedback and participation. In addition, commitment was found to be affected by supportive business strategies, investment in training and development, compensation reinforcing cooperation, participation and contribution, employee involvement, teamwork, climate of cooperation and trust, etc. (Armstrong, 2003).

Further, the combined influence of all OAES dimensions on affective commitment was evaluated extending simple regression models to multiple regressions. The results of the regression indicated, only five dimensions were predictors ($F(5,725) = 130.978$, $p < .05$, $R^2 = .471$), namely Job Satisfaction (beta = 0.328), Training and Development (beta = 0.253), Teamwork (beta = 0.157), Compensation and Benefits (beta = 0.161), and Strategic Management (beta = -0.133) were included in the model. Job Satisfaction explained 40.5% of variance in affective commitment, 47.5% of variance was explained by all five variables.

Surprisingly, Strategic Management was found to have a negative effect on affective commitment, meaning that increase in strategic management will result in a decreased level of affective commitment. This could be explained by self-determination theory of motivation, supporting the idea that people are intrinsically motivated to behave in an effective and healthy ways (Deci and Ryan, 2012) and encourages employers to foster job autonomy, which is the direct opposite of job control, will be related to higher levels of job satisfaction and commitment and lower levels of turnover (e.g., Galletta et al. 2011).

Extending the regression analysis application suggestions from Hair (2010) to employment context, the prediction equation derived from regression analysis can be used by organizations to study how employees form their affective commitment attitudes as well as a forecasting model – to predict affective commitment based on EE inputs.

$$Y \text{ (AFFCOM)} = 0.168 + 0.495 \cdot \text{JOBS} + 0.263 \cdot \text{TRAININD} + 0.204 \cdot \text{TEAMW} + 0.153 \cdot \text{COMPB} - 0.144 \cdot \text{STRATM}$$

Accordingly, research results reveal that employee affective commitment should increase creating their job satisfaction, enabling training and development, fostering teamwork and implementing successful compensation and benefits strategy. However organizations should be careful and not place too much direction, control and formality on their employees but by contrast pursue job autonomy.

Finally, one more interesting insight follows from considering OAES dimensions as intrinsic and extrinsic factors (Herzberg et al, 1959; Herzberg, 1968) as distinguished in Table 20 below:

| Intrinsic (motivator) factors | Extrinsic (hygiene) factors |
|-------------------------------|-----------------------------|
| Job Satisfaction | Strategic Management |
| Training and Development | Supervisor Relationship |
| Academic Environment | Teamwork |
| Fairness and Trust | Working Conditions |
| Organizational Culture | Compensation and Benefits |
| | Work-Life Balance |

Table 2011. OAES dimensions assigned to intrinsic or extrinsic factors

Evidently, affective commitment in higher education surfaces both from intrinsic and extrinsic motivation, but it is argued (Armstrong, 2003) that exactly *intrinsic motivation*, to wit interesting, challenging and varied work, job autonomy, task identity and task significance, or otherwise job enrichment, may turn commitment into *job engagement*, which is especially common in knowledge work (Coaldrake and Stedman, 1999).

All in all, this paper provides organizations' a new proof for strengthening their employer branding strategies and focusing on positive EE as a most compelling and common reason given for employees' commitment and loyalty to the organization.

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HOW IS AN AIRPORT BUSINESS MODEL INNOVATED? EVIDENCE FROM AN ITALIAN CASE

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ABSTRACT

This paper investigates how an airport business model is innovated following a change in the legislative environment. Via analyzing an Italian airport, we contribute to extant research on business model in the air transport industry in two ways. First, we introduce a new kind of ownership/governance structure, that of long term concession (i.e. the concession of the comprehensive management to a private company for 30 years). Then, we explore how the business model has been refined over two distinct phases (incubation and generation phases) of the airport development.

Keywords: *business model innovation; airport; case study*

1. INTRODUCTION

Since late 1970s air transport research has mainly focused on airlines, often describing the airline market consolidation and the diffusion of low-cost carriers (Lenartowicz et al., 2013), thus overlooking at the airports evolution. Although the two traditional factors having been considered as drivers of business model innovation in the air transport industry, namely the technological innovation and the normative regulation, have been often considered as drivers of business model innovation for airlines (Daft and Albers 2013; Gillen 2006; Graf 2005), the study of business model evolution in the airports has only scantily attracted interest of both academics and managers.

This paper describes the on-going evolution of airports' business models in Italy and analyses in depth the case of Forlì airport as the first case of long-term total concession to a private company enabled by a new regulation. Digging into the business model literature, the paper uses the case of Forlì (Emilia-Romagna, Italy) airport as an exemplary case to describe an airport business model's evolution due to regulation changes. Italy represents an interesting setting since in the past Italian regional airports' revenues were generated by contractual agreements with airlines and, in case they were not able to profit (or to balance), public institutions financed them. With the recently changed National Plan of Transports, Italian government has enabled the emergence of new opportunities for airports. Henceforth, a new ownership/governance structure has been enabled via a long-term total concession

of the airport to a private company. This new ownership/governance structure is characterized by (i) the concession of the comprehensive management to a private company for 30 years, (ii) the fulfilment of some initial requirements -according to the public tender- by the concessionaire, and (iii) the respect of the object and the vocation of the airport (that still remains a public asset). In order to regulate the relationship between public institution and private, to manage the relationship between the concessionaire and the local stakeholders, and to design a new corporate strategy for growth and development of an airport such as Forlì, an innovation in business model has been required.

Linking the air transport to the strategic management literature, this paper contributes to extant literature in two ways. First, the paper introduces a new ownership/governance structure adding to Gillen (2011)'s eight kinds taxonomy a new one: long-term total concession to a private company. Second, the paper provides a dynamic description of the business model of an airport in a start-up phase, distinguishing between the incubation and generation phases of an airport that is re-born after a regulatory change. In doing this, we use Baden-Fuller and Haefliger (2013)'s definition of business model, according to which a business model is made up by four interrelated dimensions, namely the customer identification, the customer engagement, the value chain linkages and the monetization. In this context, the paper also describes how business model's components have been used in a different manner to satisfy a different audience (Doganova and Eyquem-Renault 2009) in both incubation and generation phases.

The paper is structured as follows. In the next section we review the literature on the regulation changes in the air transport industry and we describe the theoretical lenses we use in the following sections for depicting the airport business model. In the third section we describe our research design. Then, we describe the case of Forlì airport as an exemplary case study capable of shedding light on how a new business model has been introduced after a regulatory change, by distinguishing the phases of incubation and generation, and looking at how the business model has been used as a manipulating device. Managerial and theoretical implications are described in the last section.

2. REGULATION CHANGES AND BUSINESS MODELS IN THE AIR TRANSPORT INDUSTRY

Airports are operating in a highly competitive, dynamic and complex environment, that of air transport industry, whose equilibrium has been disrupted by two main phenomena (Starkie 2012; Gillen and Lall 2002; Oum, Zhang, and Fu 2010): technological innovation and regulation.

The impact of technological innovation on the air transport industry is evident. In particular, the advent of the Internet has enabled the growth of low-cost cargo (LCC) at the expenses of the traditional full service airlines (Gillen and Lall 2002). This has changed not only the competitive landscape of airlines,

but also it has required a shift in the market power dynamics within the whole air transportation industry having seen (i) the emergence of new network structures that have substituted the traditional hub-and-spoke networks, and (ii) new revenue models, (iii) the vertical integration between airports and airlines as well as the need for (iv) the design of integrated transport modes capable of facing the threat deriving by substituting transportation (as high speed railways).

Regulatory issues have been instead less developed, especially with reference to airports. Extant research has in fact analysed how liberalization policies have impacted economic growth, traffic volume and traffic flow patterns with respect to airlines (Oum, Zhang, and Fu 2010), but scant attention has been posed on the impact of legislation on airports' business model evolution. Previous studies have looked at the deregulation of interstate cargo aviation in US in the late 1970s (Gillen 2011) or at the more recent EU-US open skies agreement, but have underdeveloped how new entrants may take advantage from normative changes for providing alternative business models and compete in such industries that are traditionally conceived as publics.

2.1. Regulation changes

Past literature on the evolution of the management of aviation mostly focuses on the airline companies' evolution over time, taking into consideration the network (Gillen and Morrison 2005), the airline companies behavior under deregulatory market conditions with respect to the network structure choice (Berechman and De Wit, 1996), the airline companies relationships and regulatory implications with respect to airports (Starkie, 2012).

Gillen and Morrison (2005) studied the evolution of business strategies and network structure decisions in the commercial passenger aviation industry finding that the evolution of the network in the aviation sector is based on the choice of business model adopted by airlines companies; they also pointed out the strategic role of alliances between airline companies as a driver for the future evolution.

Berechman and De Wit (1996) assessed the potential of major West European airports as a strategic gateway hub after the European aviation market deregulation showing how airline companies are forced to become profitable to survive in both respective country's main airports and foreign ones.

Starkie (1996) questioned the need for a special regulatory framework for European airports arguing as bespoke contracts between airline companies and airports can be conceived as an incentive to fulfill high-margin commercial sales to passengers and to generate a favorable outcome for passengers.

To the best of our knowledge we have found only one paper that has focused on the evolution of airports over time. Gillen (2011) posited an extremely important basic assumption: in the past airports' market power were underestimated; traditionally airports were conceived as a public utility and in some cases were used as a device for some broader policy initiatives. Basing on this assumption Gillen

(2011) analyzed the evolution of airport ownership and governance describing at least eight possible structures of airports, according to the degree of ownership/governance in charge of public or private actors. Nonetheless, as he argues, this taxonomy is not exhaustive.

2.2. Business model innovation

The business model concept offers a new unit of analysis in the strategic business field of the air transport industry (Graf, 2005; Zott et al., 2011). The business model may be defined as “a system that solves the problem of identifying who is (or are) the customer(s), engaging with their needs, delivering satisfaction and monetizing the value” (Baden-Fuller and Haefliger 2013:419). Several business model dimensions have been identified by previous strategic management literature, often in order to distinguish it from related terms such as strategy and tactics (Casadesus-Masanell and Ricart, 2010; Casprini et al. 2014; Magretta, 2002; Teece, 2010). As Casadesus-Masanell and Ricart (2010) note, “strategy refers to the choice of the business model through which the firm will compete in the marketplace” while the “business model refers to the logic of the firm, the way it operates and how it creates value for its stakeholders” (p. 196). This logic may be analyzed using description of the dimensions of the business model, dimensions that widely change in terms of both number and nature, in the business model literature.

Considering extant research in air transport industry, for example, airlines’ business models have been described according to 8 dimensions (Graf 2005): product/service concept; communication concept; revenue concept; growth concept; competence configuration; organizational form; cooperation concept; coordination concept. Casadesus-Masanell and Ricart (2010), on the contrary, identified only two parts of the business model, using them for describing an airline’s business model (that of Ryanair): on the one hand there are the concrete choices made by management about how the organization must operate and on the other hand the consequences of these choices. Three types of choices are distinguished: policies choices (“the course of action that the firm adopts for its operations”), asset choices (“the decisions about tangible resources”) and governance structure (“the structure of contractual arrangements that confer decision rights over policies or assets”) choices (p. 198). Again, Baden-Fuller and Haefliger (2013) propose a typology of business models that considers four elements. First the identification of the customers: a company may have more separate customer groups and this choice specifies whether the business model is one sided or multisided (customers pay/other pays). Second, the customer engagement or the customer proposition, that can be standard or customized. Third the value chain and linkages, i.e. the governance structure of the firm that refers to how a company delivers its products/services to the customer(s). Finally, the monetization that refers to when and how the money is raised.

Defining the dimensions of a business model is useful in order to understand how a business model evolves and may be innovated. For example, via a change in the regulation, alternative configurations of business models are available and hence the company may choose to compete using a specific business model configuration. To the extent of this paper we adopt Baden-Fuller and Haefliger (2013)'s dimensions. In this paper we focus on the business model of an airport, defined as "a multi-product firm and at its simplest it has two sides to its business: the airside market (passenger airlines and cargo companies as direct customers and fixed base operators as tenants) and the non-airside market (enplaning and deplaning passengers as direct customers and retail businesses as tenants)" (Gillen 2011: 7). An airport is in fact an infrastructure supplier in the provision of air transportation services (Gillen and Lall 2002) and it can be conceived as a multi-sided platform (Baden-Fuller and Haefliger, 2013; Teece, 2010) able to link passengers, airlines and many retail businesses.

Moreover, irrespective of the dimensions used, business model literature has noticed that beyond the design of a business model and then its pursuit through a specific strategy, a company may use its business model as a tool that need to be adapted to different audiences. Baden-Fuller and Mangematin (2013) note that a business model may be understood as a kind of configuration that is cognitively manipulable. In a recent paper, Doganova and Eyquem-Renault (2009) analyse "what business models do". According to them, business models are boundary objects with calculative and narrative aspects that entrepreneurs circulate in different spaces (such as competitions and networking events) as sense-giving objects to various audiences. The same business model is represented differently to several audiences since certain business model elements are seen as more important than other elements for specific stakeholders groups. In showing it, Doganova and Eyquem-Renault (2009) look at entrepreneurial companies during the fundraising process. Consequently, a company's business model evolves not only longitudinally (as the results of exogenous drivers), but also contingently (as the result of a different audience to talk with).

The institutional changes in norms represents a key driver in business model evolution (Sosna et al., 2010). The introduction of new formal rules, in fact, often results in challenges for incumbent firms that need to adapt their business model to the new landscape, but often also results in opportunities for new entrants. However, how a new entrant may take advantage of the new regulations in introducing a new business model has not been addressed in the air transport industry literature nor in the business model one.

3. RESEARCH DESIGN

This paper presents results from a single case study of the first year of the new airport of Forlì. The research design used a single descriptive case study (Siggelkow, 2007; Yin, 2003). The case is an

exemplar case in that it provides a profound perception on the role of regulation as an exogenous factor in driving an airport's business model innovation.

Forlì airport is located in the North-East side of central Italy between the central hub of Bologna and the regional airport of Rimini (that has a strongly vocation to tourism). In the past, there was not a clear national plan that designs the strategy of these three airports: basically the three airports acted as rivals fighting with price competition. Henceforth, following many years of crisis, in 2013 Forlì airport was shot down and remained closed for almost one year. Only in 2014, a new opportunity arose with the new Italian Plan of Transport.

The Italian Plan of Transport, in fact, is forcing airports to coexist and to compete on the international market with different and more cohesive rules. In this context, Forlì airport (whose physical assets was not destroyed when the airport was closed), has had a new chance to reconfigure itself and reborn. Hence, in 2014 a public announcement was released at international level and a competition between potential concessionaires began. In 2014 after some months of selection, Mr. R. resulted to be the winning concessionaire.

In this context, we had the chance to analyze the business model in two distinct phases: before the appointment of the new concessionaire and after the concession. In such extreme case, the role of a business model as a mean via which competing for a public announcement to a mean through which cooperating in the regional (and national) environment according to the Italian Plan of Transport¹ is exacerbate.

In analysing this peculiar event in Italy, information was gathered from both primary and secondary sources. Primary sources included 3 semi-structured interviews with company representatives at all levels and areas as well as with some external stakeholders who were believed to know the case very well. The data collection process started in July 2014 and ended in May 2015. Interviews lasted between 30 and 180 minutes. Three key actors were interviewed: a representative of the Province, i.e. the Local Entity (Mrs. M.), the Concessionaire (Mr. R.), and an expert of the sector (Mr. S.).

Beyond these primary sources of data collection, secondary sources were collected. In particular, one of the authors had access to all the documentation and had the possibility to directly observe all the phases since she is actively participating to the Forlì airport implementation.

In the Forlì airport's business model we focused on the phases that it passed through. The key event (that of concessionaire appointment), in fact, allowed us to clearly distinguishing between a phase 1 where the potential concessionaire participate to the public selection and phase 2, when the potential concessionaire became the actual concessionaire. As in previous studies (Doganova and Eyquem-

¹ In designing the new business model, in fact, Forlì airport has to clearly declare its vocation and to demonstrate through the industrial plan the way through which is possible to be sustainable over time.

Renault, 2009) we focused on the material forms that the business model took in the two phases and on how it circulated among the various actors.

4. BUSINESS MODEL INNOVATION IN THE FORLÌ CASE

4.1 The rise of the long-term total concession

The air transport industry is regulated by two main sources. First, via the art. 117 of the Italian Constitution that defines that the core competence of managing airports falls down to the central government and regions. Second, the Italian Ministry of Transports is in charge to define the operational directives through the National Plans of Transport. National Plans of Transport in the past did not consider all the same strategic objects or drivers of development. For example, the 2010 National Plan of Transport aimed to regulate flow; the Ministry of Transport focused on increasing both passenger and cargo exchanges, without considering integration of the airport in the social and economic activity of the entire catchment area. The Plan was concentrated in developing strategic programs to achieve the maximum level of “movements”, creating efficiency between different means of transportation, generating new logistic system, to improve competition in the cargo transportation, etc. The content of the 2010 National Plan of Transport was in line with the European trend in the aviation sector.

Since 2010, many changes (e.g. the global financial crises, the underestimated weight of new entrants in the airlines industry) occurred leading to several airports closures, among them that of Forlì. Henceforth, the Italian Government had to modify the guidelines of the National Plan of Transport in order to face with the environmental Italian changes, giving the possibility to a private entrepreneur to invest in airports. Henceforth, in 2014 the new National Plan of Transport is introduced.

The Plan has a special focus on defining guidelines to manage the evolution of aviation in all entire Italy, positing the fundamental drivers that will lead the future growth of the aviation sector in a global and inclusive way (i) designing a sustainable and competitive national network of transport highlighting local vocations and features; (ii) going headed for historical conflicts that affect airports presenting the same potential catchment area; (iii) with the incentive to develop a transport network as a key to solve problems of governance such as inefficiency or, basically, to reduce operative costs.

According to the 2014 Plan, airports have to become a strategic asset for the local progress: regions have to promote this development by adopting specific criteria aimed to create synergies, not only between airports, but also with the other means of transportations in the land. Under this new legislative framework, regional airports such as Forlì have to reshape themselves.

The Italian Government decided to distinguish airports on the basis of some criteria such as the strategic role, the geographic localization, the type of flow, the prevision of growth in line with

European directives. Italian airports can be classified in two types: airports of national interest and airports of local interest. The large majority of the so-called regional airports fall down in the second category.

Moreover, in parallel with the National Plan of Transport, the Italian Government (through ENAC, the Italian Civil Aviation Authority) has designed public tenders for the long-term total concession to private companies for a certain number of Italian regional airports, such as Forlì.

The decision to grant the entire management of an airport for 30 years is conceived as an additional ownership/governance structure with respect to the eight possibilities defined by Gillen (2011). Italian Government has decided to maintain the ownership of all the Italian airports and to give to a private investor(s) the possibility to manage all the possible businesses -directly and indirectly related to aviation in the area of the concession- for a period of 30 years. At the end of the concession period the concessionaire will have to give back to the Italian Government (through ENAC) the “keys” of the airport. At that time, after an in-depth-analysis, the ENAC will define the corresponding amount of money that as to be paid to the concessionaire for the incremental activities done during the concession period that lead an additional value to the airport.

4.2 Business Model Innovation: the incubation and generation phases

In 2014 the Italian Civil Aviation Authority ENAC publishes a tender for the 30-years total concession for the management of the airport of Forlì, with respect to the article 704 of the Navigation Code. Rules in the public competition are really clear: each participant would have to present some mandatory documents to fulfill the formal requirements of the tender and evaluation of participants would be based on a project of the organizational structure, corporate strategies of development and previsions of the traffic for the period of concession, a plan of the investments, a business plan, and a reimbursement for past activities of the previous company.

Mr. R. and its team submitted their proposal, beginning from a general shaping of a potential and sustainable business model that would be soon translated into a proper business plan.

According to Mr. R., in line with the Italian Plan of Transport and not being interested to reach both the catchment area of Bologna and to attract tourists such as Rimini, Forlì airport must identify its local excellence. Henceforth, strategic insights have to be based on the territorial peculiarities as well as the suitable routes that may enable it to get into intense contact with commercial airports, such as for example those of Eastern Europe and the Balkans (to which European Union policies have posited their attention).

According to Mr. R. and his team, the new airport of Forlì would still consider the two traditional segments of passengers and cargo. Henceforth, the initial numbers of the business plan were based on

the historical data and past balances of passengers and cargo (measured by work load unit, WLU). This was an assumption of credibility and reliability. On the basis of past numbers the new management would have developed the new strategies of growth and the industrial plan. A broad definition of the customers in this stage was considered at the level of the traffic that would produce and the corresponding revenues. The business plan had to show the relationship between revenues and costs with a certain level of traffic of passengers and a certain amount of cargo (the split in percentage terms between the two was not considered). Consequently, it was not necessary to consider airlines companies because what is really interesting was the economic and financial sustainability of the business over the duration of the concession (another point explicated in the tender).

Henceforth, the management had the need to demonstrate how the proposed business model would be sustainable over time. In doing that, the considered key element was the involvement of local enterprises and territorial stakeholders in defining the airport development and strategies of growth: “you have to look at the future: you know that according to H2050 airports have to act in the aviation sector considering integration and without directly compete with similar airports located into a range of couples of hundred kilometres”, says Mr. R. According to the European directives on integration between different means of transportation and basing on the National Plan of Transports that described competition between airports, the management recognized that defining an agreement with the interest-holders would be a successful strategy for the entire development of the catchment area. In particular, the management also stressed the importance of endorsing the High School of Aviation as a potential future actor able to take care about the training and maintenance of the air transport industry. Business plan, plan of the investments, corporate strategies and all the other requirement documents for the tender were then designed according these preliminary assumptions: credibility of the projections, reliability of the numbers, integration with the local enterprises and in the local regional development.

The Group won the tender, thus becoming the long-term total concessionaire of Forlì airport. As the concessionaire, Mr. R. and his team passed from being “participants” as being in charge of managing the airport. Henceforth, they entered from a phase where business model was merely at its incubation phase to a phase where the business model needed to be practically conceived (generation phase) for then being finally implemented (implementation phase).

The generation phase, that is still the ongoing phase, is characterized by the fact that the concessionaire has to build the industrial plan.

According to the concessionaire the Forlì airport has to be seen as a gate linking two rooms: the local area and the foreign countries. Similarly to what happened in the incubation phase, in this phase customers are still passengers and cargo, but their role is better defined: at that time the airport will

take form, customers need to be engaged with the airport at a high level. The airport, in fact, wants to provide tailored services, designed on the basis of its customers' needs. In particular, the management highlighted the potentiality of developing an airport with a strong vocation on cargo (due to the wide number of enterprises present on that area): "Locally, you have very important companies that have international markets. You need to have attractive destinations (both incoming and out-coming) for both the passenger and the companies", says one of the managers.

For what concerns the linkages the management wants to build, the management is still considering many possible stakeholders due to the heterogeneity of individuals and companies. This heterogeneity is linked not only to their origin, whether national or international, but above all to the different scopes and objects. In this phase, the concessionaire is considering both commercial contracts and/or direct investments in the company equity thus deriving from both national and international stakeholders. Moreover, taking into consideration the European directives on integration of the different means of transport, at this stage the management is meeting also possible not-direct investors and complementary partners. Integration is the future and a smart management has to consider the public directives as part of basic assumptions of the business model; translated them into a real and effective corporate strategy is a priority. One of the managers says: "Last year we thought about integration and we said 'ok, we will think about that in the future'... We would never suspect it would be happened today". According to the management there are some important underling and basic assumptions on their business model (for example "integration") and during the preparation of the required documents for the public tender the management has taken into consideration these strategic factors. However, at that time, they were not aware about the timing of the operationalization of their assumption into a concrete action. Integration with the local stakeholder is now a pillar of the business model, but at the beginning the management perceived it as a distal future activity. One year later they realize the importance of that activity and the promptness to fulfill this goal.

In order to underline its natural vocation, another aptitude of Forlì airport could become the Faculty of Aerospace Engineering. Taking into consideration the natural vocation of the regional airports means focusing also to the internal skills of an organization. Forlì airport might become an excellence in training activities in aeronautical field, including research and development. The aeronautical pole can be promoted as a unique element of attractiveness for foreign students and researchers. The activities of the aeronautical pole of Forlì as a whole, recognized national and European level, should then guide the strategies of connection with airport locations where this valuable training sector and specialist is deficient or absent, such as for example the Balkans and Eastern Europe.

The concessionaire is refining its revenue model: it knows that soon it will have to consider a new customer (the airline companies) that would satisfy the request of the passengers and cargos selected,

and it knows that a source of revenue would be generated by extra-aviation activities, such as the shopping mall and the parking area.

As emerged from the previous description, the generation stage is still open: the management is analyzing all the factors described above. There are some alternative scenarios: the scenario the management will adopt, it will become the content of the third stage, the implementation stage.

4.3 Business model as a manipulative device

The analysis of the business model of Forlì airport shew that business model was used differently according to the audience it referred to (Doganova and Eyquem-Renault, 2009). As seen in the two phases, the potential concessionaire focused on different dimensions of the business model. Nonetheless, from the case study it also emerged that not only different dimensions were emphasized with respect to different phases (and consequently different audiences), but also that the business model was manipulated by different actors in the two different phases.

4.3.1 Different dimensions in different phases

In the first phase, that of incubation, the business model is encoded in a written document that would be presented to the local authorities that have to select among the many submitted after the public announcement. In this context, Mr. R. and his group of professionals exacerbated the links with territory. There is the 'idea' that the potential airport of Forlì (as thought by Mr. R. and his professionals) should be designed as stressing the local integration and the fact that it would not represent a threat for the other regional airports (as asked by National Plan of Transports). Hence, the stress is on satisfying the Local Entities requirements and the more general European guidelines. This is because in this phase we do not see references about the "monetization" in terms of financial revenues, but only in terms of "territorial" sustainability.

In the second phase -the generation- the business model changed. First of all, from being made up by "ideas", it began to be "planned": still, local integration remains important, but there was also the need to better emphasize the airport vocation. Then, it was to turn to look for financing. In this context, collaboration with other local entities became important. Whether, in the first phase, financing derived from European Union via the Local Entity's announcement, in the second phase investors became important. Investors may be international as well as national, both focusing on the financial sustainability of the business. However, the two segments perceived different threats for the financial sustainability of the business and hence needed to be assured about different aspects. First, national investors were biased since they were aware of the previous failure of Forlì airport. In order to overcome this state of mind, the team stressed how the new legislation assured somehow the future

viability of the new constituting airport. Then, the international investors feared not about the past experience of failure of Forlì airport, rather about the Italy image: Italy in fact is perceived as a very instable market, where laws change day after day, thus representing a threat for investors. The fact that Mr. R. is American counterbalanced the fear of international investors.

4.3.2 Who manipulate what? Power roles shifts in business model evolution

For what concerns the key actors involved in the business model innovation, in the first phase, we can distinguish both the Local Entity (i.e. the Province) and the potential concessionaire, Mr. R.

For what concerns the Local Entity, Mrs. M. played a key role since she was the one who decided the 'audience' of the announcement. In fact, the announcement was made internationally public since the "smart" Mrs. M. decided to translate the announcement in English and to diffuse it at international level. This element was crucial in that, whether Mrs. M. had maintained the announcement national, the announcement would be constrained only at national level.

The main role in defining the business model was played by the potential concessionaire who orchestrated everything. Mr. R. was the one who saw the public announcement and decided to participate. In this phase, the American Mr. R. recognized the need to recur to local actors. This choice was led by three main reasons: the necessity to work with local professionals/consultants that really know the area and can help a foreign investor -such as Mr. R.-, the objective to create synergies with local stakeholders and local firms, the aim to develop a new business model in collaboration with different stakeholders (on the basis of National and European directives).

In the first phase Mr. R. decided to recur to local professionals and consultants. These people were selected via a snowball effect. Mr. R. knew his team would be heterogeneous in terms of competences, but linked via one common denominator: their engagement with territory. From this, he selected Mr. S., a retired aviation-expert, and some young consultants.

In the first phase, Mr. S. and the young consultants had a reactive role, in the sense that their role was limited to answering at Mr. R.'s requirements (that had to deal with local entities' requirements). As we have seen, this role passed from being reactive, to being proactive in the second phase.

In the second phase we notice a shift in the power of who manipulates business model. First there was a power-relay from the local entity to the actual concessionaire. Second, Mr. R. gave different powers within his team, designating the future roles these people with play in phase 3 (that of implementation). In order to assign roles and powers, Mr. R. relied on two specific characteristics that were emerged during the incubation phase: trust and competences. Henceforth, Mr. S. and the young consultants represented the key leaders in this phase, having shown in the first phase their attachment to their territory, their transparency towards Mr. R. and their complementary competences. Moreover,

during the incubation phase, Mr. S. and the young consultants had the opportunity to meet each other and to work together, thus allowing the emergence of synergies (that would be at most planned only in the mind of Mr. R. in the first phase).

Table 1 summarizes all the elements previously described.

| | IncubationPhase | Generation Phase |
|----------------------------|--|--|
| Customer identification | Passengers and Cargo. Airlines are not considered. | International and National Passengers and Cargo. Focus on cargo. |
| Customer engagement | Not disclosed. | Customized |
| Value chain and linkages | Local enterprises and territorial stakeholders. | Local and international enterprises and stakeholders |
| Monetization | Focus on economic and financial sustainability. | Airlines + extra-aviation (shopping mall and parking). |
| | | |
| Manipulandum of BM | Mr. R. as the concessionaire | Mr. R. as the concessionaire + trusted people selected in the team |
| Audience of the BM | Local Entities | Investors |
| BM's dimensions emphasized | Value chain and linkages (Integration with the territory) Monetization (local sustainability) | Monetization (Financial revenues) |

Table 12. Business model of Forlì airport

5. CONCLUSION

Business model innovation in the air transport industry has by far emphasized the role of new technologies as a driver of new business model as well as the role of regulatory environment as exogenous drivers for change. Although very well known cases, such as RyanAir, LAN Airlines and South-West airlines have been widely analyzed (Casadesus-Masanell and Ricart, 2010; Casadesus-Masanell and Tarzijàn, 2012; Graf, 2005), scant attention has been given so far to airports' business model innovation (Gillen and Lall 2002), especially when following a regulatory change.

This paper fills this gap via providing the case of Forlì airport. This is an exemplary case of a business model innovation that has followed due to a change in the regulation environment. Following

the 2014 National Plan of Transport, a new ownership/governance structure, that of long term concession, has been developed and this has enabled a new business model previously unconceivable.

The contributions to extant literature are twofold. On the one hand, the paper expands Gillen (2011)'s taxonomy on ownership and governance structure, via introducing the long term concession defined as the concession of the comprehensive management to a private company for 30 years. On the other hand, it provides empirical evidence on the evolution of the business model of an airport. The case describes, in fact, how business model evolves between the incubation and the generation phase, via providing a detailed description of the business model dimensions changes (Baden-Fuller and Haefliger, 2013; Baden-Fuller and Mangematin, 2013; Casprini, 2015). Moreover, it also shows how different elements of the business model have been emphasized in different phases with respect to different audiences (Doganova and Eyquem-Renault, 2009).

Due to the peculiarity of the context, that is that of an airport in its early years stage, the described case provides interesting insights for both, managers and researchers. First of all, regulation may represent a boost for innovating a highly competitive sector, that of air transport industry, whose dynamics are usually dominated by airlines and that, up to now, has mainly seen innovation as deriving from technology. Future research might investigate multiple cases in Italy in order to understand how business models may be innovated under the long term concession.

Second, regulation has introduced a new scenario that seems to be characterized by a win-win strategy according to which on the one side, public policies can incentive societal and financial development and, on the other side, private actors can invest and establish their business through the infrastructures. Despite the financial crisis that affect Europe since 2007, the air transport industry is still growing and requires alignment between national and international levels in terms of infrastructures, standards in conformity to EU requirements, connections, networks, etc. In the next years, researchers would be able to see whether the hypothesized win-win strategy would have been realized or not.

Third, the case study sheds light on how, starting from regulation, an opportunity for regional airports that could develop excellence niches in unexplored market (strictly integrated with the vocation of the local area) may arise. In particular, the continued growth of integrated transport modes appears to be critical for economic development at the regional and national level, at least in the Italian context.

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THE ROLE OF ACADEMIC ENTREPRENEURSHIP IN THE COMMERCIALIZATION OF R&D OUTCOMES IN POLAND

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ABSTRACT

The paper aims to examine determinants of R&D activity conducted by the non-financial Polish private limited liability and not-listed joint-stock companies, with the special focus on the academic entrepreneurship (firms whose management and/or supervisory board consists of at least one person with PhD or professor degree). The study intends to identify factors, which determine decisions made by management concerning commercialization of the results of the research and development activity, measured by the share of the capitalized expenditures on R&D in the fixed assets, based on literature review, the spatial statistics of patents and the probit panel analysis. Among factors influencing the R&D costs capitalized in the balance sheet we analyze firm size, ability to self-financing with the use of cash flow from operational activity, cash holdings, grants, availability of financing sources (bank loans, corporate bonds and share issue) and leverage. We also take into account companies' growth opportunities and operational risk, that as we suppose, play a crucial role in the academic entrepreneurship in comparison to more stable companies' managed by persons outside of the academia. The data used for analysis contains 23,667 non-public non-financial Polish limited liability and joint-stock companies for the period of 2003-2013 (235,046 firm-year observations). Findings of our research show that the effects of commercialization of the R&D activity's outcomes positively depend on grants, the ability to self-financing, firm size, while are negatively influenced by growth opportunity and operational risk, especially in the case of academic entrepreneurship.

Keywords: *R&D, expenses on R&D activity, commercialization, academic entrepreneurship, grants, finance sources.*

INTRODUCTION

Despite the high intellectual potential of academia in innovative sectors, Polish universities concentrate mainly on fundamental research. They lack effective commercialization tools for R&D outcomes. The existing technology transfer gap between basic research (conducted on universities and institutes mainly in the Lodz, the Lesser Poland, the Mazovian and the Lower Silesian voivodeships) and the commercialization of the results can be closed by companies with academics in management or/and supervisory boards which manage the technology transfer from universities and research institutes to industrial companies. However, this process requires favourable regulations, successful practices and considerable expenses on R&D work in form of grants, subsidies, but also funds gained by share issue on stock exchange. Debt financing of the commercialization of R&D outcomes is complicated with the risk of failure. Besides finance sources, to survive and grow, as well as to continue their R&D activity, scientists setting up companies need markets interested in their value proposition to increase sale and raise cash flow from operations and limit operational risk linked to the R&D activity.

In this paper we try to explore the determinants of corporate decision to commercialize the results of research and development activity (measured by the level of expenditures on development works - results of the R&D activity - capitalized in the balance sheet), with particular emphasis on the role of scientists in the management or supervisory of the company. We aim to compare determinants of the level of expenses on R&D activity between academic enterprises (managed and/or supervised by academics), and all private companies managed also by people from the outside of academic environment, based on the probit panel data analysis. Our analysis covers several aspects, including impact of researchers (doctors and professors) in management or/and supervisory board, operational risk, growth opportunities, research grants and subsidies and access to financing both internal (cash flow from operational activity, cash holdings) and external (debt including bank loans and borrowings, corporate bonds and share issue), mentioned in different streams of literature. We would also recognize an impact of patents and a localization close to academic centers and scientific institutes on R&D activity conducted by scientists and commercialization of the R&D outcomes through establishing a company as an example of academic entrepreneurship.

The rest of the paper is organized as follows. In the first part, we provide a literature review referring to the main points of our analysis. In the next section, we present the spatial statistics' analysis of patents registered in Poland by four types of entities. Then, we state our four hypotheses, describe the research sample and define variables for panel probit analysis. The main section of our study contains the panel probit analysis and the interpretation of our results. Finally, we provide conclusions, a short discussion and suggestions for possible directions of further research.

DETERMINANTS OF R&D ACTIVITY DEVELOPMENT - A LITERATURE REVIEW

Schumpeter (1950) argues that large companies have the resources that they can use for inventing new technologies. Hamberg (1964) affirms that the scale of research and development activity, as well as the number of workers employed in R&D department grows along with the size of company (measured by employment level). In majority of industries, the revenue growth rate of 1% was accompanied with over-proportional increase in expenditures on basic research i.e. 1.65% (Mansfield,1981). However, Scherer (1965) points out that this relation is under-proportional. In contrast, results of research provided by Howe and McFetridge (1976) indicate that the relation between the *firm size* and expenditures on R&D activity is insignificant for mechanical industry, while in chemical industry for foreign firms it is different than for domestic enterprises (significant positive link).

Larger companies tend to show higher innovative activity (Wilder and Stansell, 1974; Cohen and Klepper, 1996; Canto and Gonzalez, 1999; Cho, Lee, Kang and Kwon, 1999; Gustavsson and Poldahl, 2003; Lee and Hwang, 2003), especially in high-tech industry (Bhattacharya and Bloch, 2004). Hyeog and Tomohiki (2013) based on results from the study of 13,000 Japan companies from industrial sector, and Mansfeld (1981) based on the sample of about 100 companies from different sectors, prove that the relation between the size of an enterprise and the expenditures on R&D takes shape of reverse "U" letter. It means that expenditures initially increase along with the size of the company, and at some point they start to fall down. In the case of studies on new products and processes, it is noticeable that the relation between the size of an enterprise and expenditures on R&D is under-proportional – 1% to 0.78%. The results of Cohen, Levin and Mowery (1987) research indicate, that the type of industry is more important for carrying out R&D activity than the size of an enterprise. Acs and Audretsch (1987) confirm innovative advantage of larger companies over smaller ones among capital-intensive sectors and in strongly concentrated markets, using the number of registered innovations as a measure. However, among less capital-intensive sectors and in less concentrated markets smaller firms tend to display higher innovation level.

In the companies performing worse than expected, the surplus of their resources increases the expenditure level on R&D activity. While in the companies performing better, the surplus of their resources has to be much higher for it to have positive impact on R&D expenditures (Ru-Chen and Miller, 2007). Malmberg (2008) shows positive influence of expected return on R&D expenditures, based on the sample of Swedish pharmacist companies in the period of 1960 – 1990. Ali-Yrkkö (2004) analyzing Finnish enterprises in high-tech industry, proves that the profit from a previous year has positive influence on the level of R&D expenditures in the given year. Branch (1974) and Roucan-Kane,

Ubilava and Xu (2007) observe positive relation between companies' profit and R&D expenditures. Howe and McFetridge (1976), Bhattacharya and Bloch (2004), Manganelli (2010) has not proven significant relation between profitability and R&D expenditures. Chen and Miller (2007) show that companies tend to spend less on R&D, when their profits exceed industry's average.

Manganelli (2010) proves that the lack of liquidity reduces the level of expenditures on R&D. Himmelberg and Petersen (1994) and Bloch (2005) indicate that **cash flows** have significant impact on R&D expenditures, Malmberg (2008) confirms only the impact of 2-year lagged cash flow, while Bhagat and Welch (1995) prove the negative impact of cash flows on R&D expenditures among companies from USA. Bond, Harhoff and Van Reenen (2005) show that operational cash flows have a positive impact on probability of R&D investment existence among British companies, while Mulkay, Hall and Mairesse (2001) receive the same results for American companies. Brown, Fazzari and Petersen (2009) observe in their results that there is a considerable impact of cash flows on R&D expenditures in the case of young American companies and a small impact in the case of large companies from high-tech sector. A positive impact of cash flows on R&D expenditures has been observed by Cleary (1999) for USA, Guariglia (2008) for United Kingdom and Grabowski i Vernon (2000) for 11 major drug firms. Brown and Peterson (2011) show positive relation between cash flows and R&D expenditures in a given year, where the biggest one is for young companies in the period of 1970-1981, while cash flows from previous year have negative impact on R&D expenditures. Armour and Teece (1981) observe positive impact of cash flows lagged by 1 year, 2 years and 3 years on R&D expenditures, while analyzing American companies from energy industry. The strongest impact is observed in case of cash flows lagged by 2 years. Hyeog and Tomohiko (2013) prove that enterprises' internal funds (savings) have positive impact on research and development expenditures. However, dividends' payment reduces cash holdings. Lee and Hwang (2003) prove that companies which pay higher dividends tend to lower their R&D expenditures. In contrast, due to results of Switzer (1984), Fazzari and Athey (1987), Cho *et al.* (1999) studies, dividends' payment has a positive influence on research and development expenditures.

Cumming and MacIntosh (2000) prove that the availability of **patent protection** leads to higher R&D expenditures. Lee and Hwang (2003) and Guariglia (2008) prove that the higher the **growth opportunities**, the higher the expenditures on R&D investment. On the other hand, results received by Brown and Peterson (2011) are not explicit, but they indicate the negative relation between growth opportunities and R&D expenditures in the period of 1970-1981, especially for young companies; positive relation in the period of 1982-1993, either for young and mature companies, while in the period

of 1994-2006 there is a negative relation in the case of young companies and positive relation in the case of mature companies.

Howe and McFetridge (1976) show that entities with domestic capital spend more on R&D than they obtain **grants**, contrarily to companies with foreign capital. In the case of German enterprises, Almus and Czarnitzki (2003) prove that R&D expenditures are, on average, 4% higher than the value of their grants obtained. Obtained grants encourage companies to increase their R&D expenditures (Carboni, 2011), in ICT sector (Lee and Hwang, 2003) and industrial sector (Becker and Pain, 2003). Results of Ali-Yrkkö (2004) study are consistent with findings mentioned above, as grants from previous year, as well as grants from a given year have positive impact on R&D expenditures in a given year. Dugueta (2004), as well as Czarnitzki and Hussinger (2004) confirm that subsidies strengthen the private expenditures on R&D and that the crowding-out effect does not take place. Ali-Yrkkö (2004) stresses that public R&D funding can be seen as lowering the private cost of an R&D project and making an unprofitable project profitable. If any R&D infrastructure is bought with an R&D subsidy, the fixed costs of other R&D projects are lowered. The know-how or knowledge developed in subsidized projects diffuse to other projects, improving their probability of success.

Enterprises with higher **debt** to equity ratio spend less on R&D (Cumming and MacIntosh, 2000). Bhagat and Welch (1995) indicate that debt ratio is negatively related with R&D expenditures among American companies, while in the case of Japan companies they observe positive relation. However, in the case of Canadian, British and European companies there is no relation between debt ratio and investment expenditures observed. The results of Bond, Harhoff and Van Reenen (2005) study show that high debt to equity ratio holds down enterprises, which are not investing in R&D, from making these kind of decisions in the next period. Brown and Petersen (2011) prove that issuing debt securities has positive impact on R&D expenditures, while the issue of debt securities in the previous year has negative impact.

Based on the results of a survey conducted in Poland in February/March 2015 Białek-Jaworska, Gabryelczyk and Pugacewicz (2015) show that companies using R&D in their business appreciate the significance of the founders' achievements (a "**Star**" **scientist** (Zucker and Darby, 1998), the board's managerial skills (Colombo and Grilli, 2005), **patents** (Shane, 2004; Niosi, 2003; Penin, 2005) and information technology. Among factors important for R&D cost reduction, they identify the business location and the proximity of university centers and the access to the science and research infrastructure (Zucker and Darby, 1998). Accessibility to sources of financing R&D activities is crucial (Lerner *et al.*, 2003; Brown *et al.*, 2009; Gorodnichenko and Schnitzer, 2010; Aghion *et al.*, 2012) the more the R&D project risks depend on the effectiveness in applying for research grants (Almus and

Czarnitzki, 2003; Becker and Pain, 2003; Lee and Hwang, 2003; Klette and Moen, 2012). **Scientists' participation in the Supervisory Board** may be helpful in associating specialist knowledge with the needs of companies' looking for solutions to the products/services developed themselves. The cooperation with partners may also help monetize those of the R&D results that have not been used internally (Białek-Jaworska, Gabryelczyk and Pugacewicz, 2015).

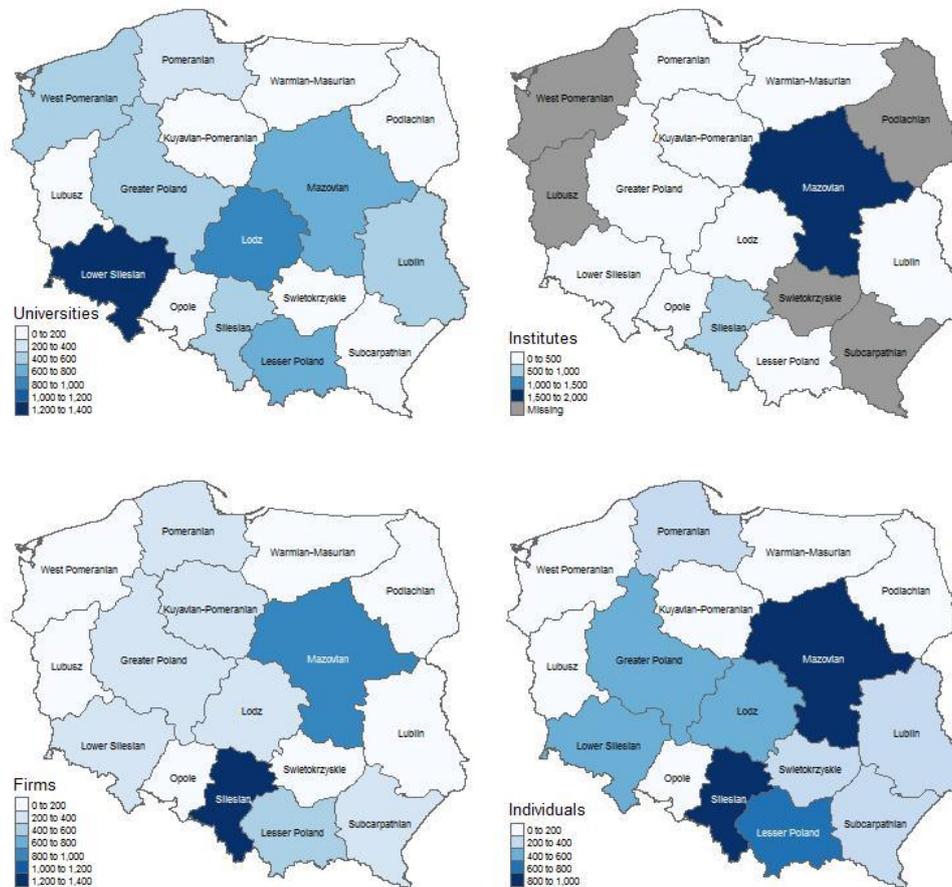


Figure 1. Total number of patents registered in Polish Patent Office in years 2008-2015

SPATIAL STATISTICS' ANALYSIS OF PATENTS IN POLAND

We observe the high diversity of research activity in Poland. The spatial statistics of patents sheds some light on structural differences between Polish regions (Fig. 1).

Figure 1 presents the total number of patents based on the data from the Polish Patent Office separately for universities, institutes, firms and individuals. The highest number of patents is registered by universities of the Lower Silesian voivodeship, which is due to active cooperation by academic centers with international KGHM concern (mostly with its affiliate limited liability company KGHM CUPRUM – R&D Centre). The other important entity, maybe even more impactful than KGHM, in the Lower

Silesian voivodeship is limited liability company EIT+ Wrocław Research Centre. It is the first RTO (Research and Technology Organization) in Poland, focused on the development of innovations, new technologies and studies for the needs of the modern industry. Their activity involves, inter alia, 59 research projects, 48 patent applications (Polish and PCT) and 14 spin-off companies created. The other most active academic centers in Poland, in terms of registering patents, are Lodz (with the third highest average number of patents per university – dominant role of Lodz University of Technology, but with relatively low number of universities registering patents and low competition among research institutes), Mazovian and Lesser Poland voivodeships (dominant role of AGH University of Science and Technology). In Mazovian voivodeship, the biggest role in registering patents is played by universities (mainly Warsaw University of Technology), research institutes (like Industrial Research Institute for Automation and Measurements, Industrial Chemistry Research Institute or Tele & Radio Research Institute) and individuals (mainly scientists collecting points for registered patents for the needs of interim evaluations of academic staff). Often, patents are the basis for the settlement of projects co-financed by grants, which positively influences the activity among research institutes. Voivodeships with relatively higher number of scientists being more active in registering patents are, besides Mazovian voivodeship, Silesian, Lesser Poland and Greater Poland. However, in the case of business sector the highest number of patents is registered by companies placed in Silesian voivodeship. It may be due to high R&D activity by industrial and mining-and-steel sectors, but also due to the lower activity of universities and research institutes. In Silesian voivodeship patents are registered rather by individuals, similarly to Lesser Poland (that is a seat for Jagiellonian Life Science cluster). It indicates ineffective cooperation between science and business in the field of R&D activity strengthened with registered patents. It seems that in Mazovian voivodeship (with the capital of Poland and headquarter of the National Centre for Research and Development) patents are the main basis for settlement of research grants obtained by universities and research centers and for the researchers' assessment and promotions. On the contrary, in Silesian voivodeship, the most industrialized Polish region, patents are registered mainly by individuals (including scientists from universities of technology and medical universities) and companies, not by academic or research centers. High industrialization enhances the knowledge and innovations' flow to the business sector. Similarly, we can see that low competition among research institutes in terms of obtaining research grants and registering patents favors the development of registering patents based on the outcomes of R&D activity among companies. In the analyzed sample, the highest number of companies commercializing R&D outcomes (capitalizing R&D expenditures in assets) are placed in Mazovian, Silesian, Lower Silesian and Greater Poland voivodeships (see Figure 2).

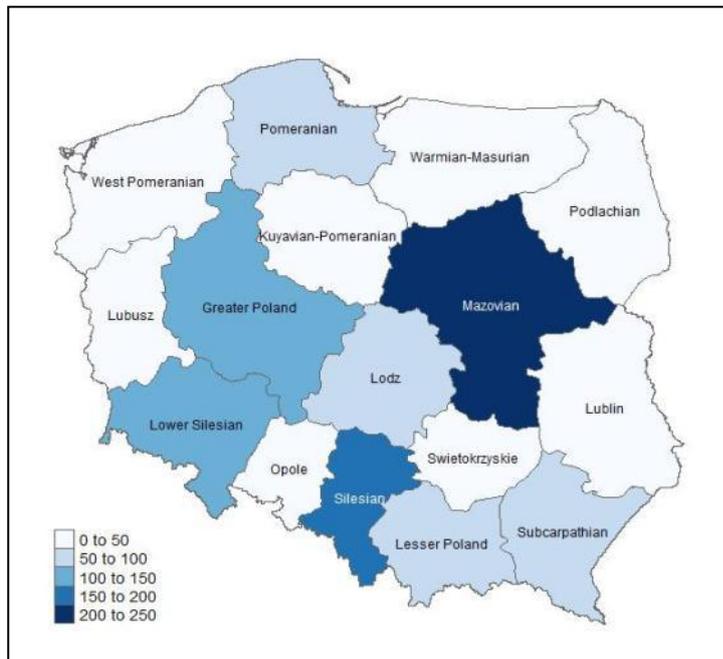


Figure 2. The number of companies in the sample

HYPOTHESES

Based on the literature review we stated the following hypotheses: **H1:** The ability to self-financing, measured by relation of *cash flow from operational activity to assets*, positively influences the R&D expenses that are capitalized in the balance sheet, especially in the case of academic entrepreneurship (firms managed by scientists). **H2:** Larger companies spend more money on R&D outcomes recorded in the balance sheet. Additionally, we suppose that **H3:** Companies' growth opportunities negatively influence academic entrepreneurship' expenses on the R&D activity. **H4:** Higher operational risk limits expenditure on R&D.

RESEARCH SAMPLE AND DEFINITIONS OF VARIABLES

In order to identify what determines decisions made by management concerning commercialization of the results from research and development activity measured by the level of expenses on development works recognized as an asset in the balance sheet, we use data retrieved from financial statements of private nonfinancial capital companies. The data base used for analysis contains 22,633 non-public limited liability and joint-stock companies' financial statements for the period of 2003-2013 (108,773 firm-year observations). Table 1 presents a complete description of variables used in the empirical

analysis. Before a probit panel analysis, the descriptive statistics of variables has been determined and the correlation between explanatory variables has been estimated (they are not reported in this paper).

| Variable | Definition of variable |
|-----------------------------------|---|
| rdexpen | development costs capitalized in the balance sheet (as percentage of assets) |
| AM academics in management board | dummy variable that takes the value of 1 if in the board sit scientists (variable determined on the basis of linkage of database of the National Court Register and database of scientists), and 0 otherwise |
| AS academics in supervisory board | dummy variable that takes the value of 1 if in the supervisory board sit scientists (determined on the basis of linkage of database of the National Court Register and database of scientists), and 0 otherwise |
| cash flow/assets | self-financing as percentage of assets = cash flow from operations / assets |
| cash holdings | corporate cash resources measured by the share of cash and short-term financial assets in assets |
| debt | debt = long-term liabilities and short-term liabilities resulted from loans and borrowings, issue of debt securities and other financial liabilities to other entities / total assets |
| leverage | total long-term liabilities and total short-term liabilities / (total assets - capital from revaluation) |
| d6 | leverage with trade credit = total liabilities without payables to related parties, excluding liabilities for taxes, wages and to employees and prepayments for delivery / total assets |
| d6_2 | leverage without trade credit = total liabilities without trade credit, excluding liabilities for taxes, wages and to employees and prepayments for delivery / total assets |
| loans | bank and other loans borrowed, based on cash flow statement or change of liabilities |
| size_income | company size measured by the natural logarithm of sales volume |
| growth | growth opportunities, measured by the growth rate of sales revenue year to year |
| risk_oper | threat of operational risk = standard deviation of cash flow from operations for the last three years of cash flow from operating activities / total assets |
| share_issue_flag | dummy variable that takes the value of 1 if a company issues shares, i.e. if share capital in t year - share capital in t-1 year >0, and 0 otherwise |
| grants_profit&loss | grants recognized in the income statement |
| grants_scaled | grants recognized in the income statement / total assets |
| grants_balance_share | subsidies for fixed assets and intangible assets recognized in the liabilities in the balance sheet as value of long-term other deferred income / total assets |

Table 1. *Definitions of variables used in the probit panel analysis on the total sample*

RESULTS

In our study we used functional form of the model proposed by Brown, Fazzari and Petersen (2009) with the lagged spending on R&D variable and squared lagged spending on R&D. Due to the low level of expenditure on R&D (developmental works) capitalized in the balance sheet, we decided to scale it by fixed assets. However, a high number of zero observations (mean 0.0024926) resulted in our choice of estimation methods - panel probit analysis. The coefficient of the lagged variable of expenditure on R&D is positive, and the lagged variable expenditure on R&D raised to the square is negative, which is

consistent with the results of Brown, Fazzari and Petersen (2009), Brown and Petersen (2011) and Nehrebecka and Bialek-Jaworska (2015). The results indicate, that if the company pursued development in a given year, it is likely to have decided to continue spending on R&D in the following periods (the *rdexpen_lag* and *rdexpen_lag2* variables). The presence of scientists in the board of directors is typical for the company that recognizes higher expenditure on commercialized results of R&D activity in the form of completed developmental works (in the balance sheet) (Table 2), also in companies managed by scientists (Table 3). On the contrary, the companies managed by scientists show lower expenditure on R&D, but the variable is significant only in the model for the total sample. The positive impact of cash flow from operational activity / assets on expenditures on R&D capitalized in the balance sheet in the development enterprises (that conduct R&D activity) and in those managed by scientists indicates, that a higher capacity for self-financing supports the development of R&D activity. This indicates that there is no basis to reject the hypothesis H1. The results are consistent with the conclusions of Himmelberg and Petersen (1994), Grabowski and Vernon (2000), Mulkey, Hall and Mairesse (2001), Bloch (2005), Bond, Harhoff and Van Reenen (2005), Guariglia (2008) and Brown and Peterson (2011). The decrease in corporate cash holdings determines significant expenditures on R&D, which results from the financing this business by cash resources because of the accompanying high risk. Similar conclusions were drawn by Brown, Martinsson and Petersen (2012). Larger enterprises face higher expenditures on research and development, that is in accordance with H2. Higher spending on R&D is accompanied by lower financial leverage and the *d6* leverage variable, including a non-commercial short-term liabilities to related parties and trade credit received from other entities. Companies conducting R&D activity increase spending on R&D by debt financing, while firms supervised by scientists show lower debt due to loans and borrowings, issue of corporate bonds and other financial liabilities. This may be due to the lower use of trade credit (or faster repayment it with use of subsidies received) by enterprises conducting R&D activity. This effect is stronger (the higher coefficients at the *d6* in absolute terms) in academic enterprises *AM*. Academic enterprises (*AM* and *AS*) that have lower growth opportunities tend to increase spending on R&D (Table 3). It may be due to the instability of revenue from sales and problems with sales channels. This indicates that there is no basis to reject the hypothesis H3. In other models for the total sample and development companies the *growth* variable was not significant (Table 2). The reason may also be a lack of experience in running a business - the commercialization of research results without the proper identification of customer segments or/and building relationships with customers. The results indicate a strong positive relationship between effects of the R&D activity conducted by non-academic companies and enterprises supervised by scientists (*AS*) and obtaining grants both recognized in the income statement, as well as recognized in the balance sheet (for the construction or purchase of fixed or intangible assets). Grants recognized in other operating income

may also be a part of grants recognized in the balance statement to be settled parallel to the depreciation of fixed or intangible assets financed with the grants. In the case of companies managed by scientists (*AM*), grants for infrastructure are the only important ones.

| Random-effects probit regression $u_i \sim \text{Gaussian}$ Integration method: mvaghermite Integration points 12 | | | | | | |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Number of obs | 108773 | 104485 | 108773 | 4914 | 4695 | 4914 |
| No. of groups | 22633 | 22535 | 22633 | 844 | 844 | 844 |
| | total sample | total sample | total sample | R&D | R&D | R&D |
| rdexpen_lag | 18.19354*** (0.7986364) | 19.75474*** (0.7794952) | 18.18354*** (0.7988704) | 11.95095*** (0.6175832) | 12.05159*** (0.632064) | 11.88916*** (0.6170756) |
| rdexpen_lag2 | -17.10198*** (0.980384) | -18.49157*** (0.9571193) | -17.08394*** (0.9807475) | -11.43839*** (0.7622556) | -11.51162*** (0.7767517) | -11.38833*** (0.7621043) |
| cash holdings | -1.069525*** (0.2083763) | -1.037283*** (0.1894127) | -0.996523*** (0.2068721) | -1.187629*** (0.2217574) | -1.222539*** (0.228504) | -1.125605*** (0.2199663) |
| debt | 0.0886248 (0.1756662) | 0.1305712 (0.1612097) | | 0.2815594## (0.1790743) | 0.3551941* (0.1937837) | |
| leverage | | | -0.1425088** (0.0743994) | | | -0.202413*** (0.0707838) |
| d6 | -0.2954501** (0.1270437) | -0.370535*** (0.1180741) | | -0.338853*** (0.113222) | -0.384625*** (0.1212351) | |
| d6_2 | | | -0.1300332 (0.1317875) | | | |
| loans | | -2.48e-11 (1.24e-09) | | | -4.27e-10 (1.34e-09) | |
| size_income | 0.3596048*** (0.0218649) | 0.300819*** (0.0189308) | 0.3634496*** (0.0217632) | 0.089588*** (0.0203237) | 0.087976*** (0.0208873) | 0.0954795*** (0.0201905) |
| growth | -0.0003968 (0.0013173) | -0.0001508 (0.0006165) | -0.0004592 (0.0014338) | 0.0033061 (0.0037997) | 0.0094348## (0.0059496) | 0.0023798 (0.0037549) |
| risk_oper | -0.0974692 (0.0903531) | -0.2368631** (0.1094707) | -0.0595782 (0.0877339) | -0.1057866 (0.093831) | -0.324339*** (0.1261819) | -0.0646552 (0.0931064) |
| share_issue_flag | 0.1686096** (0.0759413) | 0.1717954** (0.0708277) | 0.1661339** (0.0759076) | 0.0947068 (0.0811439) | 0.1132216# (0.0837138) | 0.0874862 (0.081162) |
| cash flow/assets | 0.0357489 (0.02891) | 0.0779219** (0.0346263) | 0.0238019 (0.0281521) | 0.486409*** (0.1048095) | 0.521779*** (0.1108794) | 0.4518303*** (0.1058919) |
| cash flow/assets_lag | -0.0074355 (0.0142416) | -0.0068412 (0.0202526) | -0.0063202 (0.0127536) | -0.0515467 (0.1038583) | -0.0354718 (0.1078828) | -0.0723432 (0.1037493) |
| grants_balance_share | | | 2.165072*** (0.294447) | | | 1.756907*** (0.3955512) |
| grants_profit & loss | 3.64e-09* (2.28e-09) | | | 4.50e-09## (3.16e-09) | | |
| grants_scaled | | 0.11945# (0.0941878) | | | 0.4823957# (0.380649) | |
| academics in management | -0.1765737* (0.1097812) | -0.1607112* (0.088404) | -0.1837284* (0.1095145) | -0.1004343 (0.1057698) | -0.1158217 (0.1076495) | -0.1204631 (0.1055591) |
| academics in supervisory board | 0.2824853** (0.1352922) | 0.2216321** (0.1030758) | 0.2773786** (0.1346142) | 0.2075302* (0.1245624) | 0.2003034## (0.126734) | 0.2008585* (0.1241404) |
| _cons | -10.80692*** (0.389866) | -8.916393*** (0.3534914) | -10.87337*** (0.3924994) | -2.005646*** (0.3534997) | -1.95454*** (0.3650992) | -2.129342*** (0.3518071) |
| /lnsig2u | 1.48067 (0.0567317) | 0.9489475 (0.0513203) | 1.454192 (0.0594175) | -0.4032212 (0.1067549) | -0.3879682 (0.1084823) | -0.4162071 (0.1070509) |
| sigma_u | 2.096637 (0.0594729) | 1.607168 (0.0412401) | 2.069063 (0.0614692) | 0.8174132 (0.0436314) | 0.823671 (0.0446769) | 0.8121229 (0.0434692) |
| rho | 0.8146737 (0.0085654) | 0.7209035 (0.0103257) | 0.8106427 (0.0091206) | 0.4005387 (0.0256326) | 0.4042065 (0.0261251) | 0.3974247 (0.0256364) |

| | | | | | | |
|-----------------------|------------|------------|------------|------------|------------|------------|
| Wald chi2(10) | 1017.10*** | 1215.84*** | 1062.48*** | 518.04*** | 507.62*** | 531.64*** |
| Log likelihood | -4490.1876 | -4320.0259 | -4468.3766 | -2482.2073 | -2365.9792 | -2473.1483 |
| Likelihood-ratio test | 3063.11*** | 2846.39*** | 3034.45*** | 408.15*** | 388.77*** | 400.73*** |

Significant at 20%, ## Significant at 15%, * Significant at 10%, ** Significant at 5%, *** Significant at 1%.

Table 2. Results of the probit panel models on determinants of expenses for R&D activity

| Random-effects probit regression u_i ~ Gaussian Integration method: mvaghermite Integration points 12 | | | | | |
|---|-------------------------------|-----------------------------|----------------------------|-----------------------------|-----------------------------|
| Number of obs | 752 | 722 | 752 | 11641 | 8622 |
| Number of groups | 127 | 127 | 127 | 1551 | 1509 |
| | AM | AM | AM | AS | AS |
| rdexpen_lag | 11.27915*** (1.709694) | 11.62281*** (1.767834) | 11.56674*** (1.718553) | 24.99608*** (2.257264) | 25.11896*** (2.589025) |
| rdexpen_lag2 | -10.58559*** (2.384983) | -10.9649*** (2.49818) | -11.12742*** (2.410267) | -26.38818*** (3.103604) | -26.61855*** (3.433762) |
| cash holdings | -1.277519* (0.7145766) | -1.535583** (0.7674546) | -1.174424* (0.7077751) | -0.5465277# (0.4924709) | -1.472927** (0.6770182) |
| debt | 0.3637095 (0.6592295) | 0.443441 (0.7087919) | | -0.9841246** (0.4221325) | |
| leverage | | | -0.2681538 (0.398006) | | -1.257212*** (0.3923729) |
| d6 | -0.6486608# (0.5154639) | -1.004731* (0.5585579) | | | |
| d6_2 | | | -0.167813 (0.5561814) | | |
| loans | | 8.26e-09## (5.21e-09) | | | |
| size_income | 0.1851985*** (0.0610668) | 0.170236*** (0.0625476) | 0.182735*** (0.0590715) | 0.2019251*** (0.0523641) | 0.2540088*** (0.0656851) |
| growth | -0.4336011** (0.1882111) | -0.4687474** (0.1999728) | -0.446376** (0.1886668) | -0.1474977 (0.1289214) | -0.467788** (0.1867236) |
| risk_oper | -0.3982512# (0.3117535) | -0.4298525# (0.3472825) | -0.341625 (0.3195764) | -0.4975154## (0.3441058) | -0.0656751 (0.2944487) |
| share_issue_flag | 0.3288296## (0.222785) | 0.328722# (0.236667) | 0.2985416# (0.2244337) | 0.0553652 (0.1715478) | 0.1274823 (0.2157372) |
| cash flow/assets | 0.7763417** (0.3211216) | 0.7394693** (0.380144) | 0.7073781** (0.3255995) | | 0.2437536 (0.2105594) |
| cash flow/assets_lag | 0.3723757 (0.306201) | 0.3515127 (0.3226206) | 0.3410043 (0.2985206) | | -0.0797237 (0.2381029) |
| grants_balance_share | | | 1.927614** (0.8861917) | | 1.78256* (1.045306) |
| grants_pl | -4.26e-08 (5.52e-08) | | | 6.67e-08* (3.73e-08) | |
| grants_scaled | | 0.4829646 (1.664646) | | | |
| academics | in 0.6053793** (0.3103427) | 0.6914964** (0.3216716) | 0.621634** (0.3033308) | | |
| supervisory board | -3.207634*** (1.029999) | -2.845238*** (1.055293) | -3.252109*** (1.004679) | -6.953558*** (0.9398113) | -7.079625*** (1.263045) |
| _cons | | | | | |
| /lnsig2u | -0.0780601 (0.2855016) | -0.0075139 (0.2890054) | -0.1598854 (0.2884712) | 0.9539542 (0.1368523) | 0.9459856 (0.2937384) |
| sigma_u | 0.9617218 (0.1372866) | 0.9962501 (0.1439608) | 0.9231692 (0.1331539) | 1.611197 (0.110248) | 1.60479 (0.2356942) |
| rho | 0.4804949 (0.0712668) | 0.4981215 (0.0722503) | 0.4601136 (0.0716589) | 0.7219097 (0.0274739) | 0.7203071 (0.0591779) |

| | | | | | |
|-----------------------|------------|------------|------------|------------|------------|
| Wald chi2(10) | 89.88*** | 89.78*** | 94.21*** | 163.11*** | 139.49*** |
| Log likelihood | -340.33724 | -321.56676 | -338.44578 | -604.94906 | -468.08594 |
| Likelihood-ratio test | 67.98*** | 67.29*** | 63.36*** | 465.21*** | 269.29*** |

Significant at 20%, ## Significant at 15%, * Significant at 10%, ** Significant at 5%, *** Significant at 1%.

Table 3. *Results of the probit panel models on determinants of expenses for R&D activity*

Higher spending on R&D is accompanied by a decision to issue shares or increasing the share capital in the limited liabilities company (Table 2 - total sample and Table 3 - AM), especially in companies managed by scientists. This indicates the importance of the stock exchange (the *share_issue_flag* variable) in financing risky and capital-intensive R&D activity. Białek-Jaworska and Gabryelczyk (2015) indicate the importance of the funding by share issue on the NewConnect (the alternative market of the Warsaw Stock Exchange), especially for biotech start-ups R&D activity. Higher operational risk limits expenditure on R&D activity (Table 2), according to the assumptions formulated in the hypothesis H4. However, in the case of academic entrepreneurship the *risk_oper* variable's effect is less significant (15% in the AS firms and 20% in the AM firms) (Table 3). This may be due to the relatively higher operational risk related to the R&D activity conducted by young, small and unstable academic enterprises.

CONCLUSIONS, DISCUSSION AND DIRECTIONS OF FUTURE RESEARCH

Due to our study, we found that the effects of commercialization of the R&D activity's outcomes positively depend on the ability to self-financing (H1). The relationship between cash flow and spending on the R&D activity was confirmed by Bloch (2005), Bond, Harhoff and Van Reenen (2005), Guariglia (2008), as well as Brown and Peterson (2011). Larger companies spend more money on R&D outcomes recorded in the balance sheet (H2). Similar findings were received by Acs and Audretsch (1987), Gustavsson and Poldahl (2003), Lee and Hwang (2003) and Bhattacharya and Bloch (2004). Important sources of financing R&D activities are corporate cash holdings (also pointed by Hyeog and Tomohiko, 2013), debt from loans and borrowings, issue of corporate bonds (Brown and Petersen, 2011) and other financial liabilities (except for enterprises supervised by scientists), grants for research and infrastructure (in accordance with Carboni (2011) and Ali-Yrkkö (2004)), the proceeds of the share issue (especially in academic enterprises AM). In the case of academic entrepreneurship, managed by scientists, only subsidies for tangible and/or intangible assets (R&D outcomes) play a significant role. Academic entrepreneurship (with scientists in the management board and/or the board of directors) with lower growth opportunities increase spending on R&D related to the commercialization of research outcomes (H3). Probably this is due to their lower experience in conducting business activities and the commercialization of R&D results, lack of formulating proposals for the identified customer segments or lack of building relations with customers. Brown and Peterson (2011) observed

that this relationship was negative mainly for young firms. Additionally, based on our findings positively verifying the H4, it should be emphasized that the higher operational risk limits expenditure on the commercialization of R&D activities. Future research could be concentrated on an inclusion of the impact of patents and cooperation with universities in research projects financed by research grants. However, extension of the research requires linking the database of patents gained from the Polish Patent Office with data retrieved from financial statements of private nonfinancial companies as well as collected data of scientific alliances and partnerships in research project realization.

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REGULATION ANALYSIS OF HIGHER EDUCATION COSTS IN POLAND

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ABSTRACT

Since 2013 public and private universities in Poland have been statutorily obliged to record the costs of educational activity for the full-time studies and the part-time studies separately, even though the division into full-time and part-time studies was introduced in 2005. Due to the new amendment, financial flows are divided into categories with respect to their purpose, it is forbidden to finance part-time studies' by subsidies, but it is not pointed out that universities have certainly to conduct the subsidized activity cost account. This engenders the need to expand the knowledge about the sources of financing costs of higher education. In order to investigate underfunding of costs of education in terms of type of ownership, (educational) profile and size of a university, this article aims to apply in practice an author's methodology for analysis of the sources of financing higher education costs. This methodology contains an assessment of adequacy of the cost-intensity of studies, used by Ministry of Science and Higher Education, as well as a Least Squares estimation of determinants of financing the higher education costs level by grants from the state budget and fees charged for educational services with characteristics of education processes taken into account. Data for this study is based on results of interviews, expert opinions and the database purchased from the Polish Central Statistical Office as part of systemic project implemented by Educational Research Institute named "*Research of education quality and effectiveness and institutionalization of research base*", co-financed by European Union under European Social Fund.

Keywords: *higher education costs, subsidies, Poland, full-time studies, part-time studies*

INTRODUCTION

The purpose of this article is to present a practical application of an original methodology for analyzing higher education costs and the sources of their financing in an attempt to investigate underfunding of these costs according to form of ownership (public and private) and type and educational profiles, the size of the university (by the number of students), focusing on the education of part-time and full-time studies. In particular, it concerns applying in practice an author's methodology for assessment of adequacy of the cost-intensity of studies, used by Ministry of Science and Higher Education (*MSHE*), as

well as a Least Squares estimation of determinants of financing the higher education costs level by grants from the state budget and fees charged for educational services with characteristics of education processes taken into account. The analysis is based on data concerning the cost of education, collected at public statistics level, based on forms like the F-01 / S on revenues, costs and financial results of universities, the S-10 about higher education as at November 30th and the S-12 on scientific scholarships, postgraduate and doctoral studies and employment in universities. According to the law on higher education, a triggering factor of the process of evaluating education costs is the management decision of the university authorities concerning the development and adoption of a relevant methodology for this process. Thus, because of the autonomy of the university and the diversity of universities' approaches to determine the cost of education, it seems to be more appropriate to analyse higher education costs level based on data retrieved from the public statistics system due to the uniform methodology. The solution proposed seems to perform better than collecting information from universities on their unit costs of education, in total or in the fields of education (per student or per teaching hour), calculated according to an individual methodology for the calculation of the costs of education, that was introduced and adopted by a management decision of the authorities of the university.

The study attempts to determine characteristics of the teaching process influencing the level of education costs financed by grants from the state budget, and fees for educational services in relation to total revenues from teaching. These are the main research questions. It seems that the level of education costs covered by grants influences the decisions of public universities on conducting paid part-time studies. At the same time due to the demographic decline, it can be expected that the part-time studies are underfunded by fees charged by public universities.

The paper is structured as follows: the theoretical background and the literature review are presented in the initial section, followed by the presentation of empirical studies on diversification of the cost of education at public and private universities, unit cost of education by type and size of higher education institutions and the weighted average cost-intensity of education. Then findings of models estimation are interpreted and discussed with references to the law regulation of the subject. The paper ends with conclusions and a summary, that includes recommendations to increase the possibility of future analysis of the education costs at the system level. They could be used as a tool to propose the evidence-based policy.

RESEARCH ISSUE IN THE LIGHT OF LEGAL REGULATIONS AND LITERATURE REVIEW

Since 2013 universities have to meet statutory requirements, due to which they are obliged to record education cost separately for full-time studies, part-time studies and other educational activity, despite the fact that division into part-time and full-time studies was introduced along with the act of 27 July 2005 Law on higher education. In the aftermath of this 2005 amendment, full-time studies at public universities were fully government-funded and part-time studies were financed only by fees paid by students, while until 2005 part-time studies were being funded by MSHE's subsidies, with coefficient of 0.3 for part-time students. Moreover, for part-time doctoral students the coefficient of 2.0 was used, while for full-time doctoral students the coefficient was equal to 5.0 [Bieliński 2006].

Abolishing of the partial financing of part-time studies from the state budget aimed to create favourable conditions for development of competition among public and private universities in the field of fee-based studies. However, strengthening the regulations in 2013 is probably the results of rising concerns about the part-time studies' costs at public universities being treated as the marginal cost, not as the full cost, which suggests that there is an inequality between public and private universities, even on the part-time studies market. Non-public universities offering only part-time studies (universities concentrating on one product or bundle of products of the same kind – several related part-time programmes) cannot take their decisions on the basis of incremental costs calculations but they should consider full costs instead. According to the 2013 amendment, statutory categories of separate records of part-time and full-time studies divide financial flows by their purpose, but do not require high-detail principles of recording at the level of university which conducts studies. Urbanek and Walińska (2013) pointed out that public universities, as public sector entities, are required to spend the raised funds for their intended purpose.

In practice, courses at some universities are conducted for full-time and part-time students together, e.g. at several programmes offered by University of Warsaw. It does not impose the absolute equality between education costs for full-time and part-time studies of the same programme, because of the aggregation level of part-time studies costs, which is sometimes even set at university-wide level or at the particular programme's education level.

The Regulation of the Council of Ministers on detailed principles of financial management of public universities does not specify the exact methodology for calculating higher education costs and thereby leaves to universities the choice of cost accounting method (methodology for cost accounting and methodology for recording part-time and full-time studies' cost separately). Public university settles costs by type of activity, with a separate funding by grants from the state budget and by own revenues, on the basis of records of costs by nature and by function, underlying the preparation of financial statements [Par. 16, ust. 1 RRM]. Higher education costs of public university consist of costs of teaching process at every level of studies as well as costs of faculty training activities, university maintenance's

costs (including renovating costs, without dormitories and canteens [Par. 8 RRM]) and contributions to own scholarship fund [Par. 13, ust. 1-3 RRM]. The catalogue of costs is open and may include other costs of educational activity which provides an income [Par. 8 RRM].

The main categories of costs of educational services provided by universities are personnel costs and costs of infrastructure usage (mostly use of classrooms/research rooms and equipment). Among direct costs there are mainly personnel costs of lecturers, indirect costs refer to costs supporting teaching process, e.g. library and administration costs. When it comes to direct costs, the main problem is the proper choice of their recording method and the lack of clear regulations regarding distribution of working time between teaching activities, research activities and organizational activities. Hence, the data collected by public statistical institutions reflects only the composite remuneration costs (including teaching, research and separate operating activities) and the composite overall costs of educational activity, without structure breakdown. It raises the question about the influence of information asymmetry on the decision-making process in terms of distribution of public funds and ensuring that those funds are going to be used only for their intended purpose, instead of being partly spend on subsidising fee-based educational services (teaching part-time students).

Since 2013, due to the accounting policy the head of university should issue an order regarding guidelines for calculation of educational costs, which precisely regulates recording and calculation of direct and indirect costs of educational activity among full-time, part-time and other types of study programmes [Par. 16, ust. 3, Par. 18 and 19 RRM]. Especially the rector shall establish the method for settlement of direct and indirect costs of teaching activity, including remuneration costs which cannot be classified up-to-date as costs of full-time, part-time or other studies. It is permitted to calculate these costs proportionally to amount of teaching hours [Par. 19, ust. 1 RRM]. The calculation of education costs is done once a year, however the rector can arrange the settlement in shorter periods [Par. 20 RRM].

The most common cost methodologies used by universities are Activity-based costing, which has been implemented in several universities of technology, and in *Educational Cost Calculator* by dr Miłosz, Cost-plus pricing or Full costing method, developed at University of Łódź. The essential aspects of the effective cost calculation are solid management software systems e.g. SAP (Jagiellonian University, The University of Silesia, Częstochowa University of Technology), Simple (University of Łódź) as well as administrative and management staff with proper mentality and sufficient skills, who are capable of using management information generated by the system. It is difficult to benchmark educational costing because costs calculation is not carried out in the comparable way [on the basis of the expert consultations] and the Regulation of the Council of Ministers on detailed principles of financial management of public universities that does not determine a detailed cost recording.

Results from previous studies on the higher education costs composition show the dominant share of personnel costs, including remuneration costs [e.g. Falcon 1973, Franco 1991]. Franco (1991) notices that educational costs of public universities per student are more than twice as high as those of private universities. Personnel costs account for more than half the overall operating costs, both at public and private universities. Balderston (1974) stresses that cost analysis in higher education can be the basis for justifying the assessment of educational and commercial costs to sources of their funding (public or private), as well as for assessment of resources to certain types of activities. Capaldi and Abeby (2011) point out the differentiation of educational costs among various scientific disciplines being taught. Lack of relevant cost analysis, that would eliminate such distortions, may likely result in fees being set at a level which is not equivalent to real educational cost incurred by universities. Providing only the overall educational costs enables hidden subsidizing of more cost-intensive (unprofitable) programmes by less cost-intensive ones. Disparity of costs exists also among different profiles and degree levels – in general educational cost of student graduating with Master's degree is, intuitively, higher than student with Bachelor's degree and lower than student graduating with PhD. Ossowski (2009) claims that the main higher education cost are labour costs, which may account even for 90% of overall costs. Academic teacher hourly rate is determined by *dividing the monthly rate base salary with additions and 156 hours a month* [RMNiSW]. Ossowski (2009) suggests calculating the teaching process costs based on number of study groups or students overall, while Toutkoushian (1999) includes in his regression such dependent variables as costs generated by universities per student, graduate and research grant, and such independent variables as costs of Students' Office activity, institutional support, remuneration costs, transfers of budget funds to students (e.g. financial assistance, scholarships).

In Poland one can observe the growing importance of diversification of financing sources, targeted subsidies, competition and the increase in tuition fees that charge students and their households [Dąbrowa-Szefler and Jabłeczka-Prysłowska 2007]. Distinctions in costs structure between public and private universities are most often the result of differentiation in size of universities, mode of studies or the form of employment of lecturers beyond faculty minimum. Over the 1997-2009 period private universities, despite generating lower revenues (in terms of unit values) than public universities, shown higher profitability (21-28%) between 1997 and 2001, while between 2003 and 2009 it was only 4.6-7.4% [Dawidziuk 2010].

While analyzing higher education costs, it is important to notice that the financial management's purpose of public universities is mainly to maintain its liquidity rather than generate an income. In the conditions of recent demographic decline and with prevailing "grant algorithm" public universities have a limited impact on revenues. This situation makes them focus mainly on evaluating educational cost of full-time and part-time studies with regard to relevant employment policy and carrying out a

teaching process: number of students in each group, assessment of teaching hours according to form of educational classes and working position or wage, monitoring the fulfilling of teaching hours and limiting overtime when those hours are not fulfilled by other co-workers, as well as fulfilling teaching obligations by doctoral students [On the basis of the expert consultation of dr H. Miłosz].

DIVERSIFICATION OF THE COST OF EDUCATION AT PUBLIC AND PRIVATE UNIVERSITIES

Since 2010 public universities have not been able to counteract the process of greater growth of the teaching cost than the increase in revenues from educational services, as a result of significant decline in state funding and a sharp decline in the number and percentage of students paying fees. The resignation of taking paid studies also favours the increasing number of free-of-charge studies offered due to the impact of the number of full-time students on the amount of grant from the state budget based on the algorithm (student-doctoral component). Although the legislature inhibits the growth of the number of students enrolled free of charge by the reduction of algorithm-based subsidies paid to public universities who provide full-time studies, if the overall number of students increases annually by more than 2%, there is also a similar increase in the number of students studying for free with in some universities. For some specific fields of study that growth can be much larger, because the limit applies to the number of students in the whole university. The percentage of students paying for education has been declining since 2001, also considering postgraduate students and part-time doctoral students. The dynamics of the cost of education at public universities exceeded the growth rate of revenues from educational activities during 6 out of 15 years from the 1997 to 2012 period (Fig. 1). Over the 2010-2012 period, the percentage of part-time students paying for education decreased below 50% of all students at public and private universities. The number of part-time students declined in 2012 by 29.6% of the students for the 2005/2006 year. At the same time, the total number of students decreased by 14%. As a result, since 2010, the sources of financing education structure has changed - in 2005 as many as 58.9% of students had been paying fees, while in 2012 only 47.1%. In public universities, the percentage of part-time students decreased from 43.8% in 2005 to 27.2% in 2012.

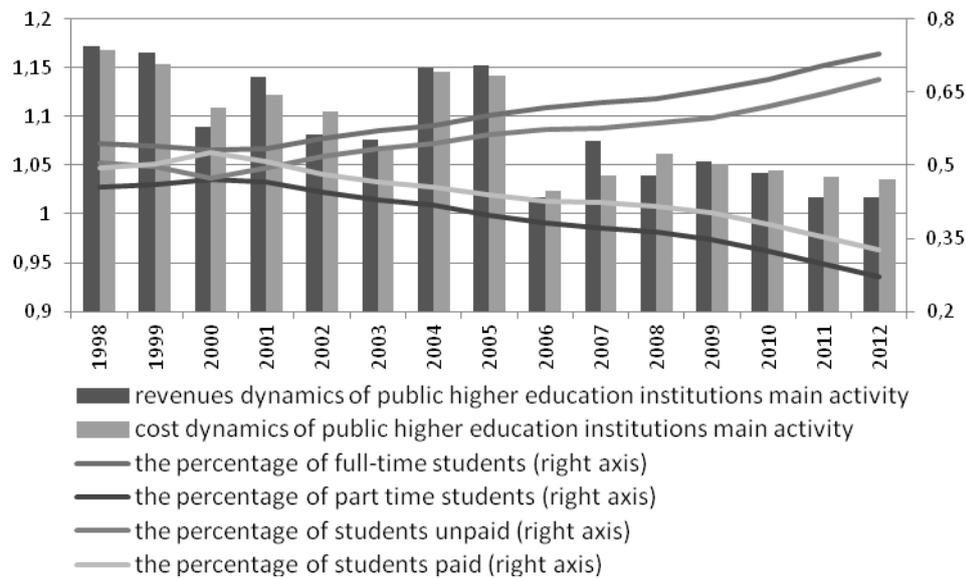


FIGURE 1. The financing structure of public higher education in the years 1997-2012

A broader look at the financing of the higher education system by those who are studying free of charge (student-doctoral component of the grant algorithm impacts the donation in public universities and grant resulted from teaching full-time doctoral students in private universities) and by those paying fees, indicates that the percentage of paying for higher education services is gradually, but steadily, decreasing. In total, paid education share decreased from 66% in 2000 to 61% in 2008 and 51.5% in 2012. Sudden change in the financing structure of higher education, intensified by demographic processes, has negatively affected the financial situation of universities in both sectors of ownership. In public universities share of students paying for education has been decreasing gradually from 50.7% in 2001 to 32.5% in 2012. Analysis of unit revenues of educational activities of universities in total (per participant of educational services) shows the growing importance of revenues from activities other than education, especially since 2010, and the stabilization of the nominal amount of the basic grant for teaching per full-time student, particularly since 2009 (Fig. 2). Based on data from the Central Statistical Office (CSO) in 2012 average fees for the classes at public universities (4 663 PLN) were 23% higher than in private universities (3 786 PLN), and over the analysed 16 year span average fees at public universities were 3% higher than fees at private sector. It can be assumed that the difference in amount of individual fee for educational services between public and private universities was partly influenced by the legislation that imposes self-financing of part-time studies by public universities. Fees charged cannot exceed the costs incurred to the extent necessary to open and conduct at the university part-time studies including the costs of preparing and implementing the development strategy of the university, in particular the development of academic staff and infrastructure (for education and research purpose), including depreciation and repairs [art. 99 PSW]. They could also be due to the higher cost of doing paid studies in public universities.

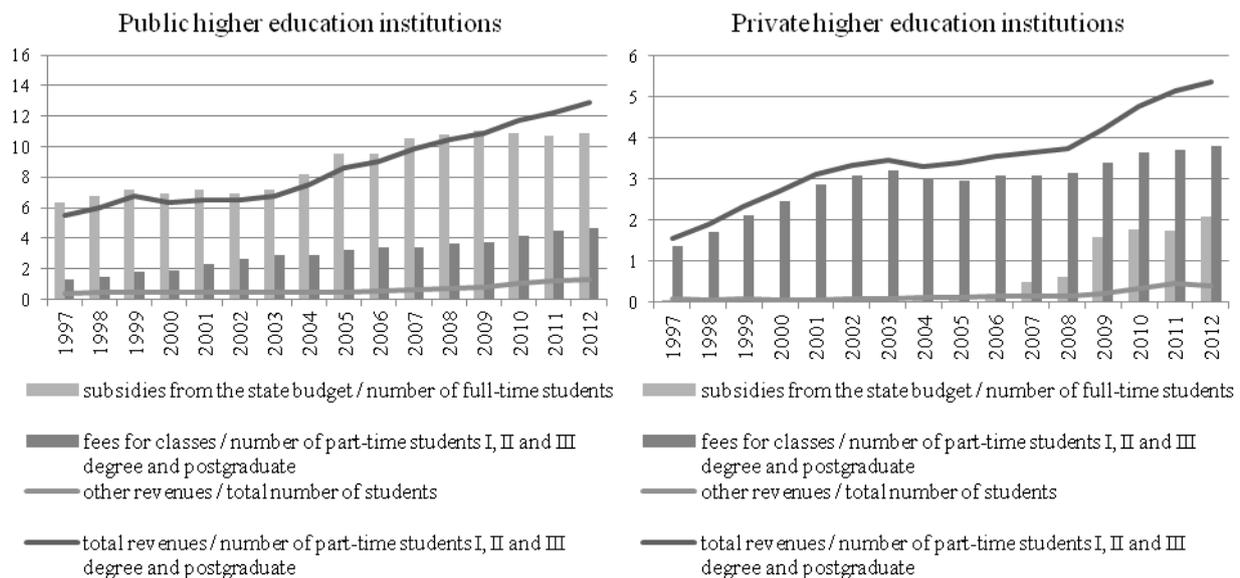


FIGURE 2. Revenues of higher education per student in the years 1997-2012 (in thousand PLN)

METHODOLOGY, DATA SOURCES AND VARIABLE DEFINITIONS

The research will be conducted on the basis of data for 2013, purchased from CSO. The data contains forms like the F-01/S on revenues, costs and financial results of universities, the S-10 on higher education as at November 30th and the S-12 on scientific scholarships, postgraduate and doctoral studies and employment in universities, for universities grouped into 29 groups for statistical secrecy. Universities were grouped according to form of ownership (public and private), type (Table 2) and the size (measured by the number of students) with a focus on the education of part-time or full-time studies. To study the main determinants of funding of the higher education costs level by state grants and fees charged in relation to the revenues of teaching, a least squares method (OLS) regression is conducted. Definitions and descriptive statistics of variables used are described in Table 1. In the study I will take into account the average cost-intensity of education weighted by number of students for each programme of varying coefficients of the cost-intensity (WCI):

$$WCI = \frac{\sum_{i=1}^N k_i s_i}{\sum_{i=1}^N s_i} \quad (1)$$

where: N - number of different fields of study carried out at the university;

k_i - cost-intensity of i field of study according to the Regulations and Communications of MSHE on the cost-intensive ratios (range 1.0-3.0) for individual fields of full-time study;

s_i - the total number of students from all years of study of the i -th field of study (based on data purchased from the CSO, as at November 30th).

| Name of variable | Mean | Std | Min | Max |
|--|--------|--------|-------|--------|
| Unit cost of education without financial assistance (CSO | 15,770 | 10,797 | 4,429 | 40,811 |
| The average fee for part-time studies | 6,242 | 5,573 | 0 | 24,891 |
| The fees for educational services / Total income from | 0,301 | 0,328 | 0,021 | 0,955 |
| Salaries of civil contracts / Total costs by nature | 0,089 | 0,052 | 0,031 | 0,201 |

| | | | | |
|---|--------|--------|--------|--------|
| The basic grant for higher education / Wages with charges | 0,811 | 0,440 | 0 | 1,418 |
| Total revenues from teaching activities / Total wages with | 1,271 | 0,128 | 1,034 | 1,606 |
| The number of students per academic staff (full time | 22,415 | 16,498 | 4,308 | 59,660 |
| The number of visiting professors | 6,7591 | 9,034 | 0 | 38 |
| The number of postgraduate students / number of part-time | 0,205 | 0,096 | 0 | 0,467 |
| Foreigners at full-time and part-time doctoral studies / | 0,487 | 0,735 | 0 | 3,591 |
| The number of foreign languages / number of full-time and | 0,449 | 0,078 | 0,307 | 0,608 |
| The percentage of e-learning / blended learning students | 0,010 | 0,029 | 0 | 0,126 |
| Students per "administrative staff" (full- and part-time | 24,331 | 17,219 | 4,921 | 64,145 |
| Students / number of assistant professors (full- and part- | 75,939 | 144,62 | 0 | 731,22 |
| State budget grants / costs of teaching at higher education | 0,580 | 0,306 | 0,005 | 0,894 |
| Students / number of senior lecturers (full- and part-time | 294,71 | 571,03 | 18,878 | 2330,2 |
| WCI (weighted average cost intensity of studies) | 2,070 | 0,483 | 1,449 | 2,855 |

Table 1. *Definitions and descriptive statistics of variables used*

RESULTS

The unit cost of education for universities groups analysed using two alternative methodologies: Polish Central Statistical Office's (CSO) and Ministry's of Science and Higher Education (MSHE), are presented in Table 2. Higher education costing, using the CSO methodology applied in the study, fixed at the level of individual groups of universities, in relation to students conversion rate determined as a weighted sum of part-time students by a factor of 0.6, and full-time students, post-graduate and doctoral students with a weight of 1.0.

However, under the MSHE's methodology costs of teaching are related to the number of students conversion rate equal to the weighted sum of the number of part-time students with a weight of 0.5 and full-time and postgraduate students with a weight of 1 and doctoral students with a weight of 2.5. The average cost of education by distinguished groups of public universities according to the CSO methodology is higher than the cost of education determined according to the MSHE methodology, due to the different denominators, by about 5%. But for private higher schools that cost is 0.3%-3.9% lower in the case of private academies of economics, and higher by 0.15%-0.38% for the other private higher schools. These differences result from differences in the number of students converted at different rates: the part-time (0.5 or 0.6), postgraduate (1.5 or 1.0) and doctoral studies (2.5 or 1.0). There are similar differences in the fixed direct education costs, ie. wages with charges (social security deductions to the Social Fund) for workers employed under a contract of employment in universities engaged mainly in teaching (over 90%). On average salary overheads of contracts of employment in public schools represent 72% of the cost, while in private schools only 49%.

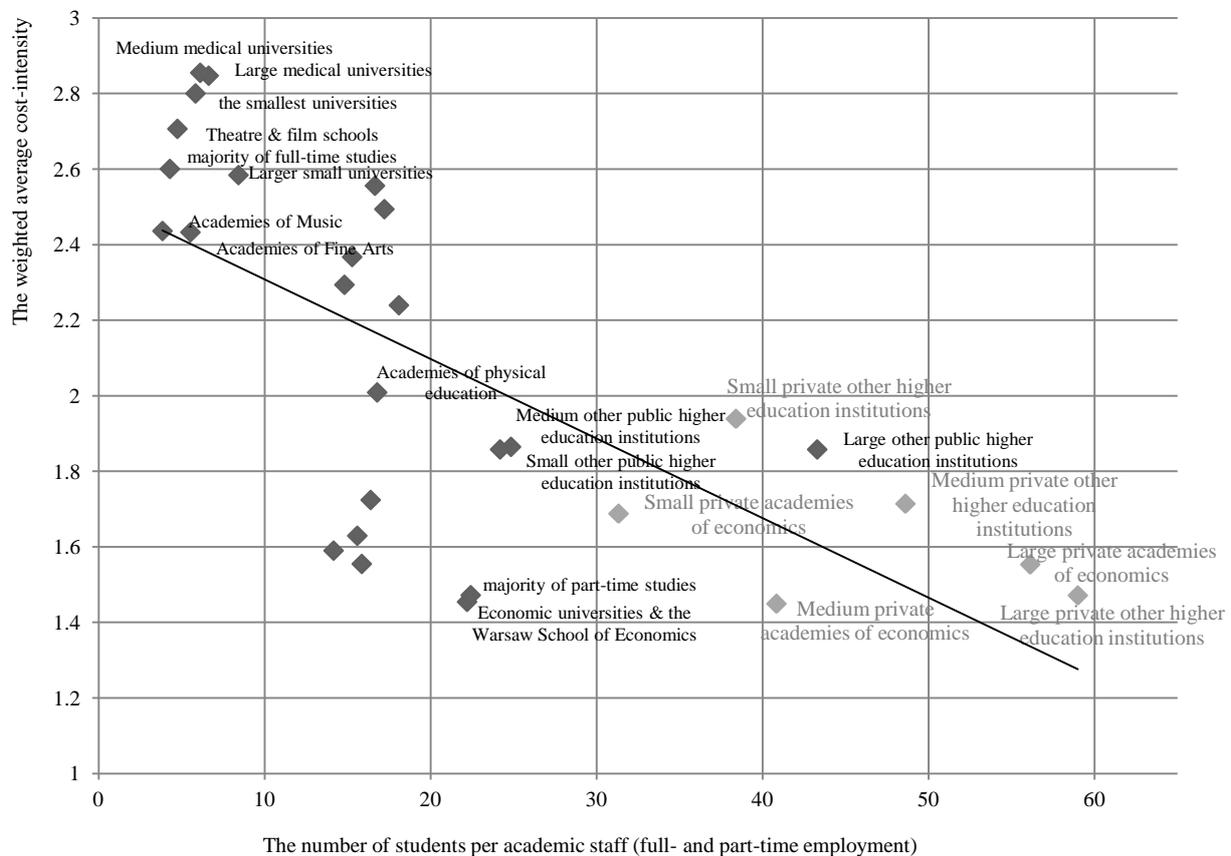
| Higher education institutions | Statistical measure/ a group of higher education | Unit cost of education (in thousands PLN) - some statistical measures | | | |
|-------------------------------|--|---|------------------|--------------------------|---------------------------|
| | | CSO methodology | MSHE methodology | Wages with charges (CSO) | Wages with charges (MSHE) |
| Public higher | Mean | 18,076 | 17,208 | 13,043 | 12,422 |
| | Median | 12,607 | 12,276 | 9,429 | 9,011 |

| | | | | | |
|---|------------------------|--|--------|--------|--------|
| education institutions | Std. Dev. | 10,757 | 10,094 | 7,574 | 7,115 |
| Private higher education institutions | Coeff. of Variation | 0,595 | 0,587 | 0,581 | 0,573 |
| | Mean | 7,197 | 7,384 | 3,554 | 3,650 |
| | Median | 6,737 | 6,755 | 3,320 | 3,283 |
| | Std. Dev. | 1,479 | 1,820 | 0,865 | 1,039 |
| | Coeff. of Variation | 0,206 | 0,247 | 0,244 | 0,285 |
| Group of higher education institutions | | Unit cost of education – the average values (in thousands PLN) | | | |
| | Large | 14,245 | 13,118 | 9,786 | 9,011 |
| | Larger medium | 11,622 | 10,926 | 8,402 | 7,899 |
| Universities | Smaller medium | 10,604 | 10,003 | 7,963 | 7,512 |
| | Larger small | 21,006 | 20,060 | 15,303 | 14,614 |
| | The smallest | 31,152 | 29,190 | 21,387 | 20,040 |
| Higher Technical School | Large | 12,307 | 11,737 | 10,287 | 9,810 |
| | Medium | 12,607 | 12,276 | 8,839 | 8,607 |
| | Small | 10,974 | 10,859 | 7,852 | 7,770 |
| | Technological | 12,937 | 12,672 | 9,429 | 9,236 |
| Higher agricultural schools | | 12,751 | 12,324 | 10,160 | 9,819 |
| Teacher education schools | | 9,663 | 9,237 | 7,470 | 7,141 |
| Universities with the majority of part- | | 8,510 | 8,088 | 6,468 | 6,147 |
| Universities with the majority of full- | | 36,624 | 35,156 | 28,097 | 26,970 |
| Private academies of economics | Large | 6,341 | 6,361 | 2,717 | 2,725 |
| | Medium | 6,737 | 6,755 | 3,327 | 3,336 |
| | Small | 9,940 | 10,331 | 5,192 | 5,397 |
| Other private higher | Large | 5,951 | 5,943 | 2,879 | 2,875 |
| | Medium | 5,531 | 5,326 | 2,933 | 2,824 |
| | Small | 7,095 | 7,016 | 3,320 | 3,283 |
| Economic universities | | 9,236 | 8,429 | 6,691 | 6,107 |
| Medical universities | Large | 26,202 | 24,469 | 19,116 | 17,851 |
| | Medium | 30,714 | 28,613 | 20,567 | 19,160 |
| Higher schools of art | Academies of Music | 37,906 | 35,925 | 27,824 | 26,370 |
| | Academies of Fine Arts | 29,428 | 28,002 | 17,983 | 17,111 |
| | Theatre & film | 40,811 | 38,513 | 29,244 | 27,597 |
| Academies of physical education | | 11,275 | 10,823 | 8,543 | 8,200 |
| Other public higher schools | Large | 4,429 | 4,452 | 3,387 | 3,405 |
| | Medium | 9,839 | 9,869 | 7,172 | 7,194 |
| | Small | 10,899 | 11,049 | 8,016 | 8,127 |

Table 2. *The unit cost of education by type and size of higher education institutions in 2013*

In public higher education institutions the education costs fluctuate from 8510 PLN (in schools focused on the part-time education) and 4429 PLN in other large public higher education institutions up to 40811 PLN in the higher schools of art (theatre and film). High costs of education are associated with the implementation of specialized courses in small groups and with the use of expensive specialized equipment and materials for laboratory classes. Private universities do not provide education at such relatively expensive fields of study which either require specialized equipment and teaching resources or have to be carried out under special conditions and in small groups. Hence, their costs of education are at a much lower level than in public sector, ranging from particular 5531 PLN in medium-sized private institutions of higher education to 9940 PLN in small private academies of economics. This is confirmed by the relationship between the weighted average cost-intensity of studies and number of students per academic staff (full- and part-time employed) (Fig. 3).

Figure 3. *The weighted average cost-intensity of education compared to the number of students per*



academic staff

Education in higher education institutions of the weighted average cost-intensity of studies above 2 is carried out at public universities, in relatively small groups (at 4,3-18 students for one academic teacher), and education in private universities is provided at the cheapest specializations, ie. those with

of the lowest weighted average cost-intensity of studies, with 31-59 students per a teacher. It can be assumed that, despite the involvement of part of the staff (beyond the minimum staffing) in private universities under civil law agreement, classes in private schools are conducted in relatively larger groups. The most expensive education is conducted at medium and large medical universities, with a high weighted average of the cost-intensity of studies 2,855 and 2,847 respectively, and in relatively small groups (6.12 and 6.63 student). The results indicate that higher aggregate indicators of the cost-intensity of analysed groups of schools there are in the case of educational services for smaller groups of students.

Conducting estimation of linear regression model using OLS was preceded by an analysis of the correlation. The results of model estimates of the determinants of the education costs level financed by grants from the state budget and fees charged for educational services of higher education institutions in relation to total revenues of education are presented in Table 3. The results confirmed a strong positive correlation between the higher education costs level financed by subsidies from the state budget and salaries level with charges funded by the basic subsidy, and therefore also with administrative and research and education (academics) staff employed and paid from public funds. However, the greater stability of personnel employment measured by a higher level of financing their basic salaries by the grant reduces the incentive for offering of paid educational services, and thus reducing the share of payments for educational services in total revenues from teaching. The observed relationship indicates that the higher the level of payroll costs with overheads of contracted employment is funded by basic grants, the higher adjustment made by education institution in the structure of employment and other costs of teaching to the statutory possibility to fund them by grants within the existing grant algorithm. And the smaller the range of payroll costs with overheads of contracted employment are funded by basic grants, the more the university increases the offer of paid education. And in consequence the share of fees charged for educational services in total revenues from teaching is increasing. Similarly positive correlation between the share of paid education in the educational activity of higher education institutions and the level of coverage of the salaries by revenues from teaching, altogether with a negative relationship with the level of coverage of the employment costs by grants, points that the offer of part-time and postgraduate studies by universities with unused human resources (not fully financed by grants) is increasing. Higher share of fees charged for educational services in the revenues of teaching is accompanied by greater flexibility in employment (measured by the share of wages of civil-law contracts in costs by nature), while more stable financing of staff by grants from the state budget is accompanied by lower use of civil-law agreements.

Explanatory variables

Grants from the state budget / Fees for educational costs of services / revenues of

| | Coeff. | t-stat | Coeff. | t-stat |
|---|-------------------|---------------------|-------------------|---------------------|
| | Std. Err. | p-value | Std. Err. | p-value |
| Unit cost of education without financial assistance (CSO methodology) | 0.0021742* | 1.73 | 0.002407*** | 3.15 |
| | (0.0012573) | (0.102) | (0.0007633) | (0.007) |
| The average fee for part-time studies | -0.003428** | -2.15 | 0.0059015*** | 5.43 |
| | (0.0015972) | (0.047) | (0.0010868) | (0.000) |
| Salaries of civil contracts / Total costs by nature | -1.026798*** | -4.66 | 1.141826*** | 8.05 |
| | (0.2203115) | (0.000) | (0.1418572) | (0.000) |
| The basic grant for higher education / Wages with charges from the employment relationship | 0.5619628*** | 16.92 | -0.566925*** | -25.54 |
| | (0.0332107) | (0.000) | (0.0222006) | (0.000) |
| Total revenues from teaching activities / Total wages with charges from the employment relationship | -0.1687006* | -2.02 | 0.238127*** | 3.71 |
| | (0.0833341) | (0.059) | (0.0641796) | (0.007) |
| The number of students per academic staff (full time employment) | | | 0.0026621*** | 3.83 |
| | | | (0.0006947) | (0.002) |
| The number of visiting professors | | | -0.001669*** | -3.60 |
| | | | (0.0004636) | (0.003) |
| The number of postgraduate students / number of part-time students | -0.1655461* | -1.87 | | |
| | (0.0886672) | (0.079) | | |
| Foreigners at full-time and part-time doctoral studies / number of teachers - foreigners | 0.0307689** | 2.44 | -0.018471*** | -3.01 |
| | (0.0126031) | (0.026) | (0.0061331) | (0.009) |
| The number of foreign languages / number of full-time and part-time students | -0.1602935 | -1.42 | 0.2079333** | 2.79 |
| | (0.1129655) | (0.174) | (0.0745842) | (0.014) |
| The percentage of e-learning / blended learning students | | | -0.136673 | -0.72 |
| | | | (0.1904787) | (0.484) |
| Students per "administrative staff" (full- and part-time employment) | 0.0020086** | 2.30 | | |
| | (0.0008734) | (0.034) | | |
| Students / number of assistant professors (full- and part-time employment) | 0.0000937 | 1.58 | -0.0000972** | -2.48 |
| | (0.0000594) | (0.133) | (0.0000393) | (0.026) |
| Students / number of senior lecturers (full- and part-time employment) | | | -0.000072*** | -5.52 |
| | | | (0.0000131) | (0.000) |
| WCI (weighted average cost intensity of studies) | 0.0412129 | 1.58 | -0.080771*** | 4.40 |
| | (0.0260859) | (0.133) | (0.016565) | (0.001) |
| Constant | 0.3669223*** | 2.99 | 0.3456349*** | 4.40 |
| | (0.1225309) | (0.008) | (0.0786093) | (0.001) |
| Diagnosis of the model, statistical tests for a total insignificance of the variables | | N = 29, R2 = 99.41% | | N = 29, R2 = 99.83% |
| | F(11,17) = 261.79 | | F(13,15) = 678.49 | |
| | Prob > F = 0.0000 | | Prob > F = 0.0000 | |
| Ramsey RESET test: | | F(3,14)=1.63, | | F(3,12)=3.31, |
| | | Prob>F = 0.2273 | | Prob > F = 0.0573 |

Symbols: ***, **, *, #, ## – significant at the level of 1%, 5%, 10%, 15%, 20%.

Table 3. *Determinants of education costs financed by grants from the state budget and fees charged for educational services*

The higher average fee for part-time studies, the higher education institutions are more likely to provide paid educational services (a higher proportion of fees for educational services in total revenues of teaching). Higher average fee for part-time negatively influences the level of coverage of education costs by grants from the state budget, which confirms that the lower funding of educational activities from public funds encourages universities to seek alternative sources of financing and charging higher fees for part-time studies.

Higher Education Law requires that public universities self-finance part-time studies, and in accordance to the regulations of law of higher education, fees charged cannot exceed the cost of these paid educational services. It can be assumed that higher average tuition fees charged are more appropriate for the full costing, not just the marginal costing.

These assumptions are strongly confirmed by the significant positive correlation between the unit cost of education and the share of fees charged for educational services in the revenues of teaching. Awareness of the education costs and the need for their coverage enforces the universities to increase the share of paid educational services in teaching activities. Additionally, the conclusions are supported by weaker relationship (significant at the 10% significance level) between the level of the unit cost of education and the possibility of a statutory grant to cover the cost of teaching activities. Increasing the number of listeners of postgraduate programmes in comparison to the part-time students lowers the share of subsidies from the state budget in financing the education costs. This is due to the relatively higher cost-intensity of the services provided within the framework of post-graduate than part-time studies, often as a result of the involvement of practitioners and experts at higher rates of remuneration than professors, catering for listeners or renting halls at market prices in attractive locations.

Conducting postgraduate studies (instead of part-time studies) reduces the financing costs of education with public funds despite the possibility of complementing hours to normal working hours by academics that have not executed teaching full-time, on-time imposed by law. In such a situation, an academic teacher is not entitled to additional remuneration for the teaching of postgraduate programmes beyond salary funded by a basic grant at public universities. The results indicate that the fees for postgraduate studies to a greater extent cover the costs of education than fee for part-time studies. The results for the determinants of share of paid forms of education in universities teaching activities indicate differences in the structure of employment between the public and non-public universities. In particular, the increasing number of visiting professors, a higher ratio of students per lecturer employed (full- and part-time) or in relation to the number of senior lecturers is characteristic of public universities to a lesser extent pursuing paid forms of education. The positive relationship between the number of students per administrative full- and part-time employee and the level of coverage of the education costs by grants from the state budget, points universities that restrict administrative employment in conditions of demographic decline to have an advantage over the other. Higher rate of the number of students per academic teacher employed for full-time significantly affects increase of the share of paid studies in education implemented by the university, which indicates that paid education is done in large groups of students. The findings result from the strategy of private universities limiting employment based on contract to the minimum staff level imposed by the higher education law.

The extension of education in foreign languages in full-time and part-time studies shows the positive impact on the share of paid educational services in revenues from educational activities, which results from increasing the number of hours of language courses and, consequently, salary expenses and costs of education. The education costs level financed by subsidies from the state budget is significantly

positively affected by a ratio of the number of foreigners in doctoral full- and part-time studies in relation to the number of foreigners employed as an academic. This indicates that universities achieve relatively higher benefits from the adoption of a foreigner for full- or part-time doctoral studies than the associated costs, probably due to the inclusion of them in the component of exchange in the statutory grant algorithm, by a factor of 3. In contrast, such a measure of the internationalization of universities impairs implementation of paid education, probably due to the sufficient support within the financing system of education with public funds.

A significant negative correlation between the share of fees charged for educational services in revenues of education and the cost-intensity of studies carried out in universities, with the weights being the number of full-time students by fields of education, and the cost-intensity coefficients were retrieved from the MSHE's communications. This indicates that education at more cost-intensive fields of study is carried out at universities providing paid educational services in lesser extent, so it is mostly funded by state grants. Statistical analysis of detailed data on the level of separate groups of higher education institutions suggests that underfunding costs of education in medium medical universities equals to 14.5% of the cost of teaching with the basic grant covering only 58.9% of the costs. Underfunding costs of education at economic universities represents 1.1% of the cost of education at the basic grant covering only 57.7%.

For comparison, in the other public higher schools that grant financed 75-85% of the costs. The fees charged for educational services represented, on average (and for median observation), 92% of education revenues of private higher schools, of which 75% came from fees for part-time studies. In public universities charge for educational services showed high variability (CV over 49% compared to 2% in the private sector), and the volatility of revenues of part-time studies was even higher (54% compared to 8.5% in private schools). On average, fees for education accounted for nearly 14% of revenues from education, mostly in the economic universities (28.6%) and the least in the schools of only full-time studies (2.1%) and in the public higher schools of theatre and film (4.2%). The highest revenues of fees charged for part-time studies reached a small private academies of economics (75.6%) and the medium other private higher schools (74.4%) and the lowest - large other private higher schools (59.5%).

CONCLUSIONS

The results show that education in public universities is provided with the weighted average of the cost-intensity of studies above 2, in relatively small groups (4,3-18 students). While education in private universities is done on the cheapest specializations, with 31-59 students per teacher. The most expensive education is conducted in medical universities, with a high cost-intensity of studies at 2,855

and 2,847 respectively, and in small groups. This confirms the adequacy of the MSHE's cost-intensity indicators of studies to the size of study groups, at least at the aggregate level of university groups distinguished by forms of ownership, types and size. It would be recommended to extend this research in case of increased availability of data, in future, for individual universities, as indicators of the cost-intensity reflect the relative costs of education. Increase in the cost-intensity of one field of education reduces the cost-intensity of other fields of the more, the more this course has a mass character [Sztanderska 2014, p. 115].

The findings indicated that the education costs level financed by grants from the state budget depends on unit education cost, administrative and academic staff employed who are paid from the basic grant, the ratio of foreigners in doctoral programs to the number of foreign teachers and a larger number of students per administrative staff. In contrast, the reduction of the education cost level covered by state grants is influenced by higher average fee for part-time studies, a higher share of wages of civil contracts in the costs by nature, a higher coverage of wages with charges from revenues of teaching and relatively more postgraduate students in relation to part-time students. The share of fees for educational services in total revenues of teaching is determined by unit costs of education, higher average fee for part-time studies, a higher share of wages of civil contracts in the costs by nature, higher coverage of wages with charges by revenues of teaching, a class group size and the number of foreign language courses. The education cost level covered by grants influences the decision of public universities whether to run paid studies. Due to the demographic decline, many universities faced insufficient covering of the education costs of the part-time studies by fees. Underfunding of the costs of education in medium medical universities equals to 14.5% of the overall education costs and in economic universities it is 1.1% of overall education costs.

To carry out in-depth analyzes of the costs of higher education, it would be necessary to collect data on the education costs by nature. It seems advisable to change the profit and loss account in the form of separate statement of revenue and operating costs for a relevant system for a margin account, defying income from teaching activities corresponding with their costs. This would enable analyse coverage of educational costs in the various segments of teaching. It would also facilitate the monitoring of universities' undesirable behaviours related to the financing of full-time studies by fees charged for part-time studies, and vice versa.

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SMES AND GLOBALIZATION

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ABSTRACT

Purpose: This paper uses the different models developed in international business and the international experience of small and medium-sized enterprises (SMEs) to propose efficient ways for SMEs of confronting globalization.

Design/methodology/approach: The experience of SMEs in countries driven by pursuit of efficiency and innovation is analyzed, taking into account the stage of development of the country and the SMEs. Uniqueness, cooperation, coalition, and integration are keys to success in the global market, as illustrated by case studies.

Findings: Successful factor-driven SMEs chose contract marketing based on specialization and improved efficiency and establishing various kinds of coalition or cooperation. Successful efficiency- and innovation-driven SMEs improve their global position by offering some unique value, by participating in or initiating a coalition, or by establishing strategic alliances with a multinational corporation (MNC).

Practical implications: Analysis of successful case studies illustrating each model of globalization helps the SMEs in selecting the best international business strategy over time.

Originality/value: Each model of globalization is illustrated by selected SMEs that have successfully implemented it.

Keywords: *SMEs, globalization, factor-driven, efficiency-driven, innovation-driven, alliance, strategy*

INTRODUCTION

SMEs must develop a strong competitive advantage to be able to confront international competition. To be sustainable over time, a competitive advantage requires ongoing adaptation to changing conditions. This paper examines the various models of international business strategies and their adaptation to SMEs capabilities and objectives.

We intend to identify the reasons of success in the global market of SMEs in countries in different stages of development, in order to propose to SMEs the best strategy for entering the global market. We first identify the countries in which SMEs are most efficient in exporting their products, and

whether there is any correlation between the stage of development of their country and their own stage of development. We discuss which international business strategy is the most efficient for SMEs based on their stage of development, factor (cost), efficiency, and innovation. In the last part, we illustrate the main successful strategies by selected SMEs in two categories: factor driven and efficiency- or innovation-driven SMEs.

CONTRIBUTION OF SMES TO EXPORT

SMEs (fewer than 500 workers) in the US comprise 97.7% of all identified exporters. They account for 33.6% of the export (US Census, 2015). In 2010, 96.5% of manufacturing exporters were SMEs, and they contributed 19.1% of the sector's \$839 billion in exports (USITC, 2010). Almost half of US exporters have fewer than 50 employees, 59% export to just one market, and 83% export to 1-4 markets (Suominen, 2014; US Census Bureau).

In 2011, in the European Union SMEs accounted for more than a third of total EU exports, and represented 81% of the firms exporting outside the EU (EC, 2014). Over 600,000 exporters were SMEs, and they generated over 500 billion euros. Italy, France, Spain, and Germany accounted for over 50% of total EU SME exports. The share of exporting SMEs differs by member states. In 13 EU member states, SMEs accounted for 90% or more of the total number of exporting enterprises. At the other end of the spectrum, in Spain, Germany, the Czech Republic, and Greece, the share of SMEs is below EU average.

SME exporters represent a small share of the total number of SMEs in the EU (Gagliardi et al., 2013). Twenty five percent of EU-based SMEs had been involved in exports in 2010 (within and outside Europe) in the three previous years (EC, 2014). Only 13% targeted markets outside the EU (EC, 2010, p 8).

In Latin America, 30% of GDP is produced by SMEs, whereas in developed OECD economies the share of SMEs in GDP is 60% (Avendaño, Daude, & Perea, 2013). Less than 10% of small firms, and just around 12% of medium enterprises in Latin America participate in export activities (OECD, 2012a).

In the Philippines, Indonesia, Laos, and Vietnam, about 12% of small firms and over 25% of medium-size firms are involved in international export markets (OECD, 2012a). In Japan, 63.1% of the SMEs are not globalized, 15.8% export, 8.5% have a partnership with a foreign company, and 7.8% have

manufacturing facilities abroad (Tokyo Chamber of Commerce and Industry, 2012). These activities are supported by JETRO (2013). The most promising markets for Japanese SMEs in Asia are those in Thailand, China, Indonesia, and Vietnam (JETRO, 2013).

CORRELATION BETWEEN STAGE OF DEVELOPMENT OF COUNTRIES AND SMES

The World Economic Forum (WEF) classifies countries according to their stage of development as follows: stage 1—factor-driven, stage 2—efficiency-driven, and stage 3—innovation driven- (Schwab, 2015).

Countries in stage 1 are characterized by low-cost labor and some of them by natural resources, but with weak institutions, infrastructure, macroeconomic environment, health, and primary education. Factor driven SMEs competitiveness in the global market is mainly expressed by indirect export to MNCs or by their partners in the local market. Countries in stage 2 develop competitive advantage based on specialization. SMEs in those countries could be factor and efficiency driven. The economy of countries in stage 3 is based on business sophistication and innovation.

In countries in stages 2 and 3, both efficiency- and innovation-driven SMEs can be found according to DHL-HIS research (2013). This research has analyzed the profile of high-performing SMEs in the two groups of countries, those at the efficiency-driven stage (Brazil, Russia, India, China, and Mexico (BRICM)) and those at the innovation-driven stage (the G7, United States, Japan, Germany, UK, France, Canada, and Italy). In the first group the criteria for high performance was 10% growth during the last 3 years, in the second group, 20% growth.

According to the results of the DHL-HIS study, high-performing SMEs in BRICM countries belong to two different groups: innovation-driven (mainly Russia, and partially India) and efficiency-driven (Brazil, China, and Mexico). In stage 3 countries, high-performing SMEs belong mainly to the innovation-driven group in the United States and Japan, and to the efficiency-driven group in the UK, Germany, Canada, Italy, and France.

Factor-driven SMEs

Factor-driven SMEs generate their revenues mainly from products and services related to local natural resources. A part of their products and services is exported directly across the borders with neighboring countries, or indirectly through local exporters. SMEs from the informal and formal economies participate and cooperate in this process.

The informal sector represents 80% of the total labor force, contributing about 55% of GDP in sub-Saharan Africa (UN, 2015). Formal and informal economies are interconnected and cannot be analyzed separately.

Local formal firms supply the domestic market with products and services imported or produced locally, in cooperation with SMEs belonging to the informal economy.

Successful factor-driven SMEs improve their competitive advantage by a deeper specialization and higher cost efficiency (Hanson, 2012), for example, in the case of cotton knitwear in India (Porter, 2011; TEA, 2011; **Narasimhan & Chennai, 2013**) and in the textile industry in Prato, Italy. SMEs in Tirupur are successful also because of strong government and professional support (Porter, 2011; www.unido.org).

The Tirupur region grows cotton, This was the factor driving the wide-scope knitted apparel industry . 5,000 businesses compose the textile value chain from cutting, making, and trimming knitted fabrics in pieces to transporting and selling in the local and international market. A high degree of subcontracting and cooperation is involved in knitting, processing, and finishing operations.

Efficiency driven SMEs

Efficiency can be improved in two ways: by using more efficient resources, including labor, and by better adapting the product to the market.

Immigration from China to Prato started with 38 immigrants in 1989 (Ceccagno, 2003). A strong flow of Chinese immigrants settled in the Prato area: an estimated 10,000 in 2006 (Ceccagno, 2009), and between 16,000 to 50,000 in 2014 (Kwong & Sanderson, 2014). Currently, there are about 4,000 Chinese-owned registered firms that deliver ProntoModa apparel to European customers in the low-end segments.

When Xu Qiu Lin came to Prato, in the 1990s, he worked as a leather cutter for Benetton (Bijaoui, 2015). Today, after having recognized that there is no real future in cheap goods only, he emphasizes labor efficiency in providing better quality and specialization in leather clothing. In 1992, he created Giupel, Ltd, a company producing high-quality, "Made in Italy" leather and down jackets, and promoted his own brand under his name. In 2004, Xu Qiu Lin signed Gabriel Batistuta, an immigrant from Argentina and a former star forward for Florence's Fiorentina Football Club, as a spokesman for his label.

Efficiency-driven SMEs develop competitive advantage in niche markets based on business specialization and sophistication, and on the quality of the business networks and of human capital. In some sectors, SMEs operate in the international niche markets directly by offering an end product, a component, or an application in a product value chain.

Gonzales and Hallak (2013) analyzed the international penetration of Argentinean SMEs into non-mass market segments of medium- and low-technology sectors in developed countries. Among others, they analyzed two such cases in Argentina based on the studies of Artopoulos et al. (2013), Gonzalez et al. (2012), and Bisang et al. (2013). Luis Lopez Blanco, the owner of Aqualum Yachts, was the representative of Ferreti, a premium Italian brand of motorboats, and of Cummins, a US motor engine producer, in Argentina, as well as of domestic boat brands. In 2000, he started to produce his own motorboats and made his first export to a developed country. As an importer, he attended the most important trade fairs and had frequent and ongoing contacts with foreign agents. The knowledge he acquired by socializing permitted Lopez to detect the potential in offering Italian design motorboats to foreign consumers.

Innovation –driven SMEs

Internationalization is more efficient for innovation-driven SMEs than it is for efficiency-driven ones because of their stronger competitive advantage in technology. Lecerf (2011) demonstrated it in her research on French SMEs. Kyläheiko et al. (2011) proved that innovators are more export intensive than non-innovators.

Aw et al. (2011) and Giovanetti et al. (2013) proved that research and development activities offers conditions essential for the creation of patents and for developing exports. OSG (www.osg.co.il) started by producing any window for any car. As an innovation-driven company OSG developed light-weight compositions for the transportation market, front-line transparent armor systems, and smart window technology. OSG developed also solar power glass systems, concentrated solar power (CSP) and concentrated photovoltaic (CPV).

Biancalani, a family-owned Italian SME specialized in textiles products, has developed the Airo® machine, for washing, drying, and softening any kind of fabric (see the www.indiantextilemagazine.in). Since its introduction in 1985, it has been the standard for textile finishing. Airo® is synonymous with soft touch, volume, and drape of the fabric. Airo® breaks the fiber in order to impart a softer feel to it.

Zortrax is a Polish manufacturer of professional 3D solutions founded in 2011. The roots of the company go back to 2001, when Rafal Tomasiak and Michal Olchanowski, from the Masuria region, met and became interested in the potential of the Internet (EU, 2015). Around 2010 they started developing a 3D printer. The initial idea was to develop and produce a smaller 3D printer than earlier models. In 2013, the 3D printer, Zortrax M-200, was ready to be marketed, and in 2014 a Zortrax Retail Store was opened in Krakow. The Zortrax name has become associated with the Zortrax M-200 3D printer, a leader in the 3D printer market for home and professional use, priced at Eur 1, 900. With only 120 employees, Zortrax reaches people in 24 countries through a reseller network.

MODELS OF GLOBALIZATION FOR FACTOR-DRIVEN SMES

Factor-driven SMEs seek suitable business support or coalitions to increase their competitiveness in international markets. Support for SMEs could be achieved by preliminary contract (contract marketing), incubation process (incubators and open incubators), hub processing, generating business and knowledge transfer, export consortia, and cooperatives.

Contract marketing (CM)

CM provides growers access to supply chains with market and price stability, as well as technical assistance (Wiboonpongse & Sriboonchitta, 1995; Eaton & Shepherd, 2001; Sriboonchitta & Wiboonpongse, 2008). For resource-poor growers, production input and farm investment on credit are often provided by firms. In return, contracting firms expect delivery of goods in specified quantities, quality, and at set prices. All the cotton and tobacco in Mozambique is produced through CM (ICRAF, 2007). In Zambia, 100% of paprika, tobacco, and cotton are produced based on this model. In Kenya, contracted farmers produce 60% of tea and sugar, and all the country's tobacco. In these countries and elsewhere on the continent, CM is used to integrate smallholder farmers into commercial agriculture.

Incubation Model

Business incubation in agricultural business generated in an incubator or through direct support of SMEs at their own location has the potential to enable growth and internationalization. The objective of such support could be focused on a specific positioning in the relevant value chains or on the competitiveness of a sector.

Fundación Chile was created in 1976 as a nonprofit organization governed jointly by the Chilean government and a large American conglomerate (Infodev, 2014). It proactively introduces

technologies and promotes industries in agribusiness, marine resources, forestry, environment and chemical metrology, and information and communication technologies, and improves human capital by supplying relevant training programs. In 1979, Fundación Chile initiated the Asparagus Cultivation program, encouraging exports and providing technical assistance to farmers. The foundation operated 40% of the national acreage dedicated to asparagus crops. As a result of this program, cultivation techniques were adopted that led to improved product quality, and exports increased considerably, from 6.2 tons a year to 7,550 tons a year by the 1990s. In 1985, Fundación Chile established Berries la Union, a berry program to introduce new species and varieties of berries and to expand the zone where they could be grown domestically.

Cooperatives

Cooperatives were introduced to Finland at the turn of the 20th century. It started in 1899 with the foundation of Pellervo— the Confederation of Finnish cooperatives, and the first Cooperative Act came into effect in 1901 (pellervo.fi/kielet website). The Finnish cooperative model started by supporting factor-driven SMEs, including farmers and growers. Because of its support, the SMEs are today efficiency-driven and some of them are innovation-driven. Below is an in-depth presentation of the forest cooperatives, which succeeded in generating efficiency- and innovation-driven processes.

In Finland, there are 632,000 individual forest owners. State lands are managed by Metsähallitus (Finnish Forest Research Institute, 2011; Vaajoki, 1999). Finnish forest holdings are small. Forty percent of the forest owners still live on their holdings. The number of holdings above two hectares is about 347,000. The average size of these holdings is 30.3 hectares. Private Finnish citizens own 52% of all forest land. The number of private forest holdings of at least one hectare is about 440,000. The number of individual private forest owners is estimated at 920,000, which means that almost every fifth Finn is a forest owner. Around 65%-70% of the annual growth and 80-85% of the commercial felling of timber come from privately owned forests. Thirty five percent are state-owned forests, 8% private industrial, and 5% community-owned, including churches (Finnish Forest Research Institute, smy.fi website).

Export Consortia

An export consortium is “a voluntary alliance of firms with the objective of promoting the goods and services of its members abroad and facilitating the export of these products through joint actions” (United Nations Industrial Development Organization, 2003, p. 3). Development of a “common identity” is mentioned by member firms as the value created thanks to the common logo, brand, and the development of common marketing operations (Antoldi, Cerrato, & Depperu, 2013). Export

Consortia help member firms overcome the barriers related to their constrained managerial resources and limited experience (Katsikeas & Morgan, 1994; Tesfom & Lutz, 2006). Superior managerial know-how is highly significant, particularly in developing countries, where SMEs have low managerial experience (Lall, 1991).

SMEs take advantage of networks to overcome the constraints due to their smaller size and to leverage critical external resources (Welch et al., 1996; Zhou et al., 2007). Participating in an export consortium makes it possible for SMEs to carry out certain activities, such as the arrangement of trade missions and of marketing events that would not be feasible if the SMEs acted independently from one another. Several studies (Chetty & Agndal, 2007; Coviello, 2006) have shown that SMEs rely extensively on networks in pursuing international opportunities. In many cases, the international expansion of such firms is motivated and facilitated by inter-firm ties and alliances (Coviello & Munro, 1995).

Vitargan is an export consortium that was set up in 2005 by six cooperatives of argan

oil producers in the region of Essaouira, Morocco, who produce oil for both

cosmetic and alimentary purposes. The consortium was created within the framework of a broader project financed by the European Union with the aim of favoring the production of argan oil in the area, and promoting the role of women in rural areas and their contribution to economic and social development. Member firms decided to develop a joint packaging process (horizontal network) and shared promotion, communication, and marketing campaigns (vertical network). (cooperative-argane.com).

MODELS FOR EFFICIENCY- AND INNOVATION-DRIVEN SMES

Efficiency- and innovation-driven SMEs have a competitive advantage based on their capability to generate better value for customers. This value can be translated into benefits through products and services sold directly by the SMEs in the global market. If competition is strong, especially in the case of efficiency-driven SMEs, business networks, supply chain partnerships, joint ventures, strategic alliances, alliances by acquisition, and integration by acquisition are potential models that can improve the added value offered by SMEs in the global market.

Business networks

A business network allows firms located in different regions or countries to collaborate on a basis of common interests, as expressed in a cooperation agreement or contract (EC, 2014). The companies

decide to join their strengths, share information, and create synergies to become more competitive, while keeping their autonomy and not constituting a separate legal entity. The objectives could be business collaboration, increased buying power through joint purchasing, optimizing recruitment of talent, and providing intellectual property protection.

Ford (2002, p. 30) argued that the two most important networks for a firm are its supplier and distribution networks. The model of industrial networks proposed by Håkansson and Johanson (1992, p. 28) presents the basic structure of the industrial network as a combination of three components: activities, actors, and resources. Below are two examples of business networks.

RetImpresa was established in 2009, (www.retimpresa.it). It is an Italian business network association that delivers services to eight business networks and their affiliated members (EU, 2014).

Some of the business networks assisted by RetImpresa are:

- ACRIB footwear system in the Brenta Riviera, the area between Padua and Venice, and in the entire Veneto region.
- AU.TE.BO Automation Technologies Bologna System Integrator - Subcontracting Network.
- The Verona Garda Bike tourism business network. The five partners are important companies in the tourism, wine, and food industries.

The Professional Association COSMED was created in 2000 (www.cosmed.com) out of a desire for SMEs to be represented vis-à-vis and heard by the French and European authorities in charge of the cosmetics industry. COSMED has about 675 member companies, representing approximately 20,000 jobs across France. Eighty percent of COSMED members are small and medium enterprises that have between 25 and 100 employees. The remaining 20% are made up by very smaller businesses (fewer than 10 employees) and larger businesses (over 200 employees). Membership is voluntary. The governance structure of the Association is based on a permanent management team of ten people who coordinate COSMED services, and a board of directors, including a president, two vice-presidents, a treasurer, and a secretary general.

COSMED has helped develop relevant regulatory and monitoring legislation for 92 countries worldwide. HACosmed obtains trading terms for its members from major industrial groups, because of the production volumes generated by the network. COSMED also organizes partner events to promote business cooperation.

Product-region trademark

SMEs can protect their competitive advantage by determining common principles of production and creating a common regional product branding protected by international laws. Three European Union schemes of geographic indications and traditional specialties, known as protected designation of origin (PDO), protected geographic indication (PGI), and traditional specialties guaranteed (TSG), promote and protect names of quality agricultural products and foodstuffs ([ec.europa.eu.agriculture.quality.schemes](http://ec.europa.eu/agriculture/quality/schemes) website).

For example, in 1930, La Confédération Générale des Producteurs de Lait de Brebis et des Industriels de Roquefort (the General Confederation of Ewe's Milk Producers and Industrialists of the Land of Roquefort) created a collective brand, the "Red Ewe," to guarantee consumers that all the quality controls, and particularly those required by the Appellation d'Origine Roquefort, are scrupulously observed. To qualify as Roquefort cheese, the product must comply with the conditions set for the Red Ewe brand. This branding is now a registered trademark in more than 80 countries worldwide.

Strategic Alliances

Strategic alliances involve the development of joint routines and capabilities, the sharing of intellectual and scientific skills, and possibly joint research and development (Ahuja, 2000; Hagedoorn & Duysters, 2002; Soh, 2003).

There is no need to establish a new juridical entity for forming a strategic alliance. Below are described two cases based on a strategic alliance with leading players.

Softpren formed an alliance with Paramount Bed to bring its water mattress to the international market. This product was originally developed based on the "pressure dispersion effect theory" originated by Nobuyoshi Morita, Professor Emeritus of the Faculty of Engineering at Shizuoka University (jgoodtech.smrj.go.jp website). Paramount Bed, a top manufacturer of hospital beds, was interested in this technology. Softpren joined forces with the Paramount Bed design team to develop the Water Mat, a mattress shaped to provide a superior pressure dispersion effect. Today the revenues of Softpren's Water Mat business exceed 100 million yen annually.

Mobileye was founded in 1999 by former Hebrew University Professor Amnon Shashua. The award-winning technology of Mobileye was commercialized through Yisum, the R&D arm of the Hebrew University (Leichman, 2014; israel21c.org website). Mobileye is a specialized camera-based advanced driver assistance system for automobiles. Mobileye technology keeps passengers safer on the roads,

reduces the risks of traffic accidents, and has the potential to enter the market of autonomous driving (www.autonews.com). In 2003, Mobileye announced a strategic cooperation agreement with Denson Japan on the joint development of advanced driver assistance systems that combine Mobileye video processing technology with other sensory systems including, laser and radar. Denso is one of the largest global automotive suppliers of advanced technologies, systems, and components, seeking to promote an automotive culture in which cars have a lesser effect on the environment and drivers have fewer worries about traffic accidents (Mobileye, 2003; www.globaldenso.com). In 2007, Mobileye established strategic cooperation agreements with three dominant customers: BMW, General Motors, and Volvo. In 2015, 23 global automakers used the Mobileye system (Mobileye, 2015).

Mobileye and Valeo have joined forces to combine Mobileye's EyeQ® family of microprocessors and computer vision algorithms with Valeo's strong driving assistance sensor portfolio (Valeo website). This system is now competing with the Google driver assistance system (Williams, 2015). Mobileye plans to launch "the first hands-free capable driving at highway speeds and in congested traffic situations" in 2016.

Alliance by acquisition

An SME is acquired by MNC but remains independent and is responsible for a specific range of products or a specific geographic market. Below are the examples of two SMEs illustrating this type of agreement.

MaterMacc was established in the early 1980s in Italy by the Fiorido family. MaterMacc specializes in manufacturing precision crop sowing machines. The company employs about 75 people. Its sales in 2013 reached Eur 18 million. It enjoys a solid position in the Chinese agricultural implements market. In 2015, MaterMacc decided to strengthen its global position by merging with Foton Lovol International Heavy Industry Co., a Chinese group specializing in agricultural equipment, construction machinery, vehicles, and core components from China (www.matermacc.it). Production plants remained in San Vito al Tagliamento, Province of Pordenone, the industrial center of north-eastern Italy. The Foton Lovol acquisition is consistent with its internationalization strategy (Foton Lovol, 2015). This investment will further expand the product portfolio of Foton Lovol and enable the company to offer better solutions of full mechanization of agricultural production to its global customers.

Zeraim Gedera was founded in 1952 by seven families from Gedera in Israel (www/zeraim.com). The original vision was to produce low-cost, good quality seeds for farmers in Israel, contributing to the

development of local agriculture and creating jobs for the new immigrants, and to export seeds to Middle Eastern countries. The Weizmann Institute provided the company with the initial boost and leverage for expansion with the development of the Delilah cucumber variety. The main seed varieties marketed by the company are for peppers, tomatoes, cucumbers, squash, watermelons, and melons. Today Zeraim Gedera employs approximately 200 workers at its site in Revadim, Israel, and about 50 employees in strategic international markets, such as Spain, Turkey, Mexico, Brazil, Egypt, and Morocco. The ability of Zeraim Gedera to bring innovative products to the market and to enjoy the cooperation of leading agricultural institutions such as the Volcani Institute of Agricultural Research and the Faculty of Agriculture at the Hebrew University in Jerusalem has led to its acquisition by Syngenta, in 2007. Syngenta is the third main world producer of seeds after Monsanto and Dupont (Tielens, 2016). The three companies control more than half of seeds sales worldwide.

Local market leader

Essilor is the world leader in the production of corrective lenses. Its flagship brands are Varilux®, Crizal®, Definity®, Xperio®, Optifog™, and Foster Grant®. Essilor provides a range of non-prescription reading and sunwear glasses through its FGX subsidiary, to grant people wide access to quality vision correction solutions. The local leader model is based on the acquisition of a firm that remains independent in its local market and sometimes in the global market. Essilor acquisitions of SMEs based on this model in selected countries improved company knowledge and business capabilities for the benefit of both sides (essilor.com website).

- Servi Optica, South American market. Servi Optica is a Columbian SME with a revenue of Eur 29 million, which sold 51% of its stake to Essilor in order to expand its global activities to Peru, Venezuela, Ecuador, and Bolivia (www.finanzen.at).
- Ishir Optick, Turkish market (essilor.com website). Ishir Optick, a Turkish company, with a yearly revenue of Eur 15 million, sold to Essilor a majority stake in order to expand its activities in the local market.
- Tianhong, Chinese market (www.essilor.com). Tianhong, an SME with a yearly revenue of Eur 19 million, sold a majority stake to Essilor in order to expand its local activities in tier 2 and 3 cities across China.

Integration

The SME can decide to be fully integrated within the activities of the MNC acquiring it. Below are two examples illustrating this model.

Abafoods was established in Veneto in 1997. It is focused on vegetal drinks, with a range of cereal drinks using rice, coconut, almond, oat, spelt, and soy. It distributes its products under the main brand Isola Bio, which is the leading vegetal drinks brand in the Italian health food stores and is exported to many European countries. Abafoods employs about 90 people and owns around 400 hectares of farm land in Italy, where it grows part of its raw materials (such as rice, almonds, oats, and soy) used as ingredients for making organic drinks. The company reported 2014 sales at Eur 39 million. In 2015, a Netherlands-based food company Royal Wessanen NV, acquired total control of Abafoods for Eur 52 million. Abafoods' expertise in dairy alternatives will strengthen Royal Wessanen R&D and production capabilities, fueling the growth of its brands in Europe. In addition, it gives the company a critical mass in Italy, with a leading brand position, thanks to Isola Bio.

ColoRight was founded in 2002. It is based in Rehovot, Israel, and employs 50 people. The company is owned by a digital print pioneer, Benny Landa, who serves as Chairman, and its investors are reported to include Yair Goldfinger of Mirabilis/ICQ fame. ColoRight is an innovative developer of optics-based technologies for the beauty industry. It has created a fast, easy, and fail-safe hair color guidance system that enables both colorists and home users to achieve predictable, desirable hair coloring results (www.yedamd.com). Using advanced light spectroscopy, the ColoRight system assesses the composition and relative amounts of pigmentation in an individual's hair. Computerized models determine the optimal hair color and coloring process that will yield the desired outcome without unnecessary damage to the hair. L'Oréal has acquired Coloright and announced that it will be a part of L'Oréal international research and innovation network (www.lorealparisusa.com). By means of this acquisition, L'Oréal reinforces its leadership in hair research.

DISCUSSION

Almost half of US exporters have fewer than 50 employees. In the EU, SMEs represented 81% of the firms exporting outside the EU. These data attest to the will and interest of SMEs to globalize their activities. The situation is different in Latin America, where less than 10% of small firms and 12% of medium-sized enterprises participate in export activities, or in Japan, where 39.9 % of SMEs are not globalized.

In the US, Japan, Russia, and partially India, innovation-driven SMEs are the majority of high-performing SMEs. Therefore, in these countries, support for innovation in SMEs could improve the globalization process of SMEs.

In the UK, Germany, Canada, Italy, France, Brazil, China, and Mexico the efficiency-driven SMEs make up the majority of high-performing SMEs. Support for improved efficiency in SMEs by using more efficient resources, including labor, or by better adapting the product to the market, could improve their competitiveness in international markets.

Efficiency- and innovation-driven SMEs have a competitive advantage based on their ability to generate better value for customers. The case studies analyzed in this research show that various types of partnership in international markets are potential models that can improve the globalization process of efficiency- and innovation-driven SMEs.

In developing countries, factor-driven SMEs belong to the informal economy. Their global activities focus on cross-border trade and indirect export, in cooperation with MNCs. They could improve their international business activities by deeper specialization and higher cost-efficiency. Analysis of the selected factor-driven SMEs shows that their success in the international market is the result of coalitions that generate activities in common.

CONCLUSION

The positive experience of factor driven SMEs in various environments is based on specialization and adaptation as a competitive advantage. For the efficiency-, and innovation-driven SMEs , the competitive advantage is based on relevant specialization and adaptation and coalitions.

Factor-driven SMEs have a choice between:

- contract marketing based on specialization and adaptation
- incubation processes
- export consortia
- cooperatives
- alliances

Efficiency- and innovation- driven SMEs can improve the value they offer by:

- creating unique product characteristics unprofitable to copy
- becoming part of business networks, product-region trademark coalitions establishing a strategic alliance based on uniqueness-specialization to gain competitive advantage

- being acquired and remaining independent (alliance by acquisition and local leadership) based on unique features
- being completely integrated by acquisition

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IS ENTERPRISE SUCCESS A WOMEN'S TOPIC?

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ABSTRACT

In the last years, in many European countries introducing a gender quota and thus increasing the number of women in corporate boardrooms was debated controversially. Some assume that without a gender quota the earnings of enterprises would shrink as male management teams do not work in such a harmonized and structured way. Others fear that a gender quota would be unfair and would not lead to a broad acceptance of women within their own enterprises and also in doing business with other companies. In this context, conducting research and analysing the impact of the women's presence in corporate boards on the success of companies appear as a necessity. The present article looks at the companies of EURO STOXX 50 and their success and tries to establish whether this success can be related to the percentage of female in management positions. The main question raised in this article is therefore, whether companies with a high gender quota are more successful and achieve a higher profit. The Earnings before Taxes (EBT) was chosen as a Key Performance Indicator (KPI) for this analysis, as this is a relevant and widely accepted profit figure.

Keywords: *Gender, performance, STOXX, women's quota*

INTRODUCTION

The study in this article contributes to literature in the field of KPIs as success factors for a company and offers an insight into the relationship between the economic success of 50 European companies and the gender balance at management level. For this purpose the article builds upon existing literature in the field of performance management, diversity management, corporate governance, etc. Thus, the paper can help managers or business owners to gain a thorough understanding of the current business environment. The paper is structured as follows: the next section presents the literature review and introduces the hypothesis. Section three contains the research methodology. In section four the findings are discussed. Finally, section five develops insights for managers, shows the limitations of the study and offers suggestions for future lines of research.

LITERATURE REVIEW

Women performance in management has been a controversial issue during the past decades. Many studies (e.g. Cooper, Gimeno-Gascon and Woo, 1994; Carter and Rosa, 1998; Fasci and Valdez, 1998) suggest that women in management positions are less effective than men in enhancing company outcomes. Fischer, Reuber and Dyke (1993) focused for example on gender differences in entrepreneurial performance of some 508 enterprises and identified in their study that men's businesses outperformed women's businesses in terms of number of employees, annual sales, annual income and productivity. Rosa, Carter and Hamilton (1996) analysed the impact of gender on small business performance in the United Kingdom (UK) and concluded that there are "some considerable differences by sex in quantitative economic and financial performance measures" (p. 476).

However, not all the studies dedicated to the analysis of gender impact on enterprise performance indicate that women managers perform worse than their male counterparts. Kalleberg and Leicht (1991) examined organizational performance in terms of survival and success and according to the results of their study, companies managed by women are not more likely to go bankrupt than those managed by men, while both men and women are equally successful with regard to earnings growth. In line with these findings are also those of Marco (2012), Alonso-Almeida (2013) and Johnsen and McMahon (2005), who emphasize that "consistent statistically significant differences in financial performance and business growth do not exist between female and male owner-managed concerns once appropriate demographic and other relevant controlling influences are taken into account" (p. 115).

What needs to be acknowledged is the fact that gender balance became a priority and diversifying corporate boards often represent a target to be achieved. In Norway, Italy, France, Spain and starting with 2016 also in Germany binding gender quota exist (Sullivan, 2015). The International Labour Organization (ILO) in its report from 2015 stresses that "more concerted efforts and advocacy are needed to share information on the benefits of utilizing women's talent and skills at all levels, including in the boardroom" (p. 4). Moreover, there are studies (e.g. Post and Byron, 2015) which argue in favour of greater gender diversity, as it was found that women on board have a positive effect on organizational excellence and financial performance. A complex study was conducted by McKinsey & Company (2007) by selecting 89 European listed companies which distinguished themselves by a high number of women in top management positions. The analysed KPIs were: return on equity (ROI), operating result (EBIT) and the stock price growth. On all these KPIs the companies with a high number of women on board ranked better than the average in their sector (McKinsey & Company, p. 13-14). Another exhaustive study, in which 2.360 companies from the Morgan Stanley Capital International All Country World Index (MSCI ACWI) were observed over a period of 6 years,

was conducted by the Credit Suisse Research Institute (2012) and it reached similar conclusions with those of McKinsey & Company.

The present research focuses on the companies of another index, namely the EURO STOXX 50, and aims at exploring whether there is a link between the EBT of these successful European companies and the number of women from their corporate boardrooms. The following hypothesis was formulated and will be tackled in the following sections:

H1: Enterprises which have a higher gender quota in management teams are more successful and achieve a higher EBT.

METHODOLOGY

The EURO STOXX 50 Index was selected to represent the performance of the 50 largest companies among 19 supersectors. In total enterprises of 7 Eurozone countries are integrated in this index. This index has a fixed number of components and is part of the STOXX blue-chip index family. Moreover, EURO STOXX 50 index is one of the most liquid indices for the Eurozone and serves for benchmarking purposes. The index is a controlling index which ensures stable and up-to-date figures. It represents the performance of only the largest and most liquid companies in a sector (STOXX, 2016).

The following study was conducted at the beginning of the year 2016. Due to the fact that most of the 2015 annual reports of the EURO STOXX companies were not published at that point, it was decided to look at the index composition as it was at the end of the year 2014. Therefore, data was collected with regard to the 50 EURO STOXX companies, using on the one hand the information from the annual reports, and on the other hand information from financial websites. In order to examine how successful these companies are, the EBT was chosen as being a relevant KPI, taking thus into consideration the fact that companies may face different tax rates in different states. In other words, the lack of a harmonized taxation system across the Eurozone will not affect the results of this study, the EBT making possible a comparison of the 50 EURO STOXX companies at European level.

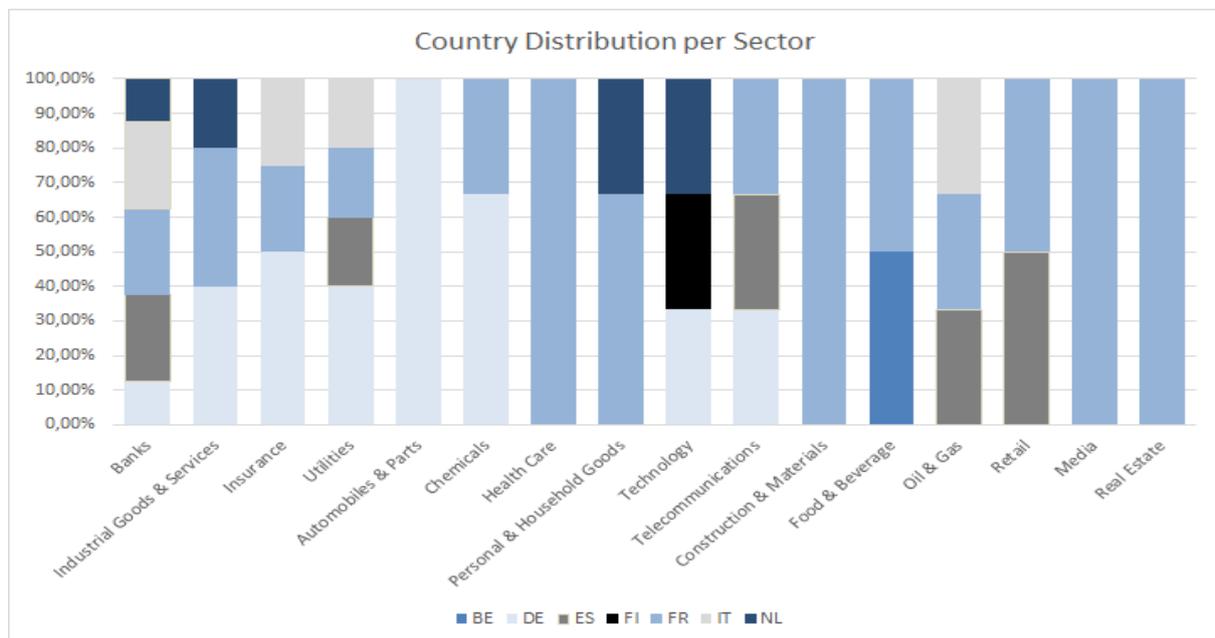
| Number | Company's name | Sector | Country | Women on the Board | Earnings before Taxes (in Mio. EUR) | Employees total | EBT/Total no. of Employees (in thousands) |
|--------|-------------------------------|-----------------------------|---------|--------------------|--|-----------------|--|
| 1 | Air Liquide | Chemicals | FR | 30,77% | 2.399,20 | 50.300 | 47,70 |
| 2 | AIRBUS GROUP SE | Industrial Goods & Services | FR | 0,00% | 2.373,00 | 138.622 | 17,12 |
| 3 | ALLIANZ | Insurance | DE | 7,69% | 8.637,00 | 147.425 | 58,59 |
| 4 | ANHEUSER-BUSCH INBEV | Food & Beverage | BE | 7,14% | 10.397,72 | 150.000 | 69,32 |
| 5 | ASML HLDG | Technology | NL | 0,00% | 1.856,10 | 14.072 | 131,90 |
| 6 | ASSICURAZIONI GENERALI | Insurance | IT | 36,36% | 2.829,00 | 78.333 | 36,12 |
| 7 | AXA | Insurance | FR | 35,71% | 7.201,00 | 116.034 | 62,06 |
| 8 | BASF | Chemicals | DE | 11,11% | 6.930,00 | 113.292 | 61,17 |
| 9 | BAYER | Chemicals | DE | 0,00% | 4.538,00 | 118.888 | 38,17 |
| 10 | BCO BILBAO VIZCAYA ARGENTARIA | Banks | ES | 20,00% | 3.637,00 | 108.770 | 33,44 |
| 11 | BCO SANTANDER | Banks | ES | 31,25% | 10.436,00 | 185.405 | 56,29 |
| 12 | BMW | Automobiles & Parts | DE | 11,11% | 8.052,00 | 116.324 | 69,22 |
| 13 | BNP PARIBAS | Banks | FR | 42,86% | 2.741,00 | 187.900 | 14,59 |
| 14 | CARREFOUR | Retail | FR | 21,43% | 1.973,00 | 381.227 | 5,18 |
| 15 | DAIMLER | Automobiles & Parts | DE | 12,50% | 9.276,00 | 279.972 | 33,13 |
| 16 | DANONE | Food & Beverage | FR | 40,00% | 1.839,00 | 99.927 | 18,40 |
| 17 | DEUTSCHE BANK | Banks | DE | 0,00% | 2.497,00 | 98.138 | 25,44 |
| 18 | DEUTSCHE POST | Industrial Goods & Services | DE | 14,29% | 2.572,00 | 488.824 | 5,26 |
| 19 | DEUTSCHE TELEKOM | Telecommunications | DE | 16,67% | 4.548,00 | 227.811 | 19,96 |
| 20 | E.ON | Utilities | DE | 0,00% | -2.106,00 | 58.503 | -36,00 |
| 21 | ENEL | Utilities | IT | 37,50% | -43,00 | 68.961 | -0,62 |
| 22 | ENGIE | Utilities | FR | 41,18% | 4.257,00 | 152.900 | 27,84 |
| 23 | ENI | Oil & Gas | IT | 22,22% | 7.213,00 | 83.599 | 86,28 |
| 24 | ESSILOR INTERNATIONAL | Health Care | FR | 20,00% | 1.176,00 | 58.032 | 20,26 |
| 25 | GRP SOCIETE GENERALE | Banks | FR | 42,86% | 4.162,00 | 148.000 | 28,12 |
| 26 | IBERDROLA | Utilities | ES | 31,25% | 3.066,36 | 29.597 | 103,60 |
| 27 | Industria de Diseno Textil SA | Retail | ES | 22,22% | 3.052,70 | 137.054 | 22,27 |
| 28 | ING GRP | Banks | NL | 0,00% | 3.223,00 | 53.000 | 60,81 |
| 29 | INTESA SANPAOLO | Banks | IT | 14,29% | 2.669,00 | 89.486 | 29,83 |
| 30 | L'OREAL | Personal & Household Goods | FR | 40,00% | 3.890,40 | 78.600 | 49,50 |
| 31 | LVMH MOET HENNESSY | Personal & Household Goods | FR | 23,53% | 8.383,00 | 121.289 | 69,12 |
| 32 | MUENCHENER RUECK | Insurance | DE | 22,22% | 2.782,00 | 43.316 | 64,23 |
| 33 | NOKIA | Technology | FI | 22,22% | -225,00 | 61.656 | -3,65 |
| 34 | ORANGE | Telecommunications | FR | 26,67% | 3.148,00 | 156.233 | 20,15 |
| 35 | PHILIPS | Industrial Goods & Services | NL | 11,11% | 185,00 | 113.678 | 1,63 |
| 36 | REPSOL | Oil & Gas | ES | 22,22% | 230,00 | 26.141 | 8,80 |
| 37 | RWE | Utilities | DE | 0,00% | 1.882,00 | 59.784 | 31,48 |
| 38 | SAINT GOBAIN | Construction & Materials | FR | 9,09% | 1.467,00 | 181.742 | 8,07 |
| 39 | SANOFI | Health Care | FR | 33,33% | 5.731,00 | 113.496 | 50,50 |
| 40 | SAP | Technology | DE | 11,11% | 4.355,00 | 74.406 | 58,53 |
| 41 | SCHNEIDER ELECTRIC | Industrial Goods & Services | FR | 14,29% | 2.384,00 | 167.124 | 14,26 |
| 42 | SIEMENS | Industrial Goods & Services | DE | 20,00% | 6.845,00 | 357.000 | 19,17 |
| 43 | TELEFONICA | Telecommunications | ES | 5,56% | 4.145,00 | 120.497 | 34,40 |
| 44 | TOTAL | Oil & Gas | FR | 35,71% | 7.691,23 | 100.307 | 76,68 |
| 45 | UNIBAIL-RODAMCO | Real Estate | FR | 16,67% | 2.678,30 | 2.085 | 1.284,56 |
| 46 | UNICREDIT | Banks | IT | 21,05% | 2.997,09 | 43.405 | 69,05 |
| 47 | UNILEVER NV | Personal & Household Goods | NL | 35,71% | 7.548,00 | 172.000 | 43,88 |
| 48 | VINCI | Construction & Materials | FR | 33,33% | 3.455,00 | 185.293 | 18,65 |
| 49 | VIVENDI | Media | FR | 0,00% | -89,00 | 15.571 | -5,72 |
| 50 | VOLKSWAGEN PREF | Automobiles & Parts | DE | 0,00% | 10.806,00 | 583.423 | 18,52 |

Figure 1: The 50 EURO STOXX companies in Europe are allocated in each country to different sectors (Source: own representation based on the information from: <https://www.stoxx.com/index-details?symbol=SX5E>)

FINDINGS

Figure 1 above offers an overview of all the 50 EURO STOXX companies selected for this study, together with information regarding the sector in which they are active, their country of origin. Moreover, it can be seen that the 50 EURO STOXX companies in Europe are located only in 7 countries. In each country the EURO STOXX companies can be allocated to different sectors as presented in figure 2.

Figure 2: The 50 EURO STOXX companies in Europe are allocated in each country to different sectors



(Source: own representation based on the information from: <https://www.stoxx.com/index-details?symbol=SX5E>)

By looking at figure 2, it becomes clear for example that Finland has only one company in the EURO STOXX index and this is active in the 'technology' sector. By contrast, all German companies from the EURO STOXX index are active in the 'automobiles and parts' sector. This does not mean that there are no companies in France which produce automobiles and parts, only that those companies are not part of the EURO STOXX index. The French companies which are present in the EURO STOXX index prevail especially in the following sectors: health care, construction, media and real estate.

Moreover, most EURO STOXX companies are located in France (19) followed by Germany (14), Spain (6) and Italy (5). The Netherlands has four companies in the EURO STOXX index, while Belgium and Finland have only one big company.

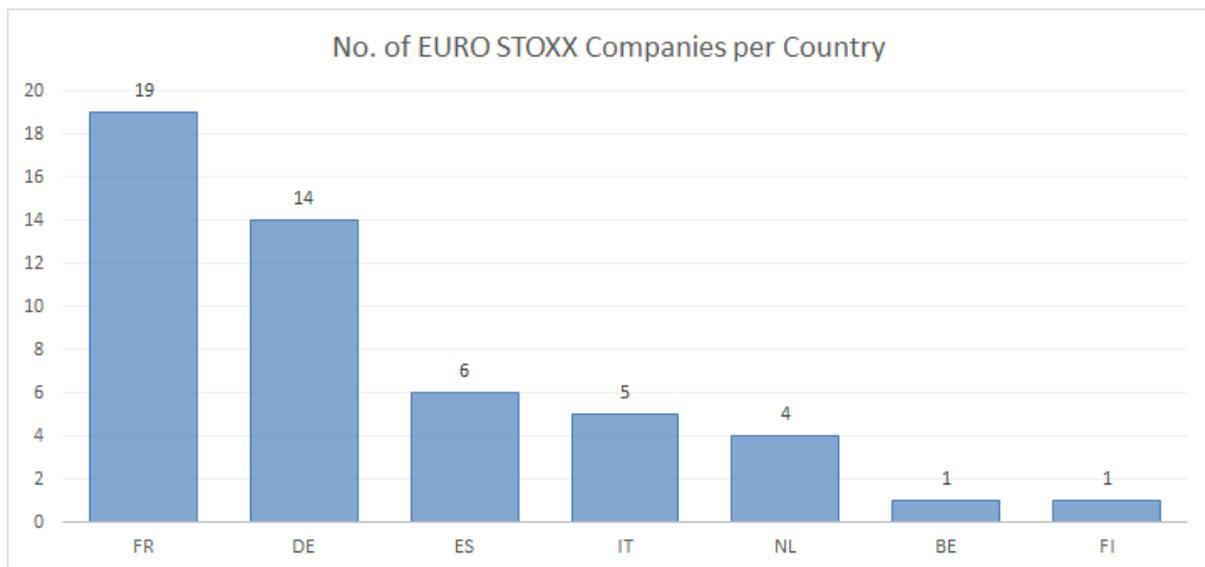


Figure 3: Number of EURO STOXX companies per country (Source: own representation based on the information from: <https://www.stoxx.com/index-details?symbol=SX5E>)

In order to test the raised hypothesis (H1: Enterprises which have a higher gender quota in management teams are more successful and achieve higher EBT), two steps are necessary. In a first step, the EBT and the EBT / employee of the selected companies should be examined. In a second step, the gender quota per sector and in total should be analyzed and the findings should be brought together.

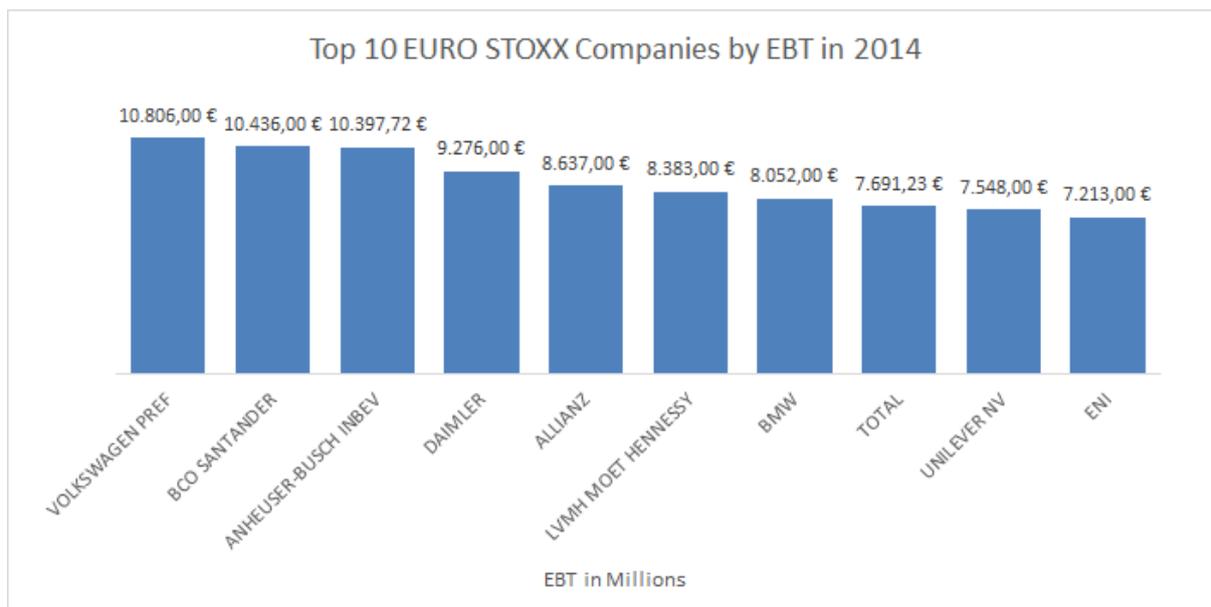


Figure 4: Top ten STOXX companies by EBT with figures of 2014 (Source: own representation – the EBTs of all the 50 companies were taken from <http://www.finanzen.net/> - retrieval date: 02/19/2016)

Figure 4 shows a top 10 ranking of the EURO STOXX companies according to their EBT in 2014: Volkswagen (Germany) with €10,8 million recorded the highest EBT of all the companies analysed in this study, followed by BCO Santander (Spain) - €10,4 million and Anheuser Busch Inbev (Belgium) – approximately €10,4 million.

If by now the emphasis was on offering a broad insight on the EURO STOXX companies, also presenting key figures such as the EBT, in the following section the focus will be on completing this insight by introducing also the information on gender quotas as found in the annual reports of the EURO STOXX companies. In this respect, figure 5 shows the percentage of women in management position at country level. In only two countries the women quota is higher than 25%: France and Italy. By contrast, the women quota in both Germany and Belgium is under 10%: 9% and respectively 7%.

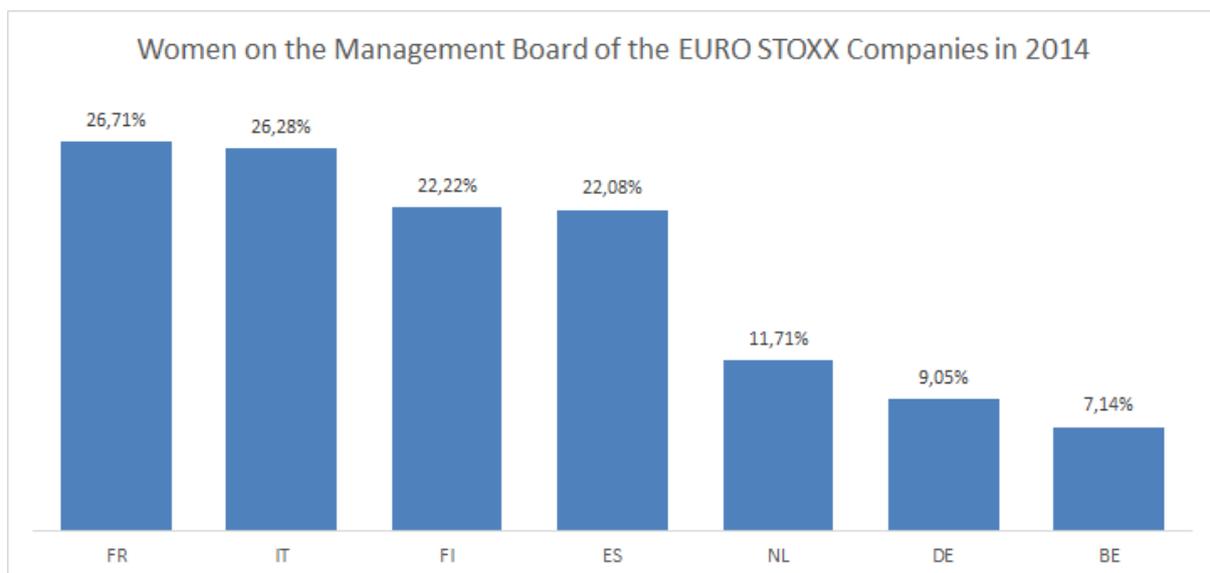


Figure 5: Number of women in the management board of EURO STOXX companies in 2014 in different countries (Source: own representation – the information with regard to the number of women on the management board was extracted from the 2014 annual reports of the respective companies)

However, the number of women in the management board depends often on the sector. Figure 6 displays a top 5 ranking of the sectors according to women' presence in management positions. The question could be raised whether these are sectors in which women are traditionally present.

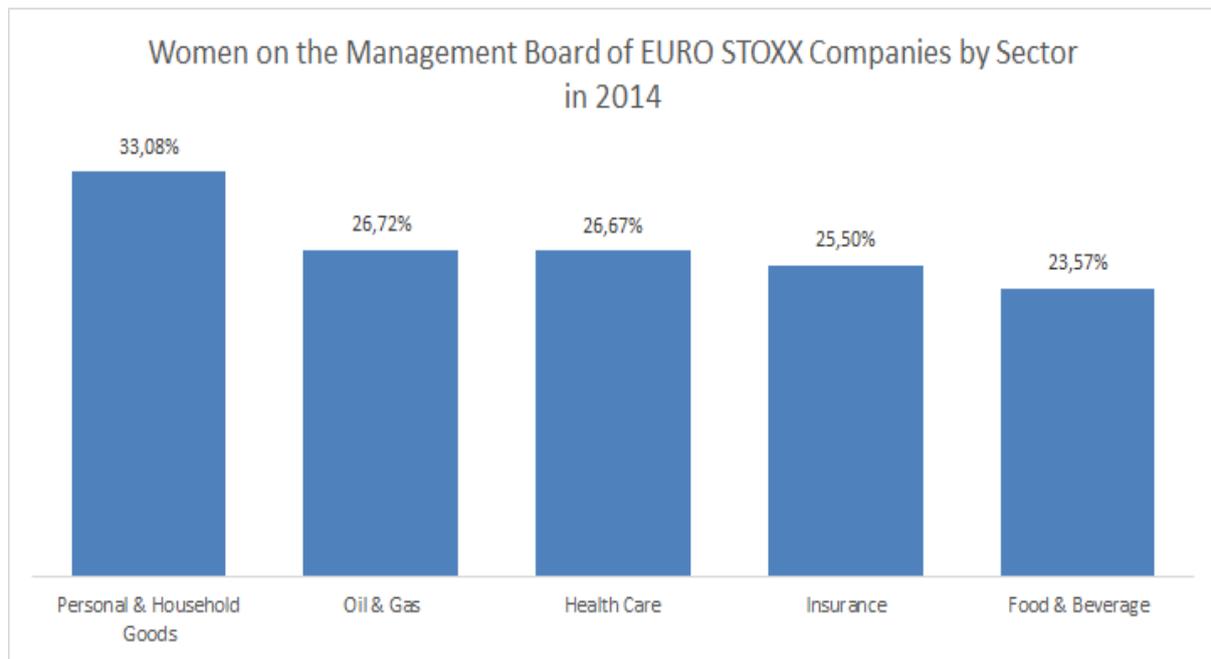


Figure 6: Womens' quota in the management board in STOXX companies in 2014 in different sectors (Source: The information with regard to the number of women on the management board was extracted from the annual reports of the respective companies end of 2014)

As it can be seen, there are 33% women in the management board of companies that are active in the 'Personal and Household Goods' sector and there are 27% women in the management board of companies active in the 'Oil and Gas' sector. Health care companies have a women quota of approximately 27%, insurance companies of almost 26% and food and beverage companies have a women quota of nearly 24%.

Finally, the next figure presents the first three sectors which have the highest women quota per country.

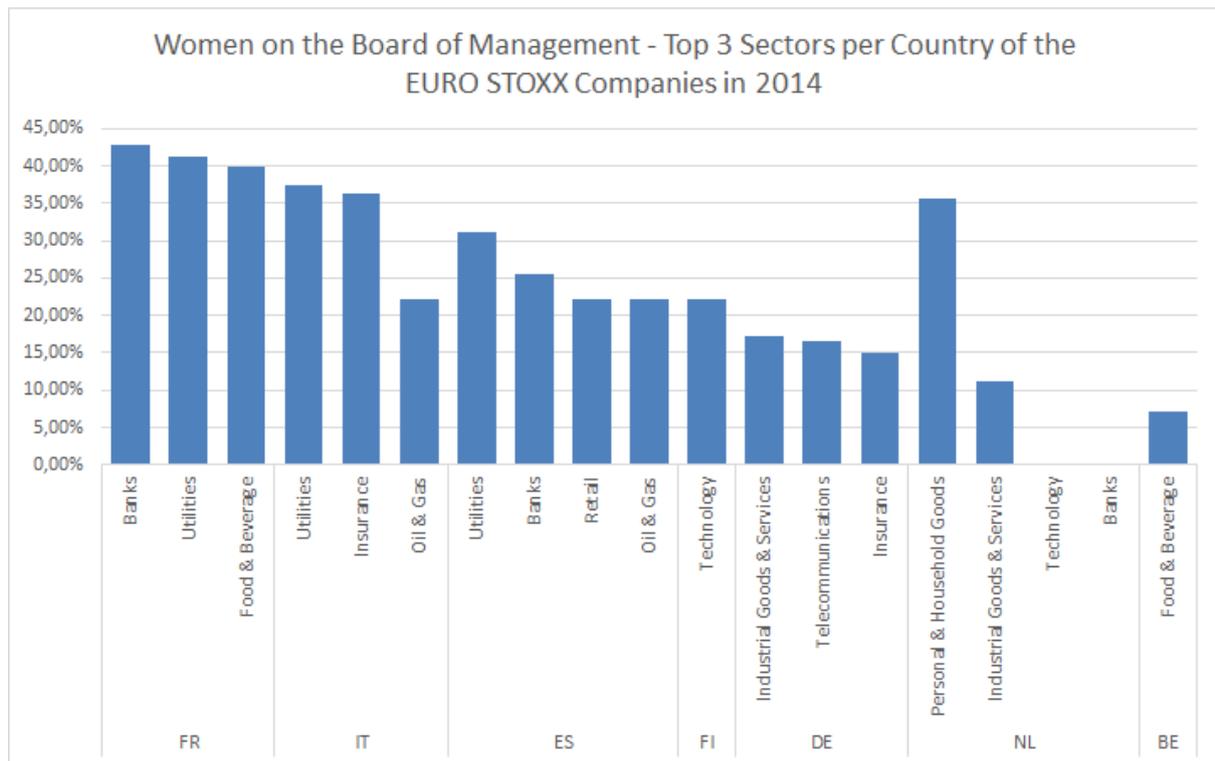


Figure 7: Number of women in the management board in STOXX companies in 2014 in the Top three sectors of each country (Source: own representation – the information with regard to the number of women on the management board was extracted from the 2014 annual reports of the respective companies)

It can be stated that the women quota is high especially in traditional branches such as 'Personal and Household Goods' and lower in new technology branches such as 'Telecommunication' or 'Industrial Goods and Services'. This result is significant over all countries.

If the countries with the highest number of companies in the EURO STOXX index are compared, namely France and Germany, a lot of differences can be identified. In France, the women quota in 'Banks' is 43% compared to 'Utilities' with 41% and 'Food and Beverage' companies with 40%. In Germany, the highest women quota is reached in companies from the 'Industrial Goods and Services' and 'Telecommunications' sectors with 17% and in insurance companies with 15%. The women quota in Germany is therefore much lower and the sector 'Automobiles and Parts' in which Germany makes high profits is not even mentioned under the three most important branches when the women quota in management boards of the EURO STOXX companies is measured.

For this reason, hypothesis 1 cannot be verified. Germany has the most successful companies in terms of EBT but has a women quota of only 9%. In opposition to it, France has a higher concentration of women in management positions (27%) as well as a higher number of companies in the EURO STOXX

index, but these companies are less successful than the German companies in terms of EBT. Therefore, no positive correlation seems to exist between a higher EBT and a higher women quota in management boards. This is shown also in figure 8 which displays the relationship between the EBT and women quota of all the 50 EURO STOXX companies.

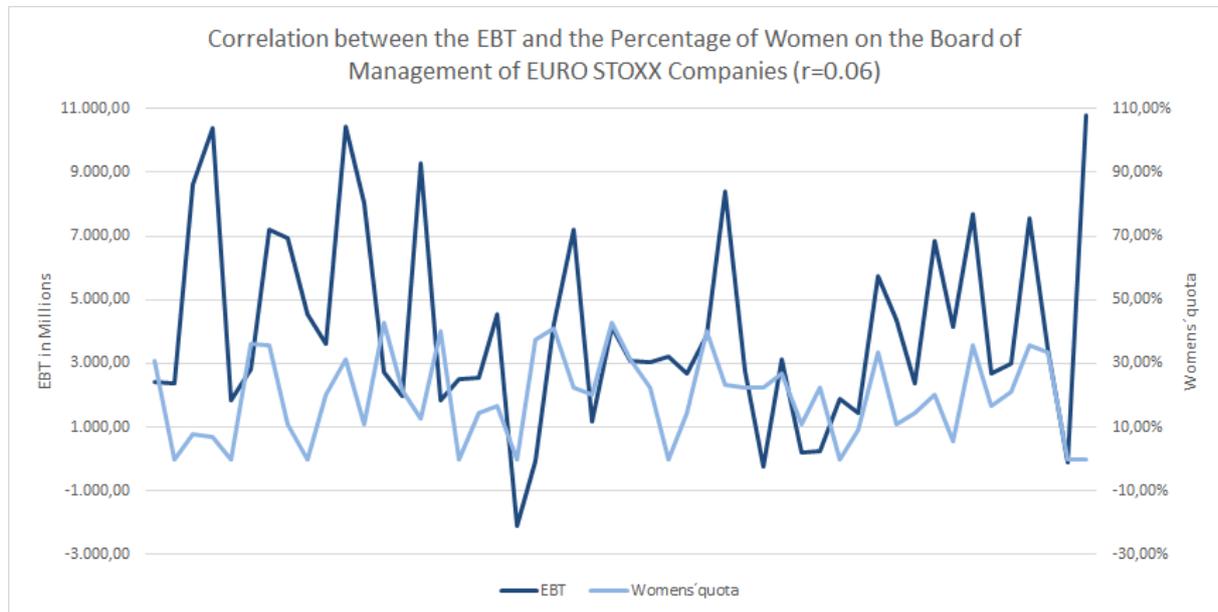


Figure 8: No positive correlation between the EBT value and the women quota in Management Boards
(Source: own representation – the information with regard to the number of women on the management board was extracted from the 2014 annual reports of the respective companies)

One possible explanation for these findings could be the fact that in the correlation analysis above, one absolute KPI like the EBT and one relative KPI like the women quota were measured with all their heterogeneous differences. To improve this and to possibly obtain a better correlation coefficient, the EBT is measured per employee and used in the correlation as a relative figure too. The results of the second correlation analysis are shown in figure 9.

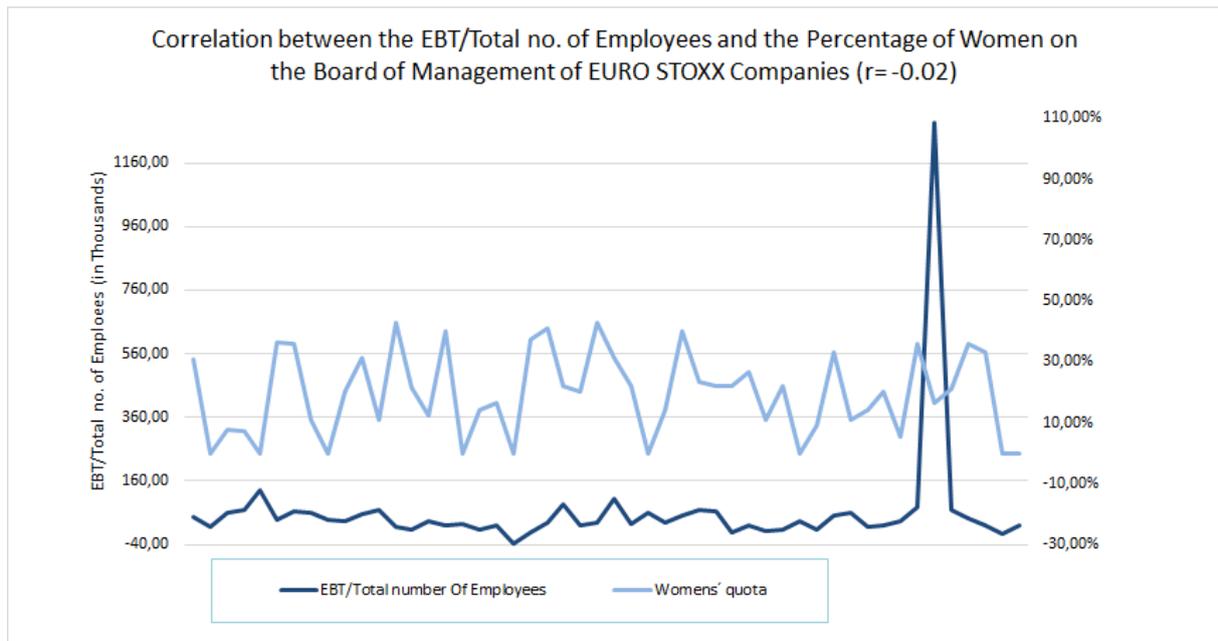


Figure 9: No positive correlation between the EBT/Total numbers of employees and the womens' quota in Management Boards (Source: own representation – the information with regard to the number of women on the management board was extracted from the 21014 annual reports of the respective companies)

As it can be seen, the second correlation analysis did not lead to different results even though relative KPIs were employed.

DISCUSSION OF RESULTS AND CONCLUSIONS

As the statistical analysis of the previous section has shown, hypothesis 1 (H1: Enterprises which have a higher gender quota in management teams are more successful and achieve a higher EBT) cannot be supported.

Nevertheless, these findings should be treated cautiously. They do not imply that women in management positions are less effective than men. Additional research is needed to shed more light on this issue. Another type of information should be included in future research, such as women position, experience, educational background, etc. All these aspects could provide a more realistic image regarding the role of women in company performance.

Moreover, as presented in the literature review, female participation in management boards shows mixed results with regard to company performance. Therefore, a more holistic approach is needed, researching not only the figure of women on board but also considering women participation in total workforce, industry sectors, etc.

The study has several limitations that can be overcome with future research. EBT as a performance indicator provides only a rough approximation of company success, a combination of indicators could provide better results. Moreover, depending upon the country of residence of the company, the board structure differs (Anglo-Saxon one-tier board versus Germanic two-tier board system). Thus, a comprehensive indicator has to be found that identifies only those women, which are actually able to influence company decisions. Furthermore, since earlier research has shown that long-term studies provide different results, this research could be corroborated with a long term research.

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**THE RESULT OF ADMINISTRATION AND THE FISCAL YEAR RESULT:
EVIDENCE FROM THE ACCOUNTING EXPERIMENTATION IN
ITALIAN LOCAL AUTHORITIES**

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ABSTRACT

The harmonization of the accounting systems and the public financial statements represents a necessity to achieve the coordination of public finance. This has as its main objective the improvement of the information provided to the stakeholders by accounting data regarding the public administration's management. The public administration's accounting harmonization process and the necessity to have available a homogeneous set of information, able to provide comparable accounting data, can be fully considered as part of the process of managerialization of the public sector known as New Public Management.

In Italy, the current accounting reform in local governments places accrual accounting side by side with cash accounting for informative purposes, but the latter one remains the main accounting system for authorization purposes. To support gradualness of reform and evaluate on the field its possible effects, the legislator established a three-year pilot period of experimentation of the new accounting regulations in some local authorities, starting in 2012. Through the analysis of the experimental financial statements, this work aims to investigate and compare the information value of two important results of local authorities' management: the result of administration, i.e. the traditional summary value of the financial management of a local authority, and the fiscal year result, i.e. the new value that expresses the economic management of a local authority. Evidence demonstrates the importance of the analysis carried out with the combined use of data.

Keywords: *New Public Management, accounting harmonization, local authorities.*

INTRODUCTION

The harmonisation of the accounting systems and of the public financial statements is a necessity in order to achieve the coordination of public finance, both at international and national level. The EU requires member states i) to adopt uniform systems for public accounting suitable for the consolidation of public accounts and ii) to provide general overviews through the elaboration of consistently

developed data responding to the same standards. The current reformation process has indeed established rules, uniform accounting standards and financial statement templates shared throughout the public administration as a means to achieve the so-called “accounting harmonisation”.

In Italy, the government’s limited ability to explain the operating conditions of the public sector and to bring about focused and incisive actions has been evidenced in many instances (D’Alessio, 1992; Zangrandi, 1994; Borgonovi, 1995; Valotti and Zangrandi, 1996; Caperchione, 2000; Manes Rossi, 2002; Steccolini, 2004; Farneti, 2006). The accounting harmonisation for Italian local governments is part of the wider project of reformation of public accountancy; it also falls under the federal reformation. With reference to the local authorities, a three-year pilot project involving the adoption of the new accounting regulations has started to verify the practical correspondence of the new accounting system to the informative needs of public finance. During the pilot project, the local authorities were involved in the application of an ‘enhanced’ cash accounting, for authorisation purposes, as well as accrual accounting, for informative purposes.

In this context of reference, this research intends to analyse and compare the different informative contribution provided by two important management results for local authorities: the *result of administration*, namely the traditional indicator of an entity’s financial management, and the *fiscal year result*, the new indicator expressing the result of the economic management. The relevant research questions are: (RQ1) What is the new role played by the above-mentioned management results? (RQ2) In what way can these results be compared and analysed jointly?

BRIEF LITERATURE REVIEW

The public administration’s accounting harmonisation process and the need for a homogeneous informative set capable of providing comparable accounting data can be fully considered as part of the process of “managerialization” of the public sector, known as New Public Management (Hood, 1991; Hood, 1995). This necessity is perceived both at national (D’Alessio, 2012; Anselmi *et al.*, 2012) and at international (Caperchione, 2012) level. Over the years, many countries have shifted from cash-based to some form of accrual-based accounting in the public sector (Pina and Torres, 2003) taking the European (EPSAS) and International (IPSAS) Public Sector Accounting Standards as a reference.

In Italy, the current accounting reformation for local authorities places accrual accounting side by side with cash accounting for informative purposes, but the latter remains the main accounting system for authorisation purposes. Cash-based accounting was for years the typical accounting information tool for the public sector. Its authorisation function, and namely the possibility of making expenditure decisions as and when the related funds are available, has represented a management logic whose pros and cons have fuelled academic debate (Mussari, 1996; Caperchione, 2000; Borgonovi, 2002; Anessi

Pessina, 2005). The traditional indicator of financial management is called “risultato di amministrazione” (henceforward result of administration) and it represents the balance between the wealth that the local authority levies by virtue of its powers and the wealth it uses to exert its functions (Borgonovi, 2005). The surplus of administration represents an important source for investment-funding policies of local authorities, while the deficit of administration is the amount of liabilities the local authority urgently needs to cover as a strong priority in the following years. However, theory and practice are unanimous in claiming that a sizeable surplus of administration may indicate poor management of public resources by the local authority; indeed, if it is not accompanied by a corresponding increase in the services offered to the citizens, this may result from excessive fiscal pressure (Biondi, 2013). Furthermore, the result of administration presents informative limits inherently connected with the variability of residuals (Rossi and Fontana, 2008, 2009). The accounting reformation being undertaken by local authorities attempts to overcome such criticalities through an “enhancement” of the cash accounting principle, according to which legally effective obligations are included in the operating accounts in which they arise, but they are recorded in the accounting year in which they expire.

Accrual-based accounting has different purposes, scope, methods and criteria. The introduction of accrual accounting in the public administration for informative purposes (as in the case of Italian local authorities) or for authorisation purposes (as in the case of Italian universities) is a topic of great interest, debated by many Italian (Anessi Pessina and Steccolini, 2001, 2007a) and foreign scholars (Guthrie, 1998; Carnegie and West, 2003; Carlin, 2005; Van Der Hoek, 2005; Paulsson, 2006; Lapsley *et al.*, 2009). This accounting system aims to determine the two values representing equity and income. Regarding the latter, the result of the experimental profit/loss account, named “risultato dell’esercizio” (henceforward fiscal year result), represents for local authorities a new value expressing the result of their economic management. This value means something different for private and public entities. While in the former a positive fiscal year result expresses the company’s ability to generate profit available to remunerate the capital and/or for self-funding purposes, in the latter a positive fiscal year result protracted over several years may indicate excessive fiscal pressure on the relevant community as compared with the services effectively provided (Grandis and Mattei, 2012).

The existence of several studies on the accounting reformation of local authorities focusing on a single country (Christiaens, 2003) or adopting a comparative international approach (Pina, *et al.*, 2009; Caperchione and Mussari, 2000) denote the salience of the topic. With particular reference to Italy, some empirical research on local authorities has been carried out (Buccoliero *et al.*, 2005; Anessi Pessina and Steccolini, 2007b; Bracci, 2007; Mazzotta, 2012), although not many studies focus on the recent accounting experimentation (Fanelli and Ferretti, 2014). While the analysis of the relationship between

the information provided by the result of administration and that of the fiscal year result has been partly investigated at a theoretical level (Mulazzani, 2002), at present there are no empirical studies comparing the two results.

RESEARCH METHODOLOGY

A quantitative empirical analysis grounded on the examination of the experimental financial statements has been adopted as research method.

The survey has been carried out with specific reference to the following aspects: (i) analysis of the result of administration; (ii) analysis of the fiscal year result.

The result of administration values have been gathered from the experimental financial statements for the years 2012, 2013 and 2014, while the fiscal year result values are from the experimental financial statements for 2013 and 2014 (the income statement was not a compulsory document in 2012). The total population of the Italian local authorities forming part of the pilot project in the period 2012-2014 has changed over years, following refusals and exclusions during the accounting experimentation. The original figure of 68 municipalities, chosen by the Government on the basis of their geographic position and population size, was then reduced to 49 (out of the about 8,000 Italian municipalities).

The sample used in this study is composed by the municipalities with the following characteristics: (i) have participated to the pilot project for accounting harmonisation throughout the period; (ii) have a population of over 20,000 people (since they have a more complex organizational structure and can provide a more complete representation of the accounting experimentation effects); (iii) both the experimental financial statements and the income statement were available at the time of this study. The sample ultimately results in 20 local authorities (out of 49, about 40%), henceforward EL 1-20. Their accounting data have been gathered and analysed for this research. Evidence provided in this work cannot and does not want to be generalized to the totality of Italian local authorities, to which the new accounting regulations are applied since 1 January 2015 (with the possibility to postpone the introduction of accrual accounting to 1 January 2016). However, this paper represents an important starting point for future in-depth analysis when the new accounting system has been rolled out at national level and more data is available.

FINDINGS

Analysis of the result of administration

The result of administration (RA) in a financial statement represents the result of a local authority's financial management; it can be considered a fund or a flow (Rota *et al.*, 2012). The result of

administration depends on the amount of asset and liability residuals. The asset and liability residuals represent credits and debts of a municipality towards third parties (or rather, revenues verified in the fiscal year of competence but not yet received and expenses already in the books, which have not yet been paid for). The result of administration is not considered as a safely determined valued, as it is composed of items such as asset and liability residuals, which can be respectively over and underestimated (D'Alessio *et al.*, 2015). In order to stabilise this result to an extent, the accounting reform established the obligation to allocate a quota of the result of administration to the fund for doubtful receivables. The value allocated to this fund is restricted; it is determined based on the doubtful receivables, respecting the principle applied in financial accounting; its purpose is to avoid the use of doubtful receivables as a source for expenditure. The introduction of a procedure whose purpose is to determine the amount to be allocated to the fund for doubtful receivables has had important consequences on the result of administration of local authorities part of the pilot project, sometimes bringing to the surface unexpected deficits. The analysis of residuals is of great importance for the determination of the result of administration for entities adopting the new accounting standards. This analysis is carried out through the ordinary and extraordinary re-assessment of residuals. The operation of extraordinary re-assessment of residuals and the application of the principle of enhanced financial accrual can bring about important effects on the result of administration. The first effect derives from a different temporal redistribution of residuals, which are attributed to the financial year of reference or to following years, based on their expected date of fulfilment. The temporal mismatch between income and expenditures may determine: (i) a technical deficit or (ii) a technical surplus. The second effect on the result of administration can be attributed to the allocated sum for the fund for doubtful receivables; this can bring about a "real" deficit (Simeone, 2013). The value allocated to the fund and the consequent impact on the result of administration will depend on the evaluation criteria adopted in the past for a sound management. This value will be high if, prior to the accounting reformation, a high amount of doubtful receivables with a low rate of credit recovery has been maintained in the accounts. From the analysis of the local authorities' financial statements, the adaptation of residuals to the new principle of enhanced cash basis appears to have brought about a reduction of liability residuals and, to a lesser extent, of asset residuals in 2012 and 2013. The local authorities subject to this investigation have recorded a slight reduction in the result of administration for 2013 compared with 2012 (-0.30%) and an interesting increase in 2014 compared with 2013 (17.7%) – (Table 1).

| Municipality | Var. % (2013-2012) | Var. % (2014-2013) |
|--------------|--------------------|--------------------|
| EL1 | 82.23 | 9.49 |
| EL2 | 46.74 | 66.32 |
| EL3 | 81.76 | 13.61 |
| EL4 | 44.54 | 41.17 |
| EL5 | 3.27 | 78.56 |
| EL6 | 3.53 | 40.08 |

| | | |
|-------|--------|---------|
| EL7 | 42.69 | -4.11 |
| EL8 | 16.10 | 645.78 |
| EL9 | -14.33 | 47.26 |
| EL10 | 22.92 | 5.45 |
| EL11 | -58.79 | 230.56 |
| EL12 | -35.14 | -218.61 |
| EL13 | 119.68 | 51.39 |
| EL14 | -14.81 | 120.56 |
| EL15 | -53.00 | 17.12 |
| EL16 | 58.83 | -15.46 |
| EL17 | 1.80 | 4.84 |
| EL18 | 34.51 | 13.34 |
| EL19 | 38.93 | 18.47 |
| EL20 | -7.53 | 17.89 |
| Total | -0.30 | |

Table 1. Yearly variation (2013-2012 and 2014-2013) of the result of administration (RA) per municipality

Nevertheless, some criticalities emerge from the analysis of the result of administration's composition for some local authorities, as the allocation of the fund for credit risk (renamed fund for doubtful receivables) may be the cause of a real deficit (Table 2), represented by (E), namely the available part of the result of administration.

| Municipality | E 2012 (in €) | E 2013 (in €) | E 2014 (in €) |
|--------------|---------------|---------------|----------------|
| EL4 | 4.642.543.21 | 5.810.166.74 | 4.688.388.31 |
| EL6 | 7.020.728.01 | 6.672.365.82 | 4.959.105.31 |
| EL7 | - | 724.011.38 | 3.182.899.79 |
| EL8 | 975.987.72 | 492.655.02 | 201.550.00 |
| EL18 | 9.891.103.58 | - | - |
| EL16 | - | - | - |
| EL3 | 67.843.97 | 12.222.33 | 6.314.248.71 |
| EL5 | 1.078.170.45 | 1.933.487.99 | 1.174.599.04 |
| EL1 | 2.023.411.89 | 24.069.40 | 39.519.143.67 |
| EL19 | 5.343.030.75 | 5.942.740.25 | 20.347.150.99 |
| EL2 | 207.134.55 | 100.000.00 | 734.474.99 |
| EL13 | 9.717.969.24 | 149.525.33 | 54.905.80 |
| EL20 | 3.443.650.00 | - | 19.314.767.01 |
| EL15 | - | - | - |
| EL9 | 5.165.980.23 | 3.695.535.95 | 4.550.921.14 |
| EL12 | - | 4.285.425.22 | 50.219.246.62 |
| EL14 | N/A | 520.286.31 | 2.547.229.71 |
| EL10 | 4.216.247.98 | 13.178.596.41 | 8.235.396.86 |
| EL17 | 319.734.19 | - | -72.757.557.03 |
| EL11 | 2.334.239.87 | 1.792.815.40 | 4.354.592.48 |

Table 2. Total available part of the result of administration (E) for the year per local authority

It can be observed that this operation reduces considerably the available part of the result of administration, in some cases annihilating it, like in the cases of entities EL15 and EL16. The potential deficit brought about by the application of the new accountancy regulations is covered with constant instalments over a maximum of 30 fiscal years.

Analysis of the fiscal year result

This section deals with considerations deriving from the analysis of the profit/loss accounts for 2013 drawn up by the local authorities part of the pilot project, and with the following comparison with the same data for 2014. The scalar configuration currently adopted enables readers to quickly identify the different areas of management, highlighting the results of the core, financial and extraordinary management.

The *fiscal year result* (FYR) is the indicator of the full management of an entity, and it expresses the comprehensive economic performance in the management for the specified period. Based on this indicator, a preliminary judgment can be expressed on the performance in said year. The indicator measures the increase/decrease in equity resulting from the entity's management (D'Alessio *et al.*, 2015). A first income indicator is the ROE (Return on Equity), which expresses the profitability of the net equity, i.e. the entity's own resources. This indicator is given by the ratio between the net economic result and the net equity. Therefore, the ROE does not consider the positive or negative effects of financial, extraordinary and fiscal management. In 2013, two of the entities under investigation show a negative ROE, while for the remaining municipalities this indicator is between 0 and 8% (Figure 1).

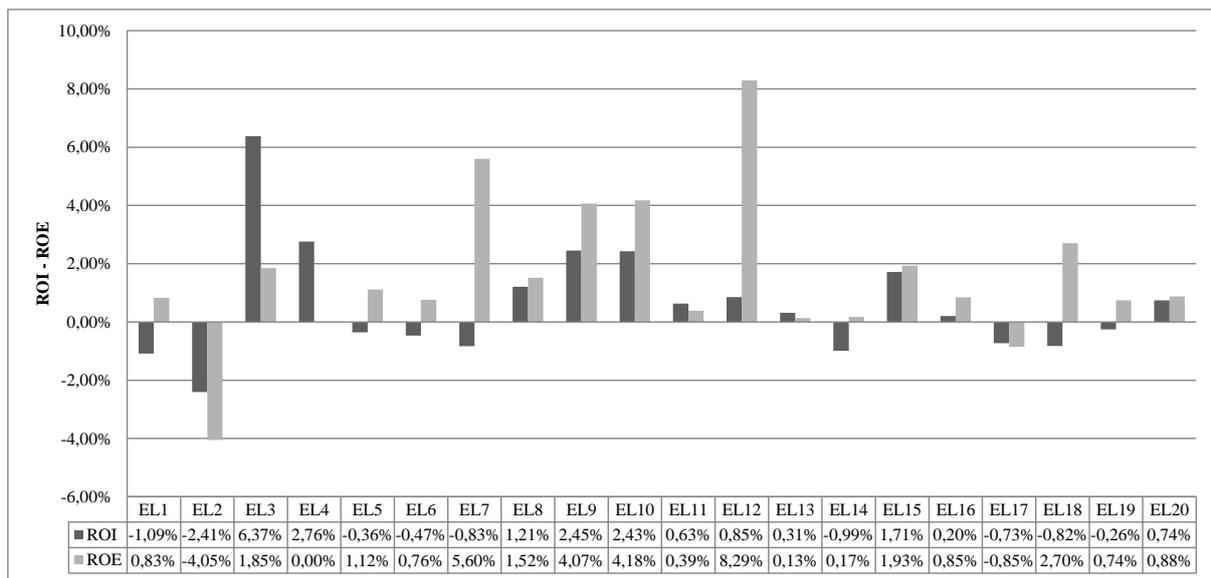


Figure 1– Profitability indicators

However, the indications obtained from the ROE need to be investigated in further depth, analysing the “partial” economic results for specific areas of management as well as individual items which are particularly significant in the profit/loss account. The result of the main area of activity of an entity is the *result of the core management* (operating result); it is the first result in the profit/loss account, and it is given by the difference between positive and negative components of operational management. It enables an evaluation of the management of the public services provided by the entity free from the economic effects of extraordinary financial income and charges. The result of core management is therefore connected to the production, institutional and so-called ‘individual demand’ services. The indicator which expresses the profitability of the core activities is the ROI (Return On Investment); this represents the profitability of the total equity deployed by the entity, and it is given by the ratio between the operational result and the total invested equity. The financial statement analysis for 2013 of the municipalities part of the pilot project evidences how this indicator is always rather low, and goes into negative territory for 9 entities out of 20 (45%). Indeed, the ROI is comprised between -2.4 and

2.6%, with the only exception of one municipality whose ROI is 6.3% (Figure 1). It is important to underscore that municipalities are public entities, and therefore they are not for profit. Their purpose is to guarantee a level of public service of adequate quality for their stakeholders through the optimal use of the available resources. In other words, the economic balance is a commitment rather than a goal. It is therefore realistic to assume that the value of net income should be close to nil. Indeed, negative values would indicate a lack of economic balance, whereas positive values would point towards a surplus of resources which are not effectively and efficiently used for the achievement of institutional goals. In light of the above, the 2 entities with a net profitability below zero represent very peculiar cases, but the same could be said for the opposite situation applying to 4 local authorities with a ROE between 4 and 8%. As commented on previously, the operating result for 2013 is negative for 9 out of 20 entities. Nevertheless, for 8 of those authorities the positive result of extraordinary management leads to a positive net result.

It is now important to verify if and how the fiscal year result of entities in the sample varied in the following year (Table 3).

| Municipality | FYR 2013 (in €) | FYR 2014 (in €) |
|--------------|-----------------|-----------------|
| EL 1 | 734,771.14 | 1,594,672.97 |
| EL 2 | 4,878,881.10 | 2,278,798.72 |
| EL 3 | 2,804,706.00 | 1,408,689.54 |
| EL 4 | 1,904.92 | 2,376,734.07 |
| EL 5 | 24,784,071.77 | 2,636,248.86 |
| EL 6 | 12,871,548.38 | 34,670,767.31 |
| EL 7 | 752,954.87 | 132,286.70 |
| EL 8 | 1,539,541.15 | 1,325,938.55 |
| EL 9 | 3,374,553.35 | 7,349,831.30 |
| EL 10 | 93,096,431.55 | 25,794,190.93 |
| EL 11 | 203,066.81 | 1,200,938.79 |
| EL 12 | 49,757,627.07 | 5,942,378.41 |
| EL 13 | 9,184,069.64 | 37,844,864.32 |
| EL 14 | 2,578,557.23 | 2,759,914.39 |
| EL 15 | 4,419,483.28 | 3,178,859.41 |
| EL 16 | 3,438,988.33 | 53,401,848.27 |
| EL 17 | 7,169,296.36 | 284,771.81 |
| EL 18 | 8,575,644.03 | 1,459,671.37 |
| EL 19 | 6,092,380.01 | 113,307,527.45 |
| EL 20 | 5,751,462.44 | 4,378,991.83 |

Table 3. comparison between 2013 and 2014 fiscal year results

The municipalities showing a negative fiscal year result (and therefore a negative ROE) go from 2 to 6 in 2014. Comparing the two periods, it emerges how in 2014 the results of economic management worsen for the majority of municipalities (70%). At this point it is legitimate to wonder about the reasons behind this general worsening. Analysing in detail the profit/loss accounts of the municipalities showing the worst economic performances (in that they moved from a positive result in 2013 to a negative value in 2014), it can be observed how all such entities (EL 6, EL 9, EL 13, EL 16, EL 19) have seen a considerable worsening of their core management result. This is due in particular to the increase of negative economic components, as well as to the result of financial management. This phenomenon is connected to the decrease of financial income and the increase of financial charges. Furthermore, with the exception of one municipality, which saw an improvement in their extraordinary management, all remaining entities moved from a positive to a negative extraordinary management result.

DISCUSSION AND CONCLUSIONS

While the result of administration and the fiscal year result, as discussed, are very different in terms of their informative value (RQ1), the joint examination of the two indicators can form the basis for a few important considerations (RQ2) (Table 4).

| Municipalit | RA 2013 (in €) | FYR 2013 (in €) | RA 2014 (in €) | FYR 2014 (in €) |
|-------------|------------------|-----------------|------------------|-----------------|
| EL 1 | 10.989.026.61 | 734.771.14 | 15.513.429.75 | 1.594.672.97 |
| EL 2 | 11.256.457.53 | 4.878.881.10 | 15.768.374.40 | 2.278.798.72 |
| EL 3 | 7.686.949.41 | 2.804.706.00 | 7.371.029.81 | 1.408.689.54 |
| EL 4 | 2.816.915.31 | 1.904.92 | 21.007.976.34 | 2.376.734.07 |
| EL 5 | 131.460.566.92 | 24.784.071.77 | 148.999.435.61 | 2.636.248.86 |
| EL 6 | 76.725.112.58 | 12.871.548.38 | 64.861.420.98 | 34.670.767.31 |
| EL 7 | 11.065.845.04 | 752.954.87 | 12.571.946.61 | 132.286.70 |
| EL 8 | 2.165.230.50 | 1.539.541.15 | 3.866.316.08 | 1.325.938.55 |
| EL 9 | 9.581.836.35 | 3.374.553.35 | 10.490.725.03 | 7.349.831.30 |
| EL 10 | 177.526.315.15 | 93.096.431.55 | 210.308.771.32 | 25.794.190.93 |
| EL 11 | 2.650.859.09 | 203.066.81 | 4.408.898.72 | 1.200.938.79 |
| EL 12 | 33.217.771.68 | 49.757.627.07 | 50.287.285.43 | 5.942.378.41 |
| EL 13 | 1.470.706.960.45 | 9.184.069.64 | 1.733.867.928.70 | 37.844.864.32 |
| EL 14 | 28.458.743.02 | 2.578.557.23 | 33.331.527.46 | 2.759.914.39 |
| EL 15 | 26.132.428.65 | 4.419.483.28 | 38.483.582.88 | 3.178.859.41 |
| EL 16 | 4.670.012.86 | 3.438.988.33 | 5.538.877.25 | 53.401.848.27 |
| EL 17 | 15.575.550.91 | 7.169.296.36 | 34.353.963.66 | 284.771.81 |
| EL 18 | 45.131.626.81 | 8.575.644.03 | 47.589.693.95 | 1.459.671.37 |
| EL 19 | 138.300.081.13 | 6.092.380.01 | 144.995.558.76 | 113.307.527.45 |
| EL 20 | 1.902.315.60 | 5.751.462.44 | 6.288.244.69 | 4.378.991.83 |

Table 4. Result of administration (RA) and fiscal year result (FYR)

As a first point of discussion, the two indicators can bring about four potential scenarios: (i) both indicators are positive; (ii) both indicators are negative; (iii) there is a surplus of administration accompanied by a negative economic result; (iv) there is a deficit of administration accompanied by a

positive economic result. From the analysis of the sample, only two of the specified scenarios can be observed in 2013, given that all municipalities have a positive result of administration (Table 5).

| | | FYR | |
|----|---|--------|-------|
| | | + | - |
| RA | + | 18 ELs | 2 ELs |
| | - | / | / |

Table 5. Matrix of the relationships between result of administration and fiscal year result (2013)

whereas in 2014 results were both negative for one municipality (Table 6).

| | | FYR | |
|----|---|--------|-------|
| | | + | - |
| RA | + | 14 ELs | 5 ELs |
| | - | / | ELs |

Table 6. Matrix of the relationships between result of administration and fiscal year result (2014)

In the majority of cases, a surplus of administration accompanies a positive fiscal year result. This means that, from the financial point of view, the municipality is endowed with more resources than those necessary to carry out its administrative activity. At the same time, from an economic perspective, the negative components (which measure the use of productive factors in the management activity) are lower than the positive components (prevalently represented by taxes, funds, transfers and income from sales of goods and services). If this situation does not change over time, it would be wise to investigate the level of achievement of the municipality's institutional goals, and if its stakeholders are satisfied. If this was not the case, the above-mentioned indicators would point towards a situation in which there is a lack of administrative effectiveness. The unexploited resources could indeed be invested in the improvement of the services offered, both from a quantitative and qualitative point of view. Vice versa, if the institutional goals are adequately achieved, the authorities should investigate the possibility of reducing the fiscal pressure imposed on the relevant community.

Only two cases in 2013 and five in 2014 saw a surplus of administration correspond to a negative economic result. This is possible given that, following the accrual principle, income and expenditures relevant to a certain period are not always directly connected with financial movements. Therefore, financial values may evidence a greater availability of resources with respect to those necessary for purposes of expenditure, while economic values may evidence greater costs compared with income. However, while strict regulations apply to cases of deficit of administration, the legislator, although acknowledging the informative importance of accrual accounting, does not offer provisions on how to proceed in case of a negative fiscal year result. For private companies, provisions on this topic are offered by the Italian civil code, which dedicates specific attention to this phenomenon. Indeed, the loss is a negative equity component, and therefore it reduces the net equity. The civil legislation on the topic establishes that, when there is a loss corresponding to over a third of the equity value and this is

continued in the following fiscal year, the company needs to cover the loss with a reduction of the equity. The rationale behind the norm is to guarantee enhanced transparency on the actual situation of the company as a measure to protect its stakeholders. For the same reasons, in the case of public entities it would be important to investigate the causes that determined the loss (whether of operating, economic or financial nature) and elaborate mechanisms of coverage, also in order to guarantee continuity. Indeed, a negative economic result is not sustainable over time, in that it would be an indication that the utilities produced by the entity are lower than those consumed, and that therefore the entity is destroying value. The relevant legislative gap has not been filled to date. Just like private entities, also public entities are nowadays called to guarantee balances in their statements (and not just in financial terms, as currently provided, but in economic terms) and operate with goals of efficiency, effectiveness and economy.

In conclusion, having drawn a comparison between different accounting techniques used for the management of public resources (cash accounting as well as accrual accounting), this research represents a contribution towards: (i) the implementation of European and International Accounting Standards (EPSAS and IPSAS) in course of elaboration: the local authorities part of the pilot project have tested the principles of accrual accounting in the public sector and identified the most common and complex criticalities, which can be translated into suggestions for the elaboration of accounting standards; (ii) the identification of new elements and information useful for the management choices and techniques of public administrators.

The accounting reformation has applied since 2015 to all Italian local authorities and its main aim is to support the public administrators' decision-making process towards high-quality performance respecting the goals of efficiency, effectiveness and economy. The change has involved directly the managers of local authorities, who are asked to satisfy the strategic needs of governance, but also clarify and make transparent all financial and economic information concerning the management of public resources. In the light of the public sector's peculiarities, the use of both accounting systems can represent a solid instrument for maintaining balance in the accounts of local authorities in the future. This can also be useful to form a complete and informative database intended to serve the elaboration of policies for the accounting harmonisation of the public administration.

This research project highlights some important gaps and aims to provide indications for a better management of public resources, addressing public management and public governance scholars as well as public administrators. Its limitations can be identified in the continuous evolution of accounting regulations, which lately have influenced and modified the choices of public administrators, requiring assumptions to be made on the comparability of statements over time. In

addition, the absence of historical series of data for analysis prevents conclusions that are more generalizable.

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CROSS CULTURAL PERSPECTIVES: A LEADERSHIP PERSPECTIVE ON HUMAN NICHES

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ABSTRACT

Organisations are faced with many intricacies. Rapid environmental changes, the need for sustained profitability and general complexities such as globalisation, diversity, technological changes and leadership challenges all necessitate organisations having to rethink old methods and embark upon new ones. This implies change. Given workforces with a greater degree of demographic diversity, technological change and increased international competition, coupled with the breath-taking changes foreseen in the business environment, leadership models are likely to become increasingly significant.

Although modernity is characterised by change, humans struggle with change as the future becomes increasingly unpredictable. Individuals react differently to changes in the status quo, have a different understanding of dilemmas and different perceptions. Diversity is a driving force for change, thereby increasing unpredictability. Therefore, leadership are increasingly faced with diversity challenges, dilemmas and opportunities.

This paper extends the concept of diversity to diversity of thought. A much broader concept which includes aspects such as personality type, diverse intelligences, complexity handling and world views. Such diversity of thought will be positioned within human niche theory. An understanding of the thinking system and coping mechanisms of different human niches allows for effective leadership adaptation.

This study followed a qualitative research approach and a grounded theory methodology was adopted. Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations.

Keywords: *Diversity, Grounded Theory, Human niches, Leadership, Management, Organisational change, Stress.*

INTRODUCTION

The new economy ushered in huge business opportunities and great turmoil, resulting in the constant state of change in which organisations have to operate. Both Burke (2009) and Guillory (2007) found that globalisation, new technology, customer expectations and increased diversity accelerate change, generally with extreme unpredictability. Most organisations accept that they must change. However, change remains difficult to achieve, and few companies manage change effectively (Meaney and Pung, 2008; Todnem-By, 2005) as a result of the complexity of change (Bareil, Savoie & Meunier, 2007). Given workforces with a greater degree of demographic diversity, technological change and increased international competition (House, 1995), coupled with the breath-taking changes foreseen in the business environment (Eisenbach, Watson & Pillai, 1999), leadership is becoming increasingly significant. Kotter (1995) underscores the importance of leadership to the change process, because by definition, change requires the creation of a new system and then institutionalisation of the new approach.

Viljoen-Terblanche (2008) suggests diversity as a driving force for change. Organisations may be impacted by a combination of individual, group, organisational, South African and/or global diversity. Viljoen-Terblanche (2008) extends the concept of diversity to “diversity of thought” – a much broader concept which includes aspects such as personality type, diverse intelligences, complexity handling and world views (Viljoen-Terblanche, 2008:18).

DESCRIPTION OF DIFFERENT HUMAN NICHES

Colinvaux (1980) defined a niche as a specific set of capabilities for extracting resources, for surviving hazards, and competing, coupled with a corresponding set of needs. However, this definition does not take the thinking pattern of the individual into account. Colinvaux (1980) explains that our niches are what have changed since ancient times. According to Laubscher (2013) our thinking patterns have changed over time and new thinking patterns have led to new and different realities, extending the concept of human niches. Laubscher (2013) argues that people value different things because of different thinking systems, and these thinking patterns in the brain result in human niches. Viljoen (2014) contends that the way in which identity is defined should be explored in order to understand the human niche. The term “human niche” describes the areas in which people excel because of their questions of existence. Different human niches are a critical component of diversity (Viljoen, 2014b).

Human niches affect individuals, societies and organisations (Laubscher, 2013). As individuals or cultures moves up to a higher-order system, they transcend and include all lower-level value systems. Individuals, societies and organisations cannot skip a developmental stage (Dawlabani, 2013). Viljoen and Laubscher (2014) see the different cultural human niches as cyclical and interactive, as well as linear and cumulative. Human niches are emerging waves, not rigid categories (Laubscher, 2013).

FIRST-TIER HUMAN NICHES

BEIGE: Survival

In the BEIGE level of thinking systems all energy is directed towards survival through innate sensory abilities and instinctual relations. At this level, humans form loosely organised herd like structures that often change format (Laubscher, 2013). Viljoen and Laubscher (2014) emphasise that BEIGE is still alive (not extinct) and especially visible in East Asia, Haiti, Egypt, the Middle East, Portugal and Brazil, in Indian slums and in squatter camps in South Africa (Laubscher, 2013). Laubscher (2013) explains that breeding patterns in society can be studied to understand how BEIGE develops. High population growth leads to an exponential increase in PURPLE. Limited economic resources systemically put pressure on changing living conditions. PURPLE therefore slips back to BEIGE.

PURPLE: Our people

Traditionally, it was believed that the emphasis in PURPLE is on survival, but unlike the BEIGE system, survival is achieved through banding together as a tribe. In PURPLE, people have the capacity to connect and form groups. Such community building does not only happen to hunt together in tribes as originally documented (Laubscher, 2013). Thus, the way in which identity is defined should be explored in order to understand the human niche (Viljoen, 2014b). PURPLE is a collective system, where individuals sacrifice the self for the family, the clan, the leader, the union or the group. The group is typically organised in a circular form with males and females serving the needs of a typical male elder, leader or father of the household. Ancestors play a vital role here as the future is directly impacted by the blessings of those who have passed. The group preserves sacred objects, places, events and memories and observes the traditional rites of passage, the seasonal cycles and tribal customs (Laubscher, 2013).

RED: Visible risk

RED is an expressive individualistic thinking system and represents the first emergence of real and effective individual action and ego. An individual in RED wants to break away from the constriction of PURPLE. Such an individual wants to stand tall, receive attention from others, demand respect and call the shots. Organisationally, while it may use the appearance of a participatory process, unhealthy RED is likely to corrupt processes as the question that the thinking system presents is not how can we be fair or truthful, but how we can gain power. Low RED is displayed in the form of conflict, aggression and corruption. High RED is hero-like, and much needed to breathe life into a subdued PURPLE workforce. The innate ability to take action is visually mirrored in behaviour and results in people who portray a sense of always being in control (Laubscher, 2013).

BLUE: Stabiliser

Traditionally it was thought that the BLUE level of thinking systems is the beginning of what most people regard as civilisation, a statement that somewhat belittles both PURPLE and RED people. BLUE is also often described as the truth force because it is organised around absolute beliefs in one right way and obedience to authority. BLUE is a sacrificial system, where individuality is sacrificed to the transcendent cause, truth or righteous pathway. BLUE believes that righteous living produces stability now and guarantees future rewards which are impulsively controlled through guilt. In BLUE, everybody has his or her proper place. Laws, regulations and discipline build character and moral fibre (Laubscher, 2014; Viljoen, 2014b).

ORANGE: Calculated risk

At this point, the stronger and more enterprising members of the group realise that they are being held back by adhering to the rules and procedures of the group, and better results are possible through individual action. For the first time, traditional religion is challenged. ORANGE believes in better living through technology, with the main idea being that we can shape, influence, promote progress and make things better through the use of scientific methods, quantification, trial and error and a search for better solutions (Beck and Cowan, 1996). In this thinking system, innovation, progress and success are important. ORANGE seeks to manipulate the world's resources in the most efficient and effective manner. ORANGE is optimistic, risk-taking, and self-reliant. It is the human niche of material prosperity through merit. While BLUE looks to the past, ORANGE looks to the future (Laubscher, 2013, 2014; Viljoen 2014).

GREEN: Inclusive

The GREEN thinking system appears in the quest for inner peace and human connection; inclusivity and connectedness become the highest values. The well-being of all the people is a critical consideration. GREEN, unlike ORANGE, wants to sacrifice self, now, for both self and others, for humanity. GREEN responds to the lack of internal fulfilment by seeking peace with the inner self and exploring the more caring and spiritual dimensions of humanity. When outwardly directed, the ideal GREEN social organisation is the network, governed by consensus-decision making (Laubscher, 2014). The role of GREEN is to renew humanity's spirituality, to bring harmony and to focus on the enrichment of human development. GREEN often dislikes conflict, because all opinions are valued. This does mean that GREEN can paralyse itself (Laubscher, 2013). The RED human niche really plays havoc with GREEN's emotions. Hence GREEN should not enter into negotiations with RED if it does not understand the RED human niche (Viljoen, 2014a).

SECOND-TIER HUMAN NICHES

YELLOW: Systemic/functional

Similar to the first human niche in the second tier, YELLOW is concerned with survival, but this time the focus is on survival of the self and of all others. This niche is concerned with functionality and grapples with the problems of the universe (Viljoen, 2014b). It is an individual and expressive thinking system, taking many of the healthy expressions of GREEN, ORANGE, BLUE, RED and PURPLE and integrating them into a more effective system (Beck, 2013). It recognises the different evolutionary stages and works to unblock hurdles standing in the way of a healthy systemic flow for all of humanity, with the understanding that chaos and change are a natural part of the process (Laubscher, 2013).

TURQUOISE: Integral-holonic

To TURQUOISE, the world is a single, dynamic organism with its own collective mind, and the self is at the same time distinct but also a blended part of a larger, compassionate whole (Beck and Cowan, 1996). TURQUOISE is a highly complex thinking system (Viljoen, 2014b). Everything is interconnected and holistic, intuitive thinking and cooperative action are expected. A full-merit system of exchange recognises the totality and efficiency of serving the biosphere will replace all monetary forms of exchange (Laubscher, 2013).

RESEARCH METHODOLOGY

A qualitative research approach was followed and a grounded theory methodology adopted. Observations and interviews initially covered a broad range of concepts which were narrowed down as themes and concepts emerged. A literature review was conducted to inform the interview questions. The collected data was subjected to a process of grounded theory.

Table 1 summarises the research steps and methodology and outlines the different data collection phases, the different sample groups and the objective of each process step while indicating the data analysis methodology and methods employed to ensure quality data.

Theoretical sampling was used to collect-, code- and analyse the data in order to decide where to sample next in accordance with emerging codes and categories (Glaser, 1978) and to inform the saturation of categories (Charmaz, 2006). Sample participants were selected for relevance to the breadth of the issue. Sampling stopped once the body of knowledge no longer expanded (Cooper and Schindler, 2011). Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations. Data analysis was conducted through theoretical coding, theoretical memoranda and theoretical sorting.

| Research step | Purpose of research step | Data collection method | Data analysis | How to ensure quality data |
|---|--|--|---|---|
| Solicited data | Provides research context | Case study | Content analysis | Integrity, relevance, credibility |
| Three senior (regional) leaders | To understand the role of leadership and the concept of organisational change as viewed by senior management who were involved in the strategic change initiatives | In-depth interviews In-depth interviews | Content analysis, descriptive statistics, coding themes (grounded theory) | Fit, relevance, modifiability and workability |
| Two ex-CEOs', Two CEOs' and One divisional head | To understand the role of leadership and the concept of organisational change from a strategy perspective | | | |
| Senior managers | To understand the impact of organisational change initiatives on individuals and leaders | Focus groups | | |
| Middle managers | To explore the impact of organisational change on middle management and understand their role in implementation | Focus groups | | |
| Minutes, projects | To contextualise the impact of organisational change | Solicited data | Content analysis | Integrity, relevance, credibility |
| Personal notes | To contextualise the impact of organisational change | Field notes | | |

Table 1. *Description of research steps and methodology*

FINDINGS

Case study data

Although the nature of the three case elements differed completely from one another, fundamental similarities stood out. The importance of participation, communication, feedback and discussions, as well as leadership was reiterated.

Stress, fear and anxiety were predominant feelings. The organisation's apparent inability to deal with the impact of stress on individuals and a lack of organisational understanding of the impact of stress on individuals were significant.

Understanding different thinking patterns (as positioned through human niches) is beneficial to successful change. Organisations and leadership with little/no knowledge of human niche theory, have little appreciation for and application of different worldviews. It appears that an understanding of different thinking systems would have assisted successful change.

Extending this to the training strategy indicates an incorrect and incompatible training methodology. Whenever possible, metaphors should be used with PURPLE. Moreover, PURPLE has a learning system that relies on copying, and its members are passive learners who rely heavily on right-brain functions. Training should be adjusted and/or adapted to provide for different human niches. Practical experiential learning interventions could have worked much better than the training methodology followed, as reflected in the case study.

Integrating these findings into human niche theory reveals that this organisational change initiative was used as a RED power tool. RED made the decisions, directed work and ensured a downward only flow of communication. The powerful, downward only flow of communication took control away from employees, resulting in a lack of certainty and autonomy. This, in turn, further increased employees' feelings of anxiety and stress. Perhaps high BLUE could have directed and utilised RED energy more positively. Encompassing change within strategy, applying a comprehensive change management method and ensuring a workable stress reduction outlet in the organisational setting should have contributed towards the success of this change element.

The BLUE authority structure did not understand the different thinking systems. BLUE attempted a prescriptive approach, failing to understand change from the perspective of those engaged in its implementation. This workforce, led by elders, rigidly preserves the ways and culture, is safety driven and prefers circular communication. The attempt to introduce rigid rules through downward communication could partly explain why this change initiative failed. An understanding of human niches, coupled with proper translation between PURPLE and BLUE human niches, could have assisted this change initiative.

Focus group sessions

Within the context of organisational change, the high prevalence of change dominated. In two focus group sessions, the respondents stated that there were continuous changes. Hence change was no longer perceived as a discrete event with a clear beginning and end, but rather as a state of continuous flux. Employees found it difficult to align their actions and perceptions with the change expectations owing to an organisational state of constant disruption.

Organisations generally, do not follow any change models or change methodology. In two focus group sessions, one respondent mentioned that schedules and documents had been drawn up. This is a typical BLUE human niche response. In both instances, this had been challenged by RED or ORANGE, stating that the deadlines had been missed and that plans had generally not been shared. The small amount of time spent on change preparation was generally stated as a concern. However, in the second focus group session, participants were not able to relate documents, schedules and deadlines to change preparation. This could possibly indicate PURPLE human niches, who in direct contrast to mechanistic processes such as schedules, are inclined to experience sharing and discussion as preparation for change.

It was agreed in focus group session one, two and three that there were processes in place to deal with change, such as plans and schedules - again a typical BLUE human niche response. However, everybody agreed that there were no processes in place in the organisation to understand the impact and context of business changes. Individuals admitted to struggling with change, not wanting to come

to work, having no outlet within the organisation that could help them deal with the increased stress they were experiencing during change and even struggling to function. Despite such schedules and plans, most participants felt that change was messy and “all over the show”.

Critical success factors were given as the involvement and participation of all, the importance of people and the necessity to cause no harm. This emphasises a need on the part of PURPLE and GREEN human niches. In addition, the necessity for understandable communication, leadership and transparency was emphasised as being critical to successful change. PURPLE and RED human niches struggle to understand BLUE communication.

Successful organisational change at an individual level requires participation, involvement and empowerment. However, change is generally resisted and perceived negatively. It was argued that employees resist because of a lack of understanding. This could again indicate the poor translation of BLUE communication to PURPLE. However, this could also indicate that change is not a linear process and that human reactions to change do not follow a linear pattern (Viljoen-Terblanche, 2008), but a U-curve (Scharmer, 2007). However, given the constant state of change in organisations today, the required time-period for individuals to move through the U-curve, eight months plus, according to Viljoen-Terblanche (2008), and integrating the change initiative, is no longer viable.

In every focus group session, communication was stated as hugely important. However, a number of respondents mentioned that the organisation did communicate through memos and e-mails. Others asserted that there was no communication. This again indicates a BLUE response, which does not speak to PURPLE, and which perpetuates the organisation’s struggle to ensure effective communication.

The respondents unanimously agreed on the importance of leadership, even though different opinions on leadership were shared. Time constraints, a lack of change knowledge and poor explanation of the changes were seen as leadership hurdles.

Everybody in focus group session one agreed that individuals struggle with heightened stress during times of organisational change. It was acknowledged and agreed that organisational change causes fear and resistance for many individuals. The lack of stability during changes was perceived to increase fear, stress and anxiety. Organisational change increases individual stress. The respondents turned to spiritual and physical methods to alleviate stress, but still reported feeling scared and anxious. This could again indicate PURPLE, which struggles to identify with the methods BLUE follows. During focus group session three, one individual failed to respond and interact in the conversation. This could indicate the PURPLE human niche, which downshifted to BEIGE as a result of increased stress.

One respondent stated that stress is merely a convenient excuse for people who are not willing to move from their comfort zones and deal with the required changes. This can be seen as a typical RED response. Such a response to the fear and anxiety would result in extreme disconnect owing to unawareness of human niches.

It was asserted that change should enable and empower the individual. However, someone also commented that organisations do not have change knowledge and struggle to support change internally. Further, it is only if people understand the change that they are able to participate. Without participation, enablement and empowerment become irrelevant. The BLUE perception of training as empowerment again disconnects from PURPLE's view of empowerment as only being possible once communication was been understood.

LEADERSHIP IMPLICATION

Different human niches are at play amidst the fear, anxiety and stress created by organisational change. The worldviews in the first tier are characterised by fear and it is estimated that 98% of people live mainly in the first tier (Beck and Cowan, 1996), which might explain why our reaction to events is often aggressive. Further, each first-tier level finds it difficult to understand or value the others, resulting in difficult communication.

It is critical that leaders first understand the impact that change has on their own functioning. Thereafter, they need to understand the impact that change has on the functioning of individuals. In the new world of work where change is prevalent the challenge is to communicate transition awareness and management skills to all employees in order to optimise human behaviour.

Laubscher (2014) found that change will result in individuals regressing one level downwards. Hence, BLUE will drop to RED, RED will drop to PURPLE and so forth. According to Graves (1974), people who are under pressure are often driven by values different from those when they are relaxed.

The thinking of different human niches was not understood or applied throughout the organisation investigated in this study. Hence, unintended failures, unforeseen implications and general difficulties arose. Ideas that fall outside the norms and assumptions were often rejected without consideration. As a rule, different thinking systems also look upon behaviours of other human niches and do not understand what they see. During times of organisational change, translation between different niches becomes imperative.

Human niches are at work at an individual, team and organisational level, which influences organisational outcomes as people value different things because they think in different ways. People may shift their thinking to fit the conditions at hand and will operate quite differently when under

pressure or stress. Organisational change interventions should yield a multifaceted systemic approach at global level, while involving the whole person.

Organisations should not attempt to change people. Instead, they should manage people’s weaknesses while capitalising on their strengths. In practical terms, this requires organisations to understand people in the worlds in which they live. This should be extended as a prerequisite for all leaders - all leaders should have a deep understanding of their people as whole and complete, multifaceted individuals comprising a body, mind and soul.

Organisational change creates ambiguity and uncertainty. PURPLE seeks group safety. The organisation remains one of the fundamental groups in which PURPLE operates. When safety and security are removed, PURPLE can no longer function optimally. Organisational change initiators need a deep awareness of PURPLE as well as relevant strategies which can address the uncertainties created by organisational change.

Individuals struggled to move through the change journey. Figure 1 indicates the researchers findings that stress may cause the individual human niche to downshift. In figure 1, one should note the U-curve which is evident in every move of the spiral. Moreover, moving through the U-curve requires time.

Figure 1 also indicates that once downshifted, an upshift becomes possible. In the researcher’s opinion, today’s organisations need alternative interventions that could assist the individual to, firstly, reduce stress and anxiety, and secondly, to allow the individual to regress to the BEIGE human niche from where upshift becomes possible.

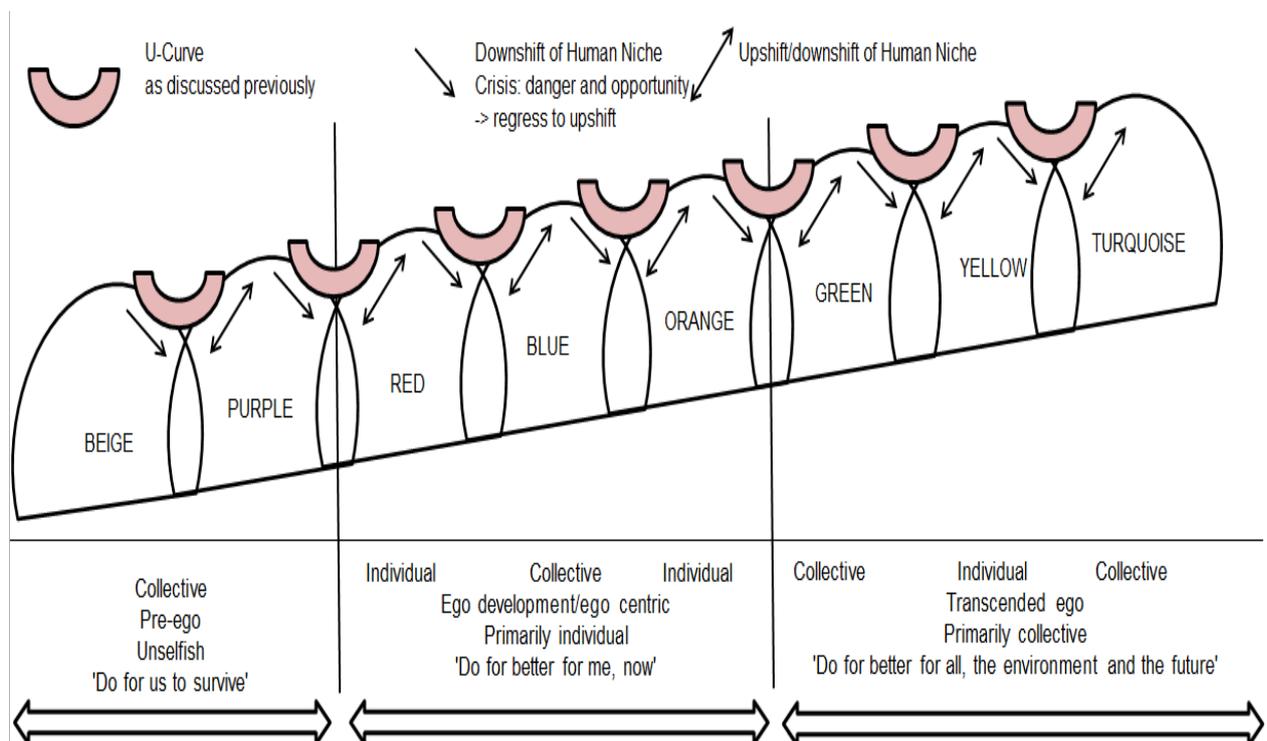


Figure 1: Downshift of the human niche when under stress

Different people excel differently. PURPLE, being the predominant human niche in Africa, brings with it innate wisdom and goodwill. Organisational thinking systems must embrace this wisdom and goodwill. This requires organisations, which predominantly fall within the BLUE human niche, to alter their thinking system which believes that the organisation is always right. The BLUE organisation needs to adjust its dogmatic and mechanistic thinking to embrace more humanistic methods in order to be understood by PURPLE.

We can see that PURPLE tribalism, RED dictatorship, BLUE authoritarian structures and democracy, ORANGE capitalism and GREEN socialism all have detrimental side effects. Further, that each of these thinking systems are unable to provide an integral solution to complex organisational dilemmas.

CONCLUSION

An analogy can be drawn between organisational change and working the land. When working the land, a team of oxen is yoked with the plough-boy in front. The plough-boy makes few, if any, decisions; instead, his only function is to follow, albeit from the front. The driver of the team of oxen is at the back or on the side of the team, sometimes sitting in the wagon from where he directs and drives the team and the plough-boy. Occasionally, the plough-boy knows where to go and leads the entire team, with the driver merely determining the tempo or pace of work.

Furthermore, each ox has its special place in the team. Generally, the two tamest oxen are at the back to stabilise the entire operation. The driver knows each ox intimately, knowing what can be expected of each and every one. Each ox is placed according to its ability, strength and skill. However, when an ox becomes ill or "stressed", it has to be replaced by a fresh ox, and the unfit ox has to be treated or rested.

Similarly, during organisational change, the leader should be guiding from behind, allowing the leaders of teams to take up their roles. The leader should be intimately familiar with the strengths, abilities and condition of each and every employee, while ensuring role clarity for all involved in organisational change. The strengths of every employee should be aligned to job requirements where these strengths can best be utilised in achieving organisational objectives. Leaders must consider the replacement of unfit role players, for whatever reason.

The need for a new frame of reference when embarking upon organisational change has been highlighted. Furthermore, fear, stress and anxiety featured in every conversation. The first and often lasting emotion when discussing organisational change was fear. The respondents acknowledged that organisations are unable to deal with increased individual stress. Organisational leaders admitted that no workable methods were in operation in the organisation which effectively reduced individual

stress levels. Yet, the strengths of every individual can only be utilised fully when such an individual's stress levels are in a state of homeostasis or at least reduced.

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COMPETENCE IN MANAGING PROJECTS: ACKNOWLEDGING THE HUMAN ELEMENT

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ABSTRACT

Change has become inevitable within organisations. A project approach is increasingly followed as a methodology to move the organisation from one state to another. Increasingly, a change management component is incorporated into the project schedule. However, despite the investment in time and resources organisational change initiatives are still plagued with low success rates.

Although modernity is characterised by change, humans struggle with change as the future becomes increasingly unpredictable. The extended disorder that has become the norm within society and organisations can cause a sense of loss and/or anxiety for individuals, organisations and society. Unrelieved stress becomes perpetual, and will undeniably influence organisational change efforts negatively. Thus, the impact of fear, anxiety and stress at an individual and organisational level and the importance of a truly human element within change management is accentuated.

Further, human niches are considered in the application of a project approach. Understanding the thinking system and coping mechanisms of different human niches allows for effective adaptation of change management and project based approaches.

This study followed a qualitative research approach and a grounded theory methodology was adopted. Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations. The case study comprised three case elements which all followed a project approach.

Keywords: *Change management, Grounded Theory, Human niches, Human reaction to change, Organisational change, Project management, Stress.*

INTRODUCTION

The new economy ushered in huge business opportunities and great turmoil, resulting in the constant state of change in which organisations have to operate. Both Burke (2009) and Guillory (2007) found that globalisation, new technology, customer expectations and increased diversity accelerate change,

generally with extreme unpredictability. Most organisations accept that they must change. Despite a large focus on change management (Dahl, 2009), change remains difficult to achieve, and few companies manage change effectively (Meaney and Pung, 2008; Todnem-By, 2005) as a result of the complexity of change (Bareil, Savoie & Meunier, 2007) and frequency of projects (Vacar, 2013).

Gollner, Andersen, Gollner & Webster (2015) underscores the importance of assessing cultural dynamics in large technology implementation projects. Such assessment knowledge could then be used to modify implementation plans with the goal of a higher success rate. However, for individuals in these systems, the frequency of change coupled with a lack of cultural understanding can be devastating. Within this context it remains improbable for individuals to find meaning and engage with the change initiative. Thus, sustainable change remains elusive.

ORGANISATIONAL CHANGE MODELS

Lewin (1951) developed the three-step model which breaks change down into three steps: unfreezing, changing and refreezing. According to Lewin (1951) change towards a higher level of group performance is often short-lived as group life soon returns to normal.

Scharmer (2007) developed the U-process which leads people through three core movements that allow them to connect to an emerging future. Theory-U informs us that there are three inner voices of resistance that keep us from hearing the emerging future. The voice of judgement is resistance to an open mind which stifles creativity; the voice of cynicism is resistance to an open heart because we are entertaining the companions of arrogance and callousness; the voice of fear is resistance to an open will. Managing all three voices appropriately, can take us from fearful to fearless.

People have an inherent need for predictability and order. Major organisational changes may be experienced in ways that contradict this basic need and likewise deplete employees' adaptive resources (Hogan, 2007). Corbitt (2005) found that the overwhelming effect of stress on employees can be devastating and the cost to the organisation enormous. Further, employees are significantly more likely to resort to stress-related medication in organisations that have experienced broad changes (Dahl, 2009). This highlights the importance of acknowledging the often unexpected negative outcomes of fundamental organisational change, which are not often considered in conventional theories of organisations (Dahl, 2009) or when following a project approach (Gollner *et al.*, 2015).

IMPACT OF LEADERSHIP ON ORGANISATIONAL CHANGE

Leadership models are likely to become increasingly significant given workforces with a greater degree of demographic diversity, technological change and increased international competition

(House, 1995), coupled with the breath-taking changes foreseen in the business environment (Eisenbach, Watson & Pillai, 1999). Kotter (1995) underscores the importance of leadership to the change process, because by definition, change requires the creation of a new system and then institutionalisation of the new approach. However, there has been little integration between change management and leadership in the literature (Eisenbach *et al.*, 1999) and much remains to be established about the role of leadership in the change process (Bateh, Castaneda & Farah, 2013). Burnes (2004) sees the ability to manage change as a core competence of successful organisations. A prime task of leaders is to effect change, and change in turn requires strong leadership (Hughes, Ginnett & Curphy, 2009).

Kanter, Stein & Jick (1992) posit that leaders are responsible for change strategy, implementation and monitoring. The challenge of managing change is thus the most fundamental and enduring role of leaders in the organisation (Ahn, Adamson & Dornbusch, 2004). Yet, Gilley, Gilley & McMillan (2009) found leadership a considerable obstacle to change due to insufficient change skills.

SPIRAL DYNAMICS (SD) AND HUMAN NICHES

Research has failed to take adequate account of the perceptions and responses to organisational change by members of different groups (Jones, Watson, Gardner & Gallois, 2004). Individuals react differently to changes (Rosenberg and Mosca, 2011). Individuals have a different understanding of ethical dilemmas, business practice and leadership (Page and Gaggiotti, 2012). When participants' views change, this is filtered through their preferences and appreciated and accepted, or resisted accordingly (Dibella, 2007).

Spiral Dynamics (SD) is a theory of human development, based on Graves's (1978) theory of the bio-psycho-social system of human development. Beck and Cowan (1996) introduced the term "spiral dynamics", arguing that human nature is not fixed and that, when confronted by changing life conditions, humans can adapt by constructing new value systems that allow them to cope with the new reality. SD studies the emergence and patterns of deep values (Beck and Cowan, 1996), based on a spiral which unfolds in complexity where each spiral turn represents a different world view from which reality can be understood (Beck, 2004).

Laubscher (2013) further built on Graves's (1978) views, developing the term "human niches" to describe the areas in which people excel because of their questions of existence. Human niches depicts a thinking system in the individual, organisation or society at large.

SD is potentially useful in organisations because of its ability to recognise and work with different levels of values in the organisation (Beck and Cowan, 1996). Integrating human niches and SD into the

organisational change process and leadership could provide insights which will ensure success for individuals, leaders, organisations and society as a whole.

RESEARCH METHODOLOGY

A qualitative research approach was followed and a grounded theory methodology adopted. Observations and interviews initially covered a broad range of concepts which were narrowed down as themes and concepts emerged. A literature review was conducted to inform the interview questions. The collected data was subjected to a process of grounded theory.

| Research step | Purpose of research step | Data collection method | Data analysis | How to ensure quality data |
|---|--|------------------------|---|---|
| Solicited data | Provides research context | Case study | Content analysis | Integrity, relevance, credibility |
| Three senior (regional) leaders | To understand the role of leadership and the concept of organisational change as viewed by senior management who were involved in the strategic change initiatives | In-depth interviews | Content analysis, descriptive statistics, coding themes (grounded theory) | Fit, relevance, modifiability and workability |
| Two ex-CEOs', Two CEOs' and One divisional head | To understand the role of leadership and the concept of organisational change from a strategy perspective | In-depth interviews | | |
| Senior managers | To understand the impact of organisational change initiatives on individuals and leaders | Focus groups | | |
| Middle managers | To explore the impact of organisational change on middle management and understand their role in implementation | Focus groups | | |
| Minutes, projects | To contextualise the impact of organisational change | Solicited data | Content analysis | Integrity, relevance, credibility |
| Personal notes | To contextualise the impact of organisational change | Field notes | | |

Table 1. *Description of research steps and methodology*

Table 1 summarises the research steps and methodology and outlines the different data collection phases, the different sample groups and the objective of each process step while indicating the data analysis methodology and methods employed to ensure quality data.

Theoretical sampling was used to collect-, code- and analyse the data in order to decide where to sample next in accordance with emerging codes and categories (Glaser, 1978) and to inform the saturation of categories (Charmaz, 2006). Sample participants were selected for relevance to the breadth of the issue. Sampling stopped once the body of knowledge no longer expanded (Cooper and Schindler, 2011). Data was collected through a case study, eight in-depth interviews, four focus group sessions, solicited data, field notes and observations. Data analysis was conducted through theoretical coding, theoretical memoranda and theoretical sorting.

THE CASE STUDY

The background to the case study was a large manufacturing company in South Africa which started as a family business that had grown steadily. Majority shareholding had been sold to an overseas affiliate resulting in strategic, functional and operational changes, coupled with the requirement to be globally competitive.

In the context of this research, the installation of a new fleet system, the attempted installation of a total working time (TWT) system and the implementation of a work style innovation (WSI) initiative will place a project approach, the organisational change process and leadership under a magnifying glass. The fleet initiative involved the removal and replacement of the department's information system. The TWT initiative involved major changes to improve production line efficiency, coupled with the introduction of labour efficiency measurement tools. The purpose of the WSI project was to change the desktop interface for electronic communication in order to create a more agile workforce. Each initiative followed a project approach, specifically PRINCE (projects in controlled environments) methodology. Except for the TWT initiative, no change management was employed.

FINDINGS

Numerous similarities emerged from the three case elements which comprised the case study. Stress, anxiety and fear were dominant themes as change was perceived from a fear perspective, inevitably leading to resistance. Individuals had a deep need to understand the rationale for organisational change and a lack of understanding increased stress and anxiety.

The importance of participation and inclusivity during periods of organisational change was recurring themes. Radical changes had a huge impact on individuals and they generally reacted with resistance. The lack of organisational competency to handle change and understand the impact of stress on the individual resulted in very real emotions such as stress, anxiety and fear.

Prevalent was the lack of change management skills and the non-existent integration between change management, leadership and management. Throughout the different change initiatives, the inability of the organisation and leadership to address the increased stress levels arising from the change initiative was evident.

Challenges surface when a pure project approach is followed. Projects that impact on and/or change individual's and their job roles or functions need to include a change management element. The change and project management functions must present a unified change proposition. Through a stronger change management case, early inclusion and discussion involvement can be ensured. Such joint co-operation will also contribute positively towards the change management perception. The

earlier in the project such a unified proposition can be presented, the sooner and perhaps more easily, successful change might be achieved.

Technically, this requires that project and change functions design, develop and deliver a comprehensive solution that addresses both process and human elements. From an individual change perspective, such a solution will manifest through behaviours, resistance, processes and daily functions. To effectively alter behaviours, reduce resistance and modify daily activities, requires that the designed solution must be widely accepted, approved and implemented by those individuals and/or groups impacted by the change and the suggested solution. This implies effective communication, participation and inclusivity.

The different change initiatives mentioned in this case study failed to realise their full benefits, despite well-developed and planned technical solutions. It would seem that cost and time overruns remain unless organisations include individual participation, inclusivity and behavioural change as well as effective stress reduction methods concurrently.

DISCUSSION

PRINCE was used to manage the project from a technical perspective. From a human/employee change perspective, no change management component existed and no change management process was followed. No tools, methods, techniques or processes were applied to manage the people side of change, nor to reduce and manage resistance to change. No readiness assessments were done to establish the scope of the change or to determine the number of people affected. There was no integration between change management, project management and/or leadership.

Human reactions and experiences relating to this change, as well as the perception that poorly planned or executed organisational change initiatives increases stress levels, led the researcher to consolidate these ideas into figure 1, reiterating the importance of a multidisciplinary, multidimensional approach to understanding human nature. This figure indicates that individuals comprise physical, emotional, mental and spiritual elements. When one of these elements is burdened, the other will also be troubled. Only when all these elements receive equal attention or are balanced can there be any coherence. A whole person will be able to contribute much more at an individual, team, organisational and community level.

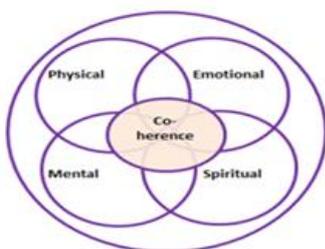


Figure 1. *Basic elements of the whole person*

Different individuals exhibited different thinking systems and coping mechanisms; thus different human niches. Neither management, nor the project or organisation knew how to deal with this dilemma. A lack of leadership, guidance, effective and efficient communication perpetuated the inefficiencies. A lack of firm decision making further increased the difficulties experienced. Leadership failed to lead in areas relating to workable solutions, employee capacity, driving process improvements and ensuring valid and reliable data. Such failures resulted in non-credible information, demotivated staff, despondency, no direction, inconsistencies and indifferent individuals.

Fleet

From an individual change perspective, change is challenging and difficult. Individuals experience a range of emotions, which throws them into further turmoil. Proper technological uses should be distributed to all, while allowing content to be informed by the needs of everybody in the department. This implies inclusivity (Viljoen-Terblanche, 2008). Technology creates transparency. However, a mind-set shift requires time for the dissolution of fear and compulsiveness. Through involvement and participation, the fear and resistance of all stakeholders could have been significantly reduced.

Different thinking systems was illustrated, alongside the lack of acknowledgement of the importance of the human element in successful change. Humans have an inherent need for predictability and order. Major organisational changes may be experienced in ways that contradict this basic need, depleting employees' adaptive resources.

The researchers built upon the U-movement (Scharmer, 2007; Viljoen-Terblanche, 2008), indicating a triangle comprising leadership, management and the individual, as the base. Figure 2 acknowledges the individual's physical, mental, spiritual and emotional components. Furthermore, figure 2 indicates if the whole person is not attended to during change, the U-movement would likely skew to the left, resulting in resistance. There against, inclusivity, participation, involvement, empowerment and clear communication can assist the individual to remain firmly rooted through a change initiative.

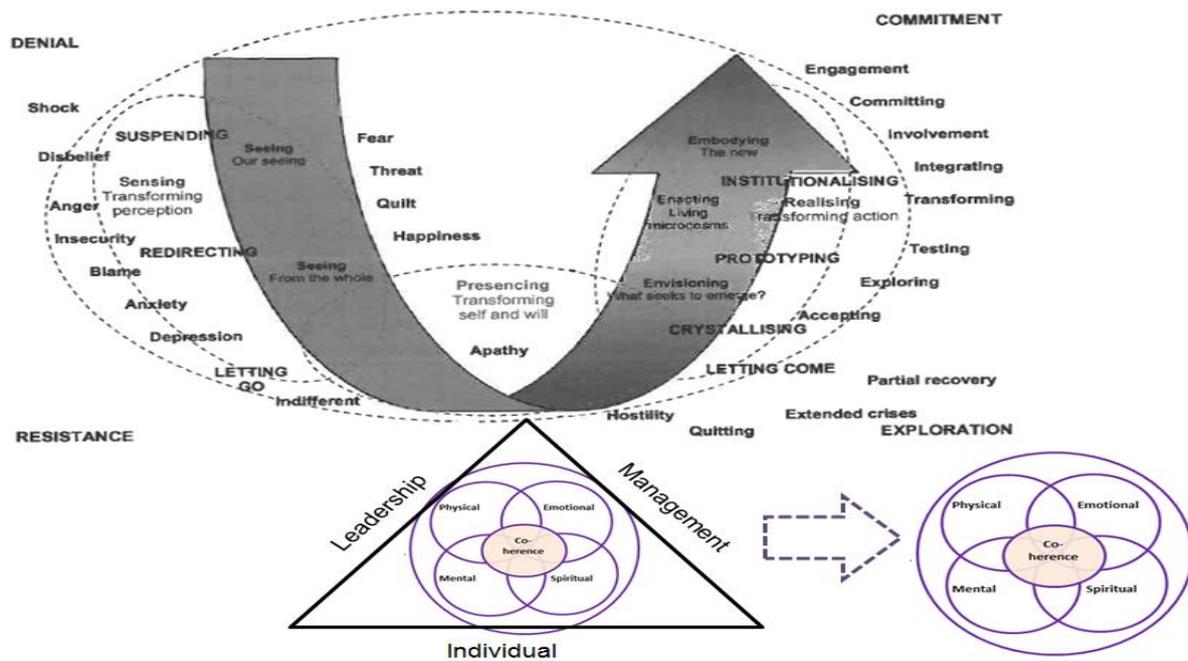


Figure 2. Adapted U-movement integrating organisational description (Scharmer, 2007; Viljoen-Terblanche, 2008:82)

The more entrenched a model of work becomes, the more change will be resisted. As much as the injection of information and technology makes the defence of old practices preposterous, a shift in human consciousness is required to alter/adjust such practices. If the project does not cater or allow time for such a shift, resistance will prevail. This clearly illustrates the requirement for change management alongside technological changes.

Quantitative analysis can never be the sole metric to use in business practices. New technology allows the accurate measuring of information. However, the interconnectedness between employees and their conscious, subconscious and irrational thoughts and feelings have not been addressed. The long-term functionality of the system requires both.

Technological change should be used as a catalyst to align existing talent, relationships, innovation, experience, processes, systems and value systems on a trajectory to serve the goals of the entire department. Goals should encompass all employees. Allowing one or two powerful individuals proprietary rights to the system should not be permitted. A productive future will be difficult without collaborative systems.

It seems that any change which impacts on the way people do their daily jobs should not be taken lightly. Furthermore, this case initiative illustrated that organisational change still does not hold its rightful place within the organisational or project structure. To ensure improved change, the profile of change should be elevated to a place on the strategy agenda to ensure everybody is able to join in on the journey towards successful change.

TWT

Given the reality of this change initiative, the researcher again adapted the U-movement (Scharmer, 2007; Viljoen-Terblanche, 2008) as depicted in figure 2, indicating that certain individuals will experience increased difficulty if the circle of discussion is out of balance. Figure 3 indicates the reality of this change initiative. During change, the U-movement would be likely to skew to the left, resulting in resistance. Resistance played a large part in the failure of this change initiative, partly due to the nonexistence of change strategies, poor communication and a lack of employee involvement. Resistance could also stem from mechanistic structures, too much managerial power and too many procedures and rules. Less personal and more formal communication could have detracted from management's ability to effectively communicate the change initiative intention. Fear of the unknown, loss of security, disruption of routine and/or lack of understanding could have further increased resistance. This emphasises the importance of change management alongside technological changes.

Figure 3 indicates that the U-movement from denial through to commitment rests on a circle symbolising equality, participation, inclusivity and empowerment of all as the base. Various individuals sit in this circle. Employees sought inclusivity, participation, involvement, empowerment and clear communication. A strong need for discussion was evident. These discussions can take place within a circle.

If change impacts on the way people do their daily jobs, the impact of such change on the relevant people should be considered and treated with the necessary respect and empathy. Throughout this change initiative, management seemingly did not treat change carefully.

From a human niche perspective, it would seem that some employees did not realise things were changing. For some, family was more important and all the talk of doing things differently remained just talk. However, such talk about change did increase employees' stress, to a point of becoming paralysed and disengaged.

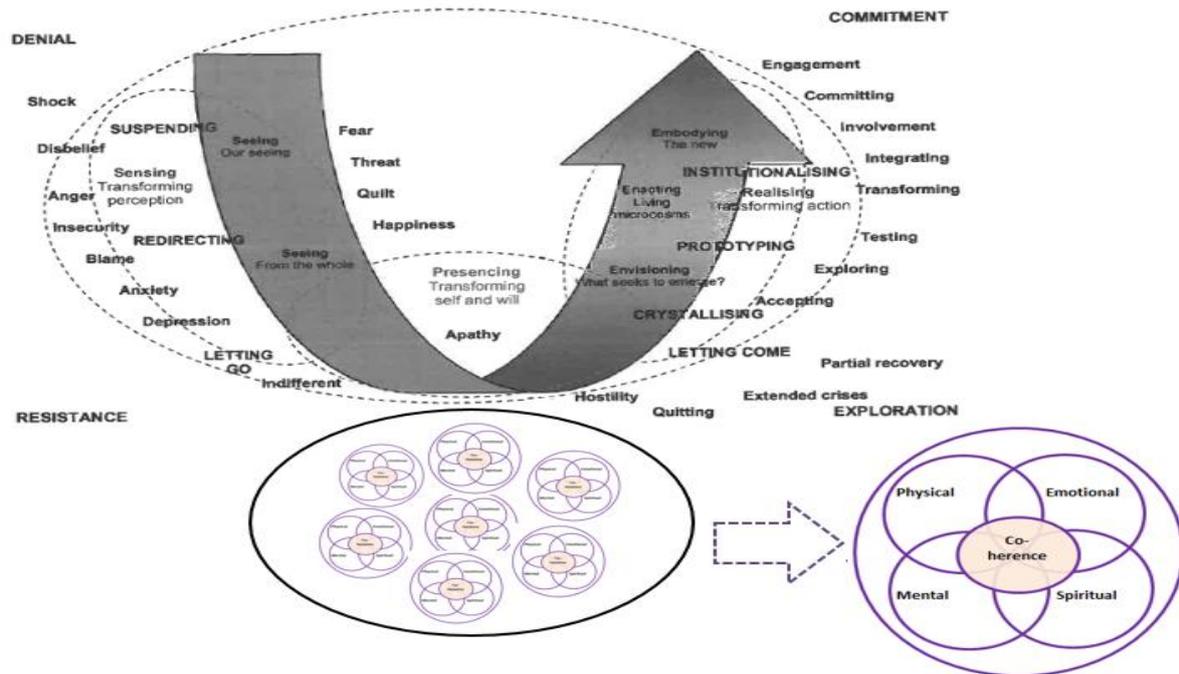


Figure 3. *Adapted U-movement integrating organisational description (Scharmer, 2007; Viljoen-Terblanche, 2008:82)*

Change was generally treated as simplistic, resulting in wastage and damage as time, effort and energy were spent reactively. This project damaged individuals, the company, relationships, trust and employee involvement. At an individual level, mistrust was rife, uncertainty led to insecurity and misunderstanding resulted in resistance. At an organisational level, this poorly run project resulted in wasted time, effort and expenditure. These outcomes would have to be corrected through yet another project, again emphasising the importance of change management alongside project and/or technical changes.

WSI

There seemed to be an association between communication and employees' attitudes towards change. When employees received information about change, they seemed to experience a greater openness and reduced resistance. As a result, the researchers again adapted the U-movement. Figure 4 indicates a hierarchical structure depicting the organisational structure. Figure 4 indicates that a coherent, complete individual resides in each box. Although this structure differs, the individual should still be attended to. If not, the U-movement is likely to skew to the left, resulting in resistance. Given the played-out reality of different thinking methods or human niches and different perceptions between different organisational players, in such a hierarchical structure, individuals experience increased difficulty with discussion and/or communication.

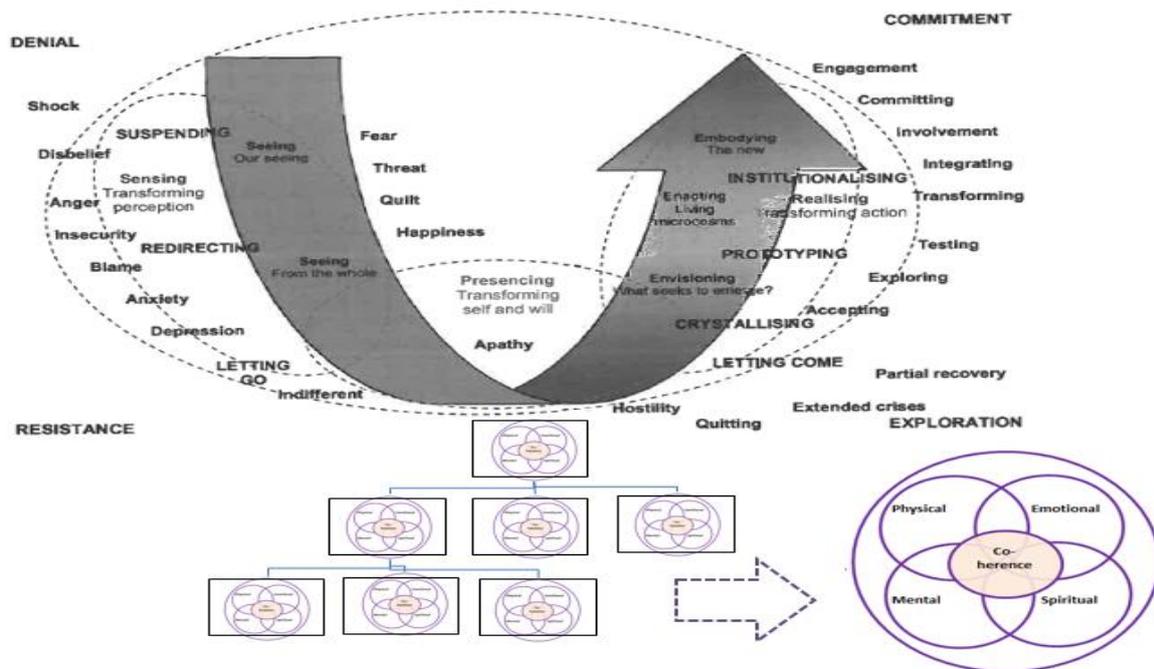


Figure 4. *Adapted U-movement integrating organisational description (Scharmer, 2007; Viljoen-Terblanche, 2008:82)*

This change initiative introduced limited elements related to change management. However, applying small elements made a difference. Involving, engaging, explaining, ensuring understanding and participation, validates the reasoning for the project. This change initiative followed a joint project and change management approach.

Organisational change initiatives increase individual stress and depletes adaptive capacity. Reducing stress and anxiety allows people to carry on with what they have to do. Employees spend less time pondering or mulling over things when relevant information is provided at the appropriate time. Relevant, timeous information also reduces the need to spread rumours. Clearly explaining the steps and how every employee needs to be involved reduces the need to gossip. Ensuring the correct understanding reduces and largely minimises resistance.

Through the application of a combined technical and change management project method, the project was completed successfully. The change-over became almost inconsequential and the number of issues negligible. Planning and interdependence can be hugely improved, but being allowed to implement small elements differently should be celebrated.

CONCLUSION

The significance of change management when work methods change and how radical change affects employees, was displayed, as was the important role of leadership and the human elements involved

in change. The negative impact of ineffective, inefficient and dysfunctional communication to ensure proper understanding were evident.

Negative attitudes, coupled with different and overlapping perceptions, worldviews and thinking systems, stood out as obstacles in the process of change. A clear inability on the part of leaders and managers to effectively acknowledge and cater for these different and overlapping perceptions, worldviews and thinking systems was further aggravated by an attempt to enforce a general solution for a diverse population. The inability of leaders and managers to harness and employ diversity further increased the difficulty of achieving successful organisational change.

Evident was the lack of integration between leadership, projects and change methodology. The importance of implementing a multifaceted approach, integrating leadership and different thinking systems into the traditional roles of project- and change management seems clear.

ABBREVIATIONS

| | |
|--------|-------------------------------------|
| PRINCE | PRojects IN Controlled Environments |
| SD | Spiral Dynamics |
| TWT | Total Working Time |
| WSI | Work Style Innovation |

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THE ROLE OF SOCIAL ENTERPRISE IN SOCIAL AND ECONOMIC VALUE CREATION : A CONCEPTUAL CASE STUDY OF SULABH INTERNATIONAL SOCIAL SERVICE ORGANISATION (SISSO) , INDIA

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ABSTRACT

Social entrepreneurship is emerging as an important field of study within business disciplines. Social entrepreneurship has a legacy and a global presence. They are considered as the 'new instrument' of reform to create social transformation through innovative techniques and serve the under privileged citizens, at the bottom of the pyramid. (Dees, 2007). The purpose of this paper is to generate a deeper understanding how social value and financial viability is created through the social enterprise in India.

India's rapidly growing economy has not managed to alleviate the extreme poverty of nearly half the country's population that lives below the \$1.25 per day poverty line. There are several reasons for this, including lack of infrastructure, limited resources, less provision for education, public health and hygiene as well as basic education. By employing innovative business models, Social Enterprises are addressing India's vast development needs, while maintaining sustainability through viable revenue models. The study documents a spectacular growth story of Sulabh International Social Service Organisation (SISSO), a social enterprise, which provides healthy sanitation facility to over 16 million Indian citizen, who constitute the base of the pyramid (BoP). They have a innovative pricing mechanism and a unique business model .

Keywords : *Social Enterprise, hybrid organization, blending economic and social value, PWYW pricing, SISSO.*

INTRODUCTION

Social Entrepreneurship is the process of addressing social needs and problems, by creating and sustaining organizations having a social principle and social value (Mort et al., 2003). Social Entrepreneurship is commonly defined as an entrepreneurial activity with a focus on social principles and purpose. It has become a global phenomenon, addressing the basic needs of the human society which are neglected in the race for development in the mainstream. The Social Enterprises, which run

their operations and generating a surplus over their expenditure, are called Hybrid Organizations. These hybrid organizations, started with the advent of co-operatives as a form of business organizations in the 19th century, and are now present in different sectors. Some of the striking examples of social entrepreneurship have originated in developing countries. Grameen Bank, from Bangladesh, which created a revolution in microfinance and empowered millions of housewives to earn their livelihood and created a mechanism of providing loans to the poor section of society and making them financially independent. It is one of the globally accepted innovative solutions for addressing social of Social Enterprise. Thus the Hybrid Organizations have two goals – economic goal of using scarce resources and generating profits; creating social value by addressing complex social problems with innovative solutions.

Social Enterprises focus on creation and distribution of social value (Dees and Anderson 2003; Mair and Marti 2006). These organizations achieve their social value creation goals through entrepreneurial activities, and have to be financially sustainable in the long run. (Mair and Marti, 2006). In order to be financially viable organization, they have to raise funds from operation, and also align social values, which is a daunting task (Cooney 2006). Mendorza Abarca and Mellema(2005), have proposed a participative pricing mechanism, called pay-what-you-want (PWYW). It supports the social enterprise's 'economic goal of making a surplus and also creating the said surplus for furthering social value creation.' (Mendorza Abarca and Mellema(2005).It facilitates serving more beneficiaries in need, especially from the base of the pyramid(BoP). It empowers the customer from the lowest strata of income to pay for the services they want and thus create a market for such services. It also makes other citizens from the higher income bracket, support such a venture of community development. Such a mechanism aligns commercial activities, which can sustain the operations, and further social commitment to better living. According to Mair and Schoen ,2007 economic value creation is a 'necessary but not sufficient condition' for social ventures to be able to address pervasive social issues (Mendorza Abarca and Mellema, 2005). Further these organizations must serve 'people whose urgent and reasonable needs are not being met by other means' ((Mendorza Abarca and Mellema, 2005).

In this model, of Pay What You Want (PWYW), the pricing of the services offered, is decided by the customer. The implementation of PWYW as a pricing strategy gives buyers the role of determining how much they will pay for a commodity or service. As this pricing mechanism is customer centric, the customer would try and maximize utility and would pay a price which is most effective. This PWYW pricing mechanism increases the revenues over a period of time, by serving more and more customers and improving the wellbeing of disadvantaged individuals (Mendorza Abarca and Melema, 2005).

Organizations such as Soul Kitchen, and One World Everybody Eats Cafes have adopted PWYW as their sole pricing mechanism. These organizations seek not only a sustainable revenue source, but also encourage customers, who cannot regularly afford a meal, a theatre performance, or a museum admission to enjoy the products or services offered. The research paper documents an organization from India, which has empowered people to use its services, by applying PWYW mechanism, in the area of public sanitation and hygiene.

Further, from the literature review on various models of social enterprises formation, there are three models : market makers, system innovators and innovative campaigners (Chamu Sundaramurthy, et al ; June,2013). Market makers are the social entrepreneurs who add social value through new products and services. These ventures create new market avenues by recognizing market inefficiencies that prevent servicing of the under privileged. These social entrepreneurs enable the marginalized and the poor to participate as consumers and pay for the services they use. The system innovators are like any other entrepreneur, who are able to tap the existing opportunities or create a practical solution to an existing problem of the society. Lastly innovative campaigners are the ones who create innovations in social utilities and through awareness and education, bring about participation of masses. There is no water tight compartmentalization of these three forms of social enterprise, most often there are elements of more than one model for any social enterprises organization. The above mentioned forms are depicted in Figure 1

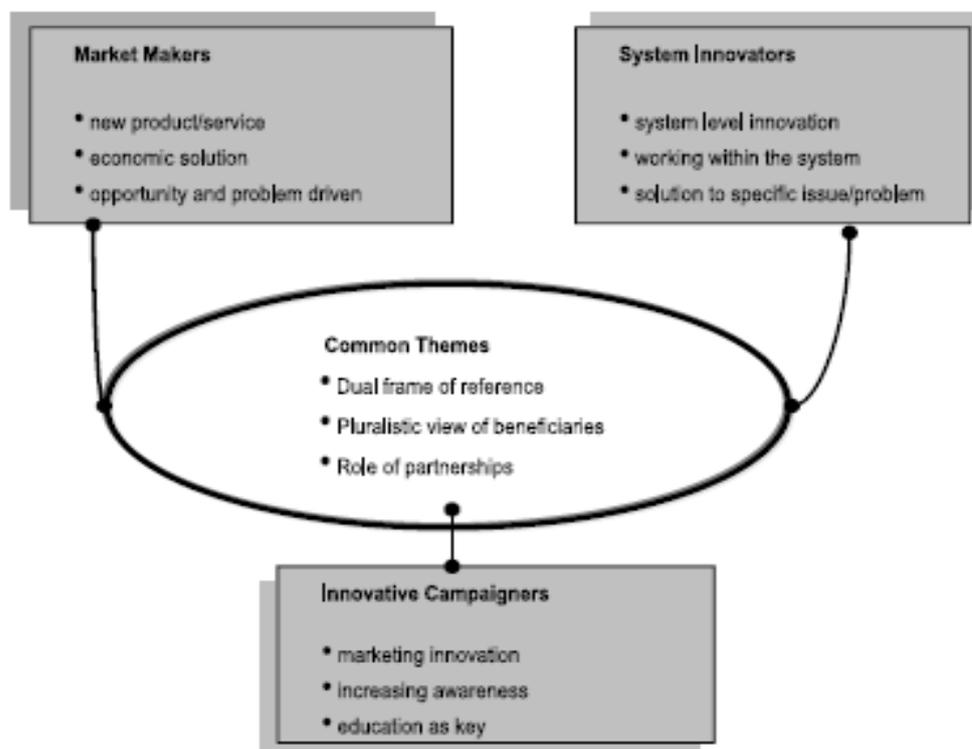


Fig.1. How social entrepreneurs create and sustain social value.

Source : Chamu Sundaramurthy et al; (2013)

There is significant social entrepreneurship activity in emerging economies, however as regards developing economies including India, it is scarcely researched. The purpose of this research paper is to generate a deeper understanding of how social value is created in India. The paper also documents case study, which documents an innovative solution to the problem of sanitation and public health, through social enterprise. The insights from this case, illustrate how social entrepreneurs successfully blend social and economic priorities.

BACKGROUND OF SOCIAL ENTERPRISES IN INDIA

Rapid developments in the Indian Economy post-liberalization since 1991 have prompted institutions like the World Bank to forecast that India would be the fourth largest economy in the world by 2020 (Budhwar and Bhatnagar, 2009). India develops a vibrant entrepreneurial ecosystem that creates wealth, employment, and economic growth that the country needs. As cited by the Government of India, Finance Resource Department Report (2011), large Indian businesses – both in the public and private sector – have not generated significant employment in the past few decades and are unlikely to do so in the coming decade or two. Public sector employment has declined in the last few years due to the economic uncertainty. A large private sector firms have also been slow in generating employment, which is unlikely to change due to increasing automation, digitization, and productivity gains. For example, the banking sector in India has recorded almost no employment growth in the last two decades despite multifold growth in its revenue and assets. Agriculture employs nearly a half of India's work force, but employment is likely to decline in this sector, due to improvements in productivity.

The distinctive institutional framework, economic and geo-political importance of India, coupled with the issue of poverty and many other environmental and social problems, have made India a particularly important setting from the viewpoint of social entrepreneurs (Chamu Sundaramurthy et al; (2013). India has a varied landscape of regional, sectorial, socio-cultural and political variation; its diversity is evident in the different religions, ethnic groups that co-exist peacefully and the different languages they speak. Indian cultural orientation is heavily influenced by philosophies of Hinduism and Vedanta, Buddhism and Jainism which believes in inclusive and holistic growth of society which encourages social enterprise.

Social entrepreneurship has significantly progressed in India over the last decade and with each passing day a greater number of people are using entrepreneurial skills in building sustainable enterprises for profit and non-profit purposes. Singh S P (2008), has defined social entrepreneurship as “A new look at the people and the potential in India. He further states that, it is an evolving approach for dealing with multifaceted social needs. He further states that , “with its

emphasis on problem-solving and social innovation, these activities blur the traditional boundaries between the public, private and non-profit sector, and also emphasize hybrid models of for-profit and non-profit activities.” Bhatnagar (2008) has also documented a rural woman head(sarpanch), Raj Kunwar Jat who uses novel and practical ways to generate financial capital for her village and sustain social enterprise. The paper documents a case study where the social enterprise not only created a social revolution in the area of public health and hygiene but also ran it as a financially sound organization.

RESEARCH METHODOLOGY

Research Objectives and Methodology

The broad objective of this research paper is to answer an important question “What are the patterns of social value creation in India? Secondly are these organisations, financially feasible? Thirdly is there any successful Indian experience which can be documented? The specific objectives of the research findings from this research are as given below:

- i. Documenting the complexity of social challenges and possible solutions given by the social enterprise in India
- ii. Assessment of Social enterprises based on their ability to innovate effective solutions to complicated social problems .

Yin (1994) p.13 defines, “A case study is an empirical inquiry that, investigates a contemporary phenomenon within its real life context, especially when, the boundaries between phenomenon and context are not clearly evident.” This statement emphasizes that an important strength of case studies is its ability to undertake an investigation into a phenomenon in its real-life context (Yin, 1984, p. 23).

Qualitative Case study is rich source of data and is an appropriate technique especially to answer “How” and “why” research questions. The data documented in the case study, has been collected using multiple sources and techniques namely research reports, newspaper articles, observation in various SISSO centers. SISSO is not just an organization, but a social movement and a revolution in India.

CASE STUDY : SULABH INTERNATIONAL SOCIAL SERVICE ORGANISATION, (SISSO), INDIA

Sulabh International Social Service Organisation herein after referred to as (SISSO), is one such social enterprise, creating history with 15 million users every day, steady flow of revenues, ever-increasing

demand and expanding geographical reach (Rastogi, 2005), a social movement to provide healthy and hygienic sanitation facility to everybody. But SISSO is not about community toilets only – it's a social revolution, freedom from detestable social customs of discrimination based on caste & creed, very dominant in the Indian society. It also put an end to the shameful practice of defecation in open spaces, eradication of the inhuman practice of manual scavenging and liberation of scavengers engaged in this occupation end of spread of contagious diseases and epidemics, boost to non-conventional energy sources, enormous employment opportunities, educational institutions - including multiple schools and vocational training centers, a toilet museum in the heart of national capital of India, mention in United Nation's World development Reports, multiple national and international awards, presence in thousands of cities, and invitations from various countries to design and develop the sanitation system for respective nations.

BACKGROUND OF SISSO, INDIA

According to UNDP Report, 2007, More than, 65 % of the Indians did not have access to toilets. The practice of defecation in open spaces was very prevalent, especially in rural areas. In addition, there were dry toilets, which are cleaned by human scavengers and the human excreta was carried on the head by scavengers. They had been forced into this humiliating practice for generations and treated as untouchables (harijans) for centuries. In the year 1993, the Indian parliament passed "Adoption of the employment of manual scavengers and construction of dry latrines (prohibition) act, 1993". This law prohibits the practice of construction of dry toilets and human scavenging. However, 10 states (Rajasthan, Jammu and Kashmir, Himachal Pradesh, Uttaranchal, Kerala, Meghalaya, Nagaland, Manipur, Arunachal Pradesh, and Mizoram) have still not adopted this act as of 2006. (UNDP Report, 2007). Further, according to 2001 census of India, there were 6.9% households (4.5% in rural area and 13% in urban area) with service latrines, which require human scavenging. (UNDP Report, 2007). In India, as many as 50 diseases are caused by lack of proper sanitation, affecting over 80% of the population. These include intestinal, parasitic, infectious diarrhea, typhoid and cholera. Further, women have to go for defecation before dawn or after dusk, which implies suffering in the daytime. The school drop-out of female child is also very high, as toilet facility in schools is barely available.

The lack of sanitation resulted in a disastrous impact on public health, particularly in the highly stratified Indian society where scavengers belonged to the backward caste. Bindheshwar Pathak, PhD, created Sulabh International Social Service Organisation (SISSO) in 1970, to liberate scavengers in India by employing low-cost, safe, sanitation technology. Within four and half decades, SISSO has built a commercially viable business model, while also makes a social transformation through sanitation (UNDP Report,2007). Further, by 2006, it liberated 60,000 people from lives as scavengers. It

has also developed 26 different toilet designs for varying budgets and locations and trained 19,000 masons who could build low-cost, twin-pit toilets using locally available materials. Local municipal governments in India engaged SISSO to build toilets in public places, and some state governments even offered loans and subsidies to individuals to build toilets at their homes (UNDP Report,2007).

SISSO has installed more than 1.4 million toilets in households and 8,000 public toilets in 25 states and 3 union territories of India, for the year ended 2015. Maintaining public toilets on a pay-and-use basis was a natural extension of SISSO's mission. The idea was to overcome the constraints in scaling up the sanitation and hygiene (Rastogi, 2009) The public toilets or community complexes targeted the sanitary needs at public places, otherwise marked by filthy and poorly built municipality toilets. SISSO also created awareness regarding the crucial role of sanitation as a basic need amongst the various communities, viz., slum dwellers, rural population, pilgrims, etc., by building community complexes operating on the pay-and-use basis (Rastogi, 2009). Further, according to the said author, SISSO public toilets are used by 15 million users every day. The word(Sulabh), has become a generic name for public toilets. SISSO also provides mobile toilet van facility at a nominal payment, which is sought by large fares and at occasions of public gatherings. This number of service-users is matched only by the Indian Railways in the entire world.

SISSO has expanded its network internationally. It has branches operating in Bhutan and Afghanistan. In Kabul (Afghanistan) the construction of five public toilet complexes is nearly completion. Besides, many countries have sought guidance, consultancy, and services from Sulabh. Some of these countries are Nepal, Indonesia, Mozambique, Kenya, South Africa, Ethiopia, Uganda, and Burkina Faso. SISSO, however, is no longer about public toilets only. It has adopted a holistic development approach for the under-privileged. Other SISSO initiatives include public schools and vocational training for scavengers, slum welfare program, empowerment of women through education and employment, toilet museum, research and development in sanitation, training for NGOs, and international consultancy for sanitation. It has built a Sanitation University, on the outskirts of the capital of India, Delhi.

SOCIAL TRANSFORMATION --- THE SISSO APPROACH

While SISSO started out as an organization providing sanitation solutions to the individual households and communities, the technological adaptation of two-pit pour-flush toilet for the rural and urban poor areas. This two-pit-pour-flush toilet was a viable alternative to scavenging which could be implemented at a large scale due to its affordability, suitability to usage in Indian condition, requirement of less water and space, and easy maintenance. With this toilet design, SISSO could dream of creating awareness about hygiene and community health among the masses.

Despite the long cultural legacy of caste system, SISSO attempted to provide a model in which scavengers could be spared of the inhuman work of scavenging (while engaging in less inhuman activities related to sanitation). In 1986, SISSO initiated training and rehabilitation programmes for scavengers' children.

BUSINESS MODEL OF SISSO

Mr. Pathak, social entrepreneur, began the enterprise with his own funds and also borrowed INR 50,000 (US\$1,150) from friends and family and started the company. His first order came, in 1973, from a municipal corporation in Bihar. In 1974, he got the state government's nod to build toilets on a large scale using the SISSO design, which was a unique design, costing only INR 500 (US\$ 11) and a deluxe model of toilets for residences costing, INR 30,000 (US\$ 750). This was possible as the household toilets were subsidized by state government (half the amount paid by households and half by the state government). The income from this source accounts for INR 250 Million (US\$ 5 million) as of 2015.

Secondly in community complexes, public toilets were built, under the public-private partnership model. State government provided funds through the local authority for building the toilets where the money and land belonged to the municipal corporation. SISSO built the toilets and then charged a fee for its operations and maintenance. Here SISSO used the PWYW pricing strategy, and charged a nominal INR 1/- to 2/ (1 cent) for a single use, which roughly translates into a revenue of INR 550 million (US\$ 10 million) per annum.

SISSO also has been innovative in garnering funds for their various projects from agencies like World Bank, UNICEF, UNDP, WSCC, USAID as well as national and state governments of India and local agencies. SISSO presently seeking help from billionaires across the world for funding his ambitious plan for safe and accessible toilets for every household in India. Mr. Pathak, plans to raise USD 2 billion for a new sanitation movement in India, by appealing to the affluent Indians. With the help of 690 affluent people, he hopes to finance public toilets to 690 districts of India.

CHALLENGES FOR SISSO

Influencing the public policy framework: There is a strong inter-connection between sanitation and public health, between water availability and sanitation standards, and a public policy to incorporate all three under its fold. Earlier, there was a lack of clear public policy framework governing public health, sanitation, and water policies, which was the key reason for underlying poor performance by the Indian Government on the sanitation front (Goyal and Gupta, 2009). Nirmal Bharat Abhiyan was re-structured into Swachh Bharat Mission with two sub-Missions - Swachh Bharat Mission (Gramin)

and Swachh Bharat Mission (Urban). The two missions will fall under the Union Ministry of Drinking Water and Sanitation (for Rural) and the Union Ministry of Urban Development (for Urban). The Swachh Bharat Abhiyan (Clean India Programme) and Nirmal Bharat Abhiyan (Pure India Programme) was announced by Prime Minister of India Narendra Modi on Indian Independence Day & launched on 2 Oct 2014. The objectives of Sulabh are in alignment with this movement, where the objectives are similar, which includes, Construction of individual, cluster and community toilets; elimination of open defecation; creating awareness for use of latrine.

According to the Government Of India, Planning Commission statistics (2014), earlier, only 22% of the rural families had access to toilets in 2001. With the efforts put into the Total Sanitation Campaign/Nirmal Bharat Abhiyan (NBA) this has gone up to 32.70% as per Census 2011. Further as per NSSO 2012, 40.60% rural households have toilets. All rural households are planned to be covered with sanitary facilities by 2019. Physical achievements made during last 2 years and current year SBM (Gramin) is demand driven scheme hence no annual targets are fixed. Achievements made under SBM (Gramin) during last two years and current year is as under:

| Component | 2012-13 | 2013-14 | 2014-15 (Upto 31.10.2014) |
|-------------------|-----------|-----------|---------------------------|
| Household toilets | 45,59,162 | 49,76,294 | 13,70,347 |
| School toilets | 76,396 | 37,696 | 8,748 |
| Anganwadi toilets | 36,677 | 22,318 | 3,325 |

Source: *Ministry of Drinking Water and Sanitation, Government of India*

Figure 2: Present Status of Household Sanitation

As per the estimates, the unit costs for toilets will be enhanced for Individual Household Latrines (IHHLs) (from INR 10,000 to INR 12,000), school toilets (from INR 35,000 to INR 54,000), anganwadi toilets (from INR 8,000 to INR 20,000) and Community Sanitary Complexes (CSCs) (from INR 2,00,000 to INR 6,00,000). According to the GOI Planning Commission statistic, 2014, the proposed investment of INR 1.34 lakh crore (US\$ 20061 Million) for rural areas and INR 62,009 crore (US\$ 935 Million) for urban areas over the next five years. Part of these funds would be made available by the Government and rest will come from private players. Sulabh can use this opportunity to increase its reach and revenue through this programme.

Leadership Challenges : Dr. Bindeshwar Pathak is a charismatic leader and the key source of inspiration for the organization. His dedication and commitment to the sanitation sector is unparalleled. He however, needs to create future leaders and managers who would share his passion and dedication towards the mission of the SISO (Goyal and Gupta, 2009).

Creating awareness and recognition of the importance of sanitation: Marketing the product through education and informing the common man about the importance of sanitation and hygiene and

health. Government has also launched a programme which promotes building toilet for every daughter and daughter –in law, in every rural household, will strengthen and widen the reach of SISO products in rural areas. (Goyal and Gupta,2009).

CONCLUSION

This paper broadens existing knowledge on social enterprises in India, especially a unique business model which promotes an innovative product of public utility at a subsidized rate and garnering funds from operation through PWYW pricing strategy and reaching the Base of the Pyramid(BoP) consumers. A case study of SISO was used to document the social transformation which was silently brought about, with innovative business model that serves millions of underprivileged citizens of India, generating social and economic change. Further, governmental and non-governmental organisations have also taken a more leading role to encourage social entrepreneurship and provide sanitation and hygiene to all at a subsidized rate. It is important to have public – private partnership in such projects that are focused on long-term social revolution. SISO demonstrated the positive effects on social change, public health and empowerment of underprivileged section of society.

FUTURE RESEARCH

Future research should aim at understanding whether rural communities have changed their attitude towards sanitation and hygiene due to SISO. A longitudinal survey is essential to evaluate user and non-user's attitude and their perception towards SISO in furthering social revolution.

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SUSTAINABILITY AND SOCIAL RESPONSIBILITY IN THE FOOD INDUSTRY. FOCUS ON INGREDIENTS MARKET.

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ABSTRACT

Companies today operate in an environment and socio-economic complex contest.

The fast transformations in the environment and strong hyper-global competition, have led companies to hire an economic-social role within the environment.

With the enlargement of the market the concept of corporate social responsibility becomes an essential factor for the development of the enterprise.

In the light of these considerations, this article aims to show how, acting within the food business are claiming new methods of approach to the target market.

In particular, it aims to highlight the market of food ingredients, which is a highly complex market. Companies operating in this sector, are driven to create new strategies of action based on the principles of sustainability and responsibility to society.

It is necessary to highlight how this trend is wanted not only by companies but by the final consumers; which they are predisposed to buying decisions that involve ethical and moral aspects of a packet. Using a further questionnaire to validate this hypothesis.

Keywords: *globalization, the food market, the ingredients market, sustainability, social responsibility, food supply chain, new strategies for action.*

INTRODUCTION

Globalization is a phenomenon of composite nature, which not only reduces the sphere of economic transactions but which embraces the systems of society, culture and politics of the whole world. Companies will need a crash course in becoming market-oriented and customer-driven. They will have to establish new strategies, structures, system, and internal cultures in order to survive.¹ Despite

¹ KOTLER P. (1990), Globalization - Realities and Strategies, Die Unternehmung, Vol.44, No2, pp 79-99

the attention of scholars and the public opinion about it has been emphasized in recent times, this phenomenon is rooted in the past.

Anthony Giddens (1999), defines globalization as the global interconnection (the cultural levels, political and economic) that results from the elimination of barriers.

This paper has as objective to putting them in light as in the food industry, particularly in the market for food ingredients; the issue of corporate social responsibility will become more and more important. A theme that has emerged in recent years is related to responsibility: in particular we refer to the mode of making the company the more responsible in order to meet the needs of its customers, ensuring financial income to investors and promoting social development in competitive space in which it is present.

Sustainability, social responsibility and supply chain are the main drivers of the companies operating in the food sector. Taken together, these paradigms are expanding the range of action of companies useful for the construction of a more united economic system, based on the principle of sustainability.

This reality is confirmed by consumers who increasingly operate their choices not based only on the cost-benefit ratio, but promote ethical and other attitudes social type.

The consumer, therefore, makes a choice of belonging rewarding the company with which it shares the social, ecological and political choices facing the community.

GLOBALIZATION AND ITS INFLUENCE IN THE FOOD INDUSTRY: FOCUS ON FOOD INGREDIENTS MARKET

In conditions of hyper competition the firm aims to make "more off the same, only faster, better and cheaper than competitors"¹ focusing on the environment and in particular on competition to predict, curb and react to his moves.

In this context quite complex, the food sector has shown a substantial "sealing" which highlighted its counter-cyclical qualities.

However, it must be stressed that in recent years from the end of 2007, the world market of agricultural commodities and food prices have been characterized by a strong surge and a subsequent fall in prices. Such oscillations have accentuated the situation of uncertainty and competitiveness of the industry.

The economic importance of the food industry in Europe is remarkable. In fact, it is the first manufacturing industry in terms of turnover.

The following graph shows the change in the sales of some countries in the European Union; demonstrating that the structure of the food sector in these countries is significantly different.

¹ V.J.K. Johansson, "Global Marketing", McGraw-Hill International, 2006, p.55

| Member State | 2015 Q1 / 2014 Q4 (% change) | 2015 Q1 / 2014 Q1 (% change) | Q1 2015/Q1 2014 (% change) |
|----------------|---------------------------------|---------------------------------|-------------------------------|
| EU | -0.6 | 0.8 | -0.6 |
| Austria | 1.0 | -0.4 | 0.7 |
| Belgium | -2.1 | -1.9 | -2.5 |
| Bulgaria | 0.4 | 5.3 | 6.2 |
| Czech Republic | -0.4 | 2.4 | 1.1 |
| Denmark | -1.5 | 1.1 | -0.7 |
| Estonia | -2.0 | -3.6 | -2.5 |
| Finland | -2.9 | -0.3 | -2.0 |
| France | -0.1 | 0.3 | -0.2 |
| Germany | -1.7 | 0.0 | -3.5 |
| Greece | 1.5 | 0.5 | 0.5 |
| Hungary | 1.0 | 5.1 | 7.2 |
| Ireland | 2.3 | 0.2 | 5.4 |
| Italy | 0.7 | 2.0 | 1.8 |
| Latvia | -0.1 | -0.6 | -5.3 |
| Lithuania | 2.1 | -2.7 | -7.9 |
| Netherlands | -0.3 | 3.4 | 2.7 |
| Poland | 0.3 | 0.2 | -2.9 |
| Portugal | 0.7 | 0.2 | -1.8 |
| Romania | 2.1 | 1.2 | 4.1 |
| Spain | -1.8 | 3.8 | 0.9 |
| Sweden | -1.7 | -3.1 | -6.4 |

Picture 1 - Change in food and beverage sales by country¹

Despite a fall in consumption in the food industry due to the prolonged recession, the value of the food ingredients market was valued at \$ 66.4 billion in 2014 and is expected to grow at an annual rate of 5.5% from 2015 to 2020.

Article one of the objectives is to highlight the issue of responsibility in the food ingredients market (B2B market). Companies operating in this sector contribute to their welfare due social responsibility enterprise; their economic growth is directly related to the development of social relations with the environment.

The key factors driving growth of the global food ingredient industry include escalating global population, changing demographics and growing demand for packaged food and beverages and the corporate social responsibility.

CORPORATE RESPONSIBILITY IN THE FIRM-ENVIRONMENT RELATIONSHIP

In the global context created, businesses operating in the field of food ingredients must better manage their interactions with the environment. The interaction between business and the environment can be defined as a relationship of Exchange, mutual influence with changes and developments over time.

The company presents itself as a system immersed in multiple environments identified in:

- micro-environment, divided into transactional and competitive environment, characterized by the set of variables that affect the operations of the company

¹ Source: European Food and Drink Industry, Economic Bulletin, 2015

- macro-environment composed set of external variables over which the enterprise has no chance to act as political, legislative, social, cultural and economic.

In recent years the relationship between the environment, social and ecological aspects considered, and the enterprise has become an increasingly important theme in which the company is treated as an active player interested in proper environmental management.¹

The growing importance of this issue led to the person in charge of involvement in environmental protection and a redefinition of its management structure.

There are several contributions left by scholars in which he emphasizes the need to monitor continuously the environmental characteristics and implement dynamic management systems in relation to these changes. Among the many scholars who have analyzed this relationship, include: Gino Zappa which, within its scientific production, assigns a considerable role to the concept of environment and its dependency on the part of the enterprise; not only is one of the first scholars of his time he reevaluates the static nature of the environment and its influences on entrepreneurial actions.²

At the same time, Pietro Onida argues, following the thought zappiano, that "this mutability of the environment is reflected in any sort of enterprise" highlighting the social influences of corporate activity in the environment.³

Other significant contribution is that of Pasquale Saraceno which recognizes the possibility for the company to change its external environment through a series of actions to make compatible the environmental situation with the act of the company.⁴

Thanks to the literature, you can then define how corporate responsibility is a useful tool to assess and monitor the interactions between the environment and business.

It is useful to stress that this tool has an effect both on the internal management of the company that arise with ethical and social behaviors and actions, both outward with the need to enhance the corporate image and obtain the consent of consumers and to all external stakeholders.

Businesses and individuals that are moving in the direction of environmental protection show that there are many organizational choices needed to develop a unique commitment throughout the company.

THE EVOLUTION OF THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY

¹ Source: "La responsabilità dell'impresa. Per i trent'anni di giurisprudenza commerciale", Giuffrè Editore 2004

² G. Zappa, Le produzioni nell'economia delle imprese. Tomo Primo, Giuffrè, Milano, 1956, p. 312.

³ P. Onida, Il bilancio di esercizio nelle imprese, Giuffrè, Milano, 1951, p. 33

⁴ P. Saraceno, La produzione industriale, Libreria Universitaria Editrice, Venezia, 1970.

Many are scholars of management that showed over the years interest in the corporate social responsibility; but only in the years '50s CSR joined fully in the academic literature.

The first major contribution goes back to 1953 by Bowen (1953), the first comprehensive study on corporate social responsibility refers to the businessman.

According to the author, the social responsibility of businessmen refers to "the obligations of the businessman to pursue those policies, to make those decisions and to follow those lines of action that are desirable in relation to the goals and values of our society".¹

In the following decade, reshape the international academic debate on corporate social responsibility and form different schools of thought.

At the end of the '70s was a very important moment, characterized by the proliferation of CSR definitions. On the one hand, we developed the neoclassical theory, according to which the social interest is profit and whatever compromise the efficiency of the enterprise represents an unnecessary cost. Simultaneously the first studies were proposed that shared the premises of stakeholder theory and viewed the enterprise as the bearer of duties against a number of parties. The leading exponent of neoclassical theory was undoubtedly Friedman, that "there is one and only one social responsibility – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which equates to argue that compete openly without resorting to deception or fraud".²

Of the decade 1980-1990 we must mention an important contribution; Drucker offers a new perspective on CSR, stating that liability can be seen as an economic opportunity for profitable for business. The author identifies the existence of a positive correlation between corporate social responsibility and business.

In more recent years has been consolidated in the debate on corporate social responsibility the link between this concept and to sustainability.

The concept of "sustainability" as it is known was first introduced in 1987 by the Brundtland Report of the United Nations. In this analysis, the concept of sustainability was defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".

In recent years, then, as pointed out in the previous paragraph, it can be seen as the firm is part of an environment with which it interacts and is influenced and therefore increases the interest about the nature of these interactions.

¹ H. R. Bowen, *Social responsibilities of the businessman*, Harper, New York, 1953

² M. Friedman, *The social responsibility of business is to increase its profits*, *Journal New York*, pp. 122-124, 1970

THE NEW CONSUMER

The theme of responsibility has received, especially in recent years, significant attention from food companies and consumers. As mentioned earlier, it is important to emphasize that this trend is wanted not only by businesses but also by final consumers.

The goal of this research is to find the new variables that influence consumer buying decisions.

As said previously, it has been confirmed by an empirical investigation based on a qualitative and quantitative methodology.

Broad questions were built mainly to answer closed, seeking to deepen the growing importance new variables that drive consumer choices.

The questionnaire is tested through word of mouth, social networking and online forums regarding the sector analyzed, it was divided into several sections.

The survey is aimed at studying the consumer with specific questions in order to identify, understand their needs, expectations, habits and preferences. The statistical sample that responded to the questionnaire consists of 66.7% of women and 33.3% of men, total responses amounted at 187.

In particular, with regard to the objectives of this article, it is useful to clarify that the variables that drive and that influence consumer buying choices have been identified: environment, protection, preservatives, fashion and health.

These values were used to see if there could be a particular correlation and verify which of the options listed above, are mainly related and those that are less so.

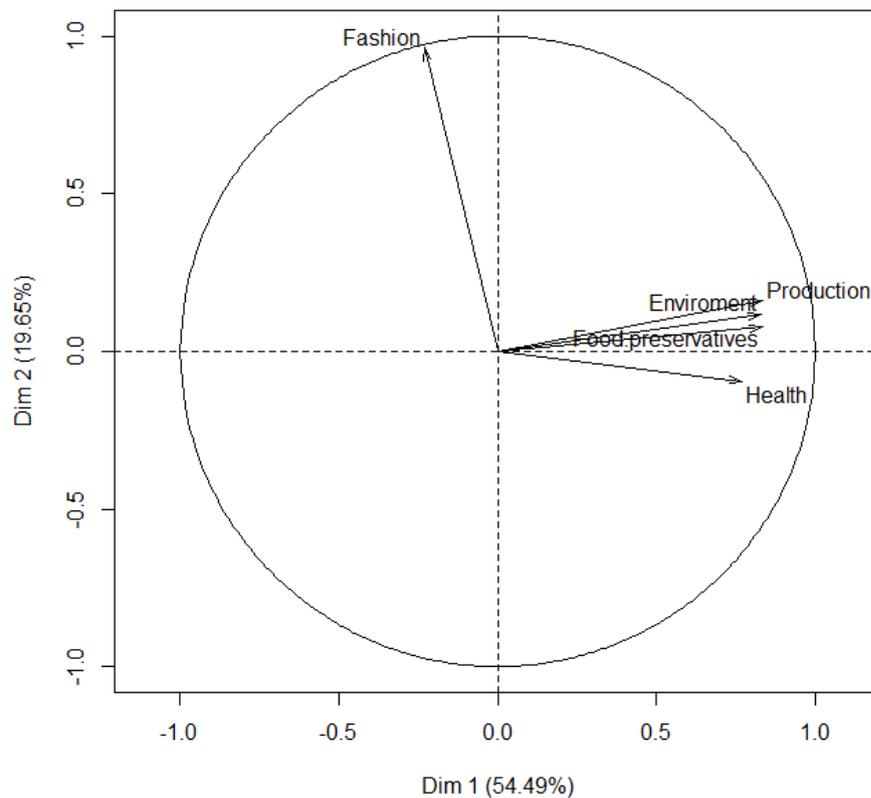


Table 1 – The drivers that influence purchases¹

The PCA chart shows us substantially the correlations between the various options.

The aim was to figure out which variables are in close correlation and therefore influential consumer buying behaviour. It can be seen as producing, preservatives and environment variables are strongly related to each other and at the same time are correlated with health but not with the same intensity that they have between them.

These variables can be summarised in the search by consumers of food obtained through quality production not to mention the respect for the environment.

One can therefore argue that the importance attached by the consumer to just one of these variables ensures the same importance as the other variables considered, precisely because they are related to each other. Regarding the variable fashion, we can affirm that in relation to the variable health appear to be inversely related (who looks more fashionable doesn't consider the salutary effect of a food).

¹ Source: Authors's elaboration

Finally, according to the PCA methodology arguably preservatives and fashion are as independent as can be seen from the graph form a right angle.

The second PCA was performed taking into analysis the sex and age of the respondents.

As can be seen from the graph females (black dots) are located further to the right than men, this demonstrates that women, main purchasing managers, are affected most to the peculiar characteristics of foods such as naturalness and quality.

Also, considering the age of respondents, we can see from the chart as people aged from 45 years of age are those that take into account the size that runs from left to right of the graph above and seek the assurance of a quality product.

Clearly it can be assumed that this preference of these variables requires a larger budget. In conclusion, this poll, with subsequent statistical analysis, allowed to better analyze what ought to be the characteristics of the food in front of consumers who are increasingly knowledgeable and competent. In addition, this analysis gives help and clarification about the composition of the market not only the institutions but also individual companies operating in this sector.

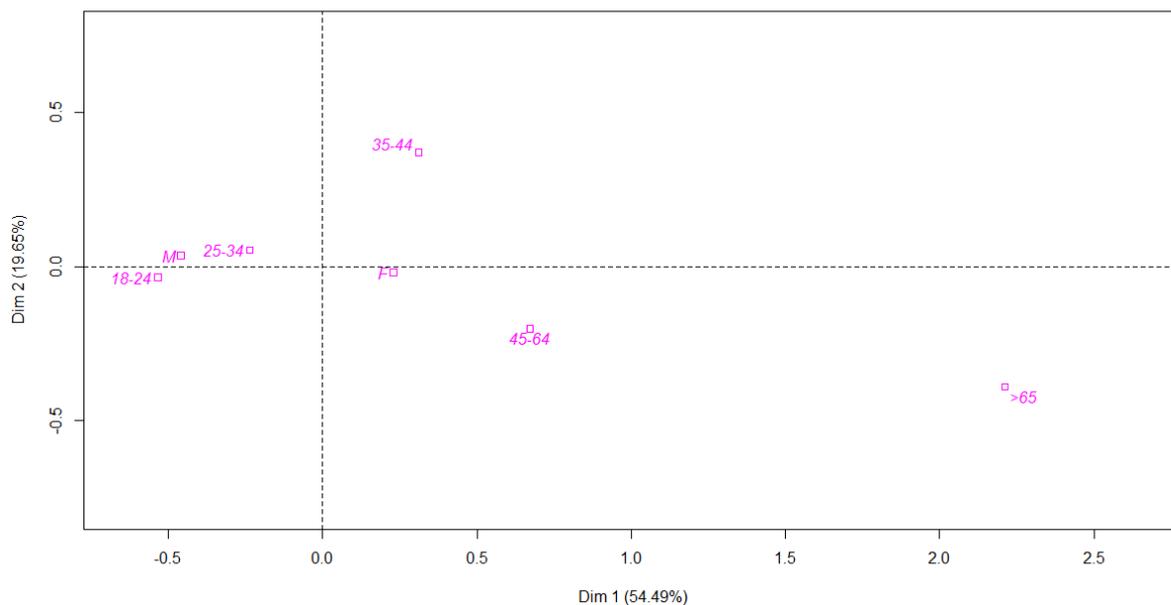


Table 2 – Interviewees¹

The questionnaire results represent a possible starting point of analysis to readers about the consumer orientation towards new paradigms.

¹ Source: Authors's elaboration

SOCIAL AND RESPONSIBLE BUSINESS INCREASES THE TURNOVER

The theme of corporate social responsibility (CSR) has become a topic of interest to the community. The European Commission (EC) on 25 October of 2011 has defined CSR as “corporate responsibility for their impact on society”.¹

By this definition of CSR from the European Commission wants to push companies to focus their attention on a new way of doing business; incorporating the maximization of profit with the desire to play an active role in the context in which they operate.

This concept of CSR must go far beyond the simple compliance with any applicable laws, but the development of CSR practices should lead to business growth (Brino 2014).

Until a few years ago seemed a theme contrasting with the business, now it has become an integral part.

Here is that CSR becomes a useful tool capable of creating different types of value for a multitude of actors²:

- for employees: assuring them better working conditions and increasing their well-being;
- for vendors: through a logic of co-operation and sharing of objectives and values;
- for customers: by maximizing their well-being but also through the adoption of an ethical process of production;
- for the community: taking an active part in society through the development of activities aimed at environmental protection.

CONCLUSION

In a highly complex environment, the company is confronted with an environment, which changes unpredictably. The company is called to play a productive role in response to the different needs of demand and the welfare of the local community in which it resides.

Corporate responsibility, understood as a commitment by the company to the environment in which it operates, has effects on both the internal and operational management and towards external social actions to maintain and increase the consensus of all stakeholders.

It's clear that this issue is important not only for businesses operating in B2C but is considerable even for companies operating in a logic of B2B.

¹ Taken from the Green Paper "promoting a European framework for corporate social responsibility" of 2001.

² For further information please visit: Tantalus C., R. Priem, Competing for stakeholders: toward them to more context-sensitive theory of business sustainability ", accepted in the Journal of Management Studies," The Foundations of Sustainability "conference, Burleigh Court, Loughborough, 27th-29th September 2010.

In the questionnaire proposed in the paper, it was possible to highlight how the issue of social responsibility is a sensitive issue for final consumers.

It should be stressed that whatever the competitive situation in which the company develops, both B2B and B2C, to have huge success is not enough that the firm is proficient from the production point of view, but it is also very important that it be accepted by society.

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PERFORMANCE OF VIX INDEX AS A TOOL FOR VOLATILITY FORECASTING IN BULL AND BEAR MARKETS

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ABSTRACT

This paper explores the information content and the forecasting power of the VIX index, computed by CBOE. As a benchmark, the forecasting performance of VIX is compared to the Garch (1;1) model and historical volatility. The total period of 20 years taken into consideration (January 1995-December 2014) is split into two sub-periods, precisely before and after March 2006. This is when the trading of option contracts having as underlying VIX index began. By comparing the two sub-periods, we can judge if the information content of VIX increased after becoming a negotiable asset.

Furthermore, we carry out a specific analysis of the determinants of forecasting errors made by VIX. In particular, we explore the dependence of these errors on the level of realized volatility and the trend of prices (bull vs. bear market).

The results of the analysis are not clear-cut. The VIX index shows strong information content, but is an upward biased forecast of realized volatility. When comparing VIX to Garch and historical volatility, the former is dominant, but only when the outlier period of the sub-prime crisis is excluded from the sample. The information content of VIX seems unaffected by the event of becoming the underlying of option contracts. The errors made by VIX are more pronounced in market phases characterized by high volatility and decreasing prices, highlighting a dependence of its forecast ability on market dynamics.

Keywords: *VIX, historical volatility, Garch models, forecast ability, information content*

INTRODUCTION

Estimating volatility is one of the main goals of academicians and practitioners in the financial field. Forecasts of future price variability are needed to make funding or investment decisions, to value financial instruments, and to measure the risk of a portfolio. Not surprisingly a vast empirical and theoretical literature focused on this topic, proposing new methods for estimating volatility or comparing the effectiveness of techniques already in-use. In particular, our work belongs to that stream of literature which explores the merits of implied volatility (IV) measures, i.e. volatility measures

derived from option prices. From a theoretical point of view, these measures could be superior to other types of estimates because they reflect market expectations instead of deriving from a statistical model or from historical returns. In fact, IV is often indicated as a forward-looking measure. In the following sections we will briefly review the literature on the topic and explain our incremental contribution to this literature (section 2), describe the methodology adopted by the study and the features of the sample (section 3) and present the results of our empirical investigation (section 4).

LITERATURE REVIEW

As already mentioned above, the literature concerning volatility measurement is rich and extensive. One stream of literature compares various volatility-forecasting methods by pitting one against the other. Typically the expected volatility estimated through different alternative methods is used as independent variable to explain realized volatility, i.e. the dependent variable. The information content and forecasting power of the expected volatility measure are judged by looking at the significance of the beta coefficient and by testing the null hypothesis that the coefficient is equal to 1 and the intercept is equal to zero. The relative forecasting power of different volatility measures are analysed by including them concurrently in a regression and by comparing the coefficients of the various independent variables.

Poon and Granger (2005) examined 93 studies structured in this way and published during a 20-year period. Their overall conclusion is that option-implied volatility most frequently provides better forecasts than time-series models. Among the most influential empirical studies dealing with option-implied volatility, it is worth mentioning Jorion (1995). Focusing on the currency market, he finds that implied volatility outperforms statistical time-series, even when these are given the advantage of *ex post* parameter estimates. However, IV appears to be a biased volatility forecast. Similarly, Fleming (1998), Ederington and Guan (2002), Szakmary et al. (2003), Corrado and Miller (2005) find that IV dominates historical volatility despite being an upward biased forecast. Shu and Zhang (2003) reach the same conclusion, using four different measures of realized volatility, characterized by increasing complexity. Martens and Zein (2004) confirm the superiority of implied volatility, compared to time-series models, while showing that long memory models based on high-frequency data are able to equal and, in some cases, beat IV forecasting performance. Day and Lewis (1992) find that implied volatilities derived from S&P100 index options contain incremental information when added as an exogenous variable to Garch and E-Garch models, but they are unable to draw precise conclusions as to the relative predictive power of Garch forecasts and implied volatility to *ex post* volatility.

Canina and Figlewski (1993) sharply confute the papers commented so far. Indeed, they find that implied volatility derived from S&P100 index options has no correlation at all with future volatility. However, a few years later, Christensen and Prabhala (1998) strongly criticize the method of this study, attributing the peculiar results reported to a problem of overlapping data that was not adequately managed. By solving the issue, the authors confirm that implied volatility outperforms historical volatility in forecasting future volatility, even providing stronger evidence compared to previous studies. Further confutations are made by Becker et al. (2007) who find that the VIX index does not contain incremental information, when compared to a combination of model-based volatility forecasts. As in the study conducted by Canina and Figlewski (1993), this empirical study presents a problem of overlapping observations. Moreover, the authors do not directly compare VIX forecasts against any single model-based forecast but to quite a complicated combination that would be difficult to use in day-by-day practice. Thus, the contribution is merely theoretical.

The most recent contributions focus on comparing the performance of different models across different asset classes, different financial markets and in different market conditions. Kourtis et al. (2016) compare the forecasting power of implied and GARCH volatility at an international level, taking into consideration 13 equity indices from 10 countries. Browless et al. (2011) compare a set of models belonging to the ARCH family on a wide array of assets with the aim of comparing not only their forecasting power, but also their ability to cope with a crisis period such as the 2008 turmoil. Charoenwong et al. (2009), focusing on the foreign exchange market, compare the predictive power of implied volatility derived from exchange-traded and over-the-counter options, concluding for a superiority of the latter.

Among the empirical works described, our study is mostly in line with Christensen and Prabhala (1998) and Shu and Zhang (2003). However, we introduce a few variations that represent our specific contribution to this field of literature:

- we do not derive implied volatility from one or more ATM near-to-maturity options, as commonly done in literature, but we directly use the VIX index calculated by CBOE, which is based on OTM options and is characterized by a constant average time-to-maturity of 22 trading days;
- similarly to Shu and Zhang (2003), we use four different methods to compute the ex-post realized volatility, characterized by increasing levels of complexity;
- the long and varied period covered by our time series allows to draw some conclusions about the effectiveness of different volatility measurements in different market conditions;

- we provide evidence of the effect of VIX options trading on the information content and effectiveness of the index;
- we check the effect of multi-collinearity when comparing the information value of different volatility measurements, whereas most studies do not directly address the problem.

Furthermore, we carry out a specific analysis of the determinants of forecasting errors made by VIX. In particular, we explore the dependence of these errors on the level of realized volatility and the trend of prices (bull vs. bear market).

METHODOLOGY AND SAMPLE

As briefly synthesized before, our paper aims to explore the information content and the predictive power of the VIX index. We investigate relations between implied and realized volatility and assess whether the VIX index is a better predictor of future volatility, compared to historical and Garch-based volatility measurements.

In the analyses, we use the daily closing prices directly calculated by the CBOE, which represent the implied volatilities of S&P500 over the next 30-day period (22 trading days). The time horizon of our analysis is a twenty-year period, from January 1995 to December 2014, divided into two sub-periods, before and after March 2006, which represents the date when the trading of options on the VIX index began. By comparing the two sub-periods, we can judge if the information content of VIX increased after becoming a negotiable asset.

We initially run a univariate regression, considering the realized volatility as dependent variable and the VIX index and the others methodologies based on historical data as independent variable. For brevity, this kind of analysis is not reported, but its results are essentially in line with those obtained in the successive analysis and with the dominant part of previous studies.

Afterwards, following the main stream of the literature on this topic, we include both implied and historical volatilities in a multivariate regression, estimating the following equations:

$$RV_t = \alpha + \beta V_{IX,t-1} + \beta SMA_{t-1} \quad (5)$$

$$RV_t = \alpha + \beta V_{IX,t-1} + \beta EWMA_{t-1} \quad (6)$$

$$RV_t = \alpha + \beta V_{IX,t-1} + \beta GARCH_{t-1} \quad (7)$$

Where:

VIX = Volatility index computed by CBOE; SMA = simple moving average, computed on 22 most recent daily returns of S&P500 Index; EMWA = exponential moving average computed on 22 most recent daily returns using as decay factor calibrated on the historical return on the three previous years; GARCH: volatility computed with a Garch (1;1) model with parameters calibrated on 5 years of historical returns for the model applied in the entire period and calibrated on 3 years for the ones used in the two sub-periods.

Now two problems need to be overcome: overlapping data (Canina and Figlesky 1993, Christensen and Prabhala, 1998) and possible errors in the realized volatility measurement. To address the first issue, for each period we consider the VIX price of the day following the measurement of the realized volatility, which will be calculated again after 22 trading days.

To manage the second problem we test four different measurements, gradually more accurate, of realized volatility, namely the standard deviation, the Parkinson extreme value estimator (1980), the Roger and Satchel estimator (1991) and the Yang and Zhang estimator (2000), and we run regression analysis for each of the different measurements of realized volatility, considered in turn as dependent variable.

Though the majority of the studies on this topic does not deal with the multi-collinearity problem that might arise when the VIX index and a measure of historical volatility are entered in the same model, we prefer to face this issue by computing and evaluating the Variance Inflation Factors (VIF). In fact, a potential imperfect collinearity between these two variables cannot be ruled out *a priori*. In this regard, it has to be mentioned that few abnormal observations registered in the heart of the financial crisis, from September 2008 to April 2009, identified both with the leverage measure and Cook's distance, have been excluded from the regressions in order to reduce the multi-collinearity effect.

To conclude the analysis of the first research question, we analyse the determinants of the forecasting errors made by VIX defined as follows:

$$ER_t = \sigma_t - VIX_{t-1} \quad (8)$$

Table 1 provides some descriptive statistics for the volatility estimation methodologies used in the following analysis. Despite the critical market phase during the years 2008-2009, mean and median values do not present significant differences among the periods analysed, remaining quite similar even when the entire sample is split into two sub-samples. Indeed, the only elements that prove the stressed conditions characterizing the second sub-period (2006-2014) are the larger standard deviation of each estimation method, the maximum values, which are considerably higher, and the higher root mean

square errors (RMSE) that indicate more difficulties, compared to the previous period, in predicting the realized volatility.

The higher mean and median values registered by the Volatility Index in all period analysed seem to suggest an upward bias of VIX index that might incorporate a greater weight given by investors to the occurrence of low frequency – high impact losses. It is also worth noting – at this preliminary descriptive level – the higher RMSE associated to the VIX in the second sub-period (2006-2014) which contains the subprime crisis and which is consequently characterised by higher peak values of volatility.

| Volatility estimators for the period 01/1995-12/2014 | | | | | | |
|--|--------|--------|---------|---------|--------------------|-----------|
| | Mean | Median | Minimum | Maximum | Standard deviation | Root mean |
| VIX | 20,54% | 19,61% | 10,05% | 80,06% | 8,41% | 7,363% |
| GARCH | 16,24% | 14,08% | 7,72% | 58,65% | 7,68% | 7,124% |
| SMA | 16,56% | 14,48% | 5,39% | 80,76% | 9,74% | 7,172% |
| EWMA | 16,67% | 14,52% | 6,09% | 74,43% | 9,46% | 6,878% |
| Volatility estimators for the period 01/1995-02/2006 | | | | | | |
| | Mean | Median | Minimum | Maximum | Standard deviation | Root mean |
| VIX | 20,29% | 20,18% | 10,77% | 37,52% | 6,31% | 6,598% |
| GARCH | 11,66% | 10,95% | 8,59% | 21,75% | 2,78% | 7,458% |
| SMA | 15,94% | 14,64% | 5,84% | 44,92% | 7,35% | 6,368% |
| EWMA | 16,16% | 15,02% | 6,14% | 40,27% | 7,17% | 6,171% |
| Volatility estimators for the period 03/2006-12/2014 | | | | | | |
| | Mean | Median | Minimum | Maximum | Standard deviation | Root mean |
| VIX | 20,76% | 17,66% | 10,05% | 80,06% | 10,51% | 8,328% |
| GARCH | 16,51% | 13,50% | 8,26% | 61,28% | 9,54% | 7,771% |
| SMA | 17,33% | 14,24% | 5,39% | 80,76% | 12,06% | 8,355% |
| EWMA | 17,30% | 14,27% | 6,40% | 74,64% | 11,67% | 7,769% |

Table 1. *Descriptive statistics for the entire period 01/1995-12/2014 and for the two sub-period 01/1995-02/2006 and 03/2006-12/2014.*

RESULTS

In order to present our findings in a clear way, this section is organized in three steps. We initially run a bivariate regression in order to compare the information content of both VIX and the historical methods by entering them as independent variables in the same regression. This part of the analysis is quite standard in the specific literature. The following two steps provide some innovations to the previous

studies dealing with collinearity problems and deepening the analysis of the factors bearing on the forecasting errors made of the VIX.

1. Comparison between the predictive power of the various estimation methods

As first step of our analysis, we pitted the Volatility Index against historical and Garch-based volatility to test for a supposed superiority of implied volatility.

Tables 2 and 3 present the results of this analysis. In particular, they only report the results obtained using EWMA, but an unreported robustness check made by substituting EWMA with SMA confirms the evidence. Focusing on the entire period, the values of the VIX_{t-1} coefficients, which range from 0,3739 to 0,9113, are higher than the historical methodology ones, and indicate a better forecasting ability for volatility derived from option prices. This evidence is confirmed in all regression, regardless of the method adopted to measure realised volatility.

When we split the sample using March 2006 as divide, the evidence is strongly confirmed in the first sub-period 01/1995-02/2006 where the higher forecasting ability of VIX surfaces once again. In particular, this sub-period differs from the entire one only for the slope coefficients of the historical estimation techniques that are not statistically different from zero, thus confirming the superiority of VIX which even subsumes the information of EWMA and Garch-based volatility.

The analysis of the second sub-period, instead, provides evidence of a weak forecasting performance for the VIX index, especially when compared to the EWMA. Surprisingly the coefficients of EMWA are higher in all the measurement methods considered and VIX coefficients are not significantly different from zero. Thus, basically, the information content of IV is subsumed by the historical volatility. The Garch estimates too, in this specific sub-period, retrieve predictive power, although the clear superiority of one estimation method over the other cannot be observed. Order relations are variable and depend on the measuring techniques analysed; moreover, the differences between coefficients is not large enough to argue which presents the better performance.

| Dependent variables for the period 01/1995-12/2014 | | | | |
|--|--------------------|-----------------|-----------------|-----------------|
| | $\sigma_{Dev.std}$ | σ_{Park} | $\sigma_{R\&S}$ | $\sigma_{Y\&Z}$ |
| Intercept | -0,01323 | 0,00722 | 0,01496* | 0,009609 |
| | (0,0116) | (0,0092) | (0,0086) | (0,0089) |
| VIX_{t-1} | 0,6876** | 0,4561** | 0,3739** | 0,4351** |

| | | | | |
|--|-----------|-----------|-----------|-----------|
| | (0,1157) | (0,0915) | (0,0857) | (0,0886) |
| EWMA _{t-1} | 0,2269** | 0,2099** | 0,2444** | 0,2401** |
| | (0,1030) | (0,0815) | (0,0764) | (0,0789) |
| N | 227 | 227 | 227 | 227 |
| Adjusted R ² | 0,62 | 0,5832 | 0,5822 | 0,6071 |
| F(3, 224) | 34,07 | 182,74 | 235,27 | 179,58 |
| Dependent variables for the period 01/1995-02/2006 | | | | |
| Intercept | -0,01757 | -0,005486 | 0,002497 | -0,001501 |
| | (0,0151) | (0,0121) | (0,0112) | (0,0116) |
| VIX _{t-1} | 0,8427** | 0,6169** | 0,5330** | 0,5897** |
| | (0,1246) | (0,0992) | (0,0924) | (0,0953) |
| EWMA _{t-1} | 0,03215 | 0,08877 | 0,1323 | 0,1172 |
| | (0,1094) | (0,0871) | (0,0811) | (0,0837) |
| N | 126 | 126 | 126 | 126 |
| Adjusted R ² | 0,5651 | 0,5706 | 0,5772 | 0,5908 |
| F(3; 123) | 36,21 | 144,39 | 180 | 144,2 |
| Dependent variables for the period 03/2006-12/2014 | | | | |
| Intercept | 0,01080 | 0,02042 | 0,02826** | 0,02287 |
| | (0,01842) | (0,01458) | (0,01367) | (0,01417) |
| VIX _{t-1} | 0,3649* | 0,2231 | 0,1291 | 0,1988 |
| | (0,2135) | (0,1690) | (0,1584) | (0,1642) |
| EWMA _{t-1} | 0,5011** | 0,4096** | 0,4472** | 0,4427** |
| | (0,1921) | (0,1521) | (0,1426) | (0,1478) |
| N | 101 | 101 | 101 | 101 |
| Adjusted R ² | 0,6273 | 0,5925 | 0,5865 | 0,6158 |
| F(3, 98) | 10,48 | 64,56 | 87,57 | 63,42 |

Table 2. Regression models for the different measures of realized volatility, assuming as independent variable the VIX level and the historical volatility computed by the exponential weighted moving average (EWMA)

Hence, the results obtained for the second sub-period seem to contradict the evidence that characterizes the entire 20-year period and the first sub-period. During the years 2006-2014, characterized by extreme volatility values caused by the financial crisis originated by the Lehman Brothers' bankruptcy, the forecasting ability of VIX closely resembles that of the various historical estimation methods and, therefore, it is not possible to judge which of them possesses better predictive power. Only the exponential moving averages seem to dominate the implied volatility. The evidence is even more surprising when we consider that the trading of option contracts on VIX should have increased – not reduced – its information content and forecasting power.

| Dependent variables for the period 01/1995-12/2014 | | | | |
|--|------------|-----------|----------|------------|
| | σDev.std | σPark | σR&S | σY&Z |
| Intercept | -0,02294** | -0,001702 | 0,004625 | -0,0005701 |
| | (0,0109) | (0,0086) | (0,0082) | (0,0084) |
| VIX _{t-1} | 0,9113** | 0,6530** | 0,5942** | 0,6558** |

| | | | | |
|--|-----------|-----------|-----------|-----------|
| | (0,1083) | (0,0859) | (0,0811) | (0,0836) |
| GARCH _{t-1} | 0,009463 | 0,02104 | 0,03561 | 0,02969 |
| | (0,1188) | (0,0943) | (0,0890) | (0,0918) |
| N | 227 | 227 | 227 | 227 |
| Adjusted R ² | 0,6117 | 0,5709 | 0,5634 | 0,5911 |
| F(3, 224) | 31,76 | 175,38 | 221,93 | 169,6 |
| Dependent variables for the period 01/1995-02/2006 | | | | |
| Intercept | -0,01961 | -0,01561 | -0,0144 | -0,01605 |
| | (0,0188) | (0,0150) | (0,0139) | (0,0144) |
| VIX _{t-1} | 0,8657** | 0,6482** | 0,5667** | 0,6225** |
| | (0,1085) | (0,0865) | (0,0806) | (0,0832) |
| GARCH _{t-1} | 0,02177 | 0,1552 | 0,2694 | 0,2298 |
| | (0,2457) | (0,1959) | (0,1824) | (0,1883) |
| N | 126 | 126 | 126 | 126 |
| Adjusted R ² | 0,5648 | 0,5692 | 0,5756 | 0,5893 |
| F(3,123) | 36,16 | 143,77 | 179,15 | 143,5 |
| Dependent variables for the period 03/2006-12/2014 | | | | |
| Intercept | -0,007084 | 0,005648 | 0,01217 | 0,006873 |
| | (0,01678) | (0,01332) | (0,01258) | (0,01301) |
| VIX _{t-1} | 0,5568** | 0,3904** | 0,3096* | 0,3818** |
| | (0,2088) | (0,1658) | (0,1565) | (0,1619) |
| GARCH _{t-1} | 0,3916* | 0,3078* | 0,3386* | 0,3303* |
| | (0,2299) | (0,1825) | (0,1723) | (0,1782) |
| N | 101 | 101 | 101 | 101 |
| Adjusted R ² | 0,6129 | 0,5747 | 0,5623 | 0,5949 |
| F(3, 98) | 8,87 | 60,46 | 56,23 | 58,43 |

Table 3. *Regression models for the different measures of realized volatility, assuming as independent variable the VIX level and the historical volatility computed by a GARCH(1,1) model*

2. Analysis of collinearity problems and identification of outliers

In order to deepen the understanding of the contrasting results obtained for the first and the second sub-periods, we deemed it necessary to analyse a potential problem of multi-collinearity that could affect the coefficients' estimates when two volatility measures are jointly used as independent variables in the same regression. To this end, we computed the Variance Inflation Factors (VIF) for the three different volatility forecasting methods during the analysed periods.

First of all, it is important to underscore the fact that all VIFs are lower than the critical value usually accepted, which is ten. However the sub-period 03/2006-12/2014 is characterised by VIFs very close to their critical value and this raises the doubt of a potential misinterpretation in evaluating the relative forecasting ability of different methods based on the above regressions. The significant gap between the VIFs computed in the first and second sub-period could be potentially related to the existence of some

extreme observations that characterize the period 2006-2014 and that might have a significant influence on the tested relations between the different estimation methods.

In order to reduce the collinearity problem, we re-ran all regressions using a different sub-sample that excludes the outliers identified using the leverage influence measure and the Cook's distance applied to the original regressions. In particular, these analysis led to the identification of 7 outliers, all located in the period September 2008 – April 2009. Indeed, for all the variables studied, the new “polished” sub-samples present considerable reductions in the VIF that halve their values. The reduction in VIFs, excluding the volatility peak reached during the years 2008-09, confirms the initial hypothesis that these observations have a significant impact on the relations examined.

Table 4 refers only to second sub-period (2006-2014), showing the results of the regressions based on the revised sub-sample. Excluding the outliers from the data, the implied volatility dominates both Garch and EWMA volatilities in terms of predictive power, and their contribution becomes statistically non-significant.

These results, which are more consistent with previous literature on the topic, confirm that the volatility implied in the option prices, which directly reflects market expectations, better approximate actual market movements. However, our empirical evidence highlights as well an inability of VIX to capture correctly extreme market movements as already surfaced, at a descriptive level, when observing the values of RMSE in Table 1.

| Dependent variables for the period 03/2006-12/2014 | | | | |
|--|--------------------|-----------------|-----------------|-----------------|
| | $\sigma_{Dev.std}$ | σ_{Park} | $\sigma_{R\&S}$ | $\sigma_{Y\&Z}$ |
| Intercept | 0,01214 | 0,02702* | 0,02993** | 0,02752** |
| | (0,01891) | (0,01425) | (0,01273) | (0,01343) |
| VIX _{t-1} | 0,7045** | 0,4147** | 0,3782** | 0,4357** |
| | (0,2068) | (0,1558) | (0,1392) | (0,1469) |
| EWMA _{t-1} | 0,04052 | 0,1042 | 0,1035 | 0,09344 |
| | (0,1938) | (0,1461) | (0,1305) | (0,1377) |
| N | 95 | 95 | 95 | 95 |
| Adjusted R ² | 0,4139 | 0,3742 | 0,3931 | 0,4129 |
| F(3,90) | 16,40 | 95,75 | 135,64 | 99,61 |
| Dependent variables for the period 03/2006-12/2014 | | | | |

| | | | | |
|-------------------------|-----------|-----------|-----------|-----------|
| Intercept | 0,01093 | 0,02366* | 0,02666** | 0,02457* |
| | (0,01798) | (0,01356) | (0,01213) | (0,01279) |
| VIX _{t-1} | 0,7498** | 0,4486** | 0,4343** | 0,4892** |
| | (0,2074) | (0,1565) | (0,1399) | (0,1476) |
| GARCH _{t-1} | -0,008319 | 0,08642 | 0,05656 | 0,04738 |
| | (0,2440) | (0,1841) | (0,1646) | (0,1736) |
| N | 95 | 95 | 95 | 95 |
| Adjusted R ² | 0,4136 | 0,3722 | 0,3897 | 0,4104 |
| F(3,90) | 16,38 | 95,35 | 134,72 | 99,07 |

Table 4. Regression models for the different measurements of realized volatility for the subperiod 03/2006-12/2014, excluding the outlier

3. Factors bearing of VIX forecast errors

The lower predictive power of VIX during the most turbulent market phases, as stated in the previous section, seems to indicate a bias in its forecast ability that is more pronounced in the market downturns. This evidence prompted as us to try and analyse more in depth the determinants of VIX forecasting errors. In particular, we used as independent variables the levels of realised volatility and the market return, both at time t and $t-1$. The first two columns of the table show the regressions in which the realized volatility is used as sole explanatory variable. As hypothesized, the forecast errors are greater when the realized volatility is higher, suggesting that the investors' expectations might provide an error of over/underestimation related to their possible disproportionate reactions in particularly turbulent market phases.

It is more interesting to observe the specification (2) in which the past realized volatility is added as independent variable, since it significantly increases the coefficients of determination. Taking into account the fact that the realized volatility at time t maintains the greatest weight in determining the predictive errors of VIX, the minus sign acquired by the coefficients of lagged volatility seems to indicate that they are higher when the previous volatility is lower. This evidence indicates that VIX is unable to capture sudden surges in market volatility, notwithstanding its forward-looking nature.

| Dependent variables for the period 01/1995-12/2014 | | | | | |
|--|------------|------------|------------|------------|------------|
| | (1) | (2) | (3) | (4) | (5) |
| Intecept | -0,09533** | -0,06901** | -0,03505** | -0,03431** | -0,07269** |
| | (0,0068) | (0,0048) | (0,0033) | (0,0033) | (0,0060) |
| σ_t | 0,3349** | 0,7547** | | | 0,2030** |
| | (0,0352) | (0,0339) | | | (0,0313) |
| σ_{t-1} | | -0,5789** | | | |
| | | (0,0338) | | | |
| Return _t | | | -0,7182** | -0,7205** | -0,2275** |
| | | | (0,0624) | (0,0624) | (0,0960) |
| Return _{t-1} | | | | -0,08457 | |
| | | | | (0,0624) | |

| | | | | | |
|--|------------|------------|------------|------------|------------|
| $\sigma_t^* \text{Return}_t$ | | | | | -1,041** |
| | | | | | (0,2351) |
| N | 228 | 227 | 228 | 227 | 228 |
| Adjusted R ² | 0,2826 | 0,6874 | 0,3667 | 0,3692 | 0,5228 |
| Dependent variables for the period 01/1995-02/2006 | | | | | |
| Intercept | -0,1011** | -0,07097** | -0,04108** | -0,03937** | -0,09270** |
| | (0,009) | (0,007) | (0,004) | (0,004) | (0,009) |
| σ_t | 0,3544** | 0,6507** | | | 0,3144** |
| | (0,051) | (0,048) | | | -(0,049) |
| σ_{t-1} | | -0,4847** | | | |
| | | (0,048) | | | |
| Return _t | | | -0,4608** | -0,4808** | -0,237 |
| | | | (0,085) | (0,085) | (0,231) |
| Return _{t-1} | | | | -0,1567* | |
| | | | | (0,085) | |
| $\sigma_t^* \text{Return}_t$ | | | | | -0,5905 |
| | | | | | (1,100) |
| N | 127 | 126 | 126 | 125 | 126 |
| Adjusted R ² | 0,2763 | 0,6008 | 0,1841 | 0,1994 | 0,3807 |
| Dependent variables for the period 03/2006-12/2014 | | | | | |
| Intercept | -0,08933** | -0,06119** | -0,03020** | -0,03052** | -0,05373** |
| | (0,01160) | (0,006801) | (0,005289) | (0,005357) | (0,009313) |
| σ_t | 0,3162** | 0,8524** | | | 0,1033** |
| | (0,05501) | (0,04791) | | | (0,04604) |
| σ_{t-1} | | -0,7008** | | | |
| | | (0,04781) | | | |
| Return _t | | | -0,9196** | -0,9230** | -0,3041* |
| | | | (0,08869) | (0,08921) | (0,1660) |
| Return _{t-1} | | | | 0,08797 | |
| | | | | (0,08922) | |
| $\sigma_t^* \text{Return}_t$ | | | | | -1,154** |
| | | | | | (0,3286) |
| N | 101 | 101 | 101 | 100 | 101 |
| Adjusted R ² | 0,2426 | 0,7604 | 0,5158 | 0,5156 | 0,5978 |

Table 5. Regression model for the forecast errors made by the VIX, assuming as independent variables the standard deviation and the return of S&P500

The next two columns report the regression results in which the impact of the stock index return size on predictive errors was tested. All the periods studied present significant negative relations between the magnitude of errors and the market return, suggesting that in bear phases, such as the years 2008-09, the loss in the predictive power of VIX is more sizeable, thus explaining the divergence of empirical results that characterizes the sub-period 03/2006-12/2014 whether the heart of the post-Lehman crisis is included or not.

In order to assess the joint effect of these variables in greater detail, the last column includes the interaction between standard deviation and index return. Consistently with the above results, with the sole exception of the first sub-period, its slope coefficients indicate negative relations between the interaction term and the forecast error. The error made by VIX tend to be more pronounced in market phases characterized by high volatility accompanied by market downturns, highlighting a difference

in its forecasting ability that is directly linked to market dynamics. It is a valid element especially in the sub-period 03/2006-12/2014 where, indeed, the size of the coefficient of this variable is greater, confirming once again the singularity of the results obtained for the period 2006-2014 on the full sample.

CONCLUSIONS

The main aim of this study is to investigate whether the Volatility index is able to predict future realized volatility and what the corresponding information content is. Consistently with mainstream literature, our results point out that VIX is a biased estimator of realized volatility, although its ability to explain a considerable portion of realized performance allows it to dominate the other methods based on historical data. Despite the possibility of taking a direct stand in terms of expected volatility by introducing options contracts written on VIX, the information content of this index has not changed significantly. By directly analysing the predictive power of VIX against other methods based on historical data, the superiority of VIX is confirmed in the entire period and the first sub-period, while the second one is characterized by results that are not clear cut. These differences between the two sub-periods prompted us to deepen our analysis in an attempt to explain them. In particular, we found collinearity issues that affect the results in the period 2006-2014, and are basically caused by the presence of some abnormal observations during the most volatile market phase that started in September 2008. Leaving out these outliers, indeed, the empirical evidence is consistent with the previous studies, confirming the better predictive power of VIX.

Furthermore, our results show that the loss in predictive power of VIX is related to market conditions. Its predictive errors are generally bigger when a bear phase is accompanied by high volatility, suggesting that a volatility measure based only on investor expectations could be affected by biased reactions to market shocks.

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THE ROLE OF CITIES IN DECENTRALIZATION OF NATIONAL POLICIES ON SCIENCE, TECHNOLOGY AND INNOVATION

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ABSTRACT

This paper discusses decentralization of national public policies on Science, Technology and Innovation (ST&I) from the federal to the city government. Governments around the world have been supporting companies and innovation ecosystems because of their relevance to economic viability and national sustainable development. However, despite the increasing political, social and economic relevance of cities worldwide, their role has been underestimated in national ST&I policies. In this context, this study considers how municipal decentralization of national ST&I policies enhances capillarity, efficiency and the strengthening of regional systems of innovation. The study offers empirical evidence of intergovernmental relationships of decentralization through the case studies of two Brazilian cities: Porto Alegre and São Leopoldo, which were selected because of their comparatively good results in promoting companies and ecosystems of innovation in comparison to other Brazilian cities. The main conclusions of the study are: (a) federal government public policy promotion in ST&I remains crucial to the development of entrepreneurial technologically-based ecosystems; (b) municipalities are capable of mobilizing resources, structuring incentive mechanisms, articulating actors, and organizing governance systems; (c) decentralization via municipalities can improve capillarity and effectiveness, strengthening regional innovation systems and consequently complementing national ST&I policies; (d) increased political and economic power of city governments can promote improvements in federal policies of ST&I.

Keywords: *Regional Economy; Knowledge Economy; Science and Technology Management; Public Policies; Federative Decentralization; Technology Based Ecosystems.*

INTRODUCTION

This paper examines the role of cities in decentralization of national public policies on Science, Technology and Innovation ecosystems (ST&I) from the federal to the municipal level in the Brazilian context. The paper contributes to the characterization of a model for policies and management at the municipal level in the enhancement of ST&I. In knowledge economies, cities have been acquiring

renewed economic, social and political relevance. To some extent, they are recovering the historic concept of world-cities like Venice (1378-1498), Florence Genoa (1557-1627) and Amsterdam (1585-1773). However, unlike the past, today's global cities are integrated into networks. Many of them, although physically distant, are connected by instant digital communication, creating an unprecedented dynamic/momentum (Sassen, 1999).

In a network society, nations must adapt their powers and responsibilities as they will become increasingly dependent on technology-based companies to access products and services with the potential of fostering development (Sambamurthy et al., 2003). Since the 80's, knowledge has been an important factor in explaining the disparities among countries beyond the traditional factors of capital and work. Developing countries that have adopted policies of ST&I promotion are those that have progressed more rapidly in recent years showing that this is a vast and complex challenge that can be met through a large political mobilization for science (UNESCO, 2010). Accordingly, governments throughout the world have been supporting technology companies as a way to maintain competitiveness in an increasingly global economy (Barragat Andrade, 2009). Countries, including developed ones, support technology companies in many ways, such as through governmental policies in strategic areas and through infrastructure projects, where the State assumes part of the technological risk (Mazzucato, 2011).

In Brazil, national public policies on ST&I, despite clear improvements, are still excessively centralized at the federal level, which limits capillarity, efficiency and strengthening of ST&I. An alternative is decentralization, which implies the transfer of federal functions to regional levels. In health and education, this process has been recognized for its positive results. However, one does not observe further initiatives of decentralization to the municipal level to improve the national ST&I ecosystem. In this context, this paper aims to contribute with propositions for the role of the cities in national policies to support ST&I ecosystem improvement. Specifically, this article discusses the role and responsibilities of the federal and municipal governments in the public management of ST&I.

In the following sections, we highlight key aspects of studies that support the assumption of the new economical relevance of cities in a knowledge economy; then, we present aspects about federative decentralization and the regulatory frameworks related to the public ST&I policies. Finally, we explore the data on the cases of the two Brazilian cities, which have shown comparatively good results in promoting ST&I ecosystems as compared to other Brazilian cities. As the final considerations, we present propositions to create a model for decentralization of ST&I public policies to the municipal level.

CITIES IN THE KNOWLEDGE ECONOMY

In the 50's, the idea of regional development was based on the economic theories of the agglomeration factor in Perroux's (1982) theory of the *regional pole* and in Myrdal's concept of *cumulative circular causation* (1960). These theories considered that the installed base is the main stimulus for attracting new ventures. For decades, the concept of the *regional pole* has defined regional development policies where the growth of a local cluster irradiates itself to a whole region (Perroux, 1966). This model has inspired the construction of industrial districts in various parts of the world between the decades of the 50's and 80's, including Brazil (Monasterio, 2011; Paiva, 2004).

Accordingly to Thisse (1986), economic activity is not concentrated at a single point, nor is it distributed spatially in a uniform way. Instead, it is distributed unevenly, creating places more developed than others. Natural resource availability can determine economic concentration. However and more fundamentally, there are economic mechanisms of trade-off between various forms of growing returns *versus* different mobility costs (Thisse, 1986). The author proposes reasons for the existence of a great variety of well-succeeded local agglomerations in a globalized economy.

Theories differentiate between the concepts of regional and economic space. Region refers to a continuous territory delimited by geographical boundaries. Economic space, on the other hand, deals with scattered poles interconnected by networked economic affinities, as described by Castells (1999). According to this author, contemporary society is built around flows: capital flows, information flows, technology flows, organizational interaction flows, and flows of images, sounds and symbols. Castells' "flows" means a functioning society network, made of entities (network nodes) and relationships (links between nodes).

Some Californian economists explain the agglomeration of urban regions (metropolitan *regions*) through lower *transaction costs* (Scott *et al*, 2001). The city regions could be the privileged locus of a new worldwide economic order. The studies partially follow the tracks of Peter Hall ("worldwide cities") and Saskia Sassen's works of early 90s ("global cities"). All of them consider the spatiality of economic activity and embeddedness of economic analysis linked to the notion of territory. For Sassen (1999), economic urban agglomerations not only are not dismantled by globalization but also become increasingly central to modern life.

On one hand, the concept of *economic region* is explanatory for development, considering the achievement of externalities through regional integration of productive chains, including overcoming the *trade-off* between scale gains and transportation costs. On the other hand, this concept seems less explanatory in a knowledge economy, in which transportation costs are irrelevant to support the industry's competitiveness and the availability of a knowledge workers class grows in importance, which emerges in urban concentrations with high mobility. Thus, in the understanding of the *economic space* notion, it is worthwhile to highlight the growing relevance of cities and their connection to the

knowledge economy and to essential resources of a creative class of knowledge workers (Florida, 2008). A skilled worker can change jobs from a local company to one in a distant country without leaving his desk. The modeling of a knowledge economy, for instance, must consider a unique dichotomy, where labor mobility has two dimensions: the “*hypermobility*” of the teleworking capacity (Sassen, 2009) and the physical mobility of the individual himself (Florida, 2008). With this perspective, Weiss (2006) explains the virtuous spiral of the knowledge economy cities by the “principle” of *critical mass*, a phenomenon characteristic of urban centers, which simultaneously concentrates many people with great expertise (vertical competence) and a plethora of diversity in complementary knowledge (horizontal competence). This “*wide range of highly specialized skills mixed together*” in cities generate productivity and innovation corresponding to up to 85% of GDP in developed countries.

Sassen (2009) studied the trends that created the agglomeration of cities with strong insertion into the knowledge economy, according to three axes. The first results from the outsourcing of large corporate services of “heavy” economies (mining, factories, chemical industries, transport systems, construction and agriculture, among many others). They increasingly need highly specialized outsourced services such as insurance, accounting, legal services, financial, consulting, computerized system suppliers and so on. The companies that provide these outsourced services need scale and resources, including specialized people, who are most abundant in large urban centers, giving rise to the concept created by Sassen: “*urban knowledge capital*”. The second reason causing urban concentration is the new communication technologies, transport and Internet. These technologies might suggest, in a more obvious manner, centrifugal forces of decentralization, such as teleworking in urban offices, which tends to produce a movement of people from the center to the periphery. Paradoxically, there are forces, which lean towards centralization. In the opposing direction, the facilities of remote management allow that a greater number of companies may expand activities in other distant places in search of factors of knowledge economy: new markets and specialized people. In short, the more powerful the new technologies are the greater the distant management capability is; therefore, the easier it is to extend operations globally, creating new centers of density and centrality. The third axis is the principle of critical mass or scale. The *mix* of companies, talent and *expertise*, covering a wide spectrum of knowledge fields, make the city a complex center of strategic information exchange, subject to uncertainty, lack of structure and complexities. The city becomes an intense and dense center of a certain type of information exchange that cannot be fully replicated in the virtual space and requires face-to-face contact. These ties of talented people and unforeseen and unplanned information exchange add value in a virtuous cycle that produces higher-order information in a continuous and feedback process. This dynamic environment allows people to find information they did not know

they needed. Cities promote unscheduled, spontaneous and random meetings as a “coffee room effect” (Fu, 2007). The more concentrated the agents are, the more “luck” they will have in accessing the “cafeteria type of information” and, therefore, the greater the dissemination of new knowledge in the local cluster.

“If the 19th century was the century of empires and the 20th century was the century of the nations, the 21st century will be the century of the cities”, summarized Wellington Webb, the mayor of Denver (Scrimger and Jubi, 2000). In 2008, for the first time in history, most people in the world began to live in cities (United Nations, 2008). As cities grow, they occupy more than ever a central place in the world, with greater economic, political and technological power. Thus, the challenge of governments at all levels (municipal, state, federal), including transnational, is increasingly to solve the problem of cities. According to Bloomberg (2011), the mayor of New York, one cannot wait for national government decisions; cities are vulnerable on the front line because national governments are not doing what they should do. Therefore, cities need new income sources and a more dynamic economic matrix. They need to attract business, to face a competitive global economy, as well as to provide an effective and sustainable infrastructure (Dirks and Keeling, 2009), attracting technology-based business as a strategy to boost their economic matrix.

Despite globalization, which has increased commonalities in everyday living for much of the world regardless of one’s location, it has never been as important to choose the city where you live, almost as much as one’s career (Florida, 2008). Fiates (2013) concludes that knowledge economy companies depend much more on ties with local institutions than industrial age companies that can more easily relocate their “production platform”, even to distant sites. The more knowledge-intensive innovation activities are, the greater the need for spatial proximity (Amdam, 2003). “Surprisingly, the more new technologies allow global dispersion of corporate activities, the more they produce density and centrality”, summarizes Sassen (2009), creating economic agglomerations in new urban *clusters*, some of them in countries distant to the companies’ headquarters.

Considering the new role conquered by cities in recent decades, one should think about repositioning them in the national public management policies, especially to support enterprises and technology-based ecosystems.

DECENTRALIZATION OF NATIONAL POLICIES

Political science has a long tradition of debates and controversies regarding the optimal level of government that should be responsible for decisions and implementation of public policy in support of its citizens. In this debate, “who” does is as important as “what” must be done by the State (Ceneviva, 2010). The work of Hayek (1945) argues that local governments have a more precise,

detailed knowledge of the local population, and therefore are more capable than central governments in providing services to citizens. Tiebout (1956) suggests that decentralization allows each region to offer a package of benefits and taxes, creating healthy competition among them and allowing citizens to choose the jurisdiction that best meets one's expectations and needs. According to this theory in the political economy field, known as *public choice theory*, individuals and governments are rational agents, guided by self-interest and involved in complex interrelationships processes in search of a balance between costs and benefits in order to get them.

Decentralization assumes the existence of a central authority, which deems necessary - or unavoidable - the delegation of their powers to government's sub-national levels in favor of a more appropriate management or in response to sub-national pressures (Duchaceck, 1970). Decentralization also increases the possibility of social participation in local decisions making the government more transparent and "auditable" by their constituents (Oates, 1999). In this same vein, Stuart Mill verified that decentralization promote the citizens' greater political and civil participation, increasing their level of "civic education", helping to choose their representatives and improving the allocations of public resources (Oliveira, 2007).

As Alexis de Tocqueville observed more than a century ago, the federal system was created with the intention of combining advantages at different levels. For this purpose, it is necessary to evaluate which features and instruments are best suited for each level. Thus, decentralization explores, in both normative and operational terms, the roles of different levels and intergovernmental relations between them (Oates, 1999), in pursuit of common goals that would hardly be achieved separately.

Academic literature shows that decentralization can establish a new balancing point in the power asymmetry between both entities federal and municipal as exemplified by the Canadian experience of Keith Banting (2004). When the federal government attempted to cut social spending, provincial governments, realizing that they would be electorally harmed, used their political power to oppose the federal intention (Oliveira, 2007). In the Canadian case, the cuts would have been more likely in the context prior to decentralization. In other words, decentralization created a new balance of power between the federated entities reinforcing the local citizen's interests and giving a leading role in federal policies to the municipality.

A stimulus to the decentralization movements in several countries around the world is the concentration of tax revenues at the federal level. In Brazil, this has reached 58% in comparison to 25.3% for the states and 16.7% for the municipalities. In OECD countries, there also exists tax concentration, respectively, 56,9%, 26,4% and 16,7% (Valenzuela et al.,2015; CNM,2012). Despite the increased political power and social responsibility of cities around the world, the concentration of decision-making at the federal level suggests the need for further discussion on intergovernmental

transfers and a new role for regional entities in national development, both in Brazil and among OECD developed countries.

Despite some operational problems, theoretical elements of federalism and policy practice recommend decentralization, as highlighted by the Washington Consensus: decentralization is good not only for the economy but also for the policy of developing democracies, to bring the government closer to the people, to expand the supply of services and to create "accountability" systems (Stepan, 1999). Financial agencies, such as World Bank and IMF, and the Inter-American Development Bank, constitute important vehicles of global scale dissemination on decentralization (Melo, 1996), presented the following data: in 1980, sub-national governments were responsible for 15% of revenues on average, and 20% of total government spending. In the late 1990s, these figures had risen to 19% and 25% respectively, exemplifying the decentralization progress (World Bank, 1994).

In the following sections, we explore data about Brazilian initiatives regarding decentralization of ST&I, focusing on policies and actions held in two cities that are recognized as pioneers when compared to other Brazilian cities.

METHOD

We explored primary and secondary data relating to the decentralization process from the federal to the municipal level in two Brazilian cities. These cities were selected based on their achievements in ST&I development. We considered the strong performance of Science Parks as a characteristic of locally-lead ST&I development. Two of Brazil's most successful science parks are located in these cities, according to AMPROTEC's (Brazil's Association Member of the International Association of Science Parks and Areas of Innovation).

The focus in this case analysis was on the federal and municipal policies that have been embedded in the cities' ST&I systems. We compared these policies and highlighted singularities that are relevant to clarify key aspects on municipal governance.

Primary data was collected in interviews with different actors of the federal and municipal ST&I policies. Interviewee selection was based on a *snowball* strategy, where a respondent (or documentary source) pointed to others to explore.

Secondary data was provided by documents from the federal and municipal governments, interviews in the specialized ST&I press around the country, news and officials organization's reports like those of the World Bank and UNESCO.

Data was analyzed in a content-analysis approach, considering the dimensions explored in the study.

POLICIES FOR LOCAL ST&I ECOSYSTEM: EVIDENCE FROM TWO BRAZILIAN CITIES

The decade of 2005-2015 represented great advancements for Brazil's public policies on ST&I, such as a new *Innovation Law* that allowed non-reimbursable funds to companies; a new policy that facilitated using incentives and, albeit timidly, the first decentralized federal program for the Brazilian states (e.g. TECNOVA). Nevertheless, no federal programs on ST&I decentralization have been executed for municipalities, despite the cities' increasing political, economic and social relevance, especially in the formation of business technology-based ecosystems.

Despite the lack of policies oriented specifically towards municipalities, the Porto Alegre and São Leopoldo cases reveal that some initiatives at the municipal governmental level as well as cooperative actions integrating local government, companies and Universities, have favored the enhancement of the ST&I ecosystem. These two cities are located in the same region of Southern Brazil but are different in respect to size, constituencies, cultural background, economic bases, etc. Their similarity is in their well-ranked position on the Human Development Index. In 2013, Porto Alegre was rated with 0,805 (very high) and São Leopoldo with 0,799 (high), positioning these cities in some of the highest ranked positions in the country. Both cities are well served also by higher education institutions and have science parks located within their boundaries.

Another important similarity is the challenge both cities have been facing in respect to their economic bases. São Leopoldo's economy has been based on small machinery companies connected to various traditional industries like footwear and furniture. The decline in competitiveness of these industries mobilized different city stakeholders to create a science park on the campus of UNISINOS university. Porto Alegre, as the state capital, needs to improve its economic matrix with dynamics industries. Consequently, stakeholders in Porto Alegre's ecosystem, as in São Leopoldo, have been challenged to create new strategies based on technology to promote city development.

In the connection with federal policies to support ST&I, both municipalities are similar because a) they support private companies through non-reimbursable financing and b) they practice the direct tax exemption incentive. Both municipalities have demonstrated positive outcomes from their incentive policies to enhance digital ecosystems as shown by the increase of companies and projects at the Science Parks and at their extensions. However, there are differences to highlight when one makes a horizontal comparison between the municipal policies in these two cases, as will be discussed below.

Management models on incentive concession: The municipalities have different management models for incentive concessions. In Porto Alegre, the incentive is permitted for any company that provides services listed in the municipal law (ITC, engineering and architecture services). In São Leopoldo, in

contrast, the company must submit in advance a project to city hall for analysis by an expert committee.

On one hand, the prescribed policy has the advantage for companies of cutting bureaucracy, which is particularly important for small businesses such as start-ups, and this policy facilitates transparency and accountability for all stakeholders.

On the other hand, the incentive based on project analysis, as proposed in the São Leopoldo policy, reinforces relationships among the municipality and the benefited companies. This policy also enables the municipal government to better stimulate the development of industry segments and technologies that it considers a priority. This is more difficult when the benefit is granted based on a preconceived policy that has only prescribed in a generic approach the segment or industry to be stimulated. Coincidentally, a report from GCEE (2008) states: “it is the projects that more directly reflect the priorities of the policy”.

Incentive value and counterpart: São Leopoldo permits only a calculation-based increase, while in Porto Alegre the incentive is calculated on the entire base, which can mean different values and greater simplicity for companies and for municipality supervision. In contrast, the incentive on revenue increase has the merit of facilitating company growth.

In São Leopoldo, the best incentive levels depend on the counterpart in the form of increased revenue or an increase in the number of employees or subcontracting of one or more of the city’s companies, according to a formula established by law. In Porto Alegre, there is no counterpart requirement to the company that receives the benefit, instead the fulfillment of global targets by the benefited economic sector is required. Negotiation took place with the representative entities of the sector when the law was approved. For computer services, the reference is the sector’s average tax collection for the three previous years (2001, 2002, 2003), which is compared with the average of the subsequent fiscal years to the incentive grant (since 2004). For the engineering sector’s grant, the comparison base was the 2007 tax collection.

Supervision and Covered sectors: In Porto Alegre, all participating companies receive an incentive to reduce the Service Tax (ISS) rate at 60% with a reduction between 2 and 5%. In São Leopoldo, this reduction tax depends on a formula, which rewards the increase in the number of employees, a billing increase and/or the increase of the volume of local subcontracting. Complex controls lead to differences in interpretation that may cause problems for the beneficiary companies and complicate municipal supervision.

São Leopoldo’s tax incentive is broader and benefits companies from various sectors. In Porto Alegre the incentive is limited to specific computer, engineering and architecture services, previously defined

by the law, which represents a limitation as when changing laws in response to the dynamics of technology-based activities, the municipality does not necessarily respond in a timely manner.

Concession period: In São Leopoldo, the incentive period is of thirty months; in Porto Alegre, indefinitely. This does not mean that the period is truly unlimited because, strictly speaking, the municipality may unilaterally halt the incentive at any time.

In short, determining the best incentive program is beyond the scope of this article, but it is necessary to point out differences and similarities because both municipalities have successful public policies, as evidenced by their technological parks and other indicators. The differences between the two municipalities suggest theoretical considerations of the trajectory dependency, in the sense that the previous choices determine different trajectories even in similar environmental conditions according to Nelson and Winter ([1982] 2005). In complex systems, there is no single best answer.

In Porto Alegre the incentive is limited to some computer services and engineering, previously defined in the law, which can be a problem given to the difficulty of changing laws to monitor the dynamics of technology-based activities.

FINAL CONSIDERATIONS

This article queried on how municipalities could become an important player in the decentralization of ST&I national policies in order to strengthen regional innovation systems and complement the national system. Aligned with extant studies on the knowledge economy and relevance of cities, we emphasized the importance of the involvement of governments around the world to support the ST&I, the growing importance of the role of cities for regional economies and the strategic importance of federal decentralization for national development.

Based on the evidence presented here, this proposal of decentralization of federal ST&I policy, via municipalities, has as its outset the finding that cities have the potential to enhance and complement the performance capacity of the federal government. The research shows that municipalities are better prepared than the federal government to identify and select relevant local projects, identifying emerging start-ups with potential and for enhancing local technology-based ecosystems.

Research has shown that despite the relevance of federal government agencies and the work done in promoting ST&I for decades in Brazil (agencies like FINEP, CNPq, CAPES), they appear to have limited bargaining power in budget resource disputes in relation to other federal agencies, to which they are subordinate. Thus, the city's inclusion brings with it a new political force to the national innovation system, especially when acting collectively. This new balance of power can intervene in some key aspects of intergovernmental relations (Oliver, 1990), such as: an increase in the national system's *efficiency*, thanks to the operational reach of the municipal authority; the reduction of budget

instability of public development policies that tend to fluctuate due to several factors; the increase in *reciprocity* of intergovernmental cooperation and the decrease of asymmetry in power, mainly due to the excessive resources concentrated at the federal entity. A harmonious and balanced relationship promises to achieve mutual benefits, common interests and goals that would otherwise be unfeasible to any of the parties singularly.

Empirical evidence shows that: (a) governmental promotion of ST&I public policy remains crucial to the development of technology-based business ecosystems; (b) the studied municipalities show the capability to mobilize resources, structure incentive mechanisms, articulate actors and organize governance systems; (c) decentralization via municipalities tends to improve capillarity and effectiveness by strengthening regional innovation systems and complementing national ST&I policies; (d) municipalities have the economic and political power to influence the political environment and make adjustments in national ST&I policies, as shown by some recent events.

Observed differences in empirical data from development policies between the two municipalities show the need for flexibility in the adaptation of decentralized national policies to the specificity of different local realities, in accordance with the CGEE (2010). The studied municipalities have trajectories, legal frameworks, institutional arrangements and different systems of governance, with few points of contact. However, both have in common the fact that they are successful in their municipal development policies.

Often cities are the source of nations' major problems such as violence, pollution, water supply, energy, sewage treatment and garbage collection among many others. Paradoxically, they also account for the solution to these major national problems, once they are the center of new technology development and the concentration in critical mass of talents and the raw material of knowledge economy. Therefore, there is room to structure them in order that they are effective protagonists in national public policies of ST&I, energizing their economic matrix and increasing their ability to generate income, jobs and new entrepreneurial opportunities.

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BUSINESS PROCESS MANAGEMENT: AN INVESTIGATION IN ITALIAN SMES

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ABSTRACT

The importance of business processes management is widely recognized, even if not uniformly implemented by companies, with significant differences between small and large enterprises. This paper aims at investigating, through a survey by questionnaire, the diffusion of business process management (BPM) in a sample of Italian Small and Medium Enterprises (SMEs), operating in different businesses, due to the relevance of these companies both for Italian economy and for the literature. Different studies provide evidence that the performance of business processes has to be monitored because it has a direct impact on stakeholder satisfaction. Despite this evidence, the few empirical studies that consider the implications of process-focused techniques show no evidence that these techniques are consistently helpful (Benner and Tushman, 2003). It emerges that in SMEs there is a poor adoption of business process management (Ates et al., 2013) and some studies identify the main reasons (Chong, 2014). A key reason for the limited adoption of BPM in SMEs is that vast majority of SME operators are not aware that BPM can help their businesses to increase long-term value (Riley and Brown 2001; Smith and Fingar 2003) and they are too much attached to functional ways of thinking and managing.

The main limit of this work is strictly related to sample actually focused on Italian SMEs: indeed this sample could be enriched with a comparison with other European countries.

Keywords: *business process management, organizational structure, small and medium enterprises, Italy.*

INTRODUCTION

The importance of business processes management (BPM) is widely affirmed by literature and practitioners, even if companies demonstrate to be involved on this topic not with the same intensity. The process management is defined as an approach based on the organization of a company as a

whole set of interconnected activities, which aim to map, improve and align organizational processes (Benner and Tushman, 2003).

In literature it has been underlined that usually small and medium enterprises (SMEs) don't pay particular attention on business processes. This is partially due to the fact that usually SMEs are not aware that business process management (BPM) enables managers to increase long term value (Riley and Brown 2001; Smith and Fingar 2003).

Despite these difficulties, Turner and Bititci (1999) affirm that applying reliability engineering, process thinking and active monitoring concepts to business processes, it is systematically possible to identify key performance measures in order to actively monitor business throughout the company.

This paper aims at investigating with an exploratory purpose the organizational structure implemented in a sample of Italian SMEs, with a particular focus on processes, process management and monitoring activities. We considered this issue relevant both for the practitioners and for the literature, especially in a context characterized by economic crisis, as it indicates a possible perspective to manage competitiveness, and, above all, as we have observed that literature on BPM in SMEs is not particularly articulated. Indeed, as underlined by Ates et al. (2013), there is a gap between theory and practice in performance management in small and medium sized enterprises and it is interesting to investigate how SMEs can develop their managerial practice for effective performance management.

In this article, we firstly looked at the analysis of the theoretical background of business process management in SMEs, drawing particular attention to the main issues of our paper. Next, we outlined our research method and in the following section the discussion of the results is presented together with the conclusion of the work.

LITERATURE REVIEW

SMEs literature

Small and medium enterprises are a particular set of firms and they have an important role in the economy, indeed, in many countries, they represent over 95% of all businesses, employ around 65% of the workforce and contribute about 25% to GDP (Ballantine, et al. 1998). SMEs are characterised by their size, simple organisation structure, personalized management, communications and procedures are mostly informal or verbal (Jennings and Beaver, 1997). Frequently the owner is also the manager, and despite their having no formal training in management they run the whole enterprise, making all the decisions, financing the business and learning through experience.

The next table summarises the main characteristics of SMEs.

| | |
|---|--|
| SMEs | |
| Strengths | Weaknesses |
| Ability to respond very quickly to changing | Highly vulnerable to slumps in markets |

| | |
|--|--|
| <p>market conditions Waste little time on non-core business activities Tend to have high employee loyalty Reflect the commitment and personality of MD/CEO Likely to deploy improvements quickly and therefore gain rapid benefit Usually very closely in touch with customer Potential for excellent internal communications People are likely to be multi-skilled Operating an effective ISO9000 compliant quality management system Training is likely to be very focussed on skills needed to achieve targets People will usually be aware of how their job impacts on the business.</p> | <p>Funding investment is more difficult Cash flow is crucial May not have time to look at 'outside world' May have difficulty getting good suppliers May be operating an inappropriate quality management system because of customer pressure to be certified to ISO9000 Training budgets are likely to be limited and the wider aspects of people development will probably not be addressed.</p> |
|--|--|

Table 1 Characteristics of SME.

Source: Hewitt, 1997.

About business management, Ates et al. (2013) found that SMEs are more focused on internal and short-term planning, paying less attention to long-term planning. SMEs reserve too much attention to taxation issues and on the results more relevant for banks (as net income, aging of credits and debts). This is due to the fact that for these kinds of firms, undercapitalized, it's important that banks continue to provide credit (Broccardo, 2014).

In addition, Ates et al. (2013) suggest for SMEs an appropriate, balanced use of strategic and operational practices and relevant measures to make performance management more effective. Therefore, managerial activities such as vision, mission and values development, internal and external communication, change management represent recommended areas for improvement.

In the literature it is often underlined that the managerial capabilities are strictly tied to the use of management accounting tools, but these tools are not so widespread and adopted in the correct way by firms, especially if these are of small and medium size (Aram and Cowen 1990). A performance measurement system has to support the completely decision-making process, not only the financial and taxation areas, and that is why, in the last years, some advanced systems were developed, as business processes management system.

Business Process Management in SMEs

Processes are collections of activities that, taken together, produce outputs for customers (Ittner and Larcker, 1997; Garvin, 1998), but customers include not only external consumers of a company, but also internal one.

It is possible to have a view of departments with separate functions and outputs as systems of interlinked processes that cross functions and link organizational activities (Dean and Bowen, 1994), observing the processes in a company. The process management is defined as an approach based on the organization of a company as a whole set of interconnected activities, which aim to map, improve and align organizational processes (Benner and Tushman, 2003).

The main phases in process management are as following identified (Benner and Tushman, 2003):

- 1) mapping processes,
 - 2) improving processes,
- and
- 3) adhering to systems of improved processes.

The first phases recorded, through process mapping, processes that it is possible to find in a company. The second one investigates if a process meets customer needs, paying attention on customer requirements improvement, not only involving rationalizing individual work processes, but also streamlining the handoffs between processes (Harry and Schroeder, 2000). In this phase organizational participants are trained in effective ways to facilitate cross-functional team, meetings and learn standard approaches for identifying and solving problems. These tools, by design and intent, help integrate and coordinate a broad set of activities throughout the organization (Repenning, 1999).

The third phase ensures that processes are repeatable, allowing for ongoing incremental improvement, and the realization of benefits of improvement efforts (Hackman and Wageman, 1995; Harrington and Mathers, 1997; Mukherjee et al., 1998).

Different studies provide evidence that the performance of business processes has to be monitored, because it has a direct impact on stakeholder satisfaction.

Despite this evidence, the few empirical studies that consider the implications of process-focused techniques show no evidence that these ones are consistently helpful (Benner and Tushman, 2003):

- no relationship between measures of process management utilization and organizational performance (Powell, 1995, Samson and Terziovski, 1999);
- poor financial performance has followed the process-focused efforts necessary for winning the Baldrige Award (Garvin, 1991; Hill, 1993);
- the use of process management techniques associated with increased performance in the automobile, but decreased performance in the computer industry (Ittner and Larcker, 1997).

Indeed, there are many operational difficulties in introducing the process management approach in companies and a study highlights that the failure to deliver consistent output to the stakeholders is caused by the lack of co-ordination between functions (Turner and Bititci, 1999). Despite these

difficulties, Turner and Bititci (1999) affirm that applying reliability engineering, process thinking and active monitoring concepts to business processes it is systematically possible to identify key performance measures in order to monitor business actively throughout the company. In addition, to improve and maintain the reliability of business processes these authors suggest an active monitoring technique.

The organization of most companies is still based on functional units (Beretta 2002) and a study conducted by Bititci et al. (1999) shows that few companies define and manage business processes, but in the last years the approach based on process management became fundamental in the firm management.

The increasing importance of business process management is also emphasized by the new edition of ISO 9001:2000 (Garvin 1998; Ittner and Larcker 1997), which underlines the process management is useful in meeting stakeholder expectations and promoting the integration of the different company functions.

Other studies focus on the importance of process management. De Toni and Tonchia (1996) underlined that process management influence Performance Management Systems (PMS) models. Kaplan and Norton (1996) introduce the process-oriented dimension into PMS models. Bititci et al. (1997) use processes as one of the main starting points in designing PMSs.

In addition Benner and Tushman (2003) stated that the increased attention to process management is also highly relevant to SMEs. PMSs based on business processes can provide information that allows companies to be more proactive in meeting stakeholders' requirements. Since SMEs are small, they have more visible end-to-end business processes, which make process orientation a simpler and less political issue.

The role of BPM in SMEs is to improve customer services and gain greater business insights (Fu et al. 2001) and many BPM applications allow SMEs to monitor and then optimise business processes. However, it is important that SMEs are able to integrate BPM tools into their systems (Chong, 2014). Also Ates et al. (2013) have observed that SMEs have the right features to implement with success the BPM system, that are: *i*) fast decision making; *ii*) high integration of activities; *iii*) employee work ethic. The small size of the organizations leads to a "natural" integration of business activities. People usually work in a business process-oriented manner and in many cases, this integration even crosses company boundaries. However, despite these characteristics, SMEs have difficulties in implementing BPM. Some scholars (Chapman and Sloan 1999; Hossain et al. 2002; Spanos et al. 2001; Chong 2014) underline the reasons of these difficulties:

- 1) SMEs remain attached to functional methods of thinking;

- 2) SMEs are subjected to greater pressure in terms of cash flow constraints, working capital, and a lack of resource allocation potential, which would affect the uptake of BPM;
- 3) SMEs have a smaller number of employees as resources and are less likely to contract out BPM since they are less able to divert employees to BPM processes.

Finally, Chong (2014) states that a key reason for the limited adoption of BPM in SMEs is that vast majority of SME operators are not aware that BPM can help their businesses to increase value (Riley and Brown 2001; Smith and Fingar 2003).

THE RESEARCH METHOD

The research questions and the methodology

The aim of this research is to understand what are the main features of process management in SMEs, especially considering the Italian context. In particular, the main research questions are:

RQ1: *What is the organizational structure adopted by the company?*

RQ2: *Do SMEs manage and monitor the processes?*

The research methodology was structured around the following phases:

- in the first phase, a literature review on SMEs and process management has been done;
- in the second phase, we conducted an empirical analysis using questionnaires, randomly selecting companies small and medium sized operating in the North West of Italy. We used both qualitative and quantitative approach, analysing the empirical evidence and measuring information. The questionnaire was composed of quantitative and qualitative data, handled by a software and analysed using statistical tools. We collected a significant amount of data, permitting statistical analysis and drawing up generalizations (Zimmerman, 2001). The survey respondents were general managers, with skills in business organization.

Using the data carried out by the questionnaire, we conducted an empirical analysis, based on descriptive statistical tools.

The sample

Our sample includes only active companies with revenues between 5 and 250 million (see Table 2). The starting sample included 3.900 companies, not considering micro-companies and the smallest ones (< 5 mln € of revenues), belonging to different economic sectors (manufacturing, services, trading, craftsmanship, agriculture and farm animals).

We randomly selected 1.800 companies and finally 309 companies returned the filled questionnaire. This final sample, 309 companies, represents the 18% and this response rate is in line with the main literature (Lucianetti, 2006).

| Dimensional features | % |
|------------------------------|-------|
| Revenues between 5-10 mln € | 43.10 |
| Revenues between 10-20 mln € | 29.60 |
| Revenues between 20-50 mln € | 27.30 |
| Total | 100 |

Table 2. Revenues classes

FINDINGS

About the first research question “RQ1: What is the organizational structure adopted by company?” the collected answers are described below.

| Organizational Structure | % |
|---|-------|
| Elementary, without functional articulation | 18,9% |
| Functional areas | 58,6% |
| “Pure” Process based organization | 18,9% |
| Project based organization | 15,0% |

Table 3: organizational structure

As showed in the previous table, the majority of the sample implemented an organizational structure based on functional areas (58,6%), while processes and projects are not particularly managed. Indeed, project based organization is the less widespread structure, while the elementary and the pure process based organization have been equally adopted by the sample.

As regards the second research question “RQ2: Do SMEs manage and monitor the processes?”, we firstly investigated if companies declared to have made some improvement in the structure or organization of processes, in the last five years.

| Does the company made some process improvement over the last five years? | |
|--|--------|
| Answers | % |
| Yes | 60,0% |
| No | 40,0% |
| Total | 100,00 |

Table 4: process improvement

The majority of interviewed SMEs (60%) declared to have made improvements in processes management even if they have implanted a functional organizational structure, revealing a particular attention to business processes. Deepening these improvements, we asked what processes were involved by these changes; the results are presented below.

| Processes involved by business process improvement | % of SMEs that declared to have made process improvement |
|--|--|
| Production & Logistics | 40,91% |
| Sales | 15,15% |
| R&D | 1,52% |
| Purchase | 7,58% |
| Accounting | 13,64% |
| Management Control | 24,24% |
| Information Technology Systems | 10,61% |
| Human Resources | 9,09% |
| Others | 0,00% |

Table 5: process involved by business process improvement

As shown in the previous table, the main process improvements involved the following processes:

- Production & Logistics (40,91%);
- Management Control (24,24%);
- Sales (15,15%);
- Accounting (13,64%).

After investigating the process management, we focused on process indicators in order to evaluate if the efficiency and effectiveness of key processes have been monitored. As shown in the next table, the 65,1% of the sample declared to measure the efficiency and effectiveness of key processes.

| Does the company periodically monitor the process efficiency and effectiveness? | |
|---|--------|
| Answers | % |
| Yes | 65,1% |
| No | 34,9% |
| Total | 100,00 |

Table 6: monitoring of process efficiency and effectiveness

We also analysed if the sample identified indicators to control the following core processes:

- Production;
- Sales;
- Research and Development (R&D);
- Purchase.

| MONITORING OF CORE PROCESSES | % |
|------------------------------|---|
| | |

| | |
|------------|--------|
| | |
| Production | 10,03% |
| Sales | 14,56% |
| R&D | 4,21% |
| Purchase | 7,77 % |

Table 7: monitoring of core processes

Despite the analysed companies declared to made process improvements, from the previous table it emerged that the majority of the monitoring activities are not particularly evident. Indeed, process indicators are mainly used to control sales process (14,56%) and production process (10,03%), while the R&D and purchase process indicators are not particularly widespread. From the collected answers it also emerged that companies generally use quantitative indicators such as the productivity or the profitability ratios, while qualitative indicators (i.e. customer satisfaction, the customer loyalty, etc.) are not particularly used.

DISCUSSION AND CONCLUSIONS

The research highlights that the majority of SMEs adopted an organizational structure based on functional areas. As underlined in literature, this organizational form obstacles the BPM system implementation. Indeed, SMEs remain attached to functional method of thinking, losing the systematic view, based on interlinked processes that cross functions and link organizational activities (Chong, 2014). Although the sample declared to be organized by functional areas, it is possible to observe a starting propensity to processes approach, especially trough business process improvement activities. This evidence demonstrates that SMEs are beginning to be aware on the relevance of processes management. Indeed an appreciable number of companies has started to make improvements to existing processes, especially regarding the Production and Logistic that represent the core business; the business process improvement represents one of the phases of process management (Benner and Tushman, 2003). Furthermore, they monitor efficiency and effectiveness of the core processes.

Despite these evidences, the percentage of SMEs that really adopt a structured BPM system is not particularly relevant. According to Ates et al. (2013), in the analysed SMEs, that are generally characterized by fast decision making, high integration of activities, employee work ethic, that should boost the horizontal relations within organization and could be helpful in implementing business process approach, BPM is not particularly widespread. Indeed a low percentage of companies has recognized the potential of BPM to support the company goals implementation and the performance improvement.

This study contributes to partially support the main literature on the topic. In particular this research confirms the poor orientation to process management by SMEs, even if they seems to be more aware thanks to the business process improvement activities.

This paper has some theoretical and practical implications because it contributes to extend the literature on BPM in SMEs, that is not particularly structured, as underlined by Ates et al. (2013). At the same time the paper can help SMEs owner-managers to understand the relevance to better manage processes.

The main limit of this work is strictly related to sample actually focused on Italian SMEs: indeed this sample could be enriched with a comparison with other European countries.

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WHY THE COMPANY'S DEBTS DEGREE VARY, WHEN CONSIDERING THE COMPANY AS A SYSTEM?

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ABSTRACT

The objective of this research is to examine the impact of a series of company's variables - considered to be particular representative in the literature - on the debts degree in small and medium-sized enterprises, which affect its debts degree. Contextualizing the survey in a systems theory (Ferrero, 1968 and 1987), it was decided to analyze a particular phenomenon (that is the use of debts for financing the company).

Our research permitted to identify a series of variables which affect the company's indebtedness. Although every individual variable is sufficient to observe the examined phenomenon, it's important to contextualize it in a systemic perspective. Indeed, the impact of above mentioned variables on the indebtedness has to be understood not as simple cause-effect relationship: if the company is a system consisting of interrelated and connected elements, the relations which unite them, creating a circuit of concatenation between variables, which can impact on the recourse to the debts.

Keywords: *small and medium companies; company's indebtedness; debts degree; system theory; company's growth*

INTRODUCTION

The economic context of some countries is characterized by the presence of small and medium-sized companies, including Italy and other European countries. According to the European Commission (2016), small and medium-sized enterprises constitutes 99% of European companies. Consequently, there is a high interest in observing of their attitude and characteristics, under various observation profiles.

Numerous studies have focused on the study of the companies' financial structure. The majority of them have focused on large companies. Exists also a certain interest in examination of this subject also for small and medium-sized enterprises. In general, SMEs can rely on lesser alternative financing sources than large companies (Barca, 1988; Busetta and Priest, 2008; Cellini and Rossini, 1990). Therefore, it becomes interesting to understand what are the variables that influence the company's

level of indebtedness.

The objective of this research is to examine the impact of a series of company's variables - considered to be particular representative in the literature - on the debts degree in small and medium-sized enterprises, which affect its debts degree. Contextualizing the survey in the systems theory (Brusa, 2013; Culasso, 1999; Ferrero, 1968 and 1987; Giacosa, 2011), it was decided to analyze a particular phenomenon (that is the use of debts for financing the company).

We referred to Giacosa (2015) as a framework, which identified some company's variables which impact on its financial structure. Our sample consists of small and medium sized companies, operating in the Italian manufacturing sector. The choice of the manufacturing context is linked to the fact that this sector is the one with the highest population in the Italian economic context and, therefore, is representative one of the Italian economy.

The research is structured as follows. The second paragraph is focused on the analysis of the literature, with particular reference to the different variables which affect the companies' indebtedness. The research method is outlined in the third section. The description of the results is conducted in the fourth paragraph, which is followed by discussion of the results. Finally, the conclusions and implications, along with the limitations of the research, are set out.

LITERATURE

The literature includes a variety of studies relating to the financial structure of small and medium-sized enterprises.

Taking into account the aim of current research, we have focused on a series of issues regarding the determinants that affect the debts degree of small and medium-sized companies:

a) the company's size (Chung, 1993; Confindustria, 2007; Fama and French, 2002; Frank and Goyal, 2003; Heshmati, 2001; Homaifar et al., 1994; Giacosa, 2015; Michaelas et al., 1999; Partner Equity Markets, 2009). In some opinions, financial structure - and debts degree - are not influenced by the company's size (Kim and Sorensen, 1986). For others, there emerges the relationship between the company's size and its financial structure, however not everyone is agreed about the result of relation mentioned before. Particularly, a positive correlation emerged between the company's size and its level of indebtedness, confirmed by the Static trade-off theory (Fama and French, 2002; Homaifar et al., 1994; Michaelas et al., 1999; Rajan and Zingales, 1994; Romano et al., 2000; Sogorb-Mira and López-Gracia, 2003; Sogorb-Mira, 2005). In addition, small companies show a greater recourse to short-term debt comparing to big companies, because of difficulties in obtaining long-term debts.

b) sector to which the company belongs. a part of researchers claim that the companies belonging to the same sector represent similar levels of indebtedness, while the companies operating in different

sectors are characterized by different financial structures (Scott and Martin, 1975; Haris and Raviv, 1991; Michaelas et al., 1999; Riding et al., 1994).

c) the company's age: obviously, it exists a lot of opinions on this matter. According to Chittenden et al. (1996), the company's age does not affect its financial structure, while Jani et al. (2005), Petersen and Rajan (1994) and Van Der Wijst (1989) conclude that the company's age, understood as the company's life cycle, has an impact on the financial structure;

d) the company's growth perspectives, as they affect the financial requirements of the company (Becchetti and Trovato, 2002; Carpenter and Petersen, 2002; Dallochio, 2011; Fagiolo and Luzzi, 2004; Fazzari et al., 1988; Frielinghaus et al., 2005; Herrera, and Minetti, 2007; Honjo and Harada, 2006; Gregory et al., 2005; La Rocca et al., 2011; Machauer and Weber, 2000; Oliveira and Fortunato, 2006). The lack of financial sources represents a limited factor in the expansion of the company's activity (Balloni, 1984). Observing the growth of investments (in point of view of their diversification) it emerged that the financial need arising from investments affects the necessity to secure various kinds of financial resources. It's found out, that companies with a higher investment growth rate and, in addition, a more marked diversification, are also the most indebted ones (Hall, 2000; Michelas et al., 1999; Orsenigo, 1984; Venanzi, 2003). Myers and Majluf (1984) wrote that the positive relationship between growth and debt is also due to information asymmetries. Barclay and Smith (1999) concluded that companies characterized by significant growth opportunities, in order to enjoy a certain degree of financial flexibility recourse to short-term financing sources rather than to long-term ones.

e) Ability to repay financial debt, which constitutes expressive indicator of the company's financial risk. (Culasso, 2009 and 2012). It emerged that indebtedness is also influenced by the company's attitude in generating a constant financial cash-flow through operating activity (Giacosa, 2012a and 2012b; Giacosa and Mazzoleni, 2012). In particular, by increasing this risk, the level of indebtedness decreases (Bonato and Faini, 1990). A small and medium-sized company is greatly influenced by the ability of repaying the financial debt, because of difficulty in obtaining financial resources. With a special reference to repay debt through operating activity, contribution of self-financing is determinant because, among others, it support entrepreneurial initiative using own power (Brunetti, 1983; De Laurentis, 1996; Dessy and Gervasoni, 1989; Dessy, Gervasoni and Vender, 1989).

f) Revenues: it emerged that the companies characterized by lower sales have a higher level of debts (Confindustria, 2007; Partner Equity Markets, 2009). Particularly, medium-sized companies in terms of sales (comparing with the big ones) have higher financial debts' degree, as the revenues permit the company to obtain financial resources thanks to the collection of trade receivables. On the contrary, the big companies (in terms of sales) are characterized by a lower bank debt's incidence (Miglietta, 2004).

g) Profitability: authors concluded that relationship existing between the profitability and financial structure is negative, indicating that more efficient companies record lower level of indebtedness. This companies prefer to use internal financial resources (Bonato et al., 1991; Centrale dei Bilanci, 2003; Chittenden et al. 1996; Monteforte and La Rocca, 2003; Myers, 1984; Holmes and Kent, 1991; Venanzi, 2003), also in order to not lose the control over the company and to not have to experience the entrance of new shareholders in management. Bank debt represents the most used source of financing (and preferred than recourse to stock market) when the financing sources from operating activity are not sufficient (Caselli, 2002; Dessy, 1995; Galbiati, 1999; Monteforte and La Rocca, 2003; Orsenigo, 1983; Onado, 1986; Partner Equity Markets, 2009).

In conclusion, the literature presents a series of theoretical and empirical contributions, relating to financial policy conducted by small and medium-sized enterprises, which have examined the impact of certain determinants on indebtedness level. It is therefore interesting to examine their impact on a representative sample, also in order to observe how the economic and financial crisis characterizing the last decade has influenced the phenomenon taken into consideration.

METHODOLOGY

The sample

The sample has been identified with reference to Italian economic context and period of 2012-2014. In particular, the analysis takes into account only manufacturing companies, as manufacturing sector constitutes the biggest population in the Italian economic context and because of that it's a representative sample of Italian economy. The companies have been chosen on the basis of Aida Bureau Van Dijk database (which contains economic-financial information on over one million Italian companies), taking into consideration Ateco's economic activities adopted by ISTAT.

The sample includes the manufacturing companies that meets the following criteria:

- active limited companies;
- non-listed companies;
- available companies' financial statements related to 2012, 2013 and 2014 and not prepared in accordance with International Accounting Standards;
- companies with the average production value in the considered period between 5-50 million euro.

We focused on the small companies (with revenues between 5 and 10 million euro) and on medium-sized ones (revenues between 10 and 50 million euro), in accordance with European Union Recommendation n.361 from 2003 with reference to the classifying the companies in the terms of their revenues. Particularly, the big companies have been excluded from the sample in order to impart a homogeneity of the sample;

- companies whose financial statements contain all the details to calculate indicators implemented in the current analysis.

Moreover, we excluded all the companies for which have been observed outlier values (extreme values of the indicators that results are very far from the average).

The final sample constitutes of 6.198 Italian manufacturing companies.

The method

The main objective of our survey is to propose a model which illustrates the impact of the series of variables on debts of small and medium-sized companies. To this end, the following RQ has been drawn:

RQ: considering the Ferrero's theory for which the company has been intended a system (Ferrero, 1968 and 1987), which are the determinants that has the biggest impact on the company's debts?

The research methodology is characterized by the following steps.

A) Identification of the dependent variable (that is debts degree)

The research considers as dependent variable the company's debts degree, that has been evaluated by comparing debts to total assets (using Debts/TA). This indicator defines which part of the company's investment is financed by the debts (it means third parties funds). The dependent variable has been calculated as following:

$$\frac{Debts}{TA} = \frac{\sum_{n=2012}^{2014} CTP_n}{\sum_{n=2012}^{2014} TA_n}$$

where:

Debts_n = Total debts in the year n

TA_n = Total assets in the year n

n = year, which can mean 2012, 2013 and 2014

B) Identification of the variables which influence the debts degree of small and medium-sized companies (independent variables)

Also by observing the literature on the subject, it is possible to identify the following variables that influence the debts degree:

a) company's growth: the "growth" variable can be measured both quantitatively and qualitatively. In the current analysis, also referring to the framework in this context (Giacosa, 2015), we decided to measure the growth in quantitative terms, as, it was impossible to adapt qualitative measure of

growth in the presence of so big sample of companies operating on national level. The company's growth in quantitative terms has been observed according to the following aspects of observation:

- production value: we made a decision about using the production value instead of revenues, in order to conduct the research also on the companies working on order. The company's growth has been quantified using CAGR indicator (Compound Annual Growth Rate) on the production value, calculated on the horizon of 2012-2014. This indicator measures average annual growth of production value in the three-year considered period. The growth in terms of production value offers an indication of the company's growth under operating profile. The CAGR on production value is illustrated below:

$$CAGR_{PV} = \sqrt{\frac{PV_{2014}}{PV_{2012}}} - 1$$

where:

PV_{2014} = company's production value in 2014

PV_{2012} = company's production value in 2012

- invested capital: the CAGR indicator (Compound Annual Growth Rate) on invested capital has been calculated over the three-year considered period, identifying average annual growth of invested capital in the time horizon. The growth in terms of invested capital indicates the company's growth under structural profile. The formula used is as follows:

$$CAGR_{TA} = \sqrt{\frac{TA_{2014}}{TA_{2012}}} - 1$$

where:

TA_{2014} = company's total assets in 2014

TA_{2012} = company's total assets in 2012

- number of employees: the CAGR indicator (Compound Annual Growth Rate) on the number of employees has been calculated over the considered period. The growth in this context permits indication of the company's growth under organizational profile. The formula used is presented below:

$$CAGR_E = \sqrt{\frac{E_{2014}}{E_{2012}}} - 1$$

where:

E_{2014} = number of employees of the company in 2014

E_{2012} = number of employees of the company in 2012

b) the attitude in the financial debt repayment through operating activity: it's the company's ability to repay financial debt using the financial sources generated from operating activity. This indicator also

represents a financial risk indicator of each company (BCE, 2014). The greater are the values assumed by the indicator, the greater is the risk that the company can be in a difficult financial situation:

$$\frac{NFP}{EBITDA} = \frac{\sum_{n=2012}^{2014} NFP_n}{\sum_{n=2012}^{2014} EBITDA_n}$$

where:

NFP = Net Financial Position (which considers net financial debts less financial activities)

EBITDA = Earning before Interest, Taxes, Depreciation and Amortization of the company

n = year, which can mean 2012, 2013 and 2014

c) the financial situation of the company, which is related to its financial structure: we have decided to consider also the financial situation, as its characteristics can affect the company's ability of being able to meet (timely and economically) its financial commitments. Under the various financial situation indicators, we have chosen to consider how the invested capital is covered by long-term sources of funding. The formula used is as follows:

$$CFA = \frac{\sum_{n=2012}^{2014} Long\ Term\ Liabilities_n + Equity_n}{\sum_{n=2012}^{2014} Fixed\ Assets_n}$$

where:

CFA = covering fixed assets

Long-term liabilities n = company's consolidated liabilities of the year n

Equity n = company's equity of the year n

Fixed assets n = company's investments characterised by transformability in cash greater than of the year n

n = year, which can mean 2012, 2013 and 2014

d) the degree of rotation of invested capital through the sales. This aspect permits to judge the company's ability to return the capital invested in liquid form through the turnover. It can be measured by comparing revenues with the invested capital. For our calculations, the following formula has been used:

$$\frac{Sales}{TA} = \frac{\sum_{n=2012}^{2014} Sales_n}{\sum_{n=2012}^{2014} TA_n}$$

where:

Sales_n = company's sales realized over the year n

TA_n = invested capital (total assets) of the year n

n = year, which can mean 2012, 2013 and 2014

e) company's age: as also the company's age can affect its financial structure, we decided to also consider this aspect of observation. It was quantified considering the natural logarithm of the years from foundation of the company, in order to verify the level of its age. To this end, we used the

following formula:

Age = ln (number of years since the company's foundation)

where:

Age = age of the company

ln = natural logarithm

f) company's size: our sample consists of small and medium-sized companies. That is why the dimensional parameter has been taken into consideration, in order to see how it affects on the financial structure. In particular, the size has been measured in terms of natural logarithm of the sales.

Size = log (average sales in three-year period)

where:

Size = company's size

g) impact of intangible assets on invested capital: the weight of intangible assets has been compared with total invested capital, and in this way it is possible to assess the level of their representativeness in the investment choices and, subsequently, to evaluate their influence on the financial structure of the company. The formula used is presented below:

$$\frac{\text{Intangible Assets}}{TA} = \frac{\sum_{n=2012}^{2014} \text{Intangible Assets}_n}{\sum_{n=2012}^{2014} TA_n}$$

Intangible Assets_n = company's intangible assets over the year n

TA_n = invested capital (total assets) of the year n

n = year, which can mean 2012, 2013 and 2014

Current analysis has been conducted by taking into consideration average values recorded by each company in the three-year period considered. We have decided for this choice, as some of variables (by the way the growth) represents average values recorded in our time horizon.

C) Development of the analysis' model

Initially the relationship between the dependent variable (that is debts degree), on the one hand, and the independent variables, on the other hand, there has been evaluated by Pearson's correlation. In this regard, Pearson's correlation (p) can be:

- direct if $p > 0$
- nothing if $p = 0$
- indirect if $p < 0$
- weak if $0 < p < 0,3$ o $-0,3 < p < 0$
- moderate if $0,3 < p < 0,7$ o $-0,7 < p < 0,3$
- strong if $p > 0,7$ o $p < -0,7$

The relationship between the debts degree, on the one hand, and business growth, on the other hand, was further evaluated through a model based on multiple linear regression. We have chosen the multiple OLS (Ordinary Least Squares or least squares).

The OLS model has been estimated using the econometric software Gretl, looking at the case studies of companies in the sample and eliminating outliers to avoid compromising the significance of the results. The econometric model is specified below:

$$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_n x_n + \varepsilon$$

where:

y = it represents the variables in the observation

α = constant of the model

β_i = it represents the regression coefficient for the variable x_i

x_i = it represents the n^{th} independent variable

ε = it represents the end of an error, called alternatively "residue error"

n = it represents the number of variables contained in the model

The goodness of the model has been assessed by resorting to R-correct framework, which indicates what part of the phenomenon is explained by the variables included in the model.

Subsequently, we conducted an analysis of emerging residues from multiple linear regression. Through this step, it has been assessed the normality of residuals (which constitutes a necessary condition in order to generalize the conclusions of the model on a wider reality).

In particular, the evaluation of the normality of the residues has been performed through the residue normality test and the graph Q-Q plot: the latter compares the quintiles emerged from a normal with those of the distribution of the residuals.

FINDINGS

Findings of our research are presented below, regarding the following articulation:

- correlation matrix
- multivariate analysis

Correlation matrix

Table 1 contains information about variation and covariation matrix.

Table 1 – Correlation matrix

| | | | | | | | | | | |
|--------------|----------------|-----|--------------|------------|------------|-----------------------|-----|------|---------------------------------|--|
| Debts/ TA | NFP/ EBITDA | CFA | Sales/ TA | CAGR PV | CAGR TA | CAGR Employe es | Age | Size | Intangib le Assets/ TA | |
|--------------|----------------|-----|--------------|------------|------------|-----------------------|-----|------|---------------------------------|--|

| | | | | | | | | | | |
|---|--------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------|
| 1 | 0.5693 | -0.2876 | 0.2659 | 0.0093 | -0.0759 | 0.0177 | -0.1608 | -0.0052 | 0.2165 | Debts/TA |
| | 1 | -0.3594 | -0.1215 | -0.0362 | -0.1458 | -0.0237 | -0.0211 | 0.0138 | 0.1126 | NFP/EBITDA |
| | | 1 | 0.2219 | -0.0108 | 0.1183 | 0.0007 | -0.0402 | -0.0268 | -0.0847 | CFA |
| | | | 1 | 0.0558 | 0.0860 | 0.0674 | -0.1654 | 0.0855 | -0.0004 | Sales/TA |
| | | | | 1 | 0.4880 | 0.1528 | -0.0502 | 0.0729 | -0.0128 | CAGR PV |
| | | | | | 1 | 0.1611 | -0.0568 | 0.0571 | -0.0429 | CAGR TA |
| | | | | | | 1 | -0.0548 | 0.0528 | -0.0092 | CAGR Employees |
| | | | | | | | 1 | 0.0595 | -0.137 | Age |
| | | | | | | | | 1 | -0.0178 | Size |
| | | | | | | | | | 1 | Intangible Assets/TA |

NFP/EBITDA: companies' net financial position over EBITDA

CFA (covering fixed assets): degree of covering fixed assets with medium/long term sources of funding

Age: age of the company

Debts/TA: Impact of debts on total assets

CAGR PV: company's growth in terms of production value

CAGR TA: company's growth in terms of total assets

Sales/TA: sales over total assets of the company

Intangible Assets/TA: comparison between intangible assets over total assets

CAGR Employees: growth in terms of employees

Size: company's size

It emerged that it exists a moderate correlation between the dependent variables (debts degree) and the independent variable (NFP/EBITDA). The correlation results weak for the following variables: CFA, Sales/TA, age, size, growth in terms of production value, growth in terms of total assets, growth in terms of employees. The relation between the dependent variables (debts degree) and individual dependent variables (such as NFP/EBITDA, Sales/TA, growth in terms of production value, growth in terms of employees) is positive, while the relation between CFA, growth in terms of total assets, age and size is negative.

Multivariate analysis

In order to verify the relation between dependent variables and independent ones, the dependent variable was regressed (using the OLS) on independent variables. Taking into account also, the correlation matrix, it is possible to affirm that the correlation between the growth in terms of production value and growth in terms of total assets is moderate.

The results obtained are exposed in the table presented below (Table 2).

Table 2 – Relation between dependent variable and independent ones

| | Coefficient | Std. Error | t-ratio | p-value | |
|----------------------|-------------|-------------|----------|----------|-----|
| Constant | 0.739901 | 0.0494546 | 14.9612 | <0.00001 | *** |
| Age | -0.0276556 | 0.00352647 | -7.8423 | <0.00001 | *** |
| CAGR PV | 0.0153875 | 0.0268653 | 0.5728 | 0.56683 | |
| CAGR TA | -0.0470832 | 0.0293952 | -1.6017 | 0.10927 | |
| Sales/TA | 0.151952 | 0.00456699 | 33.2718 | <0.00001 | *** |
| Size | -0.0313781 | 0.00686379 | -4.5715 | <0.00001 | *** |
| NFP/EBITDA | 0.0350559 | 0.000692372 | 50.6315 | <0.00001 | *** |
| CFA | -0.0258915 | 0.00168227 | -15.3908 | <0.00001 | *** |
| Intangible Assets/TA | 0.903986 | 0.066679 | 13.5573 | <0.00001 | *** |
| CAGR Employees | 0.00680425 | 0.0136738 | 0.4976 | 0.61878 | |
| Interaction | 0.536698 | 0.275006 | 1.9516 | 0.05103 | * |

Table 2 shows that all of the variables (except the ones that measure the company's growth) are significant at a 5% level taking into consideration that p-value is lower than 5% (which constitutes the critical threshold on the basis of which we can decide if to accept or to refuse the null hypothesis). Referring to the table 2, it emerged also that:

- by increasing age of the company, the debts degree decreases. Increasing the years of the company's activity (other things being equal), the company can count on higher accumulated profits (if the economic conditions permits an accumulation of profits over time) and resorting to the debts becomes less necessary;
- the higher the index of rotation, the higher the use of external sources of financing. It needs significant financial resources for having an effective business structure capable to increase the rotation of invested capital;
- small companies recourse more frequently to external sources of financing, because the companies can count on higher profits. It is observed that the findings are in line with the trade off theory.
- company's ability to repay debts is positively correlated with the debts degree. When the indicator's increase, we observed an increase of debts degree;
- the coverage of fixed assets thanks to medium-long term funds is negatively related to debts degree indicating that the companies whose long-term investments are financed with a medium-long term funds, are less linked to debts;
- it exists a positive relationship between growth opportunities and Debts/TA, indicating that companies with higher growth opportunities resort more often to debt. In addition, the companies that invest especially in intangible assets, very often tend to use debts.

However, the t-ratio for the growth in terms of production value (-0.24054), for the growth of total assets (0.25786) and for the growth in terms of number of employees (0.57562) are greater than 5% or even 10%: it means that the variables are considered as not significant. The interaction term (CAGR PV and CAGR TA) is significant at 10% significance level, considering that the corresponding p-value

indicates acceptance of the hypothesis of the presence of a growth effect for values greater than 0.05103.

In other terms, there is no relationship between the individual variables measuring the company's growth and Debts/TA. This relationship becomes positive, if we consider the interaction of two variables (meaning between growth in terms of production value and growth in terms of total assets), on the one hand, and debts degree on the other. It means that small and medium-sized companies that grow both in terms of investment, and in terms of production value, need more debts.

The following table evaluates the efficiency of the multiply linear regression (Table 3)

Table 3 – Assessment of the efficiency of the multiply linear regression

| | | | |
|----------------------------|----------|--------------------------------------|----------|
| Mean of dependent variable | 0.607549 | Std deviation of dependent variables | 0.182755 |
| Sum of Squared Residuals | 106.6890 | Std Error of regression | 0.130528 |
| R- Squared | 0.490696 | Adjusted quadrant-R | 0.489882 |
| F(10, 6262) | 541.8058 | P-value(F) | 0.000000 |

It emerged that the average of dependent variable (that is the debts degree) is equal to 0.607549: it means that debts degree is on average equal to 60.75%. Standard deviation of dependent variables is equal to 0.182755 that represents variability of the individual observations regarding the average of dependent variables of the sample considered.

We consider also the sum of square residues (106.6890) and standard error of the regression (0.130528), it was possible to calculate the correct R-quadrant (called also coefficient of determination) that is equal to 0.489607. Therefore, a part of phenomenon (meaning the debts degree) which can be justified by the multiple linear regression model is equal to 48.99%.

It emerged that the results are consistent with studies conducted on small and medium-sized companies. For example, Michelas et al. (1999) affirmed that for small and medium-sized British companies there is a positive relationship between operational risk level and level of the company's debt.

In addition, the research confirmed some previous studies, for which the debts degree of small and medium-sized companies is influenced by several factors, such as the company's size (Chung, 1993; Fama and French, 2002; Frank and Goyal, 2003; Heshmati, 2001; Homaifar et al., 1994; Giacosa, 2015; Michaelas et al., 1999), the company's age (Chittenden et al., 1996; Van Der Wijst, 1989), the company's growth perspectives (Frielinghaus et al., 2005; Herrera, and Minetti, 2007; Honjo and Harada, 2006; Gregory et al., 2005), and the ability to repay financial debt (Culasso, 2009 and 2012).

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

Our research permitted to identify a series of variables which affect the company's indebtedness.

Although every individual variable is sufficient to observe the examined phenomenon, it's important to contextualize it in a systemic perspective. More specifically, and referring to the RQ, we can outline a series of final considerations:

- increasing the company's age, the debts degree decreases. Indeed, assuming other conditions being equal, when the company's age increases, the profits accumulated over time allow the company to count on internal financial resources, that permit to reduce its recourse to debts;
- in terms of growth, there is no relationship between the individual variables, examined individually, and the debts degree (that is between the growth in terms of production value and the debts degree, between the growth in terms of invested capital and the debts degree, and between the growth in terms of employees and the debts degree). Nevertheless, small and medium-sized companies that grow both in terms of investment, and in terms of production value, need more debts;
- an increase of rotation degree of invested capital requires a debts degree increase. This may be due to the necessity of making the business structure more effective, capable to accelerate the rotation of invested capital as a result of the sales;
- referring to the company's size, small companies are characterized by higher recourse to the debts;
- the company's ability to reimburse the debts is positively correlated to the debts degree. Indeed, when the company is able to repay the debts using own sources, it increases its ability of meeting timely the financial liabilities.

The phenomenon considered (that is the debts degree) could not be explained by outlining simple cause-effect relations between two individual variables: on the one hand, some company's variables (considered independently) and on the other the debts degree (considered dependent).

These considerations are in line with the framework (Giacosa, 2015), according to which the phenomenon observed (that is the debts degree) should not be considered as a result of a unique cause, but rather as the combination of numerous aspects of observation concerning the company.

Current research differs from previous contributions, both from theoretical and empirical profile:

- in theoretical key: our effort was to create a general reference model which, contextualized to the systems theory, would explain the trend of a particular corporate phenomenon (that is the debts degree) through a series of company's variables interdependent between them. The implications of the research concerning both the management and the ownership: indeed, the model proposed allows to evaluate the effect of various decisions regarding certain corporate variables about the company's indebtedness level.
- in empirical key: accuracy of that model in the context of systemic theory has been examined in two different ways: the first has privileged the size of the sample, through the application of the model to a large number of companies operating in many different sectors; the second has favored the sectoral

relevance, in order to find the specific characteristics of each sector.

View to identifying the limitations of the research, it can be stated as follows:

- with reference to the sample: it is composed of a single economic sector (meaning the manufacturing one), which is the most representative of the Italian economy. Consequently, the model developed does not allow to highlight the impact of the variable "economic sector" on the debts degree, giving their specificities that characterize each sector;
- the method used: the model used does not include qualitative variables, which could help to explain in better way the debts degree. We consider the level of satisfaction of customers and employees, as well as the uniqueness of the product range and a degree of its personalization;
- the variable "debts degree": in the model, a distinction in relation to debts deadline (that is in the medium/long-term debt, and short-term debt) has not been conducted. This differentiation may have an impact on the attitude of companies, especially regarding the choice in terms of financing.

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EMPOWERING CUSTOMER EDUCATION: A RESEARCH AGENDA FOR MARKETING STUDIES

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ABSTRACT

The aim of this paper is to build upon previous research about customer education in the marketing studies in order to identify research gaps in the existing marketing literature and to suggest a research agenda about this topic. The analytical approach of this paper draws heavily on theoretical evidence published in the marketing literature. From a methodological point of view, after an extensive review of marketing studies on this topic, a content analysis was conducted in relation to the study's purpose in order to reveal potential gaps in literature and suggest a research agenda about customer education in marketing studies. Based on the findings, the following future research directions are proposed: 1) integration of the concepts of customer education, expertise and knowledge; 2) analyses of the advantages of customer education for internationalization as well as the identification of risks connected with educating customers; 3) measurement of customer education; 4) investigation of companies that actually offer customer education programs, and 5) examination of different service contexts. Marketing scholars can use this paper as a reference for identifying specific research areas to be investigated and further enhance existing knowledge.

Keywords: *consumer education programs; service marketing; content analysis; gap spotting approach; journal review; literature review; service quality; customer satisfaction; customer expertise; customer knowledge*

INTRODUCTION

Since the end of the Nineteen-thirties (Herrmann, 1982), the topic of customer education has attracted the attention of many scholars in a number of subject areas such as psychology (e.g., Friedman and Rees, 1988), psychiatry (e.g., Bielavitz et al., 2010), economics (e.g. Armstrong and Uhl, 1971; LaForge, 1989; Coppack and Brennan, 2005; Bienenstock, 2014), finance (e.g., Jing Jian Xiao, 2004; Lee and Jaramillo, 2013), management (e.g., Miller, 1980; Noel et al., 1990; Jung, 2013; Retana et al., 2016) and marketing (e.g. McNeal, 1978; Fast et al., 1989; Smith, 1996; Dillard and Johnson, 2015). Although it is a multidisciplinary concept, customer education is commonly defined among scholars as a process

including educational activities undertaken to improve customers' expertise in relation to the goods and services they buy.

With regard to marketing studies, this topic has been examined in the extant literature from different points of view. In the 1970s and 1980s, marketing scholars mainly studied, on the one hand, customer education programs in terms of implementation, especially communication processes, and evaluation (e.g., Bloom, 1976; Wallendorf and Zaltman, 1977; Langrehr and Mason, 1978; Way, 1984; Fast et al., 1989). On the other hand, the role and effects of customer education on customer behavior (Scherf, 1974; Stampfl et al., 1978). In the 1990s, scholars paid little attention to customer education and their contributions focused especially on how educated customers can be influenced by advertising (Smith, 1996). Since 2000, while customer education has continued to be addressed from a goods marketing perspective (Aubert, 2008; Aubert and Gotteland, 2010), several scholars have started to address this topic from a service marketing perspective (Oumlil et al., 2000; Burton, 2002; Eisingerich and Bell, 2006; Bell and Eisingerich, 2007; Yin and Yang, 2009; Aubert and Gotteland, 2010; Antonios, 2011; Bonfanti and Brunetti, 2015; Nam and You, 2015; Suh et al., 2015).

Despite the limited empirical evidence available in the academic literature, many scholars argue the importance of customer education in terms of "educational initiatives undertaken by a company to better educate, inform, and develop the knowledge and skills of the customers in order to unlock the full value of the products at end use" (Antonios, 2011, p. 3). This aspect pertains both young and old customers (e.g., Oumlil et al., 2000; Shim, 2005). Competitive pressure on service organisations has reinforced the need for improved theoretical and practical understanding of this topic.

Consistent with this need, the aim of this paper is to build upon previous research about customer education in marketing studies in order to identify research gaps in the existing marketing literature and to suggest a research agenda about this topic. To achieve these objectives the following research questions are proposed: 1) What is customer education from a marketing perspective? 2) Which advantages does it provide to companies and customers? 3) What methodological approaches have been used in the extant literature? 4) What research areas have been examined in customer education studies?

The remainder of the paper is structured as follows. The next section proposes the methodological approach used in this study, followed by an analysis of the main definitions of customer education, its advantages, the methodological approaches used so far in literature and the main customer education research areas. Based on these premises, the research gaps in the literature are identified and a research

agenda about customer education is proposed. Finally, we conclude with some limitations of this study.

METHOD

This study follows a qualitative approach based on a literature review about customer education. In particular, academic journal articles were downloaded from three online databases, including EBSCO Business Source Premier, Scopus and ISI Web of Science (WOS), and one research engine such as Google Scholar. With the exception of one article that is written in French, all selected articles are written in English. Research notes, readers' comments, editorials, trade publications, magazines and industry profiles were excluded from this analysis because they were not considered sufficiently academically robust nor relevant for this study.

Since this paper specifically focuses on customer education, only those articles which included "customer education" or "consumer education" in their title were considered for the analysis. In total, 28 articles were examined. They appeared on the following 16 referred academic journals (in alphabetical order): Academy of Marketing Studies Journal, Advances in Consumer Research, Business Horizons, Business Leadership Review, Consumer Policy and Education Review, Décisions Marketing, European Journal of Marketing, International Journal of Consumer Studies, Journal of Advertising Research, Journal of Consumer Affairs, Journal of Consumer Research, Journal of Consumer Studies, Journal of Financial Services Marketing, Journal of Macromarketing, Journal of Services Marketing, and Services Marketing Quarterly. These journals were published from 1974 to 2016 (until April 30, 2016).

A content analysis was then undertaken (Stemler, 2001) via Qualitative Solutions and Research (QSR) NVivo 10 software. Each paper was inductively codified (Saldana, 2009). The nodes were created in relation to the first four research questions mentioned above, i.e. definition of customer education, advantages to companies and customers in a marketing perspective, methodological approaches, and research areas.

In order to answer the fifth research question, i.e. to reveal the more significant gaps in existing literature and suggest some research directions, a specific basic gap-spotting mode was adopted, the neglect spotting, that allows the identification of " a topic or an area where no (good) research has been carried out" (Sandberg and Alvesson, 2011, p. 30). In this regard, all three versions of the neglect spotting were used, i.e. overlooked aspects in existing literature, under-researched areas, and areas that lack empirical support. Based on the identified gaps, a specific research agenda about customer education in marketing studies was developed in order to answer the sixth research question of this study.

FINDINGS AND DISCUSSION

What is customer education from a marketing perspective?

In the marketing literature, customer education is defined as a process including a number of educational activities aimed at improving the consumers' ability (i.e., attitudes, knowledge or skills) to better purchase, use and appreciate goods and services as well as protect their rights and interests. In this last regard, "if consumers know how a product works and are aware of its potential hazards, they will act in a manner to protect themselves from the hazards" (Thompson, 1974, p. 101). Table 1 summarizes the main definitions of customer education in the marketing studies.

| Definition of customer education | Author(s), year |
|---|--|
| "any attempt to improve the consumer's ability to act as purchaser or consumer of those products and services he deems most likely to enhance their well being" (p. 199) | Seitz, 1972 |
| "it should be a competitive effort, unique to the firm and its products and services, and not general in nature" (p. 53) | McNeal, 1978 |
| "the term customer education refers to any purposeful, sustained and organized learning activity that is designed to impart attitudes, knowledge or skills to customers or potential customers by a business or industry" | Meer, 1984 mentioned in Antonios, 2011 |
| "customer education refers to the extent to which service employees provide customers with the skills and abilities needed to utilize information. More specifically, we define customer education as service advisers' willingness to explain financial concepts and the pros and cons of recommended investment opportunities to their clients" (p. 90) | Eisingerich and Bell, 2006 |
| "customer education is the extent to which advisors provide customers with the skills and abilities to utilise information" (p. 473) | Bell and Eisingerich, 2007 |
| "the companies' investments in improving customer expertise in relation to the goods and services they market (Honebein and Cammarano 2005). It relies on instructional activities, such as face-to-face seminars, implemented to leverage product usage related skills of a company's potential or actual customers" (p. 920). | Aubert, 2008 |
| "ensemble des activités pédagogiques mises en œuvre par une entreprise pour développer les connaissances et compétences des consommateurs dans l'usage des produits" (pp. 8-9) | Aubert and Gotteland, 2010 |
| "educational initiatives undertaken by a company to better educate, inform, and develop the knowledge and skills of the customers in order to unlock the full value of the products at end use" (p. 3) | Antonios, 2011 |
| "is a process feeding by customer personal experiences and by companies' education initiatives "aimed at informing and training customers in order to increase their knowledge levels (basic, general, and deep)" (p. 219) | Bonfanti and Brunetti, 2015 |

Table 1. *Some definitions of customer education in the marketing studies*

Customer/consumer education is a process aimed at feeding customers' or consumers' information about a certain good or service in order to increase their knowledge and skills levels. In other terms, customer education studies highlight the importance of informing customers about product attributes and product usage, manufacturers/service providers and the production process. In this sense, consumer education and consumer information are different concepts yet belonging to the same continuum (Burton, 2002): consumer information is a lower-level activity useful for achieving a basic knowledge, whereas consumer education is at a higher and advanced level of knowledge.

Jointly integrating different types of information during the customer education process allows to both promote increased knowledge levels (Aubert and Gotteland, 2010) from basic to in-depth knowledge – by moving from novice to informed to expert customers (Clarkson et al., 2013) – and develop skills for using information from a service quality perspective (Oumlil et al., 2000; Burton, 2002). Given that customer evaluation skills are crucial to better use information, they are considered a mediator of the relationship between any knowledge level gained by customers during the customer education process and customers perceived value (Bonfanti and Brunetti, 2015).

Which advantages does customer education provide to companies and customers?

Investing in customer education generates benefits for both firms and customers. On the one hand, companies can obtain and retain satisfied and loyal customers, create favorable attitudes towards a product or a company, reduce confrontation with consumer advocates, improve effectiveness of marketing strategies, differentiate from competitors, add value to service offerings and assist in customer retention (McNeal, 1978; Oumlil et al., 2000; Burton, 2002). On the other hand, customers can obtain an increased purchasing power resulting from more effective buying, greater personal satisfaction and appreciation because of improved decision making and skills of information evaluation, lower perceived risk, and greater protection of their rights and interests (Oumlil et al., 2000; Aubert, 2008; Bonfanti and Brunetti, 2015).

Which methodological approaches have been used?

From a methodological point of view, most of the articles selected adopts a quantitative research approach (about 57 per cent). Survey is the most common method for data collection and factor analysis is the most frequently used method for data analysis, while exploratory laboratory studies are the least frequently used.

In terms of qualitative research (about 43 per cent), conceptual studies are the most frequently used, while very little attention is paid to case studies, in-depth interviews and content analysis method.

Less than 11 per cent of the articles tried to measure customer education.

Which research areas have been examined in customer education studies?

In marketing studies, customer education has been examined especially in terms of consumer education programs and service marketing.

First, consumer education programs represent the educational tool most frequently examined in the marketing literature, especially in the 1970s and 1980s (Bloom, 1976; Wallendorf and Zaltman, 1977;

Bloom et al., 1977; Langrehr and Mason, 1978; Bloom and Ford, 1979; Way, 1984; Fast et al., 1989; Adkins and Ozanne, 2005; Jung and Jin, 2016). In this period, various studies analysed a television series entitled “Consumer Survival Kit” to explore differences in knowledge levels, behavior, and satisfaction between viewers and non-viewers. In brief, watching this TV program helped viewers to be more “active” consumers.

Companies willing to invest in consumer education can provide customers with information useful to product purchase and usage (e.g., Zhao et al., 2011) and create the conditions for developing the skills to capitalise on such expert information through a number of activities. Fast et al. (1989) identified the six following types of consumer education: 1) formal consumer education courses offered in schools, which are general in nature and focus on resource management; 2) consumer education workshops, seminars, etc. that emphasize basic buying strategies; 3) programs intended to disseminate printed consumer education materials; 4) materials that highlight buying strategies specific to the product category; 5) the frequency of publication of consumer information and/or action columns in the popular press; and 6) the frequency of consumer periodicals.

Other actions that are objective in nature include training and external communication activities such as printed materials (e.g. instruction booklets, flyers and tourist guides), websites, e-mail, e-tutorial, consulting services and personal advice. Essentially, all educational initiatives that allow customers to meet the right to full product information, learn how to make rational and efficient future choices, and protect their rights and interests are considered as customer education programs. Another important aspect is that educational initiatives should also be aimed at empowering customers with limited literacy abilities in order to allow them to enter the marketplace (Adkins and Ozanne, 2005).

Any company has to carefully choose the most appropriate – and convenient – education programs among auto-education, mass education, experiential or individual education by segmenting customers on the basis of their initial level of expertise (Aubert and Gotteland, 2010). This is a crucial marketing strategy, given that “not all customers require similar levels of educational support in the same service context” (Burton, 2002). Accordingly, managers should develop education initiatives mainly aimed at customers who want to satisfy their own curiosity and increase their knowledge levels (Bonfanti and Brunetti, 2015). For example, Jung and Jin (2016) studied slow fashion consumers in relation to their attitude for sustainability. In terms of consumer education, this research highlights how education programs can help customers recognize and admit the negative impact of their overconsumption in the long term, and motivate them to change their habits.

Second, marketing scholars have only recently taken into account customer education in a service marketing perspective. Previous research has provided evidence that this topic plays an important role in building service quality (Oumlil et al., 2000; Burton, 2002), customer satisfaction and loyalty (Oumlil et al., 2000; Aubert and Gotteland, 2010; Antonios, 2011; Suh et al., 2015), and customer perceived quality (Bonfanti and Brunetti, 2015). It is interesting to note that the relationship between the concepts of customer education and service quality has only recently been addressed in the extant literature. When consumers are educated, they are able to identify poor service quality and may become less loyal (Burton, 2002). In addition, if customer expertise is high, the positive effect of technical service quality on customer loyalty is indeed stronger, while the positive relationship between functional service quality and customer loyalty decreases (Bell and Eisingerich, 2007). These aspects can represent crucial risk elements for companies.

In services marketing literature, customer education has been analysed mainly in relation to complex professional services such as financial services (Eisingerich and Bell, 2006; Bell and Eisingerich, 2007). These studies highlight how customer education can add value to the service offering and increase loyalty. Especially, customer loyalty was found to be positively and significantly related to technical and functional service quality, as well as customer education. Contrary to expectations, however, customer expertise was not negatively related to customer loyalty. Further, customer expertise was found to be positively associated with customer education.

Other service settings that have been examined are restaurant services and performing arts. Yin and Yang (2009) examined the impact of customer education in restaurant services by suggesting that customer education affects customer participation, functional service quality and trust. With reference to performing arts, Nam and You (2015) explored the impacts of demographic characteristics and education experience in arts on consumers' behavior including frequency and diversity of seeing performing arts, acquisition of information, attributes, and expected benefits. The frequency of seeing performing arts was increased, if consumers were accompanied by friends or family members, had experience in arts education, and looked for information on websites before attending the event. While the frequency of seeing performing arts was increased when the consumers perceived popularity as an important attribute, the frequency of seeing performing arts was decreased when they perceived facilities as an important attribute.

What can be the research gaps in the existing literature about customer education?

Based on the literature analysis described in the previous paragraphs, the following five research gaps were identified: 1) although there are some articles that specify the difference between customer

education and customer information, there is a need to clarify other related concepts, such as customer expertise and knowledge; 2) the marketing literature highlights the benefits for companies that invest in customer education and for educated customers, but it on the one hand can extend benefits and, on the other hand, pays little attention to the risks that might emerge during the customer education process; 3) only a few articles have attempted to measure customer education; 4) there is a lack of empirical studies on actual customer education programs; 5) the customer education topic needs to be further examined in different service contexts because of little empirical evidence in the services marketing studies.

Which research agenda on customer education can be developed in the marketing studies?

In this section, a research agenda on customer education in marketing studies is proposed in relation to the five research gaps identified above. For the sake of clarity, the order in which the gaps were presented is followed.

1. In order to better understand the customer education topic, future research can jointly integrate the studies about customer education with the literature about consumer expertise (e.g., Alba and Hutchinson, 1987) and consumption knowledge (e.g., Clarkson et al., 2013). Some studies argue that “novel consumption experiences help build a consumer’s experiential consumption knowledge” that “has the potential to enhance their appreciation of future consumption experiences” (Clarkson et al., 2013, p. 1313). In other words, a consumer can better appreciate the benefits of a consumption experience when experience with that product category increases. Accordingly, expertise enhances the appreciation of future consumption experiences. Given that information improves customer evaluation skills in relation to product quality (Sproles et al., 1980), future studies should explore what evaluation skills allow customers to identify and appreciate product quality. Given that customer evaluation skills are based on not only companies’ education initiatives but also customers’ personal experiences (Bonfanti and Brunetti, 2015), future studies could examine in more detail the factors that contribute to develop customers’ self-education. In addition, customers can develop self-education skills by independently studying, reading and making use of e-learning tools (Kim, 2008) because of personal interesting or hobbies, or also by exchanging information through social networks. Since self-education has been hitherto understudied, examining how customers develop their self-education is a crucial and essential research direction.

2. Among the benefits that have been highlighted in literature, the importance of investing in customer education for firms’ internationalization purposes has not been outlined yet. In today’s global environment, customers can find during their shopping expeditions or at restaurant, goods and

services they are not familiar with and do not know how to use them because they belong to other cultures. For example, a Russian customer may not know how to cook the pasta bought at a local supermarket. In this regard, future research can investigate how companies are disseminating information in foreign markets and explore the advantages in terms of international marketing strategy.

However, companies that invest in customer education might also face some risks such as not satisfying customers that have acquired too much information and, subsequently, have become too expert. Customers' critical ability might increase to a level that they no longer appreciate the delivered service quality or product category offering. In this regard, it could be useful to investigate the relationship between customer education and customer satisfaction in relation to different knowledge levels acquired by customers.

3. Although customer education has been examined in quantitative studies, only 11 per cent of empirical research has attempted to measure this concept. Bloom and Ford (1979, p. 271) outlined that "the problem is not so much one of determining what to measure as it is how to obtain valid, reliable measurements". They argued that these measures could consider participants' knowledge about certain consumer education topics, attitudes toward certain institutions and behaviors, consumption behaviors (e.g. information-seeking), and general satisfaction with marketplace experiences. Later, Burton (2002) proposed the following variables: a) the existing abilities of consumers, b) appropriate methods of segmentation, c) the complexity of the service, d) the rate of service innovation, e) appropriate and available sources of information and education, and f) the proportion of new and existing customers. On the basis of this research and of the studies about communication effectiveness (Sharma and Patterson, 1999), Eisingerich and Bell (2006) measured the customer education construct in financial services. In their next research, by taking into account Alba and Hutchinson's (1987) study, Bell and Eisingerich (2007) also considered customer expertise as the extent of a customer's product knowledge and ability to assess product performance. In this way, they used customer expertise as a specific and separated construct from customer education. Aubert (2008) studied a sample of 321 consumers who owned a digital camera for about eight months in order to better understand the effects of customer education on skills, usage behavior and customer satisfaction. In his study, he used Churchill's paradigm (Churchill, 1979) to develop a scale to measure customer education efforts as perceived by customers. The measures used include skills improvement, usage intensity-frequency, variety, product expertise and product satisfaction. This scale has been validated through structural equation modelling. Consistent among all these studies was that future research should include customer expertise as part of customer education. New studies can empirically profile customers/users according to their

customer education, examine possible difference among clusters and suggest to marketing managers how to effectively implement customer education programs on the basis of characteristics of these clusters. Also, it could be interesting to examine such profiles in relation to different service settings.

4. Marketing articles published in the last decade have neglected conceptual and practical analysis about customer education programs. Future research can investigate how companies invest in actual customer education programs. It would be interesting to explore the ways in which they educate customers by focusing on some crucial aspects such as contents developed, communication processes, and consumer behavior during the education process. Further research could also address the educational programs adopted by companies operating in different industries. Some differences might emerge between companies belonging to the same industry or also between goods manufacturers vs. service providers. These studies can contribute to develop more effective consumer education programs and highlight areas to empower these programs.

5. Although the topic of customer education has been examined in specific service contexts such as financial, restaurant and performing arts, research in these fields is still scant. With specific reference to performing arts, for example, future studies can examine the impact of customer education on customer satisfaction and loyalty, as well as investigate through experiments the satisfaction levels of expert, informed, novice and not educated customers participating to the same performing show. By means of a survey, it could be useful to study customer education as a driver to revive the fortunes of industries that currently are in crisis such as lyrical opera. In addition, there are no studies about customer education in other service settings such as health, (sporting) events and museums. Another under-researched area includes customers with health problems such as intolerance and allergies to certain foods. Most of them need and are looking for healthy foods and gluten-free foods. Both consumer goods manufacturers and retailers must deal with consumers' doubts about nutritional labelling deriving, for example, from ambiguous terms used in advertising. In this sense, they play a crucial role in developing customer education. Future research could examine how these players behave and what marketing strategy they adopt.

CONCLUSIONS AND LIMITATIONS

Based on the analysis of available literature in marketing studies, this paper provides future research directions on customer education. Especially, it proposes: a) to jointly integrate the concepts of customer education, expertise and knowledge, b) to analyse the advantages of customer education for internationalization as well as the risks connected with educating customers, c) to measure customer education, d) to investigate companies that actually offer customer education programs, and e) to

examine different service contexts. . Marketing scholars can use this paper as a reference for identifying specific research areas to be investigated and further enhance existing knowledge.

This paper has several limitations. First, only those articles which included “consumer education” or “customer education” in their title were examined. It is acknowledged that other studies without these keywords in the article’s title may have been omitted and could be included in future research. Content analysis conducted for this study was based purely on identifying research gaps and, accordingly, propose some research directions. A more comprehensive study could be conducted by extending the analysis to all literature about customer education in order to provide a greater understanding of this topic.

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CORPORATE SOCIAL RESPONSIBILITY IN THE NORTH AND SOUTH OF EUROPE: A COMPARISON BETWEEN FINLAND AND ITALY

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ABSTRACT

The purpose of this paper is to observe the dynamics of Corporate Social Responsibility (CSR) through some cases regarding Finnish and Italian companies. The choice of Finland mirrors the strong collective awareness of social and environmental responsibility it supports. The authors present a comparison with the Italian context, focusing on the main concerns that companies integrate in their business operations and the main challenges related to the diffusion of socially responsible behaviour. The aim of this study is to highlight strengths and weaknesses, similarities and differences in the approach to CSR in the two countries. This paper might represent the starting point of a research stream to be further pursued in the near future.

Keywords: *corporate social responsibility, moral decision making, multidimensional approach*

INTRODUCTION

Following the global financial crisis in 2008 and subsequent recession, the intensity of drivers moving businesses towards a more socially responsible behaviour dropped away: businesses aimed to maintain their share within declining markets hit hard by reduced consumer spending. Nevertheless, Grant Thornton's research shows that the strength of these drivers has recently reappeared. Over the past three years, cost management has increased to 67% becoming the most considerable concern for companies. In addition, two drivers rank in the top: customer demand (64%) and 'Because it is the right thing to do' (62%) (Grant Thornton, 2014). The social purpose is definitely a hallmark for businesses: in a long term prospect, companies have to act for the common good. Tending towards the common good is not just a current ambition. In ancient times, philosophers like Aristotle and Cicero argued that the purpose of a business was not oriented towards the good in itself, but the common good.

METHODOLOGY

Our case study investigates the phenomenon of Corporate Social Responsibility in three different Finnish companies, from different sectors: Nokia, a multinational communications and IT company, now acquired by Microsoft; Kesko, a retailing conglomerate; Fortum, an energy company. These cases allowed us to highlight similarities and differences with the Italian context.

Our approach followed Kujala (2001). Influenced by Reidenbach and Robin (1988), who first developed a multidimensional ethics scale in order «to explore the manner in which individuals combine aspects of the different philosophies in making moral evaluations» (Kujala, 2001, p. 231). The multidimensional ethics scale identifies «the ethical evaluative criteria that individuals use in making a moral judgment» (Reidenbach and Robin, 1995, pp. 159–160). This multidimensional approach develops a 5-fold scale, based on an analysis of five ethical theories: (1) justice; (2) deontology; (3) relativism; (4) utilitarianism; (5) egoism. According to Reindebach e Robin (1990, p. 650), «the multidimensional nature of the scale can provide information as to why a particular business activity is judged unethical; whether, for example, the activity undertaken is perceived as fair or just, or whether it violates certain cultural or traditional values».

Firstly, the origin and evolution of Corporate Social Responsibility in Finland will be shortly presented. Secondly, the main features which characterize CSR in Finnish large companies will be highlighted (Panapanaan et al., 2003). Furthermore, special attention will be devoted to an analysis carried out in the small business context (Lähdesmäki 2005, 2010, 2012). Small companies are often marginalized by the academic debate. In reality they play an essential role in the national economy, since they represent an extremely relevant percentage of the total of businesses in Finland (99,7% in 2012). Finally, following the observation of the three companies – Nokia, Kesko and Fortum – a comparison with the Italian context will be carried out. What will be highlighted are the main concerns that companies – both Italian and Finnish – integrate in their business operations and the challenges facing the diffusion of socially responsible practices.

RESEARCH QUESTIONS

The research questions (RQs) behind this paper are:

RQ1: How does CRS take place in the Finnish context? How can it be compared with the Italian context?

RQ2: What are the similarities and differences emerging from this comparison? What are the strengths and weaknesses? What could each learn from the other?

LITERATURE REVIEW

The European Commission (2011) has defined Corporate Social Responsibility 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». Therefore, the emphasis is on the voluntariness of the action. However, following the European Directive adopted on 15 April 2014 on the disclosure of non-financial and diversity information, it has been established that some large companies have to disclose certain social and environmental information.

Corporate Social Responsibility is a delicate issue. The management action is crucial in order to disseminate positive values within the company and to build an ethical corporate culture. Exhaustive and truthful communication is a way for the company to define its identity and put it to the service of others by helping to establish and strengthen relationships of trust. Informing and raising awareness are the two key imperatives a socially responsible business cannot escape. The preparation of appropriate social documents represents one of the main frontiers in the innovation of communication. These tools, of various types, can be included in the more general area of sustainability reporting. The purpose is not to limit management activity solely to the economic sphere, but to extend it to the social and environmental dimensions, following an approach known as of the triple bottom line (Slaper & Hall, 2011). After the spread of social reporting, the need to launch a standardization has been felt, in order to prevent self-referentiality and non-credibility issues (Rusconi, 2013). Therefore some guidelines have been developed, both nationally and internationally.

As to the origin of CSR in Finland, it started during industrialization (Juholin, 2004). The role of social responsibility was an exclusive matter of the company. Considered the center of the community, business supported and contributed to the building of schools, churches, public infrastructure.

Takala (2000) argues that this kind of relationship between business and the community was needed, as beneficial to both parties. Indeed, economic and social structures of the country were underdeveloped and the responsibility of the owners of the factories was in part supported by economic reasons, for example to get motivated and committed workforce in the factories.

Following the development of the welfare State, the aforementioned tasks were performed by the Government. But the relationship between business and society has changed again with the advent of globalization. This change stems from the further reduction of the capacity and power of the welfare state to take care of social, economic and environmental issues. Nevertheless, the role of the State as a producer of welfare is still very strong.

Keeping up with the times, taking into account the international context in which they operate, it is now also for Finnish companies a categorical imperative none of them can escape.

Kujala (2001) analyzed the ethical dimension in Finnish managers' decision-making processes through a overhauled multidimensional ethics scale. He submitted four well-built moral dilemmas. The results showed that teleological thinking (in particular, utilitarianism) represents a significant moral dimension. So, it plays an important role in the decision-making process of managers in Finland. Although Finnish people are considered the benchmark in terms of integrity and honesty in the business world, owners' benefits come first (Svendesen, 1998).

On the other hand, we cannot expect otherwise: the economic purpose, even if not sufficient, is still a necessary prerequisite. In Kujala's research it is also interesting to notice that in some situations Finnish managers combine relativist thinking with ethical thinking, which are diametrically opposed. This shows the complex nature of morality in decision-making and the difficulty in identifying a single decision model.

Another interesting contribution has been made by Panapanaan et al. (2003). They have presented a roadmap of the main features of CSR in Finnish companies. They showed that all the Finnish companies interviewed defined Corporate Social Responsibility as compliance with strict Finnish laws and regulations. Indeed, many business sectors are highly regulated in Finland. We can notice from the final framework drawn how the main drivers boosting CSR are globalization and main stakeholders, especially regulators.

The framework works as the starting point for an enterprise to identify its current position, its problems and management actions. The framework is straightforward. It may look simple, but touching all aspects of CSR in management processes is definitely a challenging task that requires commitment, time and resources. It also may not reflect corporate dynamics in its entirety and therefore needs to be checked and verified.

It still represents a useful tool to all those companies that want to implement social responsibility. As such, the first step is the identification of the main areas of CSR and of the social parameters relevant to the enterprise. The assessment of the parameters would lead to the decision whether to pursue CSR management. Such decision would entail commitment, time, resources, managerial skills and effective cooperation.

In a small business context (Lähdesmäki, 2012), the main stakeholders (employees, customers, suppliers and local community) have expectations and needs for which the company is responsible. These expectations are not directly transferable as part of business operations. Indeed, they are first resolved within the company where their legitimacy, power and urgency (Mitchell et al., 1997) are evaluated. Interpreting the needs of stakeholders in relation to business operations is considered primarily a managing director's task, since he relates with most stakeholders. Such interpretation will then affect the managerial behaviour, which implies a certain level of responsibility towards

stakeholders. Moreover, by considering the corporate success in terms of CSR, the entrepreneur will act in accordance with the assessment made with relation to their future interactions with the company itself. The building of CSR meaning in managerial decisions with regard to the relationship established with stakeholders is examined by introducing the notions of reputation, proximity and identity. These studies show that, in the context of small and medium-sized enterprises, CSR is seen as a contradictory phenomenon, representing at the same time an asset and a liability.

THE FINNISH CASE

The first company analyzed is Nokia, which is based on three strong business divisions: Nokia Networks, which offers network infrastructure, hardware and services; Here, providing maps and location services; Nokia Technologies, which pursues advanced technology development and licensing. Since 2002, Nokia has always reported on corporate social responsibility through its sustainability Nokia People & Planet reports. Since 2008, Nokia has incorporated CSR also in the annual Form 20-F, filed with the United States Securities and Exchange Commission.

Nokia has an integrated view of responsibility, considering it part of everything the company does. The main factors of global sustainability are economic development, education, human rights, health and safety, urbanization, climate change. Nokia uses its technology as part of the solution in many global challenges. Indeed, its mobile technology has been used to provide access to learning materials in hard-to-reach areas and to send real-time data to prevent diseases as well as to map water points in water-scarce areas. In addition, Nokia has brought Internet to hundreds of millions of people who never had access to a computer. The materiality assessment shows how the most significant indicators for Nokia are customer satisfaction, privacy and security, economic impact and improving people's lives through mobile technology. These indicators still have a major impact on Nokia's business and on sustainable development and stakeholder interest.

Kesko is one of the most important retailing conglomerate, with a market share of 43,2%. It is engaged in food trade, home and specialty goods trade, building and home improvement, and car and machinery trade. Supporting corporate responsibility is one of their most important values: indeed, it is at the top of their pyramid of values.

In addition to being a core value, responsibility in Kesko is a strategic choice that the company pursues taking into account economic, social and environmental aspects. Its responsibility program is based on *responsible working principles* which have to be followed by everyone and everywhere in the company. Kesko aims to build a better society, offering high-quality work, mitigating climate change, but above all buying and selling responsibly and supporting customers in making sustainable choices. To this purpose, Kesko implements some measures designed to meet these goals. The materiality

assessment of the company highlights the indicators having the strongest impact on the company and on stakeholders: financial profitability, good corporate governance, product safety and quality, accessibility and multi-channel approach.

Fortum is an energy company which reorganized its business structure in 2014. Its various functions are located in four business divisions: Power and Technology, Heat, Electricity Sales and Solutions, Russia and Distribution.

Power and Technology consists of hydro, nuclear and thermal power generation, technology and R&D functions. Heat, Electricity Sales and Solutions includes combined heat and power (CHP) production, district heating activities and business-to-business heating solutions, solar business, electricity sales and related customer offering, and Corporate Sustainability. The Russia Division includes power and heat generation and sales in Russia. The Distribution Division is responsible for Fortum's distribution activities to a total of 0.9 million customers in Sweden.

Fortum's mission is «to create energy that improves life for present and future generations and to provide sustainable solutions for society and deliver excellent value to its shareholders».

CSR is seen as an integral part of Fortum's strategy. Business and responsibility are tightly linked, underlining the role of sustainable solutions as a competitive advantage. In its operations, Fortum balances economic, social and environmental responsibility.

The materiality assessment shows how the main indicators considered are nuclear safety, mitigation of climate change, nuclear waste and final disposal, environmental emissions, long-term profitability.

Despite the different nature of business, the degree of social and environmental responsibility displayed by the three companies is very strong. This is shown not only by the external acknowledgements received, but also by feedbacks and employee responses to satisfaction surveys. Also Nokia, despite the acquisition by Microsoft, has been able to maintain the right spirit, continuing to care about environmental and social issues. This shows that the typical Finnish quality called *sisu*, roughly meaning guts and originally intended as a force to overcome obstacles, is not only due to the climate they operate in, but also to their competitive behaviour. Despite undergoing a major transformation, Nokia has carried on being attentive to sustainability issues. We should not view the continuous layoffs caused by the acquisition as affecting any CSR commitment. A company has to achieve its fundamental economic balance first by resulting competitive on its market. It is a necessary condition, without which corporate survival is never guaranteed.

COMPARATIVE OVERVIEW BETWEEN ITALY AND FINLAND

In order to compare Corporate Social Responsibility in Finland and Italy, we use as benchmarks the drivers, the main concerns that companies intend to integrate in their operations, the tools they use, the guidelines followed, and the main challenges regarding the diffusion of CSR.

In Italy, the main drivers are customer demand (72% in 2014) and management costs (+ 18pp compared to 34% in 2011) (Grant Thornton, 2014). Increased transparency of information and the growing importance of social media are key factors to consider when presenting business actions that are more and more in the public spotlight. Customers are not only able to protest against the company that pursues practices deemed as socially unacceptable but, in an increasingly digital world, they are able to 'vote with their feet' by identifying alternative products and services from competitors with stronger ethical credentials. The role of cost management has become increasingly important: it is now acknowledged that the trade-off between economic development and environmentalism is no longer obvious. Rather, the pursuit of sustainability can be a powerful path of reinvention for all businesses that have to deal with limited resources and the purchasing power of their customers (Grant Thornton, 2014). Thornton's results show how Italy, along with Germany, considered the tax concessions granted to companies who adopted socially responsible behaviour as the main drivers, next to brand building (33%) and employees recruitment/retention (29%), while the latter is the first key factor being considered in Finland. According to Panapanaan et al. (2003), the main driver is globalization. The reason can be found in the fact that nowadays companies are increasingly internationalized and have to accommodate signals coming from the global market and respond to these signals in order to maintain their position on the market.

Stakeholders have also a considerable weight, confirming Grant Thornton's findings (2014). Regulators are particularly important among them. They establish rules to be followed especially in the pharmaceutical and food industries. This can be seen in the Kesko case, previously analyzed.

As to the main concerns affecting the countries being compared, we can notice that they are more or less the same (environment, discrimination, freedom of association, remuneration, health and safety). The exception is corruption, which affects only Italy while does not touch Finland at all, which is one of the least corrupt states in the world according to the list published by Transparency International (3rd place in 2013 compared with 69° of Italy). Another exception is diversity, which does not affect Finland, given the uniform ethnic nature of Finnish society.

In Italy, the most popular instrument being used is *bilancio sociale*, whose aim is to give visibility to stakeholders' needs and expectations, to provide information regarding the social aspect of the business, verifying its compliance the statutory objectives, communicating the value created. According to the International Business Report by Grant Thornton (2014), 24% of Italian companies (15% in 2011) publish information on corporate social responsibility and sustainability and integrate

them both into the financial statement (20%) and in specific documents (4%). The percentage observed in Finland is lower (18%).

Nowadays, a lot of companies use GRI guidelines in their sustainability report (according to a KPMG survey (2011), more than half of N100 companies use GRI in 37 out of 41 countries surveyed). More than 90% of companies are based in South Korea, South Africa, Portugal, Chile, Brazil and Sweden; less than 50% in Kazakhstan, Romania, Denmark and Nigeria.

Among the most innovative tools used by Italian companies to fulfill their social responsibility, a very important role is played by Cause Related Marketing (CRM). Indeed, Italy is the first country in Europe to have a CRM observatory: Sodalitas-Nielsen Observatory monitors the progress of Cause Related Marketing in Italy, measuring the performance of investments and advertisements in CRM on the Italian market and their distribution through several media (web, radio, TV, newspapers, magazines, billboards). The Observatory also lists the names of big spenders among companies on a regular basis. In June 2013, Sodalitas Foundation published some data compiled by the Observatory with regard to the investment in CRM made in Italy in 2012, which amounted to 207 mln EUR, a 18.4% decrease compared to the previous year. CRM advertisements realized were 12,791, against 24,207 in 2011 (47.1% less). The crisis has affected the level of investment in CRM on almost all media considered: firstly, television and radio; the only one that is bucking is the cinema, where investment in CRM rose from 208,000 to 2.148 mln EUR. As to the market sectors affected, the situation has changed: while in 2011 the record belonged to the clothing industry (18.5% of the market), in 2012 the food industry topped the ranking (13.5%; in 2011 it was 3.5%).

In addition to the Cause Related Marketing, corporate volunteering is growing in Italy: companies adopting such socially responsible strategy are increasing. They give employees the opportunity to devote themselves to the community through charity activities, on the basis of their skills and preferences. As it is clear from the last report drafted by the Socialis Observatory at Errepi Communication and IXE Institute (2014), only 11% of companies choose this specific formula to implement their corporate social responsibility, to which we can add parallel and related initiatives, such as corporate philanthropy (24%) and donations (26%).

If in the past companies mainly considered donations, now 54% of respondents have implemented measures to cut paper waste, water, lighting and food scraps. Other relevant actions are investments for energy saving (36%), introduction or enhancement of recycling (33%), adoption of new technologies to reduce pollution and improve waste disposal (33%).

Other investments take place in areas such as sport, solidarity, art and culture. Scholarships (18%) or product donations (16%) are also present. Italy invests on average 169,000 EUR, for a national total of just under one bln EUR. They are funds that, at least in 46% of cases, end to suppliers who adopt the

same kind of environmental approach. Attention and savings are the key words emerging from the results of the Socialis report: on the one hand attention to waste, to employees, to the environment where we live, to the territory where the company is based, while on the other hand we have a decreasing consumption of raw materials and resources, a greater control of the supply chain and more attention to the overall costs.

The advantages enjoyed by Italian companies were mainly about corporate reputation, useful to positioning and image (47%). Therefore initiatives on which companies invest should be visible (40%) and linked to the geographical context (31%). It is better if they involve employees (28%). Other goals are the attraction of new customers and effects on climate (27%). Ethical issues and those regarding sustainable development, as well as the relationship with partners and governments, come only third. However, as the survey shows, the results concern mainly the working atmosphere and staff involvement. Only 36% of companies observed a tangible reputational return, while those policies provided greater visibility to 21% of them.

Both Italian and Finnish companies follow international guidelines: OECD guidelines (2011), ILO principles, UNGPs guidelines, SA8000 standards, AA1000 standards, ISO 14001 for environmental certification, ISO 9001 for quality certification, Global Compact principles, PRI principles, GRI indicators, Ecolabel certification, etc.

As to national guidelines, in Italy we have GBS standards (for private companies and public administrations) and ABI/IBS standards (for retail banks), while in Finland FSA standards as well as industry-specific guidelines are applied.

Finally, the main obstacles to the diffusion of CSR in Finland are related to the ability to ensure the competitiveness of Finnish Industries in a context where the bulk of production moves to low-cost countries, to deal with demographic change and to promote ethnic diversity. Demographic change, in particular, puts the emphasis on ageing in Finland: since the size of the working-age population decreases, it is vital that as many working-age people as possible are able to enter the labour market and that the employment rate increases. It is necessary for Finnish companies to ensure stable employment and job security for younger generation. Although environmental issues are some of the most important challenges – for example reducing greenhouse emissions is one of the main priorities in Finland – the climate is very cold and long travel distances do not provide the most favourable setting to do this.

In Italy the main challenges include an increasing involvement of public authorities in the CSR debate and the implementation of a strategic approach to social responsibility involving the enterprise as a whole. Indeed, public authorities should ensure both the legal framework and the economic and social conditions that allow companies to develop their socially responsible activities within their reference

market. Companies, on the other hand, should take a different strategic approach: too often the difficulty of incorporating social responsibility in the long-term business strategy is due to the lack of a strategic vision. In fact, those companies that have always included social responsibility in their vision and mission have not encountered major problems in adopting socially responsible initiatives.

According to the Socialis Observatory, proposals for supporting CSR are mainly about the diffusion of organizational reward norms, such as tax breaks, awards, certifications (75%), academic training which should be more ethical (40%), the creation of a corporate brand of social responsibility (34%), greater collaboration between business and the non-profit world through meetings, joint initiatives, exchange of expertise (33%).

As to the role of universities, in Finland they are very active in the CSR field. A clear example of this is the Environmental and Corporate Social Responsibility programme of the Helsinki School of Economics (HSE). Launched in 1993, since 2000 it has given more emphasis to social responsibility issues, while the Centre for Responsible Business (Cereb) at the Turku School of Economics (TSE) – established in 2003 – is the first Finnish academic centre for responsible trade, specialized in research, education and multidisciplinary development.

CONCLUSIONS

The analysis of documents of Nokia, Kesko and Fortum shows how these companies are very active towards the improvement of the environmental and social impact of their activities. They do not act according to a generic view of corporate social responsibility. Instead, they tend to adopt the approach that best suits their specific strategies.

Reading their sustainability report, both Nokia and Kesko view responsibility as a daily commitment, emphasizing the fact that all daily actions must take into account social and environmental issues. Kesko views CSR as a strategic choice in order to remain competitive in the market. Fortum too considers corporate social responsibility as an integral part of its strategy. Ideally, any company should integrate CSR policies in its overall strategy, focusing on those actions that bring structural benefits to both itself and society. Social concerns should therefore become an integral part of the company's value proposition.

As to the governance the three companies, according to the Finnish Corporate Governance Code, use a one-tier model, because they are listed companies. They make sure that social and environmental issues are reviewed periodically at all levels, from low- to high-rank decision-making bodies. They have won several awards for good governance practices.

Among the tools used by the companies in question, the sustainability report and the ethics code are certainly the most important. There is no lack of volunteerism, fundraising practices and cause related

marketing actions, especially by Nokia and Kesko. The latter also monitors the impact of its environmental measures on the financial result, through an environmental accounting system.

As to the standards used to achieve the sustainability report, Nokia, Kesko and Fortum use the GRI G4 (2013). The GRI does not require a minimum content, but it proceeds by flexible degrees of conformity, providing three different levels of applications. The company should state the level chosen in order to understand the reporting process: level C is for those companies that use only few indicators, while level A is for those that use all of the core indicators. The company may also have the sustainability report certified by a third party, in which case the symbol + is added next to the application level achieved. Fortum is the only one of the three companies which claims to have used the GRI G4, following an application level B + in the sustainability report 2013 (the third-party institution is the consulting firm Deloitte & Touche). On the other hand, Nokia and Kesko do not declare the application level chosen, despite having the verification process carried out by an external body (PricewaterhouseCoopers).

Other standards used by Fortum and Nokia are the ISO 14001 environmental management certification, the OHSAS safety and security certification, the SA8000 ethical certification and - only by Kesko - the ISO 26000 guidelines. Fortum and Kesko also adhere to the AA1000 standard, not mentioned in the 2013 Nokia sustainability report.

In terms of ethics, the three companies have a code of conduct, either inspired by typical Finnish cultural values (for Nokia) or by corporate values (for Kesko and Fortum). Of course such codes mainly set out general principles, not being able to provide detailed instructions for all possible situations. These principles are already universally accepted (working in a safe and healthy environment, promoting respect for human rights and so on). Fairness in the use of information and the degree of collaboration with the different stakeholders are also mentioned. Managers or supervisors are always available if needed.

Observation of the three cases shows how a company should never be content with the awards received. Measurements are not always reliable and comparable. Moreover, there is not always a meaningful correspondence between the awards won and how they actually mirror the way companies operate. Adhering to international standards may not be enough. A constant welfare-seeking activity is needed, regardless of any award one might be given. Companies need to foster the integration between business and society, adopting the principle of shared value (Porter & Kramer, 2006): in other words, the choices and decisions adopted should bring benefits to both parties. Corporate social responsibility should not be seen as some luxury one cannot afford in times of crisis, rather as added value, same as innovation. All businesses should perceive social responsibility as a way to build and promote shared values.

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WATER MANAGEMENT: LEGAL MODELS FOR DEVELOPING PUBLIC - PRIVATE INNOVATION AND RESEARCH

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ABSTRACT

Water has functional and socio-economic characteristics which render it unique as a product on the market. It follows that particular attention must be dedicated to its careful and rational usage, avoiding waste and promoting re-usage of this asset. This culture of recycling is strongly promoted within the EU legal context, which applies it directly to water. It is thus necessary to innovate and find organisational solutions that are capable on the one hand of promoting access to research resources made available by the EU itself, whilst on the other hand managing the financing obtained with the involvement of public and private partners within their respective roles. Since Italian law lacks public law provisions that are capable of providing an adequate response to that requirement, it is necessary to verify whether company law might enable satisfactory aggregative innovative solutions to be developed. Our paper suggests to implement the network contract in water sector because it can provide an effective normative and operational support.

Keywords: *Water - Water Management - Legal Models - Innovation and Research - Circular Economy - Italy - Public and Private Partners - Public Law Regulations - Business Law - Network Contract.*

INTRODUCTION

Amongst other reasons due to the characteristics of water as an asset, the provision of water offers an interesting area for experimentation in order to test organisational arrangements that are aimed at promoting integration between expertise that is disparate yet conducive to the pursuit of shared goals. In fact, as is stated in the first recital to Directive 2000/60, water "is not a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such" [Rainaldi and Scintu, 2011]. There is thus a need on the one hand for technical expertise in the field of engineering, business administration and programming, but also on the other hand for product and procedural innovations in order to render the models for managing and providing the service efficient and effective.

Within this context, the law performs the essential function of defining the inter-linkage between the different actors which, through interaction, also develop synergies that are beneficial for the aims cited.

However, public law does not appear to offer adequate instruments, such as those that could perhaps be identified within recent Italian legislation enacted in the area of company law. Lawmakers have in fact introduced private law institutions that may be significant as organisational models in terms on the one hand of the interaction between public and private sectors (also for the purposes of so-called technology transfer) and on the other hand of the organisation of economic activity in order to enhance competitiveness through innovation.

The aim of this research is thus to verify the potential of the legislation referred to through the prism of Integrated Urban Water Management (IUWM), to contribute to the definition of a law efficient model.

On a methodological level, it will thus be necessary to set out the problem issues raised by water not so much with regard to service management as rather the innovation and capacity of public law regulations concerning integrated urban water management to offer instruments to enable its *transition* from research centres to installations by constructing a legal bridge that models the organisation on innovative activity.

THE COMMUNITY LEGAL AND FINANCIAL REFERENCE FRAMEWORK

The enhancing of the efficiency of networks, installations and purification procedures requires an availability of financial resources in order to carry out the necessary work, and even prior to this the pre-competitive study and development of innovative technical solutions. It is only in this way that positive implications can be obtained both on the setting of rates and on the overall economic and social system.

In other words, the theoretical and experimental analysis is accompanied by the need - right from the design stage - to develop partnerships with undertakings or legal entities in order to carry out in the first place an empirical check of the results and in the second place to secure a swifter connection with the manufacturing sector which should actually (and ultimately) benefit from the outcome to the research financed. The definition of the project and the roles performed by the various partners within it does not regulate legal relations between them. It is thus necessary to clarify: a) the legal relations between them, and b) the organisational model that must be adopted in order to regulate specifically cooperation (i.e.: information flows, technical and operational arrangements applicable to experimentation, management of researchers and any employees dedicated to such work).

Due to its physical and chemical characteristics, but also its functional characteristics [Fiorentini, 2010; Frosini, 2010], water cuts across the entire spectrum of the issue presented above and is closely linked to research and innovation from various standpoints. In fact, if the perspective is limited to Integrated Urban Water Management (IUWM) [Nivarra, 2015], the relevant issue in terms of water provision is from the engineering perspective the construction and maintenance of efficient infrastructure, whilst in

terms of physical and chemical management the key issues are processing, healthiness and the arrangements for recycling household and industrial water [with regard to the Urban Waste Water Treatment Directive (91/271/EEC), see the study *European Commission DG Environment Compliance Costs of the Urban Wastewater Treatment Directive Final report September 2010*].

The importance on a legal level of the issues referred to above is particularly evident within the Community context where water flows along a normative and operational platform which appears to be particularly suited to the experimentation of organisational models that are capable of involving business, the environment and innovation-research in a manner that generates synergies. In fact, at the end of 2015, the paper *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, of 2 December 2015] was presented, in which specific attention is dedicated to water. In order to move beyond the different national practices within the legal framework of the Union, amongst the actions planned for 2016 and 2017 the Commission has proposed the elaboration of a guidance plan involving the issue of recommendations.

In addition, in order to raise awareness of the importance of good practices also amongst consumers, at the start of 2017 the Commission will introduce rules concerning minimum water re-usage requirements. The technical proposal is currently being developed by the Joint Research Centre with the cooperation of the independent Scientific Committee on Health and Environmental Risks (SCHER). Thirdly, there is an important point of contact between research and innovation in relation to the need to support in particular the improvement of waste processing installations, the development of intelligent technologies and the reduction of energy consumption.

The process referred to above intersects on a more general level with the model of economic development, a further issue that is well-established on Community level, namely the "circular economy" which is "essential to deliver the resource efficiency agenda established under the Europe 2020 Strategy for smart, sustainable and inclusive growth" [cf. COM(2014) 398 final, *Towards a circular economy: A zero waste programme for Europe*]. In other words, the circular economy aims to overcome the "linear model" based on the development of resources for producing goods, destroying those goods and generating waste in order to achieve an economy that is less reliant on virgin resources, making up for their usage by partially reusing waste. This arrangement implies not only a form of cultural progress that impinges upon consumer choices but also the recourse to innovation and research in order to develop manufacturing techniques which on the one hand facilitate both the containment - in quantitative terms - of waste and - in qualitative terms - its re-usability, whilst on the other hand reducing the environmental impact of waste that cannot be used at all [see in particular COM(2014) 398

final, *Towards a circular economy: A zero waste programme for Europe*, § 3.3. See also COM(2011) 21 final, *A resource-efficient Europe - flagship initiative under the Europe 2020 strategy*].

"CIRCULAR ECONOMY" AND THE ROLE OF THE REGIONS.

Adopting a twin-track approach, IUWM features a dual aspect, on the one hand financial and on the other hand legal: the former measures the efficiency of the installations and the organisational model for the management-organisation of the services, whilst the latter designs this model. Innovation and research thus close the loop, enabling the legal model (essentially linear) to be projected onto the political-economic model (which is essentially circular). It is this dual perspective (i.e. innovation and research) that enables the entire traditional organisational framework to be reconsidered in a different light with regard to the physical and technical means by which the service is provided through to the self-sustainability of the model vis-a-vis the rates to be charged and the costs to be borne by investors. On the other hand, innovation and research in turn require a complex legal vehicle equipped with multifaceted tools so as to enable a difficult balance to be struck: in fact the centre of gravity results from the balancing of the different interests vested in the public and private actors which converge on a shared goal, following a path in which both are actively involved, albeit performing different roles.

The EU, which regards research and innovation as decisive factors in enhancing competitiveness and collective well-being [cfr. Commission Communication COM(2014) 339 final of 10 June 2014, *Research and innovation as sources of renewed growth*, along with work on the amendment of the *Small Business Act* to incorporate the Europa 2020 indications] assigns a role to the regions of the various EU Member States which is anything but secondary in order to respond to crises and create the prerequisites for economic growth. The goal is pursued from two angles: on the one hand, active and multi-level interaction between the different actors within the territory, which are an expression of its socio-economic requirements, and on the other hand the incorporation of the different solutions proposed into a global policy for sustainable and inclusive growth.

Against this backdrop, particular attention should be dedicated to the *Smart Specialisation Strategy (SSS)*: a European law term which defines the strategies for innovation elaborated on regional level, but which are assessed and systematised on national level. The objective is to avoid fragmented action, by coordinating the integrating research and innovation policies. This has the effect of facilitating the development of regional innovation strategies that are capable of exploiting manufacturing excellence with regard on the one hand to the strategic positioning of the territory and on the other hand to the prospects for development of the economy overall. The objective is thus pursued by allocating to individual regions within the European context the task of developing systems for innovation that are capable of exploiting sectors of manufacturing excellence emerging throughout the territory, whilst also

taking account of the overall economic context. It is in fact clear from the Community documents that "clusters can provide a fertile combination of entrepreneurial dynamism and contribute to the building of a knowledge-based economy, in line with the Europe 2020 strategy". However, this result can only be achieved by creating contact between potentially innovative bodies operating within the local context [Document accompanying the Commission Communication on Regional Policy contributing to smart growth in Europe 2020 COM(2010) 553 final -SEC(2010) 1183: Accompanying document- p. 5 et seq], including universities and research centres [Document accompanying the Commission Communication on Regional Policy contributing to smart growth in Europe 2020 COM(2010) 553 final -SEC(2010) 1183: Accompanying document- p. 19 et seq].

The SSS is an important locus for intersection also with specific regard to research into water. The European Regional Development Fund (ERDF) in fact offers financing for innovations in the area of the reuse of water where such innovation is aligned with the *Smart Specialisation Strategies*, which each Member State and each region has been required to adopt.

It is now necessary to verify whether Italian legislation contains provisions that enable organisational models to be drawn upon and implemented on a practical operational level in order to implement the European indications. With that in mind the focus has been placed first and foremost on public law regulations concerning IUWM, and secondly on networked contractual relations between undertakings.

WATER MANAGEMENT AND THE DOMESTIC LEGISLATION IN ITALY

The management of Integrated Urban Water Management has been comprehensively revamped since 1994 by the so-called Galli Law (Law no. 36 of 1994) and subsequently by the Environmental Code (Legislative Decree no. 152 of 2006, Articles 147 et seq). Water services are organised on the basis of "optimal territorial units" defined by the region (which may even designate the entire region as one single territory). A "unit governmental body" is established in each unit. It ultimately amounts to a compulsory consortium [Nivarra, 2015], which must be adhered to by the local territorial bodies falling within the unit (Article 147 of the Environmental Code).

The unit governmental body draws up an important document, known as the "unit plan", in turn comprised of multiple documents (Article 149 of the Environmental Code), which:

- describes the "substance of the infrastructure to be allocated to the service manager" (recognition of infrastructure);
- identifies ordinary and extraordinary maintenance work, also indicating the objectives that are to be met (intervention programme);

- defines the "operational structure" that will be adopted by the operator in order to ensure on the one hand the service and on the other hand the implementation of the intervention programme (management and organisational model);

- provides a forecast, including the preparation of a dedicated accounting document, of the "trend of management and investment costs net of any public grants" (economic and financial plan).

Further rules relate to different aspects of the provisions governing the management of water services with reference to their allocation (Article 149*bis* of the Environmental Code) and the regulation of a variety of aspects: from relations between the unit governmental body and operator to the powers of control of the governmental body, from the equipment that the operator must have to rates and upgrading work (Article 151-158*bis* of the Environmental Code).

Thus, despite the points stated in the "Position Paper" of the Services of the Commission on the Preparation of the Partnership Agreement and Programmes in Italy for the 2014-2020 period, there are no specific rules to facilitate, within national legislation, an openness towards organisational models that are capable on the one hand of involving subjects that can introduce innovation, efficiency and technology and on the other of attracting public and/or private financing.

It thus appears necessary to shift the attention to the various regulatory frameworks put in place by the legislation which have as their *direct* aim the stimulation of innovation and competition between undertakings on the market.

NETWORKED RELATIONS AS AN ORGANISATIONAL MODEL CONDUCTIVE TO INNOVATION AND RESEARCH IN RELATION TO WATER

Alongside the older and consolidated consortium contract, the legal system now offers another innovative form for achieving coordination and partial integration between *undertakings*: the network contract mentioned above. Following its introduction by Article 3 of Decree-Law no. 5 of 2009 in order to promote innovation and to enhance the competitiveness of undertakings, it has been amended and supplemented on various occasions, which have now turned it into a very different instrument from that created only five years ago [Locorotolo, 2015; on networks see by contrast Teubner, 2011; Weitzenboeck, 2012; Cafaggi, 2011]. It may at present be regarded as an instrument through which the adhering undertaking organises, develops and structures its operations or a particular aspect of its operations through partial integration with other undertakings, thereby achieving results that it would not have achieved on its own (in terms of innovation and competitiveness). The network contract thus enables acts/operations to be planned in view of a common result to which participants may contribute

in a highly disparate and different manner (in both quantitative and qualitative terms, including with specific projects) [Camardi, 2009; Cafaggi, Iamiceli and Mosco, 2013], provided that they are consistent with the shared programme and that progression towards the goal is regularly reviewed. Thus, a network contract need not necessarily have as its object commercial activity; similarly, research into or the development of a product need not relate to an innovative product/service.

The fact that the network contract, at least for the purposes of the application of national legislation, may only be concluded between undertakings [see further Patriarca, 2011; Maltoni and Spada, 2011 *Contra* R. Santagata, 2011] is an obstacle that is more apparent than real for its actual adoption also in situations involving public bodies or subjects not normally regarded as commercial entities, at least pursuant to the definition contained in Article 2082 of the Civil Code. Various uses of the network contract may in fact be hypothesised: as a contract to which undertakings controlled by public bodies may adhere or as a normative model on the basis of which an atypical agreement may be concluded between public and private bodies. In the former case the provisions on the network contract will be applicable, including the possibility to pool assets intended for a specific project; in the latter case it will not be possible to benefit simply on the one hand from the provisions on the enforceability of registered documents guaranteed by publication in the register of companies, and on the other hand from the legal personality of the network which may be obtained pursuant to Article 3(4-*quater*) of Decree-Law no. 5 of 2009 [Ibba, 2014; Marasà, 2014; Serra, 2014; Caprara, 2015,].

If the scope of the analysis is limited to water and the environmental sector, the need to subject the results of research to operational experimentation necessarily implies the involvement of public bodies (such as for example the unit authority and universities) along with private entities (such as engineering companies), which could regulate the respective relations through consortium-based (or networked) contractual arrangements.

Irrespective of whether or not it has legal personality, the network contract is thus one of the possible forms of aggregation between undertakings seeking to obtain recognition by the region or to establish one of the "public or private bodies" participating in the creation of a regional network. Furthermore, irrespective of whether or not it has legal personality, a network contract aims to enhance competitiveness and innovative capacity, which will be measured only in relation to member undertakings as such capacity relates to the manner in which the project is implemented (i.e. execution of the contract), and not to the legal structure used to organise its implementation [Caprara, 2015 II. *Contra* Barba, 2015]. There is nothing to preclude the possibility that this organisational structure may promote or act as a founding partner of a corporate entity such as a start-up, which could take on responsibility for placing the innovative product on the market. For example, in order for a social start-up to obtain that status it must have as its "exclusive or predominant commercial object the

development, production and marketing of innovative goods or services with high technological value" (Article 25(2)(f) of Decree-Law no. 179 of 2012), whilst however operating "exclusively within the sectors indicated in Article 2(1) of Legislative Decree no. 155 of 24 March 2006 (Article 25(4) of Decree-Law no. 179 of 2012), which expressly provides, *inter alia*, for the "protection of the environment and the ecosystem (...) with the exception of the activities of the collection and recycling of household, special and hazardous waste on a habitual basis". As an innovative start-up that company could therefore draw on hitherto unprecedented (under domestic law) systems of financing (for example crowd funding) [cfr. Article 30 of Decree-Law no. 179 of 2012, Article 50-*quinquies* of Legislative Decree no. 58 of 1998 and Consob Regulation no. 18592 of 2013]. In this way innovation presents itself on the market and is capable of securing financing, even when public funding is exhausted, or of itself becoming an instrument for the direct or indirect financing of new research.

CONCLUSIONS

Different sectors of research require legal models that are capable of promoting technology transfer in such a manner that enables it to be used by the undertakings or bodies concerned, whilst being beneficial, also in social terms, for the community as a whole.

Water, on which this paper has focused, needs to innovate and find organisational solutions to combine research, resources made available by the EU for enhancing competitiveness and collective well-being. Within this context the «circular economy» principles enable less reliance on virgin resources, making up for their usage by partially reusing waste. Into the soft and hard UE law there is no suggestion about the role of public and private enforcement and the related organization models.

Absent any specific public law legislation, business law gives efficient and innovative organisational matrices. Our research suggests to implement the network contract in water sector as an effective normative and operational support.

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INFORMATION SHARING AND COMMUNICATION STRATEGIES: A STAKEHOLDER ENGAGEMENT VIEW

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ABSTRACT

Purpose: The increasing competitiveness in market configuration is pushing companies to explore new ways to improve their competitive advantage and their chances of survival. According to managerial studies and empirical evidences offered by managerial literature, a possible strategy to improve companies' performances requires the involvement of stakeholders as complex actors endowed with relevant resources and knowledge. Starting from this key point, the paper states that information sharing and communication strategies could offer an effective contribution to creating pre-conditions for stakeholder engagement.

Design/Methodology: Reflections herein are verified via Structural Equation Modelling (SEM) on a sample of Italian companies with the aim of verifying whether there is a positive relationship among variables such as use of informal instruments of communication, publishing of social reports, number of years in which social reports are published, and availability of information on company and companies' market capitalization (Market Cap).

Reflections and empirical results are discussed from both a theoretical and a practical point of view.

Findings: The paper enriches previous studies on the topic of communication strategies, offering evidences on the contribution that voluntary corporate disclosure can have in terms of impact on companies' market value. Accordingly, the paper proposes first reflections on the possible role of information sharing and communication strategies as drivers in creating pre-conditions for stakeholder engagement.

Originality: The paper proposes reflections and empirical evidences that offer opportunities to better understand the relevance of information sharing and communication strategies as drivers in creating pre-conditions for stakeholder engagement.

Keywords: *stakeholder engagement, corporate communication, market relationships, companies-stakeholder interactions, voluntary corporate disclosure, market capitalization.*

INTRODUCTION

The increasing complexity and competitiveness of social and economic configurations is pushing both researchers and practitioners to identify possible new ways to improve the capability of organizations to survive in a challenging scenario (Schoemaker, 1992; Payne and Frow, 2005). Traditional managerial models and organizational approaches based on the view of a company as an autonomous entity able to influence the market and encourage stakeholders towards specific behaviours and aims are proving increasingly inefficient (Birkinshaw, 1997; Reinartz *et al.*, 2004). The consequence of the old market approach is the increasing risk of many organizations being unable to understand the evolution of market, with negative effects on their chances of survival (Buysse and Verbeke, 2003; Freeman *et al.*, 2007; Barile *et al.*, 2012; Golinelli *et al.*, 2012; Saviano and Caputo, 2013).

In the last few years, to overcome the risks and failures of the old approach, different researchers and research streams have tried to identify possible new ways, focusing attention on the ability of an organization to forecast the evolution of consumers' behaviours and lifestyles (Vrontis and Thrassou, 2007; Solomon *et al.*, 2012); on the organizational setting and models on which organizations' strategies and vision are based (Cummings and Worley, 2014; Senge, 2014); and on the instruments needed to acquire more information on the evolution of context and how better to use them (Campanella *et al.*, 2013; Di Nauta *et al.*, 2015).

Building on the different contributions offered by literature on the ways to face the emerging social and economic challenges, it is possible to identify a common element: the increasing attention afforded to the role and the relevance of stakeholders as actors endowed by knowledge, competences

and capabilities fundamental to the survival of every type of social and economic organization (Kandampully, 2002; Ayuso *et al.*, 2006; Vargo *et al.*, 2008; Hage *et al.*, 2010).

Donaldson and Preston (1995) define stakeholders as persons or groups with interests characterised by legitimacy in both procedural and substantive aspects of corporate activity. Building on this more general classification, it is possible to affirm that the concept of a stakeholder includes all individuals and groups influencing or able to influence organizations' behaviours, actions and strategies. According to Freeman (1984), the concept of a stakeholder is an inclusive domain that refers to employees, customers, communities and government officials, among others. The state of knowledge on the concept of the stakeholder is principally based on stakeholder theory (Freeman, 1994; Donaldson and Preston, 1995) as the general framework that underlies the need for companies to understand and satisfy the needs of different actors involved in their field of action (Jensen, 2001; Friedman and Miles, 2002; Freeman *et al.*, 2004).

According to An *et al.* (2011), stakeholder theory enriches previous studies on companies' strategies, underlining the need to meet multiple goals related to a wide range of stakeholders. Building on this, the real challenge for every type of organization is to understand the needs of different stakeholders and to develop strategies able to satisfy them in efficient, effective and affordable ways (Cleland, 1999; Barile *et al.*, 2013). This challenge requires overcoming the traditional perspective of organizations as autonomous entities to adopt a vision in which companies need to interact with their stakeholders and, if possible, they need to collaborate with them and to include them in their actions and strategies to maximize the potential for organizations to survive (Shindler and Cheek, 1999; Iandolo *et al.*, 2013; Barile *et al.*, 2014).

Accordingly, stakeholder engagement can be considered an opportunity for companies to share their values and to generate and circulate trust and knowledge in order to build a stronger collaboration with their stakeholders (Healey, 1997; Caputo *et al.*, 2016). In such a vein, the paper aims to investigate if information sharing and communication strategies can be considered useful pathways to build the preconditions required for the stakeholder engagement. It then proposes to investigate companies' approach to communication as the key pathway through which to act to improve the alignment between companies and stakeholders in order to build possible preconditions for stakeholder engagement. The contribution of companies' attention to information sharing and communication strategies to development of stronger relationships with stakeholders is verified via an empirical research oriented to investigate if there is a positive relationship among variables such as use of informal instruments of communication, publishing of social reports, number of years in which social reports are published, and availability of information on companies and companies' market value, measured by their market capitalization (Market Cap).

The rest of paper is structured as follows. In section 'conceptual and theoretical framework', a brief literature review on the topics on which the reflections herein are based is presented. In section 'methodology', the research design adopted with reference to empirical research is described. In section 'findings', the results of empirical researches are presented, and in section 'discussion' they are analysed both from theoretical and practical point of view. Finally, in section 'final remarks and future lines of research' some conclusions are presented and possible future lines of research are identified.

CONCEPTUAL AND THEORETICAL FRAMEWORK

Stakeholder engagement

In the last few years, an interesting debate on the role of stakeholders in companies' strategies has involved an increasing number of researchers (Freeman, 1984; Atkinson *et al.*, 1997; Jensen, 2001; Buysse and Verbeke, 2003). They have tried to explain what are the potential contributions that stakeholders can offer to the survival of companies in the emerging challenging scenario (Clarkson, 1995; Donaldson and Preston, 1995; Hart and Milstein, 2003) and what are the better approaches to use stakeholders' contributions without increasing the complexity that affects the management of companies (Mitchell *et al.*, 1997; Bryson, 2004; Freeman, 2010). Building on the fundamental definition of the stakeholder proposed by Freeman (1984, p. 46) as "any group or individual who can affect or is affected by the achievement of the organization's objectives", an increasing number of contributions have focused attention on the concept of stakeholders, on their role, and on strategies to improve the relationship between companies and stakeholders (Carroll, 1989; Hill and Jones, 1992; Clarkson, 1994; Donaldson and Preston, 1995; Mitchell *et al.*, 1997; Olander, 2006)

Analysing the state of knowledge on the domain of stakeholders, it is possible to note how different contributors have tried to investigate this concept in order to identify possible instruments and guidelines to classify stakeholders with reference to their relevance in the achievement of companies' aims (Mitchell *et al.*, 1997; Agle *et al.*, 1999; Moneva *et al.*, 2007). These contributions are supported by the awareness that the competitiveness of companies is related to their capacity to collaborate with stakeholders and to include them in their strategies and planning. However, at the same time, not all stakeholders can be engaged in companies' decisions, projects and governance without compromising the management and functions of companies (Hillman and Keim, 2001; Aaltonen, 2008; Saviano *et al.*, 2016).

According to Lawrence (2002), a possible solution requires the definition of a three step 'plan of engagement' for the stakeholders in which companies: 1) map stakeholders and their interests; 2) attempt to manage stakeholders and their social issues; and 3) actively engage stakeholders for long-term value creation. Following this indication, it is necessary to underline that different stakeholders

have different perspectives: therefore, any possible effective strategy of engagement requires that companies are able to identify and satisfy several needs and expectations (Parasuraman *et al.*, 1991; Buttle, 2009) and to recognise the best route to engaging different relevant stakeholders (El-Gohary *et al.*, 2006).

To this end, companies can obtain stakeholders' support in decision processes (Starkey, 2009), and they have the opportunity to acquire the specific knowledge owned by stakeholders (Wenger *et al.*, 2002; Coff, 1999). Accordingly, stakeholder engagement involves a stance of mutual responsibility, information-sharing, open and respectful dialogue, and an ongoing commitment to joint problem-solving (Svendsen, 1998; Waddock, 2002). Then, to build an efficiency, effective and sustainable strategy for stakeholder engagement, companies need to develop some preliminary conditions related to the information offered to stakeholders and to the ways in which they are transferred.

Information sharing

The existent literature on stakeholder engagement appears to be primarily focused on the definition of stakeholders' features and on the opportunities and challenges related to a stronger collaboration with stakeholders (Roome and Wijen, 2006). Few contributions and empirical researchers propose an investigation into the effects and opportunities for specific ways of engagement.

Among the studies on possible strategies to develop and improve stakeholders' engagement, some interesting advancements in knowledge are proposed with reference to the ability of companies to provide information on their pathways and decisions as strategies to improve the alignment between companies and stakeholders and, consequently, the opportunities for and advantages of stakeholder engagement (Keown *et al.*, 2008). Therefore, according to Roberts (1992), it is possible to affirm that the ability of companies to satisfy stakeholders' requests for information is relevant to build conditions for future collaboration and relationships between stakeholders and companies. Similarly, Deegan and Samkin (2009) assert that companies should provide to stakeholders all information related to their activities if they want to develop a condition of reciprocal understanding and loyalty. Therefore, building on these contributions, the paper states that:

H₁: There is a positive relationship between the use of informal instruments of communication and the companies' Market Cap.

H₂: There is a positive relationship between the availability of information on companies and companies' Market Cap.

Whilst recognizing the relevance of companies' ability to provide information on themselves as a strategy to build preconditions for stakeholder engagement, it is also necessary to underline that the ways in which information is transferred to the context can influence its impact on the opportunity for collaboration with stakeholders (Prahalad and Ramaswamy, 2004; Edvardsson *et al.*, 2011).

Accordingly, companies interested in developing a stakeholder engagement strategy should pay attention not only to the provision of information, but also to the ways in which it is communicated (Scholes and James, 1998; Morsing and Schultz, 2006).

Communication strategy

From a general viewpoint, the stakeholder engagement process can be considered in terms of pathways for companies to share with stakeholders the values, information and knowledge needed to build the preconditions required to develop a strong collaboration (Gray and Wood, 1991; Healey, 1997). To this end, as underlined in the previous section, companies that aim to attract stakeholders in an engagement process need to provide them with information on their actions and strategies (Perrini and Tencati, 2006; Cooper and Owen, 2007). The ways in which this information is provided to stakeholders can impact on the opportunities for alignment between companies and stakeholders (Cornelissen, 2014). Accordingly, companies should pay more attention to their communication strategies (Siano *et al.*, 2011; Argenti, 2012).

Communication can be considered in terms of the pathways that connect a sender with a receiver by using a defined pathway to transfer a specific message (Jablin and Putnam, 2000; Van Riel and Fombrun, 2007). The planning and the management of communication strategies require verification of whether there are elements liable to affect the transfer of the message negatively and to ensure that the message received by the receiver has the same meaning as that planned by the sender (Shannon, 1949).

Different studies have investigated the domain of communication, focusing attention on the structure of communication flows (Hinds and Kiesler, 1995), on the best instruments to transfer a specific message (Marschan-Piekkari *et al.*, 1999), and on the kinds of message to transfer (Fombrun, 2001).

Adopting the interpretative lens of stakeholder engagement, companies' communication strategies should be based on the prior identification of stakeholders that have a right to be informed, and of their needs (Gray, 2001). After this, companies should evaluate what kind of information they want to transfer and what kind of information they want to receive (Roberts, 1992). Accordingly, a useful contribution to a better understanding of what strategies companies can develop to transfer the right information in the best ways to their stakeholders is offered by studies on voluntary corporate disclosure (Healy and Palepu, 2001; Evangelista *et al.*, 2016). These studies outline how social disclosures can be strategically used to manage relationships with stakeholders by influencing the external demands originating from a range of different stakeholders (Ullmann, 1985) and to involve them in the companies' pathways (Carayannis *et al.*, 2014). They show that the more critical stakeholders are to the success of companies, the more likely it is the companies will satisfy their demand for information (Ullmann, 1985). Roberts (1992), building on the framework developed by

Ullmann (1985), reveals that stakeholder power, strategic positioning and economic performance are significantly related to levels of corporate social disclosure and that companies can use corporate social disclosure as a managerial instrument to engage stakeholders. In the same direction, Abdolmohammadi (2005) and Reid et al. (2005) show that there is a strong positive relationship between companies' communication strategies and their Market Cap.

Similarly, Lindblom (1984) asserts that corporate social disclosure may be viewed as the result of a public desire for information to evaluate if the activities carried out by companies are 'appropriate' or 'right and proper'. To this end, voluntary corporate social disclosure, as a direct approach to inform stakeholders about organisational activities, outputs and goals which are not generally readily observable (Neu *et al.*, 1998), can be considered a relevant pathway on which to base corporate communication strategies to develop a strong stakeholder engagement (Donaldson and Preston, 1995; Dervitsiotis, 2003).

Among the studies on voluntary corporate disclosure, the topic of the social report is garnering attention in managerial and organizational discussion (Bell, 1969; Van der Laan, 2009). Its usage by companies to transfer voluntary information to stakeholders is facilitating a debate on the opportunities and implications for stakeholder engagement and for the development of strong collaboration between companies and stakeholders (Heww, 2008). More specifically, companies' provision of social reports on their activities becomes a strategic driver in developing conditions for a better reciprocal understanding between companies and stakeholders (Mellahi and Wood, 2003) and it could impact on stakeholders' perception of companies and, consequently, on companies' market value (Healy and Palepu, 2001). Therefore, the paper states that:

H3: There is a positive relationship between companies' publishing of a social report and companies' Market Cap.

H4: There is a positive relationship between the number of years in which social reports have been published by companies and companies' Market Cap.

METHODOLOGY

Our sample was selected from a dataset of Italian companies provided by Thomson Reuters Datastream (financial.thomsonreuters.com). Among the 4,361,127 companies in Italy (ISTAT, 2016), a sample of 113 companies was extracted using a random sampling in order to maximize the opportunities for generalize the results of research to the entire population (Marshal, 1996). Information on the extracted companies was acquired using the database offered by Thomson Reuters Datastream for companies' Market Cap; companies' websites were consulted to verify if they had published social reports between 2004 and 2014; and Google was consulted searching the business

name of companies (in complete and short version) and the companies' Value Added Tax number to measure the numbers of websites in which there are information on companies.

The reliability of data was measured via Cronbach's alpha (Hinkin, 1995), discriminant validity was tested by comparing the square roots of the AVEs with the correlations between the constructs, and the hypotheses were tested via structural equation modelling (SEM).

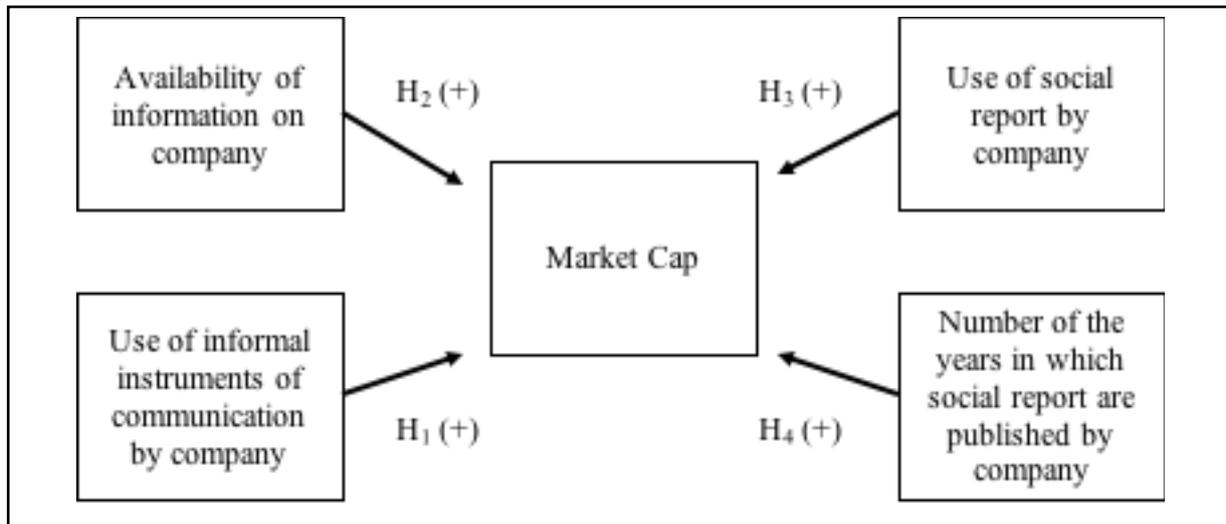


Figure 1: The conceptual model

To evaluate the fitting of model some indexes were measured such the chi-square-to-degrees-of-freedom ratio (χ^2/df), goodness of fit index (GFI), the adjusted goodness-of-fit index (AGFI), and the parsimony goodness-of-fit index (PGFI).

FINDINGS

The following Table 2 reports Cronbach's alpha (α) coefficients and square roots of the AVEs for each construct.

| Constructs | α | (1) | (2) | (3) | (4) | (5) |
|---|----------|--------|--------|--------|------|-----|
| Use of informal instruments of communication by company | 0.73 | 1 | | | | |
| Availability of information on company | 0.71 | 0.542* | 1 | | | |
| Publication of social report by company | 0.78 | 0.373* | 0.214* | 1 | | |
| Number of years in which social reports were published by company | 0.73 | 0.318* | 0.203* | 0.160* | 1 | |
| Market Cap. | 0.89 | 0.276* | 0.178* | 0.104* | 0.12 | 1 |

Note: * Correlation is significant at the 0.01 level (two-tailed)

Table 1. Relationships among study constructs

According to Nunnally (1978), the reliability of data is achieved with a α equal or greater than 0.7. Observing the results show in Table 1 it is possible affirm that the reliability for all the constructs is

achieved. Moreover, the discriminant validity is verified because the square roots of the AVEs were all greater than their respective relationships, providing solid evidence of discriminant validity.

The hypotheses were tested via SEM as shown in Table 2.

| <i>Hypothesis</i> | <i>Standardized regression coefficient</i> | <i>P-value</i> |
|---|--|----------------|
| H ₁ (+): Use of informal instruments of communication by company →Market Cap | 0.634 | 0.005 |
| H ₂ (+): Availability of information on company →Market Cap | 0.583 | *** |
| H ₃ (+): Publication of social report by company →Market Cap | 0.721 | *** |
| H ₄ (+): Number of years in which social reports were published by company →Market Cap | 0.634 | 0.02 |

Note: *** Standardized regression coefficient is significant at the 0.001 level (two-tailed)

Table 2. Results of SEM

All the hypothesis with a probability value (P-value) higher than 0.5 are considered confirmed.

The fitting of conceptual model is verified measuring some fitness index (Table 3).

| Index | Value | Cut-off value |
|---|---------|--|
| chi-square-to-degrees-of-freedom ratio (χ^2/df), | 717.825 | ≤ 3 (Byrne, 2001) |
| goodness of fit index (GFI), | 0.915 | > 0.90 (Hoe, 2008) |
| the adjusted goodness-of-fit index (AGFI), | 0.912 | > 0.90 (Li <i>et al.</i> , 2007) |
| and the parsimony goodness-of-fit index (PGFI). | 0.686 | > 0.50 (Mulaik <i>et al.</i> , 1989) |

Table 3. Fitness indexes

As show by the Table 2 and 3 the model is verified and all the hypothesis are confirmed.

DISCUSSION

The empirical results confirm the validity of the proposed reflections. More specifically, from the results of empirical research it emerges that companies' market value, measured in terms of Market Cap, is influenced by the companies' attention to the adoption of extensive communication strategies. Accordingly, the results underline that a high degree attention from companies on the transfer of information to stakeholder impacts on their Market Cap.

More specifically, with reference to H₁, the results of the research show that the use of informal instruments of communication is positively related to companies' Market Cap. This result is aligned with previous studies on the relevance of communication (Riel, 1995; Jo and Shim, 2005) and with empirical researches on the contributions that informal instruments of communication such as blogs, social networks and mailing lists, among others, can offer to the improvement of companies' image as perceived by stakeholders (Schmidt, 2007; Kietzmann *et al.*, 2011). Therefore, the evidence of the

research enriches previous managerial studies and proposes the need to use informal instruments of communication better as relevant key drivers in the definition of companies' strategies.

Considering H₂, the empirical evidences show that the availability of information on companies is positively associated with companies' Market Cap. This evidence is also aligned with previous studies on the topic of communication (Morley *et al.*, 1997; Lodhia, 2006) and stakeholder engagement (Foster and Jonker, 2005; Greenwood, 2007). More specifically, this result underlines how an improvement in possible stakeholder engagement strategy requires that companies share with stakeholders an adequate amount of information (Perrini and Tencati, 2006; Succar, 2009). The transfer and the sharing of information, in fact, represents the first step to develop a pathway of alignment between companies and stakeholder and, consequently, a first step of the direct pathway to building a strong collaboration between companies and stakeholders (Donaldson and Preston, 1995; Bourne, 2012; Del Giudice *et al.*, 2012).

With reference to H₃, the empirical evidence shows the positive relationship that exists between the publication of social reports and the companies' Market Cap. This result is aligned with the evidences proposed by previous studies on the topic of corporate social disclosure (Gray *et al.*, 1997) and on social reports (Schaltegger and Wagner, 2006). It underlines the relevance that voluntary information offered by companies to stakeholders can have in terms of its impact on companies' market value (Healy and Palepu, 2001). Accordingly, the social report could be considered a relevant instrument in the implementation of a stakeholder engagement strategy because it supports the transfer of information from companies to stakeholders and offers stakeholders tangible evidence of the will of companies to develop a transparent relationship with them (Dervitsiotis, 2003).

Finally, with reference to H₄, the empirical evidences underline that there is a positive relationship between the number of years during which companies have published social reports and their market value in terms of Market Cap. This result highlights the relevance of companies' voluntary corporate disclosure from the perspective of stakeholders (Lev, 1992). It shows that if the companies' attention to transferring and sharing information with stakeholders over time is continuous, stakeholders tend to develop a more positive perception of the companies. They have the opportunity to identify more common elements on which to develop possible synergies, and they are more inclined to support companies in their market strategies with their resources and efforts (Post *et al.*, 2002; Hess, 2008).

FINAL REMARKS AND FUTURE LINES OF RESEARCH

The challenging scenario in which social and economic organizations act every day requires the development of new models, instruments and approaches to better support decision makers in understanding the dynamics (Prahalad and Ramaswamy, 2004; Wright *et al.*, 2005). The new challenge

for any organization that aims to survive in the modern era is to better understand stakeholders' needs in order to improve strategies and better align behaviour with their perspective (Miles *et al.*, 2006; Barile *et al.*, 2014, 2015; Del Giudice *et al.*, 2016).

This emerging challenge requires companies to overcome the traditional boundaries of their activities and to open themselves to the possible new opportunities offered by collaboration, information sharing and their relationship with stakeholders (Freeman and Gilbert, 1987; Del Giudice and Maggioni, 2014). Therefore, the new aim for proactive companies that want to improve their competitiveness and their market position is to develop an effective, efficient and suitable stakeholder engagement strategy (Head, 2007; Hartzler *et al.*, 2013).

To this end, the paper builds on the hypothesis that to develop a stakeholder engagement strategy it occurs before to improve some preliminary conditions related to the capabilities of companies to offer right information in the correct way to stakeholders. Accordingly, building on the contributions offered by the literature on the topic of information sharing and communication strategy, this paper investigates possible key variables that impact on the relationships between companies and stakeholders.

With the aim to define possible guidelines for the implementation of pre-conditions required for an effective collaborative strategy between companies and stakeholders, the paper investigates the impact that information sharing and transfer in different configurations have on companies' market value.

Through empirical evidences there emerges a positive relationship among the identified variables and the Market Cap of the analysed companies. This evidence shows that stakeholder's perception on the attention on companies' attention to transfer and share information with them impact on their economic behaviours and chooses and, consequently, on the companies' economic performances. As a consequence of information received by companies, stakeholders have the opportunities to evaluate whether a company is aligned with their perspective of life and, eventually, to support it by buying their products/services and/or offering information, suggestions and evaluation. Only after these steps will companies have the opportunity to develop an affordable stakeholder engagement strategy.

The reflections and empirical evidences herein offer some contributions from both a theoretical and a practical point of view. In fact, from the first perspective, they underline the need for:

- In-depth analysis of elements and variables that affect the will of stakeholders to improve their collaboration with companies.
- The development of models able better to link stakeholders' behaviours and decisions to companies' competitiveness and position.

- Widening of the perspective in the studies on stakeholder engagement to overcome the simple phase of interaction between companies and stakeholders.

From a practical viewpoint, it is underlined that:

- Companies that want to develop stakeholder engagement strategies need to offer more information to the market on their activities, strategies and aims.
- Stakeholder engagement strategies are not limited to the interaction between companies and stakeholders, but refer rather to the perception that the market and social context have of the company.
- If companies aim to acquire affordable information on stakeholders, they need to preventively create conditions of reciprocal understanding, offering information on their activities, strategies and aims.

In summary, the paper traces first reflections on the need to widen the perspective of study and reflection in the domain of stakeholder engagement to identify more affordable, effective and efficient strategic pathways in creating pre-conditions for a collaborative relationship between companies and stakeholders. Therefore, the reflections and empirical evidences herein cannot be considered exhaustive, but they are a first step on a long pathway of research aimed at identifying possible relationships between companies' attention to information sharing and their implications in the light of stakeholder engagement. The final aim is to develop a toolkit able to support decision makers in evaluating the better behaviours to improve collaboration and relationships with their stakeholders.

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BEYOND THE DIGITAL ECOSYSTEMS VIEW: INSIGHTS FROM SMART COMMUNITIES

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ABSTRACT

Aim: The paper aims to analyse the challenges of emerging Digital Ecosystems. The principal goal of this work is to enrich previous studies on the topic of Digital Ecosystem with possible contributions derived from the studies on Smart Communities.

Findings: The reflections herein support the overcoming of traditional managerial perspective no more longer able to support decision makers in defining effective and sustainable managerial models. The adopted lens build on the interpretative contributions offered by studies on Digital Ecosystems and on Smart Communities in attempt to define a possible multi- and trans-disciplinary framework for the management of networked systems in the light of value co-creation perspective. The main finding is the identification of possible advancements in the management of Digital Ecosystems using the evidence offered by the evolution of Smart Communities.

Methodology: The work proposes an analysis of the domain of Smart Communities with the aim to identify possible advancements in the ways to face the challenges of Digital Ecosystems in the emerging knowledge and digital society. The proposed ideas support the emergence of a stronger conceptual framework direct to enrich previous contributions both in the domain of Digital Ecosystems and Smart Communities.

Research implications/limitations: Reflections, ideas and observations herein represent a first step along the pathways to define a more holistic approach in the management of networked systems. In this directions, the proposed suggestions should be verified through a wider empirical study.

Originality/Value: The paper offers a multidisciplinary approach useful to support decision makers in better understanding the opportunities offered by Digital Ecosystems thanks to the interpretative lens offered by Smart Communities logic.

Keywords: *Digital Ecosystems; Smart Communities; Information and Communication Technology; Value co-creation.*

INTRODUCTION

In the last decades, evolutions and advancements in the knowledge with reference to more different topics have been achieved adopting a reductionist approach direct to split up each problem in its elementary parts. According to Popper (1972), this approach is based on the three R: reduction, repeatability, and refutation.

The contributions of the logic and of the principles on which reductionist approach is based are evident if we analyse the advancements in knowledge of 'strong sciences' (Sachse, 2007) achieved in the last century (Van Regenmortel, 2004). Building on the success of 'strong sciences' more researchers have tried to apply the reductionist approach also in the social sciences (Sayer, 2010), but the results have not been more 'exciting' (Garfinkel, 1984).

According to Lewin (1951), social sciences can be considered a complex of multidimensional phenomenon strictly correlated and really hard to understand if not related to the context in which they act.

The peculiarities of social sciences require to adopt an interpretative approach focused on the way in which different phenomena interact and not only on their structure (Nisbett et al., 2001). In other terms, they require to apply a holistic approach (Barile et al., 2013; Saviano et al., 2016).

Building on this reflection, the research fields on System and Service thinking have proposed to adopt multi- and trans-disciplinary conceptual frameworks direct to underline in which way different phenomena interact and how these interactions influence functioning and evolution of the context (Barile and Polese, 2010; Badinelli et al., 2012; Golinelli et al., 2012; Barile et al., 2015; Di Nauta et al., 2015).

More researchers have underlined the relevance and the opportunities related to apply a holistic approach in social sciences (Kincaid and Kincaid, 1996). With reference to managerial studies, some of these researchers have focused the attention on specific topics such as knowledge (Mentzas et al., 2001), strategy (Feurer and Chaharbaghi, 1994), consumer behaviour (Oh, 1999), market evolution (Fletcher, 2001) and others (Giddings et al., 2002).

One of the research stream that appear to be more aligned with the aim to improve multi- and trans-disciplinary approach is related to the topic of Ecosystems (Wieland et al., 2012).

According to Vargo and Lusch (2011, p. 12), ecosystems can be considered "relatively self-contained, self-adjusting systems of resource-integrating actors connected by shared institutional logics and mutual value creation through service exchange".

The concept of ecosystem is not new, but it has a long history in the field of ecology and environmental studies (Chapin III et al., 2011). According to Kaufmann et al. (1994), it was adopted by managerial studies because to face the challenges of a vibrant context "it is time to embrace the

concept of managing ecosystems to sustain both their diversity and productivity and to chart a course for making this concept the foundation for sound multiple-use and sustained yield management” (p. 1).

The research field on ecosystems seems to be strictly founded on a multi- and trans-disciplinary approach because it offers a clear description of the way in which different actors (resource integrator) interact to achieve specific aims (Akaka et al., 2012).

Building on the topic of ecosystem, a more recent debate seems to offer useful advancements in understanding in which ways different actors are related. From this debate the research stream on Digital Ecosystems has emerged (Dini et al., 2008; Briscoe, 2010).

According to Boley and Chang (2007), Digital Ecosystems could be considered peer to peer structures of support for a networked architecture and collaborative environment. More specifically, Digital Ecosystems offer a useful conceptual framework to better understand in which ways actors interact and exchange resources (Briscoe and De Wilde, 2006). Despite this, the general studies on Digital Ecosystems seems to focus the attention only on the definition of a possible best structure for a networked environment (Dong et al., 2011; Del Giudice et al., 2016). In such a vein, a relevant gap appears to exist with reference to the ways in which networked environments evolve along the time and with reference to the dimensions, dynamics, and variables that affect their emergence.

To bridge this gap, the paper proposes an analysis of the studies on Smart Communities as ways to identify possible advancements in the approach to Digital Ecosystems and to the use of Information and Communication Technologies (ICT) in supporting the emersion of a wider Ecosystem view. The mainly idea is that the Smart Communities represent an advanced example of networked environments. The peculiarity of Smart Communities is that the interactions among actors, infrastructure, and resources have supported the overcoming of a perspective based only on the structural dimensions in order to embrace a wider vision about the dynamics that affect the emergence and the evolution along the time of interconnected entities. Building on this reflections, the paper proposes to investigate the previous literature on the topic of Smart Communities and Digital Ecosystems in order to enrich existent knowledge with a possible interpretative scheme able to support the understanding and management of every kind of networked environment based on the use of Digital infrastructure. In this direction, reflections herein aim to offer a possible answer to the following Research Questions:

In which ways it is possible to improve the management of Digital Ecosystems adopting the logics of Smart Communities?

What are the real contributions of ICT in the emersion and in the functioning of Digital Ecosystems?

The rest of paper is structured as follow: in Section 2 an analysis of conceptual and theoretical background related to the topics of Smart Communities and Information and Communication Technology is proposed. In Section 3, a smartness view of Digital Ecosystem is presented. Finally, in Section 4 some conclusions and possible future lines of research are traced.

CONCEPTUAL AND THEORETICAL BACKGROUND

Smart Communities logic

According to Krebs and Holley (2006), each community is founded on the connections among its elements, then, better connections offer better opportunities in the function of communities.

This reflection represents a useful starting point to explain the increasing attention on the topic of Smart Communities as networked configuration in which (co)live different social aims and in which both human and physical resources interact at different levels to achieve their aims in more suitable, efficient and effective ways (Xia and Ma, 2011).

Along the time, different researches have analysed the topic of smart communities focusing the attention on the role of human resources (Berry and Glaeser, 2005), on the relevance of the infrastructure (Caragliu et al., 2011), and on the ways in which processes and roles are organised (Schaffers et al., 2011).

Among the different studies interested in the topic of Smart Communities, the contributions on Information and Communication Technology (ICT) are acquiring an increasing attention (Unette Sealy, 2003). These contributions underline how ICT have a prominent role in assuring the success and the function of smart communities because it supports every type of interaction and of information sharing (Wolfram, 2012; Evangelista et al., 2016).

According to these studies, Smart Communities represent a new way to see social configurations and they offer the opportunities to identify solutions to a variety of social problems such as energy, education, healthcare, transportation, traffic, and others (Angiello et al., 2014).

The relevant advancement in knowledge offered by the studies on Smart Communities is related to the way in which different 'drivers' such as physical resources, human resources, ICT, infrastructure, and others are related (Deakin, 2013). Adopting the Smart Communities logic, it is not possible to identify clear boundaries among the different drivers and they cannot be hierarchically organised (Botkin, 1999; Caputo et al., 2016). This contribution appears really relevant in the studies of Digital Ecosystem because it shows a possible pathway to overcome the limitation of Digital Ecosystem view referred to the existence of a clear and defined interaction structure among all the involved actors (Ferronato, 2007).

From this point of view, the paper states that Smart Communities logic can offer a useful contribution in advancement of managerial models in the field of Digital Ecosystems. It can help decision makers to better understanding roles and contributions that a networked architecture can offer to a better satisfaction of stakeholders' needs (Saviano and Caputo, 2013). It represents a tangible contribution to overcome the limitations of a vision focused only on the definition of best pathways to connect human and physical resources (Saviano et al., 2013). Finally, it can offer a supportive interpretative lens to underline that the real aims of Digital Ecosystems should not be to build the best infrastructure but rather to identify the better solutions to improve the quality of our everyday life (Noveck, 2009).

In accordance with this, as better explained in the next section, digital infrastructure cannot be considered simply as an instrument to support the connection among different entities but it should be considered a relevant pillar in analysing, understanding, and managing all the variables that are involved in the processes to satisfy stakeholders' needs (Baliamoune, 2002).

Information and Communication Technology

At the end of an interesting article published in 2008 Chen and Vargo proposed a stimulating call for future research on open and adaptive systems. The call aims to attract more interest in understanding the role of Information and Communication Technologies in supporting an evolution in the ways to approach collaboration, co-creation, and information sharing in the management of service systems.

After about one decade, more contributions have been written to offer a response to this call (Olson et al., 2008; Lee et al., 2012) but many questions about the contribution of ICT to the creation of a more collaborative and co-creative oriented environment are still unresolved (Power et al., 2015).

In the managerial literature it appears to persist a strong approach to ICTs as a set of instruments on which to act in order to improve an ex-ante defined strategy direct to improve collaboration and inclusion of stakeholders in a planned multi-dimensional system (Olesen and Myers, 1999). Despite this, more evidences are underlining a possible different role of Information and Communication Technologies in the emersion of interactive systems (Roberts, 2000).

After the diffusion of Internet, an increasing number of examples of 'structure of interaction' have emerged as effect of the will of stakeholders to acquire and exchange information (Danese, 2006). If we think to the most popular social networks such as Facebook, Twitter, Instagram and others, it is simple to note how Information and Communication Technologies cannot be considered only simple instruments to support a vision oriented to interaction (Morrison, 2002). A new world is emerging in which ICTs are the source for a new vision on the future evolutions in the way to approach stakeholders' interactions (Davenport, 2013).

Building on the reflections proposed in the previous section, ICT represents a new relevant key driver in the management of networked systems because it offers to decision makers the opportunity to

better understand information and knowledge of different involved actors (Hendriks, 1999, 2001; Huysman and De Wit, 2004; Del Giudice et al., 2013; Del Giudice and Maggioni, 2014). At same time, recent evolutions in ICTs is opening to a new view of the ways in which actors can interact and build non formal networked systems (Ritchie and Brindley, 2005). In this direction, the potential contributions of ICTs in supporting a more holist understanding on the ways in which different actors decide to interact and on the strong beliefs that influence their decisions and actions requires to be investigated (Duan et al., 2002). According to this, the paper states that a wider view of ICTs is required and a better definition of smartness occurs to overcome the limitations of traditional useless interpretative lens (Österle, 2013).

TOWARD A SMARTNESS VIEW OF DIGITAL ECOSYSTEM

In the last few years, the studies on Digital Ecosystems have offered some relevant advancements in knowledge on the ways in which different actors interact along the time, on the rules required to assure the stability of relationships, and on the models useful to combine diversity and stability (Corallo et al., 2007).

These studies have underlined the need to focus the attention on the logics of aggregation among the actors and on their evolution along the time (Ferronato, 2007). They have explained in which ways actors interact along the time and what happens when one or more actors decide to change its or their relationships (Bharadwaj et al., 2013).

The focus of the studies on Digital Ecosystems is strictly related to create possible useful representations of the structure of networked environments (Peltoniemi and Vuori, 2004). Reflecting on this, a relevant gap emerges in the traditional approaches. More specifically, it is not clear in which ways information on the structure can be useful to manage a networked enviroment if its causes are unknown (Barile et al., 2015).

As showed by the increasing inefficiency of traditional predictive models (Farmer and Richman, 1964), to know the actual structure of a system and its evolutionary history could not be useful to understand its future evolution (Gold et al., 2001).

Models, instruments, and tools direct to investigate the structure of a system are useful in the case in which it is need to solve a specific problem but they are useless if it is need to take a decision on the evolution of system (Orser et al., 2000). In this latter case, more information on different variables such as strong beliefs of involved actors, influences of external agent, relevance of previous experience, perceptions and levels of membership, and others are requested (Jackson and Artola, 1997; Hamel, 2006).

Building on this, the paper aims at underlying how Digital Ecosystems represent a useful starting point in the definition of wider models to study and to understand market and social dynamics but they should embrace other dimensions to be useful in supporting a better understanding and satisfaction of stakeholders (Barile et al., 2014; Gambarov et al., 2015).

According to Briscoe (2010), the paper states that Digital Ecosystems offer a useful perspective to better investigate social and economic ecosystems and that they exist a common interpretative scheme that explain Digital, Economic and Social Ecosystems (Figure 1).

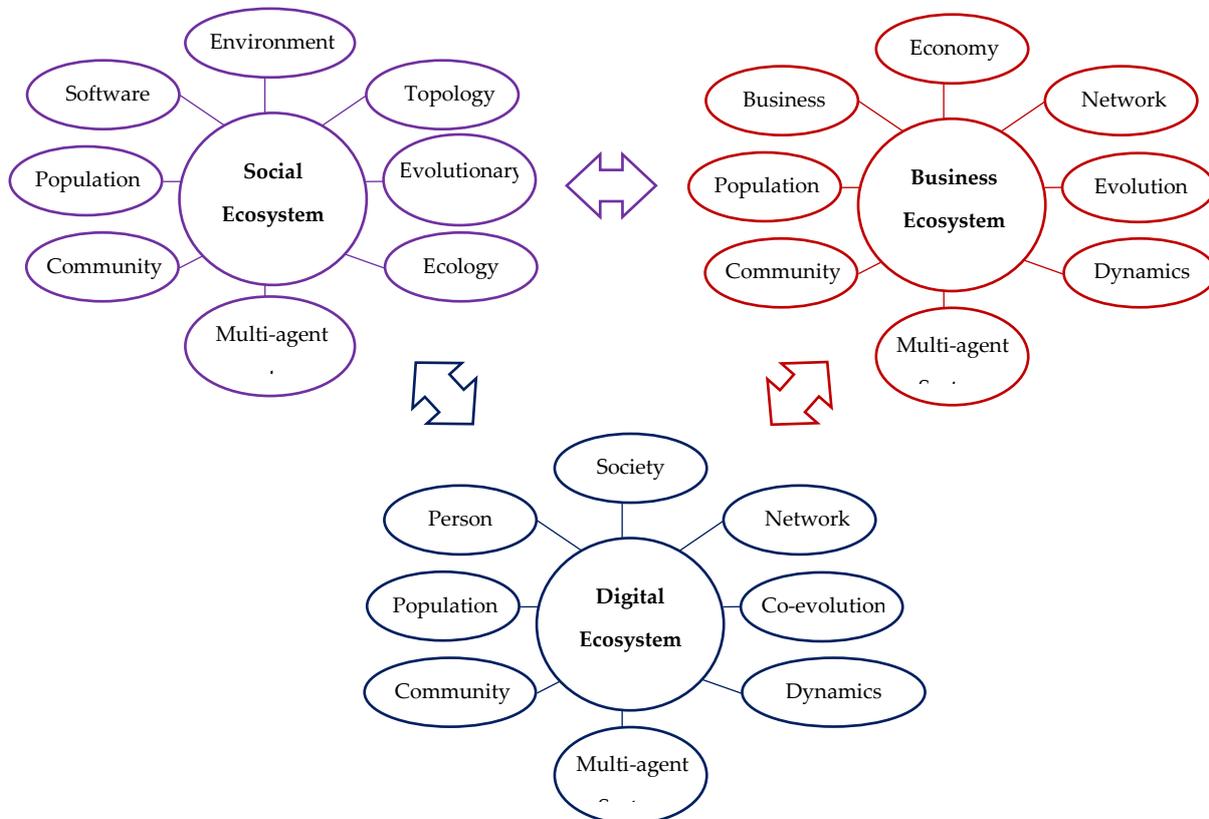


Figure 1. A common representation for Social, Digital, and Business ecosystem

(Source: Elaboration from Briscoe, 2010: 41-42)

This common representation underlines the existence of a shared conceptual structure among the different 'approaches' to ecosystems. It shows how, along the time, different perspective, starting from different points of view, have focused on the same elements.

It can be considered a relevant starting point to define what are the elements on which to focus the attention and it can support decision makers in defining more efficient, effective, and sustainable managerial models offering them a useful representation of the level involved in the ecosystem configurations (Table 1).

| Social Ecosystem | Digital Ecosystem | Business Ecosystem | Level |
|------------------------|--------------------|--------------------|----------------------------|
| Environment | Society | Economy | External level |
| Software Agent | Person | Business | Focus of observation |
| Population | Population | Population | Type of actors involved |
| Community | Community | Community | Systems of actors |
| Multi-agent System | Multi-agent System | Multi-agent System | Logic of interaction |
| Ecology | Dynamics | Dynamics | Perspective of interaction |
| Evolutionary Computing | Co-evolution | Evolution | Interpretative lens |
| Topology | Network | Network | Approach |

Table 1. A comparison among Social, Digital, and Business ecosystem (Source: Elaboration from Briscoe, 2010)

Despite this, all these contributions cannot be considered exhaustive. To understand in which way ecosystems evolve it is need to investigate the elements that influence actors' decisions and actions. In this direction, some useful indications could be offered by the studies on Smart Communities as social configurations that acting on the collaboration and on the information sharing among citizens, organizations, and governing aim to improve social, economic and well-being conditions of all actors (Eger, 1997).

Albeit based on the use of Digital structures, Smart Communities go beyond the simple logic of interconnection. Their real contribution to face social and economic challenges lies in the capacity to support and to stimulate social learning and interaction creating the condition for an efficiency, effectiveness, and suitable use of collective intelligence (Vermesan and Friess, 2013; Caputo et al., 2016).

The opportunities that Smart Communities can offer, if correctly combined with the Digital Ecosystem view, are unimaginable.

CONCLUSION AND FUTURE LINES OF RESEARCH

The paper underlines the opportunities offered by Digital Ecosystem view and it traces some possible reflections about the opportunity to develop a common interpretative scheme in order to better understand the logics and dimensions of the Ecosystem view. In such a vein, it proposes to combine the studies on Digital Ecosystems with the logic on which are based the Smart Communities in order to define a possible wider interpretative scheme to support understanding and managing of networked environments. As finding, reflections herein underline that:

- By adopting the Smart Communities logic, it is possible to overcome the reductionism on which Digital Ecosystems view is based (Coe et al., 2001). According to this, Smart Communities logic

shows how it is possible to assure the full functioning of a networked system also without defining strong boundaries and rules (Enkel et al., 2009).

- Information and Communication Technologies cannot be considered only as an instruments to support the management and the functioning of Digital Ecosystems but they can also create the better environment to support an autonomous interaction among different resources and actors able to define rules and principles of the emerging networked systems (Davenport, 2013).

Building on this, the mainly purpose of paper is to attract more social, physiological, and economic researchers in the attempt to better apply logics and principals of Digital Ecosystems in the understanding and management of social configurations. In such a vein, a wider study on the interpretative schemes that influence dynamics of Digital Ecosystem should be developed in order to better understand opportunities and limits related to the 'coevolution' of digital and social dimensions (Couclelis, 2004).

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A FOCUS ON COMPANY-STAKEHOLDER RELATIONSHIPS IN THE LIGHT OF THE STAKEHOLDER ENGAGEMENT FRAMEWORK

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ABSTRACT

This paper aims to investigate company-stakeholder relationships from a managerial and marketing perspective. The principal goal of the work is to identify possible drivers on which to act to improve opportunities for long-term and collaborative relationships between companies and stakeholders.

Building on the contributions on the topic of relationships between companies and stakeholders, the paper proposes an explorative research study carried out to suggest how strategies and behaviours of a sample of Italian Small and Medium Enterprises (SMEs) are aligned with the global stakeholder engagement framework.

Hypotheses are tested via a survey on a sample of Italian SMEs. Data are analysed using Structural Equation Modelling (SEM) in order to identify possible relationships between companies' Market Share (MS) and their capabilities in understanding stakeholder's strong beliefs; the alignment of organisational models of companies and stakeholders; their attention to involve stakeholders in their plans and strategies; their availability to give information on their plans and strategies to stakeholders; the transparency of their communication; and the level of communication between companies and stakeholders. The results are discussed from a theoretical and practical point of view.

Keywords: *Stakeholder engagement; Corporate communication; Italian SMEs; Structural Equation Modelling*

INTRODUCTION

Over the last century, the economic history of our world has been influenced by the increasing competitiveness of companies, organisations, and every type of social and economic actor (Reiner, 2009). The principal goal was to acquire more (tangible and intangible) resources in order to improve individual competitive advantages (Hunt and Morgan, 1995; Hooley et al., 1998). Strategies, actions, and behaviours were influenced by the will of actors to operate alone with the aim of maximising the

advantages derived from the use of their resources, competences, and knowledge (Vervest et al., 2005; Saviano et al., 2016).

By again, during the last twenty years some changes in social and economic configurations, such as globalisation, improvements in Information and Communication Technology (ICT) and the evolution of consumers' behaviours, have profoundly affected market and social balances (Tamásy and Taylor, 2008).

New challenges are emerging, and competencies, capabilities, resources, and knowledge of economic and social actors appear to be unable to assure the survival of social and economic organisations (Gibbert et al., 2002; Payne and Frow, 2005; Saviano and Caputo, 2013).

The increasing complexity of context and stakeholders' needs requires a radical change in the managerial and governmental approaches of companies (Starkey and Madan, 2001). Companies cannot face the market requests working alone and the new challenge of collaboration is becoming an imperative (Vargo et al., 2008).

Building on these reflections, different researchers have tried to analyse the ways in which it is possible to improve the competitiveness of companies developing collaborative strategies (Payne et al., 2008). Some of them have focused the attention on the partnerships (Lamming, 1993), on marketing strategies (Grönroos, 1994), and on the use of ICT (Leu et al., 2004) as ways of supporting companies in acquiring relevant resources for their survival.

All these contributions have offered relevant advances in knowledge about the ways to support the development of a collaborative strategy (Cummings and Worley, 2014), on the opportunities that collaboration can offer to the different involved actors (Hansen and Nohria, 2004), and on the role of strategies in assuring the emersion of long-term relationships (Cousins, 2002). However, these contributions appear to be focused almost exclusively on a 'transactional logic' in which each actor decides to interact with others only to achieve personal aims and to improve personal power (Kanter, 2011). The real implementation of sharing strategies, based on a win-win logic and on the value co-creation, appears to remain only a conceptual framework that does not really inform the companies' actions (Grönroos and Ravald, 2011).

To bridge this gap, this paper proposes to investigate possible pathways to improve the quality and quantity of relationships between companies and stakeholders, acting on a more structured engagement. It aims to analyse in which ways more attention upon the involvement of stakeholders, and on the communication with stakeholders can impact on the companies' Market Share (MS).

A survey on some stakeholders of a sample of Italian Small and Medium Enterprises (SMEs) is proposed. SMEs were performed to identify relationships between companies' MS and their capabilities to understand stakeholders' strong beliefs; the alignment of organisational models of

company and stakeholders; the companies' attention to involving stakeholders in their plans and strategies; their availability to give information on their plans and strategies to stakeholders; the transparency of their communication; and the level of communication between company and stakeholders.

The rest of paper is structured as follows: Section 'conceptual framework' provides a brief description of the conceptual framework on which reflections herein are based and it states the hypotheses on which the research is built. In Section 'method', the methodology is described. Section 'results' comprises a discussion of the empirical results. In Section 'discussion', the implications of the research are discussed, both from a theoretical and from a practical point of view. Finally, in Section 'final remarks and future directions for research' some conclusions and suggestions for future lines of research are proposed.

CONCEPTUAL FRAMEWORK

Premises for stakeholder engagement

Recent evolutions in economic and social configurations are requiring to decision makers to develop new approaches, models and instruments to better understand market dynamics and needs (Araújo and Gava, 2012). Traditional managerial models and instruments are showing a decreasing capability to support decision makers in defining strategies and behaviours aligned with stakeholders' expectations (Bueren et al., 2005). As consequence of this, the survival of many organisations is today uncertain (Burke, 2013).

According to Golinelli et al. (2012), the emerging challenges imposed by economic configuration require to company to adopt a radical change in perspective, shifting from an individualistic to a collective logic. In accordance with this reflection, some authors have tried to define possible pathways to develop collective managerial models in which the boundaries of companies dissolve and new occasions of interaction and information sharing within the context emerge (West et al., 2014). Regarding these pathways, some relevant contributions are offered by the research stream on Stakeholder Engagement (Muff, 2014), especially with reference to the role of stakeholders in companies' survival (Devinney et al., 2013). These contributions offer relevant opportunities to overcome the logic of Corporate Social Responsibility underling that companies must work respecting the interest of legitimate stakeholders (Aguinis and Glavas, 2012), and stressing that companies should positively involve stakeholders in their activities (Greenwood, 2007).

Building on the conceptual framework offered by Stakeholder Theory (Freeman, 1983), Stakeholder Engagement tries to analyse how it is possible to support collaboration among companies and stakeholders when the claims of stakeholders are not fully specified (Klein et al., 2013). According to

Brown and Forster (2013), to achieve efficient, effective, and suitable collaboration between companies and stakeholders it is necessary to identify and understand the aims of stakeholders, and the types of purpose that can be considered legitimate and aligned with the company's perspectives. Hence, the capability of companies to improve the quality of stakeholder engagement requires investigation and deep understanding of the cognitive dimensions and strong beliefs that influence stakeholders' behaviours and actions. Therefore, this paper states that:

H₁: There is a positive relationship between the companies feeling in understanding stakeholders' strong beliefs and their MS.

Furthermore, the debate on stakeholder engagement has raised some interesting points, not only with reference to the aims of understanding stakeholders' needs and perceptions but also with reference to the stakeholders' perceptions of strategies adopted by companies to satisfy their needs (Hill et al., 2014). The aim of engaging stakeholders in the strategies and decisions of companies is becoming progressively more complex because the process of understanding and satisfying of stakeholders' requirements needs to be followed in an acceptable way to for stakeholders (Carroll and Buchholtz, 2014). Consequently, according to Herrera (2015), stakeholder engagement requires actions, not only with reference to stakeholders' needs and perceptions, but also with reference to operational structures and processes in terms of alignment among both companies' and stakeholders' organisational models. Therefore, the paper states that:

H₂: There is a positive relationship between the alignment of companies and stakeholders organisational models and the companies' MS.

Contributions on stakeholder engagement also underline the need to shift from a transactional to a collaborative perspective in the ways in which companies approach the market (Vos and Achterkamp, 2015). More attention has been paid on the role that stakeholders may have in companies' strategies and plans (Rothaermel, 2015). Furthermore, stakeholders cannot be considered as simple external actors that influence companies' decisions. Stakeholders may have an active role in defining companies' strategies and plans, acting as filters in understanding the market and in guiding companies towards a deeper alignment with context perceptions (Brandon and Fukunaga, 2013). Therefore, the paper states that:

H₃: There is a positive relationship between the companies involvement and their MS.

As shown by studies of the evolution of stakeholders' power, the contribution of stakeholders in defining efficiency, effectiveness, and suitable company strategies is becoming one of the more relevant competitive drivers for organisations that aim to survive (Bundy et al., 2013). Stakeholders can no more be considered as external actors, and companies cannot avoid to understand their needs and their perceptions if they want to survive (Fernandez-Feijoo et al., 2014). In this regard, the real

challenge is to understand the ways in which it is possible to support the emergence of a strong stakeholder engagement (Dawkins, 2014). To transform conceptual contributions in practical advancements, it is necessary to develop shared pathways to support reciprocal understanding and progressive alignment between companies and stakeholders (Barile et al., 2014; 2015).

This desired alignment needs to overcome the limitation imposed by the conditions of information asymmetry in terms of non-possibility of having full and clear information on the other actors involved in the relationships (Tashman and Raelin, 2013). A possible pathway to achieve this aim can be developed acting on communication as a strategic driver useful in supporting reciprocal understanding and in creating conditions for a long-term relationship (Cornelissen, 2014).

The contribution of communication to stakeholder engagement

According to Shannon (1949), every type of communication system is composed by an information source, a transmitter, a channel, a receiver and a destination. This simple representation explains how two or more actors exchange information (Garvey, 2014). In the last few years, the topic of communication has been extensively debated from different points of view. Its contents and management have attracted the interest of sociological, psychological, and managerial researchers (Jackson, 2012). The increasing attention on the topic of communication is motivated by the increasing demands of stakeholders for information on organisations' behaviours, strategies and plans (Siano et al., 2013). The problem of information asymmetry is acquiring a new relevance in a knowledge-based society in which each actor understands that the real power in a relationship is related to the information owned (Slabbert and Barker, 2014).

According to Carroll (2015), the emerging market configuration is influenced by requests for information about companies' strategies and plans. Stakeholders want more information on companies to better evaluate if they are aligned with their aims (Scandellius and Cohen, 2016). Consequently, the capability of companies to offer information on their strategies and plans is acquiring an increasing relevance with reference to the emergence of possible opportunities of collaborate between companies and stakeholders (Thorson and Moore, 2013; Evangelista et al., 2016). Therefore, the paper states that:

H4: There is a positive relationship between the level of communication and the companies' MS.

More specifically, stakeholder's requests for information on companies' actions and plans are not limited to the quantity of data available but they also include the quality and affordability of information shared (Locker and Kaczmarek, 2013). According to Cornelissen (2014), stakeholders are insisted in transparent information flow from the companies. Transparency, in terms of ease of reading and understanding of information provided by companies, is becoming increasingly relevant in influencing stakeholders' evaluations of companies (Gustafsson et al., 2012). In accordance with

this, a high level of transparency in the companies' communications offers to stakeholders a clear vision of the will of the companies to collaborate with them and to open their boundaries to stakeholders' contributions (Holtzhausen and Zerfass, 2014). Therefore, the paper states that:

H₅: There is a positive relationship between the transparency of communication and the companies' MS.

The quality and quantity of information offered by companies to its stakeholders are not the only variables that influence stakeholders' perceptions on the will of companies to collaborate with them (Hollensen, 2015). The impact of communication flows on stakeholders' perceptions is also influenced by the level of communication, in terms of the number of interactions that companies have with their stakeholders to transfer updated information on their actions and decisions (Barile et al., 2013). According to Di Nauta et al. (2015), if there are many communication flows between company and stakeholders it is easier for the stakeholder to develop an in-depth knowledge of the company, and there will be many opportunities for the stakeholders to identify possible actions or pathways by which to offer a contribution to companies. Therefore, the paper states that:

H₆: There is a positive relationship between the information sharing and the companies' MS.

METHOD

The research is based on a questionnaire survey. The questionnaire was developed on the base of the literature review on the topic of stakeholder engagement and company communication. Questions were scaled using a five-point Likert scale in which 1 means 'strongly disagree' and 5 means 'strongly agree'. Three questions were used to measure each construct. The order of the questions was randomised to avoid any order bias.

The proposed structural model (see Figure 1) consists of six exogenous and one endogenous variables. Exogenous variables (see Table 1) were measured using questions derived from the literature on the topic of stakeholder engagement and company communication while the endogenous variable is the companies' MS and it is defined using the AIDA database (aida.bvdinfo.com).

| Dimension | Description |
|---|---|
| <i>Company's feeling</i> | This is related to the capabilities of companies to understand the perspectives and mental models of the stakeholders. |
| <i>Alignment of organisational models</i> | This refers to the stakeholders' perceptions of similarities between the organisation of companies and their organisations, and is related to the ways in which actions and plans are implemented and realised. |
| <i>Company involvement</i> | This is related to the stakeholders' perceptions of companies' engagement in developing actions and behaviours to involve them directly, and to develop |

| | |
|--------------------------------------|--|
| | strong collaboration between companies and stakeholders. |
| <i>Level of communication</i> | This is related to the existing communication flow between companies and stakeholders. It refers both to the quantitative aspect (number of interactions) as well as to the qualitative aspect (relevance of exchanged information). |
| <i>Transparency of communication</i> | This refers to the stakeholders' perceptions of transparency in companies' communications, and depends on the perspectives of stakeholders about affordability, completeness, and correctness of companies' communication. |
| <i>Information sharing</i> | This measures the availability of companies to give information on their strategies and actions. |

Table 1. Exogenous variables (Source: Authors' elaboration)

For the exogenous variable the following items have been used to measure the constructs:

Company's feeling (CF)

- CF₁. The company's actions and strategies are aligned with my strong beliefs
- CF₂. The mission and vision of the company can be considered as aligned with mine
- CF₃. The company's behaviours and strategies are coherent with my aims for the next years

Alignment of organisational models (AO)

- AO₁. The company's organisational models are aligned with mine
- AO₂. The company's structure is similar to mine
- AO₃. The company's approach to planning activities is similar to mine

Company involvement (CI)

- CI₁. The company involves me and my firm/organisation in planning common strategies and actions
- CI₂. There are many occasions of collaboration
- CI₃. We are working on a common project

Level of communication (LC)

- LC₁. The company gives all information requested about its strategies and plans
- LC₂. Information on the company's strategies and plans is easily available
- LC₃. The company gives to the market updated and correct information on its actions

Transparency of communication (TC)

- TC₁. The company's communication is clear
- TC₂. The company's communication includes all the information that I need to evaluate its actions
- TC₃. The company's communication is based on the use of clear instruments and pathways

Information sharing (IS)

- IS₁. There is intensive communication with the company
- IS₂. The company gives information for each new action and decision

IS3. There are no misunderstandings about the information that I receive from the company

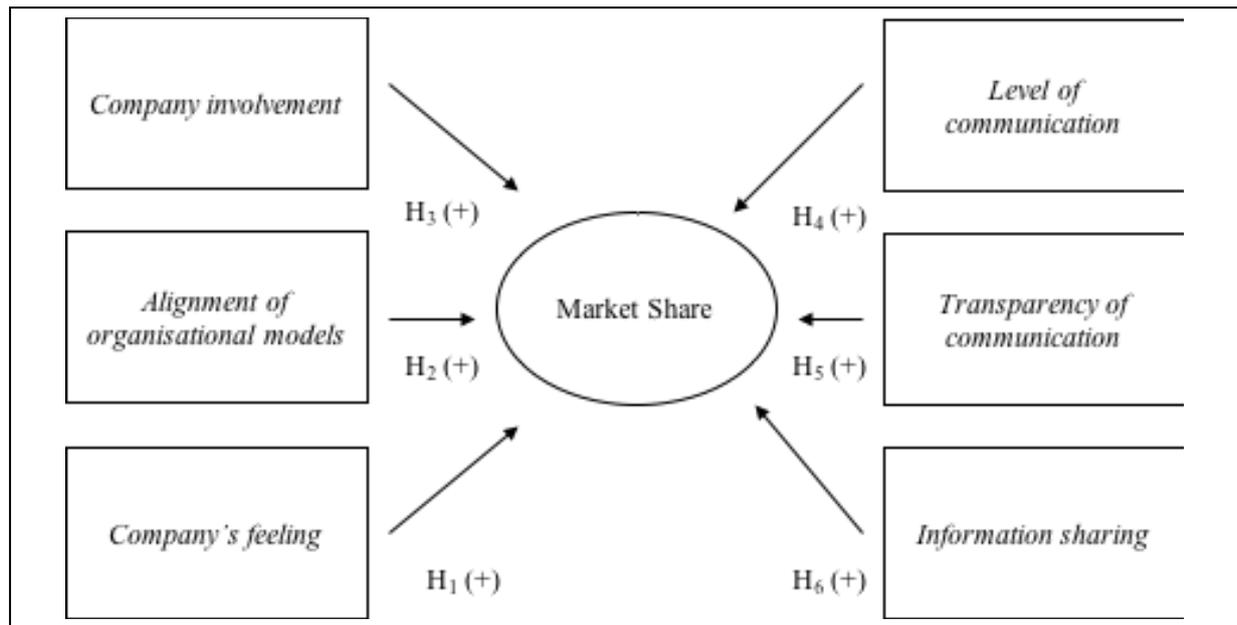


Figure 1. The Hypothesized Conceptual Model

Sample

The research is conducted with reference to Italian SMEs located in the Campania Region (Italy) because in the last few years these companies have paid an increasing attention in communicating their actions and plans to stakeholders in order to better involve them (Banca d'Italia, 2015).

According to the ISTAT (2011), in Campania Region there are 35.274 SMEs. Among the SMEs that are located in the Campania Region, a sample of 37 companies from different sectors was selected in order to enable an exploratory analysis.

Data collection

A survey was carried out to investigate the perceptions and opinions of a group of stakeholders of 37 Italian SMEs located in the Campania Region (Italy). The questionnaires were submitted directly (with the co-operation of the human resources departments of the companies included in the sample) to a group of stakeholders of the identified companies, such as suppliers, employees, clients, and public institutions, among others.

The principal aim of the survey was to acquire as much information as possible on stakeholder's opinions and perspectives, therefore, stakeholders were not preventively selected. In the month of April (2016), 747 questionnaires were submitted and 432 completed. After a first review of content, 37 questionnaires were excluded because they were incomplete. Finally, 278 questionnaires were included in the research (response rate 64.35%).

Stakeholders included in the research are composed as shown in the following Table 2:

| Category | Number | Perceptual |
|----------|--------|------------|
|----------|--------|------------|

| | | |
|---------------------|-----|--------|
| Male | 187 | 67,27% |
| Female | 91 | 32,73% |
| | 278 | 100% |
| Client | 116 | 41,73% |
| Suppliers | 74 | 26,62% |
| Employees | 52 | 18,71% |
| Public institutions | 27 | 9,71% |
| Shareholders | 7 | 2,52% |
| Competitors | 2 | 0,72% |
| | 278 | 100% |

Table 2. Stakeholders that have asked to the survey

As a first step to assess non-response bias, we compared the distribution of the responses with the corresponding distribution of the submitted questionnaires. A chi-square test indicated that the pattern of responses reflected the sample frame; then there is not level bias related to response rates. As the second step, we compared early with late respondents (Li and Calantone, 1998). The first 75% of returned surveys were classified as 'early respondents' (N = 208). The last 25% were considered 'late respondents' (N = 70). We analysed the responses of the two groups and we have not found significant differences.

Data Analysis

The hypotheses were tested using SEM (MacCallum and Austin, 2000).

The reliability of model was measured using Cronbach's alpha. According to Hinkin (1995) the criteria of reliability is satisfied in presence of an α coefficient equal or greater than 0.7.

Then convergent validity of model was verified using the the composite reliability (CR) and the average variance extracted (AVE). According to Hair et al. (2010) the model can be considered convergent if the following cut-off values are respected: $CR > 0.7$ and $AVE > 0.5$

RESULTS

Reliability and convergent validity

Table 3 reports Cronbach's alpha (α), Composite Reliability (CR), and Average Variance Extracted (AVE) coefficients for the investigated constructs and items.

| Construct | Items | α | CR | AVE |
|--------------------------|-----------------|----------|------|------|
| <i>Company's feeling</i> | CF ₁ | 0.72 | 0.83 | 0.63 |
| | CF ₂ | 0.87 | | |
| | CF ₃ | 0.91 | | |

| | | | | |
|---|-----------------|------|------|------|
| <i>Alignment of organisational models</i> | AO ₁ | 0.83 | 0.72 | 0.54 |
| | AO ₁ | 0.92 | | |
| | AO ₁ | 0.73 | | |
| <i>Company involvement</i> | CI ₁ | 0.77 | 0.92 | 0.51 |
| | CI ₂ | 0.74 | | |
| | CI ₃ | 0.79 | | |
| <i>Level of communication</i> | LC ₁ | 0.91 | 0.74 | 0.71 |
| | LC ₂ | 0.72 | | |
| | LC ₃ | 0.82 | | |
| <i>Transparency of communication</i> | TC ₁ | 0.74 | 0.84 | 0.63 |
| | TC ₂ | 0.83 | | |
| | TC ₃ | 0.71 | | |
| <i>Information sharing</i> | IS ₁ | 0.77 | 0.76 | 0.52 |
| | IS ₂ | 0.76 | | |
| | IS ₃ | 0.92 | | |

Table 3. Relationships among Study Constructs

Structural Equation Modelling

Using SEM, the hypotheses were tested as shown in the following Table 4. Only the Hypotheses with a probability value (P-value) of less than 0.05 were accepted.

| Hypothesis | Standardized regression coefficient | P-value |
|--|-------------------------------------|---------|
| H ₁ (+): Company's feeling →MS | 0.127 | 0.02 |
| H ₂ (+): Alignment of organisational models →MS | 0.022 | 0.04 |
| H ₃ (+): Company involvement →MS | 0.231 | *** |
| H ₄ (+): Level of communication →MS | 0.198 | *** |
| H ₅ (+): Transparency of communication →MS | 0.073 | 0.04 |
| H ₆ (+): Information sharing →MS | 0.272 | *** |

Notes: ***: Standardized regression coefficient is significant at the 0.001 level (two-tailed).

Table 4. Hypothesis Testing Results

To verify the fitness of the structural model some indexes are measured such as the chi-square-to-degree-of-freedom ratio (χ^2/df), the Tucker–Lewis index (TLI), the goodness of fit index (GFI), and the Incremental fit index (IFI) (see Table 5).

| Index | Value |
|---|-------|
| the chi-square-to-degree-of-freedom ratio (χ^2/df) | 9.87 |
| goodness of fit index (GFI) | 1.12 |

| | |
|-----------------------------|------|
| Tucker–Lewis index (TLI) | 0.95 |
| Incremental fit index (IFI) | 1.17 |

Table 4. Fitness indexes

To ensure the fitness of model the chi-square-to-degree-of-freedom ratio (χ^2/df) must be equal or greater than 3 (Byrne, 2001), the goodness of fit index (GFI) must be higher than 0.90 (Jöreskog and Sörbom, 1996), the Tucker–Lewis index (TLI) must be greater or equal to 0.9 (Bentler and Bonett, 1980), the Incremental fit index (IFI) must be higher or equal to 0.9 (Hu and Bentler, 1999).

As shown in the Table 3 and 4 all the hypothesis are supported and all the cut-off values to measure the fitness of model are respected by the model.

DISCUSSION

The results of empirical research clearly show that there is a relationship between the elements identified as relevant in building stakeholders' engagement strategies and the companies' MS. The results show that the company's attention to its stakeholders' needs for information is positively related to better economic performance. This evidence cannot be considered as support for the validity of companies' stakeholders' engagement but, as underlined in the conceptual and theoretical framework, it highlights the relevance for companies to proactively improve the quality of their relationships with their stakeholders, in order to build the condition to develop a strong collaboration with them.

More specifically, the research shows that there is a positive relationship between 'company's feeling' and companies' MS (H_1). These results are consistent with the observations and reflections arising from sociological and philosophical studies (Scott and Lane, 2000), and underline the advantages and opportunities for companies to overcome a perspective focused only on the tangible elements of relationships, in order to shift from a transactional to a relational perspective (Grönroos, 1997). The opportunities related to this proposed change in perspective are relevant if we consider that, by defining strategies aligned with stakeholders' strong beliefs, companies will gain opportunities to overcome every kind of competitiveness because they will have the support of a strong network of actors (Pels et al., 2000).

This study has shown a positive relationship between 'alignment of organisational models' and companies' MS (H_2), and between 'company involvement' and companies' MS (H_3). These findings are consistent with previous sociological and managerial studies (Noland and Phillips, 2010). This result underlines how the capability of companies to understand the perspectives and mind-sets of stakeholders, and their ability to define aligned organisational models able to build condition of reciprocal understanding and loyalty with stakeholders, represent a relevant key for the companies'

competitiveness (Lawrence, 2002). Furthermore, the ability of companies to involve (or at least to give the impression of involving) stakeholders has a relevant influence on the stakeholders' perspectives and, consequentially, it impacts on the opportunities for companies to define efficient, effective, and sustainable stakeholders' engagement strategies (Payne and Calton, 2002).

Empirical evidences also show that there is a positive relationship between 'level of communication' and companies' MS (H₄). This result highlights the relevance for stakeholder to have information on the companies in order to better guide their behaviours and choices (Foster and Jonker, 2005). In the the stakeholders' engagement view, the companies' availability to share information becomes the manifestation of the companies' will to invest in relationships with stakeholders (Carr et al., 2008).

Finally, this study shows a positive relationship between 'transparency of communication' and companies' H₅, and between 'information sharing' and and companies' H₆. These findings are consistent with previous studies on the strategic relevance of communication (Cornelissen, 2014). They show that for stakeholders the opportunity to receive easily understandable information from companies has a strong impact on their willingness to collaborate (Phillipson et al., 2012). Further to this, it is possible to affirm that the companies' attention to communication can be considered by stakeholders as a declaration of responsibility and, consequently, when communication is frequent and transparent, stakeholders develop a stronger loyalty towards companies and their strategies.

FINAL REMARKS AND FUTURE DIRECTIONS FOR RESEARCH

Increasing competitiveness is pushing organisations and decision makers to identify new pathways to follow in order to survive. New challenges are emerging from the new market configurations and dynamics, and decision makers need to develop new approaches to face them.

A possible strategical pathway may be constructed by directly engaging stakeholders in company strategies and actions in order to build more favourable conditions for the company's survival (Greenwood, 2007). By developing a strong collaboration with stakeholders, companies gain opportunities to receive more information on market configurations and dynamics, as well as opportunities to 'use' the resources, competencies and capabilities of a large network of actors (Maak, 2007).

Improving a stakeholder's engagement strategy is not easy, however; some preliminary conditions need to be met. As proposed in this paper, companies need to be proactive in developing conditions on which to base strong collaboration with their stakeholders. Companies need to offer to stakeholders the opportunity to evaluate whether their behaviours and strategies are aligned with the stakeholders' perspectives; companies also need to better understand the perspective of stakeholders in order to identify possible points of contact based on reciprocal understanding and loyalty.

Companies may overcome the limitations of traditional competitive approaches by adopting a collaborative view of the market, based on a win-win logic in which all actors have the opportunities to achieve their aims (Noland and Phillips, 2010).

From this point of view, this paper has tried to enrich previous studies on stakeholders' engagement by offering a wider perspective from which to directly investigate the conditions that are required to develop a strong collaboration between companies and stakeholders. Obviously, the reflections and empirical evidence expressed here cannot be considered exhaustive, but they may be considered as a first step toward future research that is needed to better investigate the implications of identified variables, studying a larger sample of companies in different cultural contexts with different methodologies and research pathways. Indeed, the proposed research and the investigated sample cannot be considered representative of the whole investigated phenomenon.

Despite this, several implications emerge from the findings of this study, from a theoretical as well as from a practical point of view. From the theoretical point of view, we stress the need to:

- develop new models, instruments, and approaches able to support decision makers and organisations when studying, understanding, and managing cognitive dimensions that influence stakeholders' behaviours and decisions;
- wider the perspective of study and observation in the domain of stakeholders' engagement overcoming a focus strictly related to the investigation of 'tangible evidence';
- better define the implications and opportunities related to the correct management of key processes, such as communication and knowledge management.

From a practical viewpoint, we stress the need to:

- better investigate and understand the perspectives and mental models of stakeholders;
- define strategies to align companies' strategies and behaviours to the perspectives and mental models of stakeholders;
- pay attention to all the phases of contact between companies and stakeholders, starting from the phase that precedes the emergence of a relationship.

Unimaginable opportunities are related to the development of effective strategies to engage stakeholders but much effort is required from researchers and practitioners. Therefore, further work is required to researchers and practitioners to develop the concepts underlying stakeholders' engagement, and to implement and test the strategies that may achieve this.

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STRUCTURAL EQUATION MODEL FOR THE STUDY OF ENTREPRENEURIAL EDUCATION IN AN OPEN PLATFORM

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ABSTRACT

The overall goal of this paper is to provide a contribution to the studies that aim to boost the entrepreneurial education and the entrepreneurial activity of universities, through the analysis and implementation of the experimental lab, a tool to support to the activity of universities favouring entrepreneurship, and led by the belief that potentially implementable results have to be achieved. A new tool of a virtual platform, the ExperimentaLab, in order to provide students with an entrepreneurial training program and a strong network to simulate the progression from an idea to a real start-up. A first simulation was run in 2014, showing that the experimental lab could be effective at processing an idea and make it potentially ready for market and investors and a valid educational tool potentially implementable by entrepreneurial university. A second and a third simulation (ended on December 2015) were then run, trying to overcome previous limitations. This research aims to propose to investigate whether the hypothesized work structure of the ExperimentaLab and related cognitive dynamics may support the entrepreneurial education and entrepreneurial activity of universities through a PLS-Path modeling approach and multi-group path analysis.

Keywords: *Structural Equation Model, Entrepreneurial Education, Open Platform and ExperimentaLab.*

INTRODUCTION

Entrepreneurship education is an important element for entrepreneurial attitude and intention for upcoming entrepreneurs (Souitaris and Al-Laham, 2007). There is a significant and substantial consensus that entrepreneurship is a skill, which can be developed through education. Education should provide an innovative learning environment, thus helping students to develop entrepreneurial competencies (Commission, 2011). At the same time, teachers have to be seen as mentors and supervisors in a cooperative and interdisciplinary learning process characterized by creativity, meaning making and interactivity (Erkkilä, 2000; Lackéus, 2015).

Considering the prominent role of entrepreneurship to support the economy worldwide, it is not surprising, as stated in numerous studies, that entrepreneurship education is becoming more and more important everywhere in the world, while research in entrepreneurship is growing and getting legitimacy in the scientific communities (Fayolle et al., 2014, 2008; Fayolle, 2009, 2007; Honig, 2004; Jack and Anderson, 1998; Lee et al., 2007).

Among others, Rothaermel et al. (2007) pointed out that universities have been increasing their entrepreneurial activity through different tools: patenting and licensing, incubators, science parks, TTOs, etc. The presence of an innovation catalyst to create the necessary link among all the involved actors is crucial to stimulate the creation of an effective innovation ecosystem (Ferraris and Grieco, 2015). Innovation developed within the network could then give raise to a virtuous circle with positive outcomes such as local development, attraction of foreign direct investments and internationalisation (Bresciani, 2010). In such an ecosystem universities can play a key role, sustaining the development of new ideas from would-be entrepreneurs (Rothaermel et al., 2007).

Studying the impact of entrepreneurship education naturally leads to studying the question of its evaluation/measurement, which cannot be totally disconnected from that of its pedagogical engineering, both at the design level and at the program implementation level (Bechard and Gregoire, 2005). Indeed, the evaluation of education programs appears to be a complex question (Dionne, 1995; Ng and Feldman, 2009; Ostroff, 1991), and there are numerous types, objectives, and methods of evaluation (Fayolle and Gailly, 2015).

The need for universities to become entrepreneurial is due to a new open way of innovating termed by Chesbrough (2003) "open innovation". If closed innovation is internal, centralized and somehow "self-referential", open innovation is externally focused, collaborative and based on the recognition of the importance of internal and external knowledge flows. Since knowledge is a fluid mix of insights (Davenport and Prusak 1998), the wider it flows the higher the chances of generating innovation. Hence, the shift from innovation initiatives that are centred on internal resources to those that are centred on external networks (Nambisan and Sawhney 2011). In an attempt to provide a contribution to the studies that aim to boost entrepreneurial education and the entrepreneurial activity of universities, we designed, realized and tested an experimental lab (the ExperimentaLab), an open innovation platform to support would-be entrepreneurs in acquiring entrepreneurial competencies and skills they do not possess.

In so doing, the ExperimentaLab maintains the focus on the third mission of the university, in an attempt to educate would-be entrepreneurs by helping them practise the managerial and entrepreneurial functions of new venture creation, testing its functioning by a simulation, role play

Steps of the research project

At the moment our research project has been developed through the following steps: 1) literature review narrowing down from the topic of entrepreneurship to that of entrepreneurial learning and, finally, experimental labs; 2) focus group to dispel some doubts; 3) first design of the platform ExperimentaLab; 4) first simulation: analysis of results and comparison with control groups; 5) revision of the platform, research methodology and questionnaire; 6) second and third simulations: analysis of results through structural equation modelling; 7) fourth simulation (on-going).

THE EXPERIMENTALAB

Experimental labs are networks of individuals “federated” from universities, research labs, financial markets and business partners, who become part of *an innovative ecosystem* by means of a virtual platform, rather than relying only on their capabilities (Andersson et al., 2010). Aspiring entrepreneurs can obtain important support via experimental labs to proceed from an intuition to a product/service ready for market and investors. Experimental labs create a dynamic environment that links, in a new and unexpected way, aspiring entrepreneurs, academics, researchers, experts and practitioners. Experimental labs offers the possibility to perform an iterative process of analysis, in an evolutionary way between mentoring and coaching. From a cognitive perspective, experimental labs can represent a lever for knowledge creation and exploitation (Iscaro and Castaldi, 2014).

In the attempt to contribute to the activity of universities favouring entrepreneurship, and led by the belief that potentially implementable results have to be achieved, this research sheds light on the adoption, by entrepreneurial universities, of a new tool, the *ExperimentaLab*, in order to provide students with an entrepreneurial training program and a strong network to simulate the progression from an idea to a real start-up. As a tool for entrepreneurial training, the ExperimentaLab aims to improve individual competences to start a new venture (Matricano, 2014).

The need for an Entrepreneurial University is caused not only by social and market changes but also by the emergence of a different way to innovate which makes synergy as its vision and realizes “the working together” as its major tool. In this context, basing on the assumption that value of experimental labs depends on their members’ cognitive assets and that knowledge is a peculiar resource which does not behave in the way that physical assets do, the research sets out to analyse the issue of experimental labs through the implementation of a virtual platform, the ExperimentaLab, where to actively develop entrepreneurial competencies through a simulation by role play. This is in line with the observation that entrepreneurial education requires practice: in a changing world, there is a need to teach methods that stand the test of dramatic changes in content and context (Neck and Greene, 2011).

Focus Group and first platform design

Before realizing the ExperimentaLab we needed a focus group with experts in order to dispel some doubts mainly depending on the embryonic stage of the experimental labs literature. Indeed, the development of the virtual platform was carried out only after dealing with the following three unaddressed issues: 1) concrete creation and organisation of teams by cognitive area, 2) value appropriation and regulation of relations, 3) virtual network fragility (Iscaro et al., 2015) Thus, basing on literature review and on the results of the focus group, the final design of the ExperimentaLab was built on three structuring elements: *roles, rules and resources* (Klabbers, 2009), able to allow cooperation and knowledge flows among participants, at the same time bordering the fragility related to a virtual community.

The lab was built on three *actors/roles*: aspiring entrepreneur, venture sitter, human resources. Anyone can be an *aspiring entrepreneur* with a good idea but this is doomed to be forgotten without the necessary support: thanks to the experimental lab aspiring entrepreneurs become part of an innovative ecosystem rather than relying only on their own resources. With a supposed background in entrepreneurship and/or management, the *venture sitter* (Matricano and Pietrobon, 2010) is a role somewhere between a mentor and a coach. The venture sitter helps the aspiring entrepreneur choose the most suitable human resources and define timing and goals, also providing them with indications to advance and assess the outputs from the human resources. In the ExperimentaLab, thanks to *human resources*, the aspiring entrepreneurs can access competences, skills and experience not possessed, in order to explore, analyse and define their ideas.

Rules and resources that make the daily exchange of knowledge and experience possible in the designed platform are: *mechanisms of externalization and sharing* (messaging, forums, videoconferences, meetings) through which all members of the ExperimentaLab can easily share their own intellectual capital; a *non-disclosure agreement* with the aspiring entrepreneur. This rule guarantees the non-disclosure of aspiring entrepreneurs' ideas by all members of the ExperimentaLab; the rule of "*work-for-equity*" to remunerate participants. As all agents involved assume the risk of enterprise, they do not overload the financial situation of the rising firm and follow the principle of "the success of one is the success of all": all together bet on the idea. This principle stimulates members' effort and reduces the fragility of virtual networks; the *Stage&Gate model* as a process for the development of business ideas.

In the everyday work of the ExperimentaLab, the starting point is an aspiring entrepreneur who "*entrusts*" his/her idea to the community of the lab. Ideally, the platform administrator (university) through an internal team of experts in entrepreneurship and innovation, analyses all the ideas submitted in order to select the most valid, those that actually will be "processed" in the lab. This is followed by a match between aspiring entrepreneurs and venture sitters. After these preliminary steps the real work begins. Together, aspiring entrepreneur and venture sitter identify the different

cognitive areas required to develop the business idea (e.g., marketing, legal, information technology, chemistry, graphics, digital, etc.) and the human resources for each one of them. Once human resources have agreed to participate in the project, they access the model *idea in progress*, based on a revised version of the Stage&Gate model (Cooper, 1994; Cooper et al., 2002). The stages are where the work is done; the gates are checkpoints that guarantee a satisfactory quality. Between the stages there are gates, checkpoints for quality control. They are confrontation moments with the general aim of assessing the real attractiveness and feasibility of the project based on a *go/no go* decision logic.

SIMULATIONS

Simulations by role-play were conducted partly in a laboratory at the Department of Economics of the Second University of Naples (each student had a computer) and partly wherever the students could connect to the platform. The platform was open for the whole simulation time to allow students to log in at any time and work in the virtual environment.

A first simulation was run in 2014, showing that the ExperimentaLab could be effective at processing an idea and make it potentially ready for market and investors and thus a valid educational tool potentially implementable by entrepreneurial university (Iscaro et al., 2015). The simulation involved 31 students (17 male and 14 female) from a master's degree course in Market-Enterprise Relationship at Department of Economics-Second University of Naples. Students were divided into three groups to compare three different approaches to work in the ExperimentaLab, given the same starting conditions. Furthermore, in order to validate the ExperimentaLab process, four control groups were used that processed different business ideas but pursued the same aim: to make them potentially ready for market and investors. The students in the control groups were on a master's degree course in Business Planning of the Second University on Naples and were at the same stage in their university career as the students in the sample. They worked without the platform support, enabling the comparison between the final outcomes of the platform students and those of the control groups. The simulation produced results from two groups: 1) students engaged in the role play; their overall evaluation was strongly positive, with all the scores well over the threshold. Players valued the ExperimentaLab as effective to structure the everyday work and suitable to achieve the purpose to process an idea and make it potentially ready for the market and investors; 2) a committee constituted by experts from different fields: professors/tutors and instructors in the game; an expert in research methodology; an expert in innovative processes and finance; PhD students of the programme in Entrepreneurship and Innovation of the Second University of Naples as potential customers. The comparison between experts' assessments showed that the overall evaluation (deriving from the average score each group achieved in each item) was always higher for groups in the sample

compared to the control ones. We used the principal component analysis to analyse data. Basing on the results from principal component analysis, we suggested that the *effectiveness* of the business idea processed in the ExperimentaLab depends on the *ExperimentaLab design*. By effectiveness of the business idea we mean its attractiveness for potential customers and the likelihood to find investors and be launched on the market, while the ExperimentaLab design is defined by the structure of the roles (the suitability of the three roles and their respective functions to work in the ExperimentaLab) and the daily work processes (the ExperimentaLab as it was conceived in its everyday functioning – Stage&Gate model, interaction tools, etc.).

The proposition addressed, therefore, was that the ExperimentaLab design positively influences the effectiveness of the business idea processed within it.

After the first simulation we revised the platform to improve its functioning, of the research methodology and of the students' questionnaire, through the identification of the coefficient matrix and the Cronbach's Alpha test (Cronbach, 1951), to solve the limitations arising during the first simulation and empirical analysis and in relation to the number of variables analysed.

A second and a third simulation (ended on December 2015) were then run, trying to overcome previous limitations. In the second and third simulations, 75 students (43 male and 32 female) from two master's degree courses at the Department of Economics and Management of the Second University of Naples (Market-Enterprise Relationship and Business planning) played the role of aspiring entrepreneurs. Students spontaneously formed groups after a business idea competition, during which some of them presented their entrepreneurial ideas. Each group was composed by students playing the role of aspiring entrepreneurs, while mentors (i.e. courses professors and university's tutor/affiliated) played the roles of venture sitters and human resources.

The first purpose of this study is to investigate whether the hypothesized work structure of the ExperimentaLab and the related cognitive dynamics may support the entrepreneurial education and entrepreneurial activity of universities. In order to achieve this purpose the students who played in the platform, at the end of the simulation, filled in a questionnaire, which was structured into eight different items made up of variables measured on a semantic scale from 1 to 7 (where 1 meant the lowest score and 7 the highest). This scale was adopted for the relative ease and immediacy of implementation, although aware of the possible mechanisms of distortion potentially triggered in the respondents' answers (e.g. response set). To realize the questionnaire we carried out an operational definition detailed as follows: the item "*platform accessibility and navigation*" is composed of two variables: the ease of access to the platform services, and the ease of platform navigation; "*platform interactivity and comprehensibility*" is formed of four variables: the comprehensibility of platform language, the clarity of rules, the importance of the forum, and the importance of face to face;

“simplicity and clarity of the procedures” constitutes of four variables: the simplicity of the form Idea in progress, the clarity of the form rules, the clarity of the difference between a stage and a gate, and the clarity of the Stage&Gate contents; *“functionality of the Stage&Gate model to develop business ideas”* includes variables related to the suitability of the Stage&Gate for the simulation goal and to the functionality of the different stages of the adopted Stage&Gate model; *“utility of the ExperimentaLab for the development of the business idea”* is composed of five variables: the feasibility of business idea, the propensity to invest in the idea, the acquisition of useful competences, the self-efficacy, and the effectiveness of the platform compared to traditional learning methods; *“educational effectiveness”* is formed of eight variables: the growth of the entrepreneurial spirit, the usefulness of the platform for the determination of personal goals, the increase of creativity, the increase of ambition, the increase of failure tolerance, the increase of risk propensity, the cognitive enrichment, and the increase of work in group ability; *“support activity”* is constituted of four variables: the impact of skilled human resources, the importance of venture sitter, the level of collaboration with other human resource external to the ExperimentaLab network and the level of collaboration with medium-large companies; *“players’ satisfaction”* includes four variables: the overall satisfaction of players, the match with expectations, the propensity to suggest to others to participate to the program and the level of commitment.

STRUCTURAL EQUATION MODEL

Data generated by the second and third simulations were analysed through a structural equation model (SEM).

In the behavioural sciences, researchers are often interested in studying theoretical constructs that cannot be observed directly. These abstract phenomena are termed latent variables. Because latent variables are not observed directly, it follows that they cannot be measured directly.

The Structural Equation Model is based on the relationships between the manifest variables (indicators) and the hypothesized latent variables (constructs). A construct (latent variable) is conceptually a term used to describe a phenomenon of theoretical interest (Edwards and Bagozzi, 2000) and it is measured through the manifest variables that are the items of the questionnaire.

By means of PLS algorithm both the estimation of the latent variables and the estimation of the parameters is obtained. In particular, the PLS-Path Modeling implies some steps.

The first step consists in an iterative procedure made up of simple and/or multiple regressions by taking into account the relation of the structural model (or internal model), of the measurement model (or external model), and of weight relations. The result is the estimation of a set of weights, which are used to calculate the scores of the latent variables as linear combinations of their manifest variables.

Once the estimations are obtained the following steps imply the non-iterative estimation of the structural model and measurement model coefficients.

$$\hat{\xi}_j = Y_j = \sum_k \check{w}_{jk} x_{jk} \quad (1)$$

The objective of this step is the calculation of the weights required to obtain the final estimates of each latent variable as linear combination of its manifest variables. In equation (1) \check{w}_{jk} are called external weights, standard unit of variance Y_j . This standardization is done to avoid the ambiguity of scale of the latent variable.

$$Y_j = \sum_i \hat{\beta}_{ji} Y_i \quad (2)$$

$$\hat{\beta}_{ji} = (Y_i' Y_i)^{-1} Y_i' Y_j \quad (3)$$

The second step of the PLS-PM algorithm consists in calculating the structural coefficients (path coefficients) and the measurement model parameters (loading coefficient). The structural coefficients have been calculated through OLS in multiple regression relating to it (2)(3), as well as the measurement model parameters (loading coefficient).

Basing on the analysis of the second and third simulation results, this research aims to propose a PLS-PM approach¹ to investigate the entrepreneurial effects stemming from the adoption of the ExperimentaLab and thus to draw implications for entrepreneurial universities. In particular, we attempt to estimate a multi-group path analysis for simulators in the context of structural equation modelling (SEM) in order to identify differences with respect to our key hypotheses.

Multi-groups Structural Equation Models

Multi-groups Structural Equation Models allow to examine models simultaneously across multiple samples. The analysis basically happens through the study of the invariance (Horn and McArdle, 1992; Meredith, 1993), which proceeds sequentially through a series of steps each of which introduces additional constraints with respect to the initial model. The basic requirement for a model of multiple groups is that populations are clearly defined and the samples are independent (e.g., males and females).

¹ The links between constructs of a structural equation model may be estimated with independent regression equations as the PLS-Path Modeling approach or through more involved approaches such as those employed in LISREL. In PLS approach, there are less probabilistic hypotheses, data are modelled by a succession of simple or multiple regression and there is no identification problem. On the contrary in LISREL, the estimation is done by maximum likelihood, based on the hypothesis of multinormality and allows the modelisation of the variance-covariance matrix. Given the low sample size, the non-normal distribution of data, the possible to used both reflective indicators and formative indicator, we have decided to used for our analysis the PLS-Path Modeling approach.

When we estimate the meaning of the differences of the paths of a particular model for two or more sets of data, a t-test based on the standard errors is obtained by means of a re-sampling procedure like bootstrap. An alternative approach, i.e. a permutation or randomization procedure (Chin, 2003; Esposito Vinzi et al., 2010), is available, in which a subset of all the possible data permutations between the sample groups is constructed. Randomization or permutation procedures are the favorite tests of significance for non-normal data. In this perspective, we utilized the randomization procedure to examine our sample with non-normal data.

The null and alternative hypothesis to be tested to compare the PLS parameter (path coefficients) estimations between two independent groups are H_0 : path coefficients are not significantly different; H_1 : path coefficients are significantly different (Crisci and D'Ambra, 2012).

RESULTS

As previously illustrated, the conceptual model (and the questionnaire) included 33 indicators loading onto eight constructs: "platform accessibility and navigation", "platform interactivity and comprehensibility", "simplicity and clarity of the procedures", "functionality of the Stage&Gate model to develop business ideas", "utility of the ExperimentaLab", "support activity", "players' satisfaction". The correlation matrix shows a high correlation among the variables of each semantic area (i.e. construct) on which the questionnaire was articulated. Starting from this observation, we suggest that the structure of the *ExperimentaLab*, making the knowledge flows possible, supports the acquisition of entrepreneurial competences by would be entrepreneurs, thus promoting educational effectiveness (our latent variable), which in turn stimulates players' satisfaction.

Before analysing the existence of the significant relationships among the latent constructs, the descriptive statistics was calculated regarding the aforementioned non normal distribution of the data. In particular the Shapiro-Wilks test that is based on the comparison between the quantiles of the normal distribution and quantiles of the data; the standardized Skewness test to determine the lack of symmetry in the data and the standardized Kurtosis test to show the shape of the distribution that it is either flatter or more pointed than the normal distribution. The value of Shapiro-Wilks close to 1 allows us to reject the null hypothesis and accept the alternative hypothesis that corresponds to the non-normal distribution data. Moreover, the values of skewness and kurtosis demonstrate a deviation from a normal distribution. These results suggest non-normal data, thus not only the regression model but also the other traditional estimation procedures, based on the normal distribution, can't be used. For these reasons, we applied the Structural Equation Model with the PLS-PM approach based on the conceptual model illustrated in figure 1.

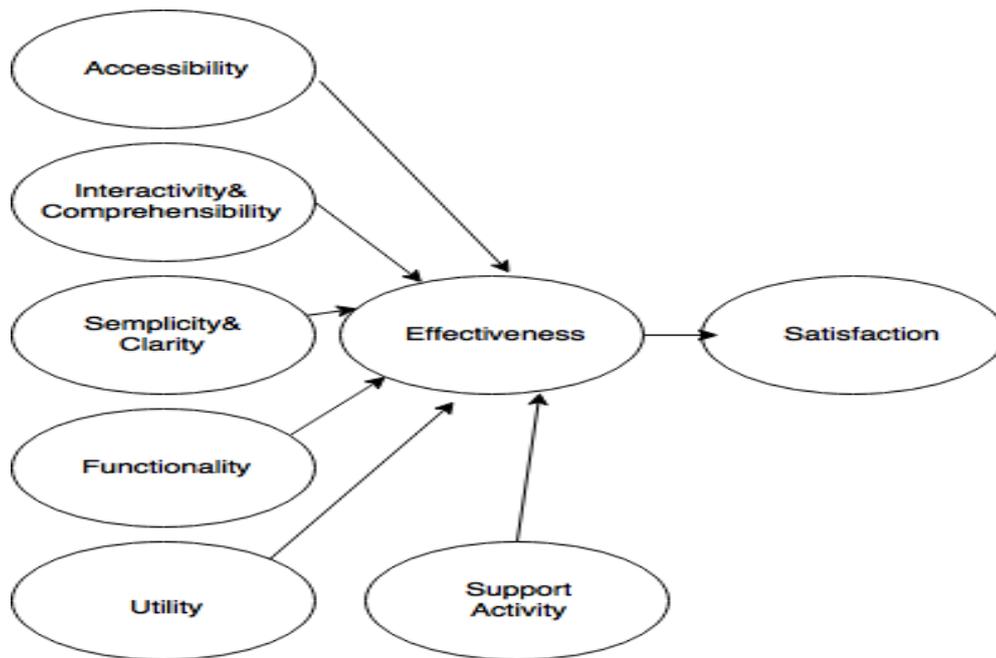


Figure 1. The conceptual model.

According to the structure PLS, every step of the model is evaluated: the measurement model, the structural model and the entire model. Indeed, the PLS provides different adaptation indices. For this reason, we analysed the conceptual model with the R^2 which value, as shown by the path diagram (figure 2), confirms the significance of the model with very satisfactory values of between .63 and .74 recorded.

The index value - both Cronbach's Alpha (1951) and Jöreskog (1978) - with the requirement of 0.70 or higher was achieved for all items observed, as demonstrated also by the path coefficients, standard errors and the confidence intervals (figure 2). Indeed, the path coefficient shows a significance of all ties because of the confidence interval not include zero values (figure 2).

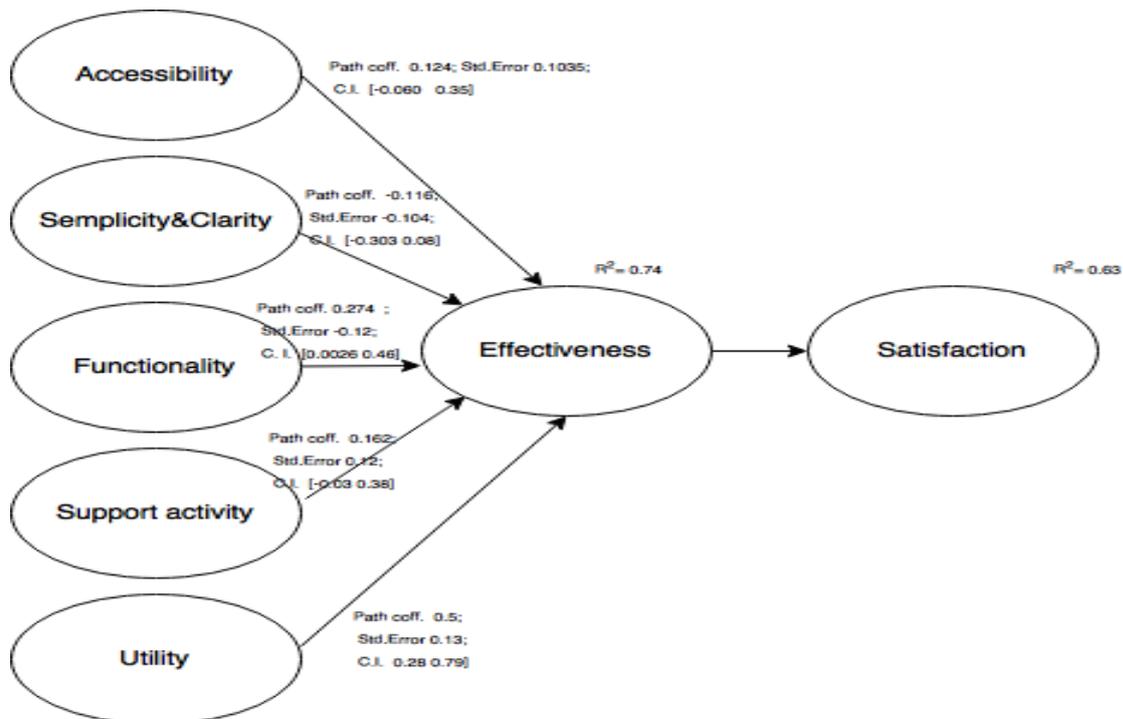


Figure 2. The path diagram for the evaluation of the entrepreneurial education generated by the adoption of the ExperimentaLab.

The difference between the conceptual model (figure 2) and the path diagram is the only construct “accessibility”, which is merged with the construct “interactivity & comprehensibility”, thus obtaining the significance of item predicted because the variables by these two constructs show the way to obtain the same information on the accessibility of the virtual platform.

Except for this difference, results confirm the significance of the conceptual model.

The constructs, “Accessibility”, “Semplicity&Clarity”, “Functionality”, “Support activity” and “Utility” are positively correlated with “Effectiveness”, and the construct “Effectiveness” is, in turn, positively correlated with “Satisfaction”. This confirms our hypotheses that the characteristics of the virtual platform (ExperimentaLab) support would-be entrepreneurs in acquiring entrepreneurial competencies and skills they do not possess, this way positively impacting on the educational effectiveness, which in turn generates students’ satisfaction..

Finally, we used the PLS approach to verify if there were significant differences in terms of path coefficient between two groups: females and males. The method used to check these differences is the Permutation Test, a randomization test that provides an option non-parametric. In this case both estimation methods give about the same results. Indeed, we didn’t obtain significant differences in the two groups, but the use of these different estimation methods allowed to bring additional information to our analysis.

CONCLUSIONS, LIMITATIONS AND FUTURE RESEARCH

The relations highlighted through the Structural Equation Model permit to hypothesize a cause-effect relationship among items. In particular, we suggest that the structure of the ExperimentalLab – i.e. its accessibility, simplicity & clarity of procedures, functionality of the adopted S&G model, support activity of the involved network of actors and utility to develop the specific business idea – making the knowledge flows possible, fosters the acquisition of entrepreneurial competences by would be entrepreneurs, thus the educational effectiveness of the simulation training experience (our latent variable). This in turn generates players' satisfaction.

The small number of observations represents one of the most constraining limitations of this research. For this reason another simulation (the fourth) is going on and another has already been planned, in order to go over 100 observations.

Moreover, thanks to a larger sample, in the future, a Multi-groups Structural Equation Model (SEM) could be used to test the differences in terms of path coefficient among groups, basing on players demographics (gender, previous experience, family background, etc.) or groups performances.

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INFORMATION AND INFLUENCE IN SOCIAL NETWORK OF THE OPEN SOURCE COMMUNITY

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ABSTRACT

In this article, we present the social networks emerging from GitHub repository hosting service, which is nowadays the most popular repository for Open Source projects. We analyze two social networks emerging from the service: a network of followers and members together with the owners of the project repositories. We utilize the unique data set obtained by web-scraping GitHub in February and March, 2016. Our findings prove the existence of power-law-like scale behaviour and the statistically significant correlation between the structures of both networks. This means that the relations of following someone on GitHub repository hosting service which can be seen as a proxy for information flow and influence in the service and the collaborating with them are not independent.

Keywords: *Open Source, GitHub, followers, collaboration, influence, quadratic assignment procedure, power-law behaviour, innovations*

INTRODUCTION

The Open Source software constitutes a software class with its source code made available publicly. The license allows the end users to study, modify and distribute the source code to anyone and for any purpose. The creation process of the Open Source software is associated with occurring communities – groups of people interested in or working on specific projects (Raymond, 2003). Community forms a social network, where innovations are created and distributed. By innovation, we mean “the process of commercialization of a newly developed or adopted product or practice” (Freeman and Soete, 1997). In particular, cooperation among developers which leads to the creation of a new product (new software, or improvements to previously existing one) can be viewed as a process which generates innovation. Open Source also significantly affects the situation on the software market. In recent years a rapid growth in the number of organizations that choose the Open Source licenses for their products is noticed. Although Open Source software production relies usually on volunteer contributions, even enterprises associated with typically commercial activities, such as Samsung, Google or Microsoft, tend to release large amounts of code for the needs of Open Source projects. This makes the Open Source

one of the most discussed topics in analysis of software and information technology markets (Gallego *et al.*, 2008, Celińska and Lasek, 2015).

The economic literature considering the Open Source phenomenon tends to be limited to the supply side of the software market only (Crowston *et al.* 2012). The existing empirical research revolves around extracting the determinants of the Open Source license choice made on a firm or a project level (Lerner and Tirole, 2002; Bonaccorsi and Rossi, 2003; Koski, 2007). Additionally, a great amount of research has been conducted on explaining the incentives that motivate the individual developers to contribute to the Open Source projects (Hars, 2002; Ye and Kishida, 2003 Bonaccorsi and Rossi, 2006; Krishnamurthy *et al.*, 2014). Economists are mainly absorbed by the special nature of the Open Source software manifested in its characteristic of public good. What is more, this kind of software is also a subject to the network externalities (Bonaccorsi and Rossi, 2003; Popovici, 2007; Celińska and Lasek, 2015), which is a surprisingly rarely mentioned issue in the relevant literature.

Socially connected computing is rooted in the study of corporate portals and groupware (Goggins, Petakovic, 2014). A substantial literature exists, for example, focused on the examination of SourceForge, an Open Source repository that started in 1999 (Lakhani and Wolf, 2005; Wu *et al.*, 2007; Fershtman and Gandal, 2008; Meissonier *et al.*, 2012). SourceForge, despite its popularity, lacks features to make social ties and keeping up with other developer's updates (Lee *et al.*, 2013). More recently implemented, GitHub is currently one of the largest repository hosting services related to the development of Open Source software, featuring elements of social network service. As of Dec 31, 2015, GitHub repository hosting service has more than 16 million of registered users, and over 25 million of repositories. It is built on top of the control version system Git. Although the registrations of the early users were in 2007, the service officially launched in April 2008.

The aim of this article is to investigate the connection between the information flow and the process of creating innovations in the Open Source community. We analyze the behaviour of developers who cooperate voluntarily creating Open Source software. We will verify the following research hypotheses:

- There exists a statistically significant correlation between the structure of the network representing the flow of information about developers' activity in the repository hosting service and the structure of the network describing the creation of innovations between those developers.
- The phenomena of the information flow and the influence of developer and the collaboration with them exhibit the power-law scaling behaviour.

Our objective will be obtained by estimating the value of Kendall correlation coefficient. To validate the statistical significance, the Quadratic Assignment Procedure (QAP) will be used, since the data set analyzed is dyadic. To verify the power-law hypothesis, we will follow the procedure suggested by

Clauset *et al.* (2009). We will utilize a unique database, obtained by *web-scraping* the repository hosting service GitHub.

INNOVATIONS AND FLOW OF THE INFORMATION IN THE OPEN SOURCE COMMUNITIES

Innovations in the Open Source community are created through cooperation among developers working in a distributed environment (Kogut and Metiu, 2001). Open Source software constitutes a kind of discrepancy in terms of classical economic analysis: a special definition of ownership expressed in the license agreements and usual lack of direct remuneration for developers should encourage them to avoid making effort, thus the source code should not be created. In fact, the behaviour of developers is quite the opposite. It was noticed that the Open Source developers generate innovation within a horizontal network. Von Hippel (2007) described the environmental conditions encouraging Open Source software developers to generate innovations. They were described from the institutional point of view (there must occur incentives to innovate, and the ownership rights have to be precisely defined and respected) not regarding the characteristics of the developers themselves. The impact of developer's position in the community's social networks tended to be omitted in the existing research concerning cooperation among Open Source developers and its contribution towards creating innovations.

Social networks and information flow in the GitHub repository hosting service

GitHub is a collaborative, repository hosting service that includes social features bringing a new transparency to the development project (McDonald *et al.*, 2014). The activity of its registered users forms several kinds of social networks. The most intuitive is the network of collaboration between developers within the project repositories. The existence of such a network stems directly from the Open Source licenses' statements, that enable modifications of the publicly accessible source code. Due to the special model of collaboration in the GitHub repository hosting service, this network is embedded in the observable network of users that are granted permission to contribute to the projects (users who made a personal copy of the project repository, in GitHub's jargon *members*). The phenomenon of collaboration between GitHub users can be seen in at least two ways. Firstly, one can analyze bipartite graphs of developers and their particular repositories they contribute to. Secondly, as suggested by Lima *et al.* (2014), one can project the mentioned graph onto the set of users – this way, developers who contribute to at least one common repository are connected to each other. Moreover, we propose the third way of mapping the relationship of collaboration: the connection between the initial owner of the project repository and the members of the repository (however, the members

themselves are not connected). This way we preserve the hierarchical nature of the most popular model of collaboration in the GitHub repository hosting service.

The second type of social network that can be observed in the GitHub repository hosting service is the network of *followers* – users who agreed to be sent notifications about one's activity on GitHub. The network of followers may be seen as the proxy of influence process in the service. As Goggins and Petakovic (2014) state: following a developer gives them a degree of influence. The more followers a developer has, the larger the group potentially interested in their work, creating a potential for even greater influence. The network of followers also incorporates the flow of information in the service. Even if not capable of contributing to the projects of “globally” popular developers, users of GitHub are interested in their work. This explains enormous numbers of followers of celebrities, like GitHub's staff. On the other hand, following less popular developers improves the efficiency of matching possible coworkers. This is closely related to the spillover effect. Knowledge spillovers are reported by Fershtman and Gandal (2008) to be correlated with the structure of the social networks, since contributors who work on several projects are likely to exchange information and knowledge. While following a person, one is alerted about their activity in the service: the creation of new repositories, submitted commits, issues and pull requests, along with *starring* (giving a distinction to) another developer's project repository. The process of following should considerably decrease the cost of acquiring information about the possible coworkers and the projects one would like to contribute to, since developers are quickly given the notification instead of browsing the service on their own. What is more, analysis of 199 GitHub's most followed users and their followers by Blincoe *et al.* (2016) showed that popular users influence their followers by guiding them to new projects. This is why we stipulate that there occurs a structural correlation between the network of followers and the network of members in GitHub repository hosting service.

Similar to the network of followers, yet of different kind of information provided, is the network of *watchers*. A watcher is a follower of the particular repository. While notifications stemming from following a developer supply quite a diverse range of information, the alerts for watchers are confined to the activity within one repository (mostly issues, bug fixes, and the collaborations within project). Intuitively, watchers have probably been already interested in the development of that particular project. There are even scenarios that contributing to the project comes before becoming a watcher. That is why we do not include the extended analysis of this network in this research.

Creation of innovation within GitHub repository hosting service

Every registered user of GitHub has their own site that integrates social media functionality directly with code management tools (Marlow *et al.*, 2013). Each individual user's profile contains public information about their biographical characteristics (the date of joining the service and the optional

description of location, employer, personal site and e-mail address), the list of public project repositories, and the number of people following the user as well as the number of people that the user follows. Everyone, even unregistered users of the service may browse the profiles and download the public project repositories.

The contribution to the project may occur in at least two ways:

1. by sending via e-mail the patches to the author of the original project;
2. by submitting the *pull-requests* – the proposed changes to the projects that may be accepted or declined by the maintainers of the project.

The difference between those two options is that the submitting of pull request requires the prior registration in the repository hosting service. The developer that is willing to commit to the original repository (and thus make it an *upstream* repository commit) has to *fork* the existing project repository (create their own copy of the source code). As a result the user (according to the GitHub's jargon now known as a *member*) is granted the access to the complete source code even with its all *branches* that were created before the project had been forked. The members may introduce their commits (proposed bug fixes and changes to the source code) locally, but are also allowed to synchronize the state of their repositories with the state of the original project. If the maintainer of the original project repository accepts the changes introduced in the pull request, both repositories are *merged* and the history of submitted commits by the individual users is preserved. The process of contributing to the project within GitHub repository hosting service is illustrated on the Figure 1.

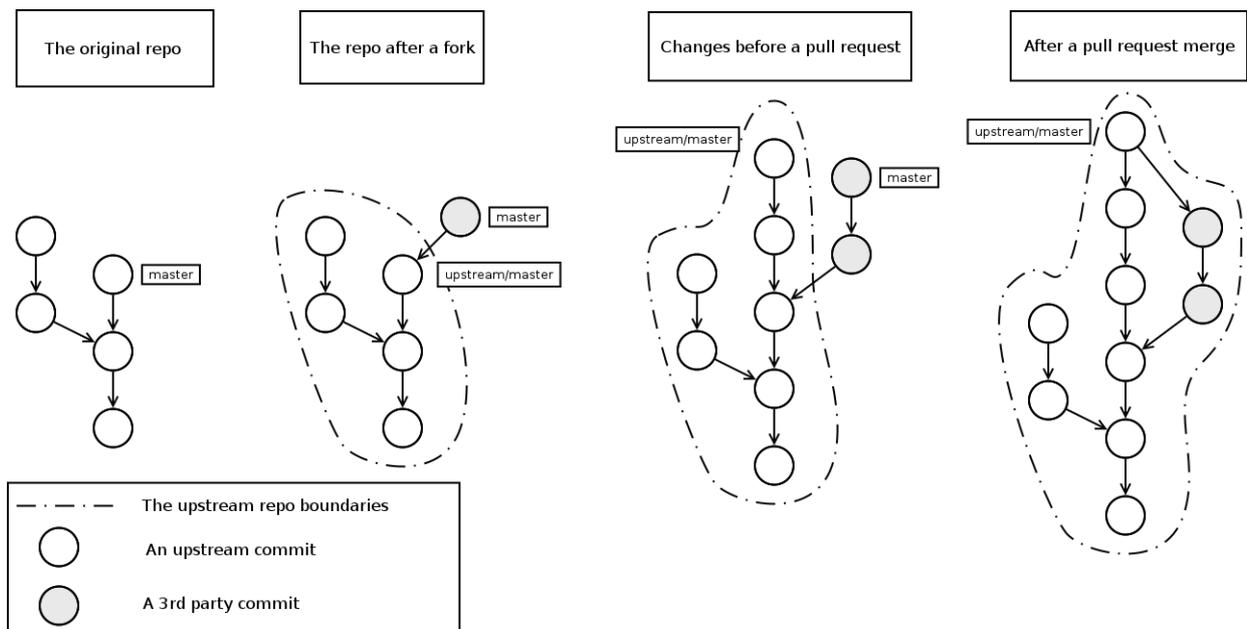


Figure 1: GitHub's "fork&pull" model of contributing to the source code.

METHODOLOGY

We consider a group of agents (developers) $V = \{1, \dots, N\}$, who are members of a social network represented by a directed graph $G(V, E)$, where the set of edges E represents connections between agents. Self-loops are not allowed in this graph. The neighborhood of node $i \in V$ is defined as $N_i(G) = \{j \mid (j, i) \in E\}$. In other words, the set $N_i(G)$ represents situations where the event studied has occurred (e.g., innovation was created through cooperation, someone decided to follow someone, etc.). Each agent (a node in the graph) can be described with a set of characteristics, such as gender, geographic area, number of repositories hosted on GitHub, most frequently used programming language, number of stars (distinctions) given to their projects, number of followers, number of followed developers, etc.

We represent the developers' following relations by means of directed graph G_f , which we call the *followers* graph. There is an edge in G_f between A and B if and only if A follows B . The second directed graph we consider in this study is the *members* graph G_m : representing the relation of forking one's project repository (and thus creating an innovation by collaboration with the owner of the repository). The edges of this graph show the hierarchical structure of forking: there is an edge in G_m between A and B if and only if A is a member of a project repository owned by B .

To verify the structural correlation between two graphs, we compute the Kendall's coefficient. The statistical significance of this coefficient is analyzed with the Quadratic Assignment Procedure (QAP). This is a widely used method in Social Network Analysis, based on simulation, that is useful for analyzing dyadic data sets. The QAP correlation analysis follows a two-step procedure. In the first step, we calculate the observed correlation coefficient for corresponding cells of two matrices. Then, in the second step, the rows and columns of the matrices are randomly permuted, and then the correlation between the matrices is recalculated. This procedure is similar to *bootstrap* and re-sampling method. We repeat this process 10 000 times. The resulting distribution of correlation coefficients is used to determine the probability that the observed correlation would be significant. Although QAP analysis generates correlation coefficient values, they may not reflect a common significant level because the structure of social network data can limit the number of correlations (Gibbons, 2004). In addition, as Krackhardt (1988) suggested, QAP correlation coefficients may not be reliable indicators of the strength of relationships analyzed. For these reasons, we are focused on the p-value (Gibbons *et al.*, 2004).

Data set

The data was collected using the *web-scraping* technique, i.e. automatic extraction of information from websites by *web crawlers* – Internet bots which systematically browse the World Wide Web. Scraping is focused on the transformation of unstructured data on the web, typically in HTML format, into structured data that can be stored and analyzed, e.g. in a spreadsheet. We collected the snapshots of the networks observed in GitHub repository hosting service in February and March, 2016.

The population of this research consists of users of GitHub repository hosting service registered in 2007-2012, which means 3 612 323 entities. We limited the span of registrations to make sure the developers managed to gain popularity, learned how to use the service and had enough time to start collaborating with others. Similarly to Lima *et al.* (2014), our sample is smaller: it consists only of registered users that are active and did not delete their profiles. What is more, the difference between the number of all registered users from the 2007 and the sample of this research also occurs due to the fact, that we are focused on the public repositories, disregarding private ones.

RESULTS

Structural analysis and the power-law scaling behaviour

The followers graph contains 725 641 nodes and 4 336 733 edges. The average degree (that is, the average number of followers, equivalently, the average number of followed developers) is 4.56. The analysis of in- and out-degrees distributions reveals that they are right-skewed. The members graph has 668 980 nodes connected with 2 722 105 edges and an average degree 2.862. Similarly to the followers graph, the distributions of in- and out-degrees are right-skewed.

Lima *et al.* (2014) stated that “the follow action is associated with a high cost, as following many developers results in receiving many notifications from them (...). Following links in GitHub do not play the same important role they have in other social networks, such as Facebook or Twitter”. Taking into consideration the characteristics of the two networks analyzed, we notice that even the high costs of following a person are lower than the costs of collaborating with them, which may explain the differences for example in the number of edges.

| Distribution | Exponent of the fitted power-law distribution | P-value of Kolmogorov-Smirnov test |
|----------------------|---|------------------------------------|
| Followers-degree | 2.77 | 0.89 |
| Followers-out degree | 2.84 | 0.09 |
| Followers-in degree | 2.44 | 0.94 |
| Members-degree | 3.05 | 0.30 |
| Members-out-degree | 2.72 | 0.11 |
| Members-in-degree | 3.09 | 0.42 |

Table 1. The results of power-law scaling behaviour examination in analyzed networks.

Both networks are characterized by low reciprocity. In case of followers graph, 9.94% of the edges are reciprocal, the remaining 90.06% are one-way. For members graph the reciprocity is even lower: only 0.48% of edges are mutual. This finding is consistent with the one reported by Lima *et al.* (2014).

We supposed, that due to the existence of very popular users, the tails of distributions of the degrees in both networks exhibit the power-law scaling behaviour. To verify this suspicion, we follow the procedure suggested by Clauset *et al.* (2009). The Table 1 summarizes the results of the conducted procedure for values from the 99 percentile of the distributions. We cannot reject the null hypothesis that the tails of the distributions are generated from the power-law distributions.

Analysis of correlation

For the analyzed networks, we found out that 213 994 out of 904 424 775 156 possible edges were indicating simultaneous following and collaboration relation. The absence of both relations occurred in 904 417 930 312 cases. This result is not suspicious: similar, sparse nature of those graphs was reported by Lima *et al.* (2014). The value of obtained Kendall tau-b coefficient was 0.06. The corresponding QAP p-value for the insignificance test was 0.00, thus the obtained result is statistically significant.

In QAP, we obtain the p-value by computing the probability that the number of common edges (or, equivalently, Pearson's or Kendall's correlation coefficient) between two graphs G_m and G_f is smaller than the number of common edges between graphs G_m and G_f' , where G_f' is obtained from G_f by permuting its vertices randomly. Usually this probability is estimated by sampling the random permutations; however, we have also used a different approach. We have computed that the number of common edges between G_m and G_f' has expected value of 13.05 and variance of 13.08, which bounds the p-value by $3e-10$, from Chebyshev inequality.

We also conducted auxiliary analysis of the correlation between the number of developers who forked a project repository of a particular developer and the number of developers following them. We have obtained a statistically significant value of Spearman correlation coefficient: 0.44 (p-value 0.00). This means that the more popular developers in the terms of followers tend to also have more coworkers.

DISCUSSION

Our results are mostly consistent with those reported by Lima *et al.* (2014), although the networks analyzed in our study had a slightly different specification (we preserved the hierarchical relation between the owners and the members of the project repository and limited the population to the users registered in 2007-2012). We tested for the power-law existence in our data and found that the tails of the distributions of degrees in both members network and followers network exhibit power-law scaling behaviour.

Despite Lima's *et al.* (2014) suggestion that active users (in the terms of collaborating) may not have many followers, we showed that there is a statistically significant correlation in the structure of both networks and there is a positive, statistically significant correlation between the number of followers

and the number of developers collaborating with the particular developer. Our results are on the contrary to the remark that the followers and contributors networks capture different social interactions and thus their structures are different. Our result may stem from preserving the hierarchy between the owner and the members of the repository – we did not introduce the links between the members of the same repository. The findings of the conducted analysis can be seen as the generalization of the remarks obtained by Blincoe *et al.* (2016), that popularity can be a significant factor in influencing other developers on GitHub. What is more, result of the auxiliary analysis of correlation is consistent with the result mentioned by Badashian and Stroulia (2016).

Due to the power-law scaling behaviour in the followers and members networks observed in our study and Lima *et al.* (2014), we suppose that the results of this study can be generalized for the whole population of the Open Source developers using GitHub repository hosting service. However, we are aware of the possible bias of overrepresentation of “well-known” users that tended to be registered in the GitHub's early years. This is one of the major limitations of the current study. We lack the comparison with the possible “newcomers”.

We know, that our data set suffers a time bias: we are not able to collect data about the whole repository hosting service in a preferably short time. The data utilized in this study is a snapshot of the service, the exact networks may differ. However we do not find this observation a threat to the obtained results: rare random missing observations should not impact the correlation structure, which was at our interest.

IMPLICATIONS

This study contributes to both academic research as well as industry practice. It contributes to research on Open Source development literature by putting the research in a much broader social networking context. As far as we know we are among the first to propose statistical tests and procedures based on simulations to quantitatively describe the phenomenon. The study provides insights on the correlation between the measures of influence of the developers and the cooperation among them. To practitioners, our study suggests how they can make their projects more popular and active.

CONCLUSION

In this article we analyzed two social networks occurring in GitHub repository hosting service. The first one was denoting the following (agreement to be sent notifications about the particular user's activity) relation between developers and the second one was describing the hierarchical relation between owner of the repository and the member (a developer who collaborated with this user and thus created the innovation between them). We found the statistically significant positive correlation between the

structures of both networks. Contrary to the suggestion made by Lima *et al.* (2014), this means that the relations of following (one of the proxies of both information flow and the influence of the developers) and creating innovation by collaborating are not independent.

We have also investigated on the power-law-shape of the analyzed networks. Using the procedure from Clauset *et al.* (2009) we showed that collaboration between the owner of the project repository and their coworkers exhibits such a behaviour. In case of following network, we obtained results similar to those mentioned in Lima *et al.* (2014).

This analysis differs from the existing research in various dimensions. Firstly, we propose a different specification of the collaboration network, preserving its underlying hierarchical structure. We also limit the population of the users, to assure that they had enough time to gain popularity and collaborate with other developers. Furthermore, we apply statistical tests and procedures based on simulations to quantitatively describe the phenomenon.

The current work could contribute to gain further insight into the dynamics of the creation of innovation within GitHub repository hosting service. Since the correlation does not mean causation, another stream of analyses could provide some insights into the panel nature of the following and collaboration networks, trying to state the antecedent relation. One might also consider extending this analysis to the population from further years, to compare results obtained for probably “mature” users with possible “newcomers”.

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INNOVATIVE ENTREPRENEURSHIP IN AN ECONOMY UNDER CRISIS: AN EMPIRICAL RESEARCH CONDUCTED IN GREECE

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ABSTRACT

The beneficial role of entrepreneurship for an economy is multifold, as it promotes innovation, creativity and employment. Entrepreneurial innovation is acknowledged as a significant national competitive advantage and many governments worldwide adapt and adopt policies in order to stimulate it. The Greek entrepreneurial scene is struggling to follow the global start-up boom, amidst the, ongoing since 2009, economic downturn. Within an unfavorable context, Greek start-ups pursue their ventures, having to deal with unfriendly regulatory entrepreneurial conditions. The present study focuses on the analysis of innovative entrepreneurship in Greece. Such an investigation becomes quite interesting in the light of the harsh economic environment in the country. More specifically, the study attempts to: (a) map innovative entrepreneurship in Greece; (b) describe the profile of Greek entrepreneurs; (c) recognize their intentions, motives, behavior and opportunities; (d) draw conclusions that may help Greek policy makers, (e) verify the existing literature. To achieve the above targets, an online survey was conducted with the use of a structured questionnaire that was addressed both to nascent and more advanced Greek entrepreneurs. The survey investigated factors that span over the whole entrepreneurial lifecycle, as it is indicated in the related literature: (a) entrepreneurial intentions; (b) entrepreneurial motives; (c) entrepreneurial opportunities, (d) resources, actions and behavior; (e) firm performance. The empirical results provide a useful chart for nascent Greek entrepreneurs. As they reflect the views and perceptions of active entrepreneurs, they can provide useful insight to regulatory authorities, but also to non-government stakeholders of the start-up ecosystem, in order to identify areas for future improvement.

Keywords: *Entrepreneurship, Start-up, Entrepreneurial ecosystem, Financial crisis, Greece.*

INTRODUCTION / AIM OF THE STUDY

Empirical research has argued that entrepreneurship brings significant social benefits: generation of new jobs, cluster formation, and long-term economic growth (e.g. Urbano and Aparicio, 2016; van Stel *et al.*, 2014). Moreover, an emphasis on innovative entrepreneurship is suggested as a driver of progress for society (Audretsch, 2013). For example, Aparicio *et al.* (2016) found that innovative entrepreneurial activity is positively associated with countries' business cycles. According to Aparicio *et al.* (2015), these results open up new avenues for future studies in order to examine innovative entrepreneurship.

Moreover, Breschi *et al.* (2014) argue that innovative entrepreneurship is central to technological change, since it gives birth to new products (or processes) and new markets. However, according to Shane (2000), technological change derives from the recognition and exploitation of opportunities. But the ability to discover such opportunities crucially depends upon prior knowledge (Breschi *et al.*, 2014). Therefore, knowledge-intensive entrepreneurship (KIE) is a cornerstone of innovative entrepreneurship.

The approach of the present study follows the various steps of the entrepreneurial lifecycle (Kibler *et al.*, 2014). The founder's personality is examined in conjunction with the surrounding environment that affects entrepreneurial decisions and actions. The selections of these dimensions is based on the intention to balance between the entrepreneur's cognitive, psychological and personality characteristics and the specific aspects of the Greek financial crisis, which is the central part of the study. The decisive factor in each step of the analysis is the underlying environmental context. The various contextual parameters, in terms of social, political and economic conditions of Greece are taken into account, in order to identify and chart the full entrepreneurial map.

The main contribution of the paper lies in its methodological approach. More specifically, it proposes a guideline for future empirical studies. It investigates factors spanning over the whole entrepreneurial lifecycle: (a) entrepreneurial intentions; (b) entrepreneurial motives; (c) entrepreneurial opportunities, (d) resources, actions and behavior; (e) firm performance. To the best of the researchers' knowledge, such an approach is not frequent in the relevant literature.

Future studies may replicate the present study, further enhancing its validity and offering room for comparisons. The results of the study may be generalized in other developed countries with similar economic realities and yield interesting outcomes for practitioners in these countries.

RESEARCH METHODOLOGY

The target population of the present study consists of individuals that reside in Greece and have a business idea that they have decided to pursue. By employing this rule, it was addressed in a broad category of entrepreneurs, including those who have already founded a firm, as well as "nascent"

entrepreneurs who have identified an opportunity and intend to become engaged in entrepreneurial activities. Moreover, the focus of the research was not the “replicative” type of entrepreneurs, rather the Schumpeterian, innovative type. Therefore, categories like retail-shop owners, or self-employed lawyers, or engineers were excluded from the survey.

A structured questionnaire was designed and used to collect the primary data needed. The questionnaire consisted of 95 questions grouped into 5 sections (Table 1) and was distributed. The five point Likert-scale was used (1=totally disagree, 5=totally agree). The questionnaire was developed in English and then, for practical reasons, it was translated into Greek. Then, it was validated by four independent scientists (from relevant fields). The final draft was used in a pilot-testing process, in which five entrepreneurs from four different companies participated.

The challenging part of the empirical research was to locate individuals that would fit the specifications described above. As it would be quite difficult to collect the data individually, the assistance of various actors of the entrepreneurial ecosystem was requested. This was necessary in order to ensure that the questionnaire will reach suitable candidates. In addition, it would maximize the effectiveness of data collection (the questionnaire would reach as many individuals possible) and, eventually, increase the response rate.

| Dimensions | Factors | Supporting Literature |
|------------------------------------|--------------------------------------|--|
| A. Entrepreneurial Intentions | A.1. Personality | Global Entrepreneurship Monitor, 2014; Guerrero and Urbano, 2014; Kibler et al., 2014; McClelland, 1961 |
| | A.2. Perceived Behavioral Control | |
| | A.3. Social Legitimacy / Role Models | |
| B. Entrepreneurial Motives | B.1. Pull Motives | Cardon et al., 2013; Global Entrepreneurship Monitor, 2014 |
| | B.2. Push Motives | |
| C. Entrepreneurial Opportunities | C.1. Opportunities Sources | Global Entrepreneurship Monitor, 2014; Kibler et al., 2014; Korunka et al., 2003 |
| | C.2. Opportunities Perception | |
| D. Resources, actions and behavior | D.1. Human Capital | Criaco et al., 2014; Delmar and Shane, 2003; Global Entrepreneurship Monitor, 2014; Kibler et al., 2014; Korunka et al., 2003; van Gelderen et al., 2005 |
| | D.2. Social Capital | |
| | D.3. Regulations / Institutions | |
| | D.4. Behavior | |
| | D.5. Actions | |
| E. Firm performance | | Kibler et al., 2014; van Gelderen et al., 2005 |

Table 1. The questionnaire of the study

The questionnaire was sent to a number of stakeholders of the entrepreneurial ecosystem, accompanied by information regarding the purpose and scope of the survey and with the request to address it to fitted candidates. The following categories of government and private organizations were contacted: (a) Start-up and entrepreneurship associations, (b) Start-up incubators and accelerators, (c) Collaboration workspaces, (d) Innovation and entrepreneurial units of the major Greek universities, (e) Online portals and magazines dealing with start-ups and entrepreneurship, (f) Venture capitalists, (g) Online start-up communities, (h) State-supported and private initiatives for the support of entrepreneurship, (i) Non-profit organizations aiming to support entrepreneurship. Data collection was conducted between April

and June 2015. The online platform of 'Google docs' was chosen for data collection. In the end, 357 valid questionnaires were collected.

RESULTS

Factor analysis

Exploratory factor analysis was carried out to test the validity of the factors used (see Table 2). The main indicators examined are: (a) KMO test, (b) total variance explained (TVE), and (c) Cronbach's alpha. According to Malhotra (1999) and Taher *et al.* (2010), KMO must be higher than the 0,6 threshold, TVE must have values higher than 60,000 (60%), and the loadings of each variable should be bigger than 0,7. However, scores as low as 0,5 and 50%, for the KMO and TVE respectively, are considered acceptable.

The reliability of the factors was also examined by using Cronbach's alpha score. Cronbach's alpha ranges from 0 to 1, while scores higher than 0,6 mean that there is consistency and reliability in the way the factors are measured (De Vellis, 1991). The results of the factor analysis indicate that, even marginally, all the factors examined fulfill the above prerequisites.

| Dimensions | Factors | KMO | TVE | Factor Loadings (min - max) | Cronbach Alpha |
|------------------------------------|---------|-------|--------|-----------------------------|----------------|
| A. Entrepreneurial Intentions | A.1. | 0,806 | 64,448 | 0,803 - 0,803 | 0,787 |
| | A.2. | 0,788 | 68,277 | 0,736 - 0,871 | 0,840 |
| | A.3. | 0,749 | 66,988 | 0,805 - 0,840 | 0,747 |
| B. Entrepreneurial Motives | B.1. | 0,758 | 71,540 | 0,806 - 0,806 | 0,897 |
| | B.2. | 0,715 | 70,966 | 0,900 - 0,925 | 0,679 |
| C. Entrepreneurial Opportunities | C.1. | 0,708 | 77,043 | 0,653 - 0,873 | 0,892 |
| | C.2. | 0,775 | 92,967 | 0,891 - 0,891 | 0,796 |
| D. Resources, actions and behavior | D.1. | 0,623 | 74,220 | 0,661 - 0,767 | 0,796 |
| | D.2. | 0,752 | 68,238 | 0,742 - 0,810 | 0,713 |
| | D.3. | 0,696 | 83,574 | 0,645 - 0,801 | 0,702 |
| | D.4. | 0,721 | 61,261 | 0,612 - 0,755 | 0,756 |
| | D.5. | 0,661 | 67,886 | 0,837 - 0,871 | 0,863 |
| E. Firm performance | | 0,698 | 68,336 | 0,747 - 0,890 | 0,777 |

Table 2. Factor Analysis

Descriptive statistics: entrepreneurial intentions

Respondents have a moderate preference towards riskier or challenging tasks that may seem impossible to others (mean = 3,38 and 3,71 respectively), avoiding at the same time extreme situations of excessive or no risk (mean = 4,17). Moreover, Greek founders express an inclination towards having control over various situations, something which is expressed by the preference for a personal, rather, than shared responsibility (mean = 3,71) and the notion that hard work outweighs luck (mean = 3,67).

The second interesting finding, which is in accordance with high devotion and self-confidence, is the relatively low fear of failure (mean=2,50). This result may seem unexpected, at first glance, since it

sounds to be in contradiction with the economic context of Greece. On the other hand, the sample of the study consists of conscious entrepreneurs, which are probably aware of the dangers they are facing. Overall, these results verify previous studies regarding the (often excessive) confidence of entrepreneurs.

Moreover, empirical results verify the existence of strong family ties within Greek businesses (a characteristic of Southern European families), and also, the acceptance of the traditional role of self-employment within the context of the Greek family. On the other hand, the status of the successful entrepreneur, as perceived by society and media, is not as high as it was expected. A possible explanation is that, traditionally, the Greek model of entrepreneurship that enjoyed high status and respect was different (e.g. doctors, lawyers, engineers, etc.). The focus of the survey has been, mostly, on innovative entrepreneurship; therefore, participants did not seem to recognize the social legitimacy that once existed.

| | Mean | S.D. | | Mean | S.D. |
|---|------|------|--|------|------|
| Difficulty of Tasks | 4,17 | 0,69 | Practical Details | 3,18 | 1,07 |
| Need for Success vs. Avoidance of Failure | 4,13 | 1,06 | Control Process | 3,71 | 0,94 |
| Competition with others | 3,83 | 0,95 | Do Anything to Succeed | 4,33 | 0,69 |
| Personal vs. Shared responsibility | 3,71 | 0,90 | Fear of Failure | 2,50 | 1,05 |
| Uncertainty vs. Certain outcomes | 3,38 | 1,00 | Society and the role of entrepreneurship for the economy | 2,87 | 0,98 |
| Calculated vs. Excessive Risks | 4,17 | 0,80 | Status and Respect | 3,33 | 1,15 |
| Impossible Tasks | 3,71 | 1,21 | Entrepreneurship in the media | 3,50 | 1,27 |
| Full Life Control | 3,30 | 1,02 | Family Support | 3,79 | 1,12 |
| Hard Work vs. Luck | 3,67 | 0,90 | Friends' Support | 3,96 | 0,84 |
| Knowledge, Skills, Experience | 3,79 | 1,05 | Entrepreneurs among family/friends | 3,96 | 1,25 |

Table 3. Descriptive statistics: Entrepreneurial Intentions

Descriptive statistics: entrepreneurial motives

Regarding “pull” motivation, the vast majority of responses scored a mean of above 4,20. It is, therefore, indicated that passion for invention and desire for independence are main traits of Greek entrepreneurs. The need for realizing personal ideas (mean = 4,79) and inspire others by these ideas (mean = 4,75) scored the highest, as well as the excitement for the process of founding a firm (mean = 4,67) and the desire for career control (mean = 4,83). On the other hand, the findings indicated that “push”, or necessity-driven motives, are not important for the sample of the study. More specifically, motives directly related to the effects of the financial crisis, like unemployment (mean = 1,83), or lay-offs (mean = 1,38) scored very low. These results were expected, since the target population of the present survey was innovative entrepreneurs, rather entrepreneurship as a whole, which would include also the “replicative” types. Given the current economic context (high unemployment, increased level of insecurity), it is expected that “push motives” would be important, as indicated in the

literature, when examining all types of entrepreneurship.

Moreover, the findings of the previous section (entrepreneurial intentions) are, further, supported by the results presented in Table 4, as the individuals expressed a high belief in their ideas and their intention to pursue their business ventures motivated by their passion for creativity. In conclusion, pull factors override push ones, despite the effects of the current financial crisis. Respondents were not forced, rather chose to start-up. They demonstrate determination in their venture, something which is evident by their unwillingness to abandon ship in case a satisfactory employment alternative emerges.

| | Mean | S.D. | | Mean | S.D. |
|--|------|------|--|------|------|
| Solution to a Problem | 4,46 | 0,65 | No professional alternatives | 1,83 | 1,11 |
| Improve services / products | 4,29 | 1,03 | Lay-off | 1,38 | 0,57 |
| Realize Own ideas | 4,79 | 0,50 | Secure an income | 3,54 | 1,42 |
| Create something from inception to actuality | 4,50 | 0,77 | Opportunity Cost | 2,13 | 1,24 |
| Inspire others with my ideas | 4,75 | 0,52 | Salary dissatisfaction in previous employment | 2,91 | 1,48 |
| Excitement for founding a firm | 4,67 | 0,69 | Lack of creativity in previous employment | 2,83 | 1,41 |
| Wealth | 3,79 | 0,77 | Lack of advancement opportunities in previous employment | 3,04 | 1,07 |
| Fame | 3,00 | 1,42 | Not feeling happy in previous employment | 3,33 | 1,41 |
| Success | 4,63 | 0,70 | Funding opportunity | 2,83 | 1,50 |
| Independency | 4,75 | 0,52 | Exploit timely the financial crisis | 2,63 | 1,39 |
| Career control | 4,83 | 0,38 | Exploit entrepreneurial environment | 2,46 | 1,12 |
| Boss of my own | 4,50 | 0,65 | | | |

Table 4. Descriptive statistics: Entrepreneurial Motives

Descriptive statistics: entrepreneurial opportunities

The financial crisis, by itself, does not seem to be a source of business opportunities (mean = 2,65). On the other hand, an effect of the financial crisis (dysfunctionalities in daily life) is considered as an important motive from starting a business. At the same time, advancements in technology are highly appreciated as a source of entrepreneurial opportunities. This finding was expected, taking into account that innovative entrepreneurship extensively employs technological progress. In terms of the factors that assist in the perception and exploitation of opportunities, all three factors that are examined (education, professional experience, networking) were highly scored. Similar to previous sections, the high educational and professional level of the participants is underlined. In addition, networking, as source of opportunity identification is observed, which gives a first insight about the significance of social capital (examined in the next section).

| | Mean | S.D. | | Mean | S.D. | |
|----------------------------------|------|------|--|--------------------------------------|------|------|
| Financial Crisis | 2,65 | 1,53 | | Education | 3,96 | 1,21 |
| Dysfunctionalities in daily life | 3,39 | 1,44 | | Prior experience | 4,17 | 0,99 |
| Technology advancement | 4,09 | 1,04 | | Interaction with other entrepreneurs | 3,78 | 0,87 |

Table 5. Descriptive statistics: Entrepreneurial Opportunities

Descriptive statistics: resources, actions and behavior

The high level of “human capital” of the sample is highlighted in the empirical results, in terms of education and previous professional experience. On the other hand, prior managerial experience and international experience scored low, despite the traditionally high percentage of Greeks that have studied abroad. Similarly, there is low prior experience in start-up ventures, either as founder or employee, something that was expected, taking into consideration that innovation start-ups are a relatively new concept, especially in the Greek environment.

Concerning “social capital” and perceptions about social networking, respondents highly value networking with other entrepreneurs (mean = 4,38) and, in addition, they seek developing such relationships (mean = 4,63). They also recognize the importance of participating in entrepreneurial events (mean = 4,25). Stakeholders from the entrepreneurial field, like other founders or potential investors, as well as people from the friendly environment, were reported to be the primary sources of advice. Overall, the significance of the role of social capital, as reported in the literature, is highlighted from the present survey.

Despite the progress that is reported, over the last years, in governmental support, the results of the survey showed that this progress is not perceived by Greek founders. Their dissatisfaction and disapproval is extended towards the entire Greek ecosystem. A strategic plan for the promotion of entrepreneurship is not evident (mean = 1,46), and so are any financial incentives from the state (mean = 1,50). Negative opinions were also observed regarding the provision of non-financial support from the state (e.g. mentoring, advising), the steps required to start a business, and the promotion of entrepreneurship within Greek universities (mean = 2,13). Finally, in spite of the fact that an overall mobility towards creating a start-up ecosystem is observed, the start-up ecosystem as a whole is considered badly organized (mean = 1,92). A possible explanation would be that existing networks are considered immature and lacking efficiency. In conclusion, it seems that the entrepreneurial environment is not perceived to be friendly and supportive to new founders, mostly due to the lack of government initiatives.

Moreover, the devotion the Greek entrepreneurs in their ventures is evident in terms of time (mean = 4,38), effort (mean = 4,44) and money (mean = 3,58) invested. A detailed business plan (mean = 3,71) and the collection of information about the market and the competitors (mean = 4,17) are tasks highly appreciated.

Finally, attention is given to issues regarding the structure of the firm (firm roles, existence of people from different fields, marketing activities), although for many of the participants (especially for these in the early stages of their venture) these issues are, probably, not of the immediate priority.

| | Mean | S.D. | | Mean | S.D. |
|---|------|------|---|------|------|
| Entrepreneurial / Management courses | 3,38 | 1,26 | Steps to form a business | 2,38 | 1,45 |
| Relevant prior experience | 4,00 | 1,00 | Funding opportunities in Greece | 2,38 | 1,04 |
| Managerial experience | 2,88 | 1,28 | Funding support from financial institutions | 2,00 | 0,92 |
| Start-up experience | 2,05 | 1,35 | Pool of investors | 3,21 | 1,05 |
| International experience | 2,71 | 1,55 | Funding opportunities abroad | 4,21 | 0,82 |
| Interaction with other entrepreneurs | 4,38 | 0,70 | Support Entrepreneur. Networks | 2,79 | 1,20 |
| Participation in events | 4,25 | 0,78 | Start-Up ecosystem | 1,92 | 0,96 |
| Founder as an acquaintance | 4,63 | 0,64 | Time spent in start-up activities | 4,38 | 1,00 |
| Advice from family | 2,88 | 1,55 | Effort spent in start-up activities | 4,44 | 0,70 |
| Advice from friends | 3,42 | 1,16 | Money spent in start-up activities | 3,58 | 1,40 |
| Advice from other entrepreneurs | 4,04 | 0,98 | Full-time vs. Part-time | 3,29 | 1,63 |
| Advice from potential investors | 3,29 | 1,34 | Information about market and competition | 4,13 | 0,98 |
| Advice from government institution | 2,13 | 1,21 | Business Plan | 3,71 | 1,32 |
| Advice from non-government institution | 2,54 | 1,42 | Domestic vs. International orientation | 2,61 | 1,59 |
| Strategic state plan | 1,46 | 0,65 | Discreet firm roles | 3,33 | 1,53 |
| Government financial incentives | 1,5 | 0,77 | Different profiles | 3,42 | 1,39 |
| Non-financial government support | 2,13 | 1,14 | Marketing activities | 3,25 | 1,46 |
| Promotion of entrepreneurship from universities | 2,13 | 1,21 | | | |

Table 6. Descriptive statistics: Resources, Actions and Behavior

Descriptive statistics: firm performance

The variability of the results, reflected in the mean and standard deviation scores, is justified by the wide target population of the survey, which included nascent entrepreneurs, with nothing more than a business idea and the intention to pursue it, as well as more advanced ventures that already generate profits.

| | Mean | S.D. | | Mean | S.D. |
|--------------------------------------|------|------|--------------------------------|------|------|
| Seek financing | 3,08 | 1,42 | Survival in the following year | 3,38 | 1,26 |
| Obtained financing | 2,17 | 1,32 | Revenues | 2,58 | 1,53 |
| Employee(s) not in the founding team | 2,96 | 1,76 | Profit | 2,46 | 1,33 |
| Ready-to-market product | 3,33 | 1,50 | Partnerships | 2,63 | 1,50 |
| Agreements with customers | 2,63 | 1,64 | | | |

Table 7. Descriptive statistics: Firm performance

Correlation analysis

The strongest statistical significant relationship is between the founders' behavior and the performance of the firm ($r = 0,555$). Behavior, in the present study, is measured with the "investment" the founders

make to support their venture, in terms of time, effort and money. The descriptive statistics showed that this investment is quite high (mean values ranging from 3,29 to 4,44). The strong positive correlation with performance seems to be a “reward” of the founders’ devotion to their endeavor.

Similarly, a strong relationship ($r = 0,384$) is found between activities of start-ups and firm performance. The relationship of certain start-up activities (business plan) and organizational characteristics (diversity of the founding team), has, also, been found to be linked with higher performance indicators in previous studies (Korunka et al., 2003; Delmar and Shane, 2003).

Human Capital, as expected, is also positively and significantly correlated ($r = 0,338$) with firm performance. This was, also, expected and is in accordance with existing literature that places the human capital of the founder at the top decisive factors for firm success.

| | A.1. | A.2. | A.3. | B.1. | B.2. | C.1. | C.2. | D.1. | D.2. | D.3. | D.4. | D.5. | E. |
|---------------------------------|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------|----------------|-------|
| A.1. Personality | 1,000 | | | | | | | | | | | | |
| A.2. Perceived Control | 0,307 0,009 | 1,000 | | | | | | | | | | | |
| A.3. Social Legitimacy | 0,282 0,016 | - 0,117 0,328 | 1,000 | | | | | | | | | | |
| B.1. Pull Motives | 0,079 0,512 | 0,173 0,145 | - 0,066 0,584 | 1,000 | | | | | | | | | |
| B.2. Push Motives | 0,188 0,113 | 0,212 0,073 | - 0,098 0,411 | 0,118 0,325 | 1,000 | | | | | | | | |
| C.1. Opportunities Sources | 0,218 0,066 | 0,460 0,000 | - 0,042 0,729 | - 0,106 0,376 | 0,329 0,005 | 1,000 | | | | | | | |
| C.2. Opportunities Perception | 0,349 0,003 | 0,341 0,003 | - 0,477 0,000 | 0,260 0,028 | - 0,104 0,384 | 0,162 0,173 | 1,000 | | | | | | |
| D.1. Human Capital | 0,037 0,759 | 0,018 0,880 | 0,106 0,377 | 0,292 0,013 | - 0,159 0,181 | - 0,054 0,655 | 0,000 0,999 | 1,000 | | | | | |
| D.2. Social Capital | 0,340 0,003 | 0,211 0,076 | 0,158 0,186 | 0,143 0,230 | 0,147 0,218 | 0,081 0,498 | 0,145 0,224 | - 0,414 0,000 | 1,000 | | | | |
| D.3. Regulations / Institutions | 0,118 0,323 | 0,033 0,780 | 0,352 0,002 | - 0,133 0,266 | 0,004 0,975 | 0,340 0,004 | 0,154 0,196 | 0,358 0,002 | 0,020 0,869 | 1,000 | | | |
| D.4. Behavior | 0,029 0,807 | 0,567 0,000 | 0,109 0,362 | 0,080 0,506 | - 0,036 0,765 | 0,287 0,014 | - 0,047 0,694 | 0,178 0,135 | 0,152 0,201 | - 0,106 0,374 | 1,000 | | |
| D.5. Actions | 0,079 0,508 | 0,614 0,000 | 0,040 0,740 | - 0,058 0,626 | 0,300 0,010 | 0,487 0,000 | 0,096 0,424 | 0,062 0,605 | 0,159 0,181 | - 0,019 0,877 | 0,741 0,000 | 1,000 | |
| E. Firm performance | 0,070 0,561 | 0,309 0,008 | - 0,049 0,680 | 0,139 0,244 | 0,009 0,938 | 0,307 0,009 | 0,076 0,525 | 0,338 0,004 | - 0,020 0,870 | 0,057 0,636 | 0,555 0,000 | 0,384 0,001 | 1,000 |

Table 8. Correlation analysis

Finally, the relationship of performance with Perceived Behavioral Control ($r = 0,309$) can be explained by the increased confidence of the founders, which makes them more dedicated to their work. Again, it should be noted that Perceived Behavioral Control was measured retroactively. Therefore, responds to

these questions may include a form of bias.

CONCLUSIONS

In the present study, an attempt was made in order to analyze the entrepreneurial environment in Greece. In this effort, the entrepreneurial lifecycle, proposed in the related literature, was employed. Following a thorough literature review, a questionnaire was constructed, including various factors of the entrepreneurial process, adjusted to the special characteristics of the Greek economy. Empirical data were collected using a sample of entrepreneurs residing in Greece. To ensure a high response rate, the assistance of various entrepreneurial parties in the Greek start-up ecosystem was requested (e.g. entrepreneurship units of universities and other government institutions, private start-up associations and venture capitalists). These “distribution channels” ensured that responses would be provided solely by entrepreneurs of the “Schumpeterian”, rather than the “replicative” type.

The current economic crisis had a wide impact on the entrepreneurial context of Greece. Entrepreneurship has, traditionally, been the main pillar of the Greek economy. At the same time, businesses have always been associated with self-employed professions, like lawyers or engineers, or with recurring business ideas that, mostly, targeted the domestic market. All of these businesses were largely affected when the income and, subsequently, the demand for products and services diminished, once the crisis emerged. But during the crisis, a new generation of Greek entrepreneurs emerged. This generation is quite differentiated from the traditional trends of the past. The new businesses that are created are based on innovative, prototype ideas, and could play an important role in the revival of the Greek economy.

A first finding, from the examination of the profile characteristics of start-ups, concerns the personality of their founders. Character aspects, like the need for achievement, the risk-taking propensity and the internal locus of control, are found to be high, confirming the findings of the literature. In addition, founders have a high perception regarding their abilities to succeed in their entrepreneurial tasks. These two findings form a dominant profile of high confidence, which is a common characteristic of entrepreneurs (although, this confidence could be, merely, unexplained overconfidence, which is also a common characteristic, considering the high failure rates associated with start-ups) (Hayward, *et al.*, 2006).

A second finding concerns the motives of the people that decide to start their businesses. Although the role of unemployment is controversial for the stimulation of entrepreneurship, there are literature findings that suggest that high unemployment and recessive environments can stimulate the creation of new business ventures (Gilad and Levine, 1986; Ritsila and Tervo, 2002). However, “push” motives among Greek entrepreneurs were not found to be important. High unemployment, increased lay-offs

and job dissatisfaction, were not found to be primary factors that motivated the business activity during the crisis. Moreover, the financial crisis by itself was, also, not found to directly stimulate entrepreneurial actions.

One possible explanation is that individuals that are forced to become entrepreneurs, or self-employed, out of necessity or lack of alternatives, would engage in more secure business ideas. Moreover, the target population of the study was innovative entrepreneurs, who are, generally, motivated by other types of motives. More specifically, Greek innovative entrepreneurs were found to be motivated by the so-called “pull” motivational traits. The passion for creativity, inventing and founding, or the desire for independence are dominant among Greek start-ups. The pursuit of their venture is largely associated with the belief in their skills and ideas and their ambition to succeed. Although a direct relationship of the “pull” motivation factor with firm performance was not evident in the correlation analysis, this finding is encouraging for the future success of these ventures.

The high level of human capital is another main characteristic of Greek founders, in terms of education and professional experience. A positive correlation between human capital and firm performance was established, confirming previous studies (Criaco *et al.*, 2014; Cannone and Ughetto, 2014). Despite the great outflow of young, highly educated Greeks abroad, due to the financial crisis, it is positive that the country’s human capital remains high and is mobilized towards creative activities. Moreover, the Greek founders’ personality characteristic and their “pull” motives seem to be supported by their high objective educational and professional skills.

Concerning their perceptions of social capital, Greek entrepreneurs highly evaluate the importance of networking and social capital. Empirical results revealed a tendency to seek the development of social relationships with other entrepreneurs and the participation in start-up events. The importance of networking is widely acknowledged, as it provides access to important information, positive recommendations for financing, while eliminating information asymmetry (Nicolaou and Birley, 2003; Shane and Cable, 2002).

However, in order for the beneficiary role of networking and social capital to take place, certain mechanisms need to be implemented. These mechanisms constitute the entrepreneurial ecosystem. A vast disapproval of the way that the entrepreneurial ecosystem is organized in Greece is evident from the survey results. Dissatisfaction is highly observed concerning the state’s support (financial or non-financial) towards new ventures. The issue of initial financing was highlighted from survey participants as the most important issue. Limited opportunities for government funding, in combination with unfavorable terms leave no other choice: use of personal financial resources or private funding.

Concerning business activity and behavior, the study reveals that Greek founders are highly committed

to their ventures. This is implied by the high amount of resources they spend in their start-up tasks, despite the fact that for many, it has not yet become their primary occupation. They, also, seem to highly evaluate the employment of certain business methods (e.g. business planning) and characteristics (e.g. team profiles variability) that were empirically found to be correlated with firm performance.

In conclusion, the present study found that Greek start-ups possess many of those characteristics that have been found in the relevant literature to be strongly associated with firm success. These are: (a) strong entrepreneurial personality characteristics (need for achievement, internal locus of control, etc.), (b) strong “pull” motives in combination with absence of “necessity” or “push” motives, despite the financial crisis (Korunka *et al.*, 2003). These characteristics are combined with a high level of human capital and therefore, advanced knowledge, skills and abilities, which according to many scholars (Cressy, 1996) are considered to be the greatest competitive advantage a new firm may have. In addition, the highly skilled founders, also, understand the importance of social networking for firm success, since it is a pre-requisite for establishing extended entrepreneurial networks which can benefit start-up performance.

On the other hand, the study revealed the main obstacle for start-up founders, which is the absence of a strategic plan for the promotion of innovative entrepreneurship at a government level (or, at least, the failure to implement such a plan). The importance of innovative entrepreneurship, as a source of national competitive advantage (Baumol, 2002), should be acknowledged by the Greek state. However, the government is unable to create a favorable regulatory framework for entrepreneurs and other stakeholders of the entrepreneurial process. In a period where the Greek economy needs restructuring, the support of innovation and entrepreneurship could be proven beneficial for national growth in the mid- and long-term.

The promotion of innovative entrepreneurship should become a primary part of the strategic economic planning of the country. The state itself should take a central role in the organization of the entrepreneurial ecosystem, by coordinating and providing financial and other incentives to stakeholders (entrepreneurs, venture capitalists and non-government support parties). In other words, the Greek state should create the necessary environment in order to persuade entrepreneurs to keep their activities and their businesses in the country, enhancing, in that way, the national economy.

Research Limitations

Data collection was conducted with the assistance of various stakeholders of the Greek start-up ecosystem. This approach was imposed by time limitations in the completion of the survey (3-month period), and was selected in order add credibility in terms of survey participants and achieve satisfactory response rates. At the same time, however, the use of this methodology took away the

control over the sample, and made the accurate calculation of response rates practically impossible. Ideally, a hybrid approach that would include the assistance of the stakeholders and a more direct contact with the survey participants, would allow the members of the research team to have more control over the sample.

Moreover, the sample of the study included ventures of various stages: from individuals that have simply identified an opportunity and were searching their way to make it happen, till advanced start-ups that had already generated profits. Although this approach does not affect the overall validity of the results, the different level of participants implies that each possesses different experiences and this, undeniably, had an impact on their responses.

Recommendations for future research

A first recommendation is to conduct a survey that will be spread more widely in time, in order to capture the complete lifecycle of the Greek start-ups that emerged during the financial crisis. In that way, more solid conclusions could be extracted regarding the relationship of various factors of the entrepreneurial process and firm performance.

At a second level, it would be of high interest to introduce the industry sector parameter in the investigation of the Greek entrepreneurial environment. In that way, useful information regarding the orientation of the Greek entrepreneurial scene, as well as the Greek economy in general, could be extracted. The level of entrepreneurial innovation in sectors where Greece has an acknowledged competitive advantage, like agriculture and tourism, would give an insight of additional actions and measures that the state should implement in order to make full exploitation of these resources.

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THE IMPACT OF A FINANCIAL CRISIS ON HUMAN RESOURCE MANAGEMENT AND PERFORMANCE RELATIONSHIP

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ABSTRACT

The paper explores the human resources practices and organisational performance relationship through a longitudinal study. It evolves and explores a circular framework for the relationship in a longitudinal context so as to help address the question of the direction of causality in the link. In addition, it places the relationship in a recession context and examines the impact of crisis on it, on its strength and existence by observing and assessing patterns of change. Its main findings show that interestingly no clear causality is supported in any direction. Even more, that any relationship between human resource management practices and organisational performance seems to diminish in strength when in crisis.

Keywords: *HRM and organisational performance relationship, longitudinal, financial crisis, recession*

INTRODUCTION

In an era characterised by fast changes in the economic, political, social and environmental scene, by globalization and by a great number of technological advancements, organisations seek to find factors contributing to their heterogeneity and growth so as to differentiate and remain present in the local and global arena in the long run. Because of this dynamic environment, firms do not simply have to adjust or renew their goals, strategies, policies and practices, but they also need to possess a competitive advantage towards their competitors (Chan et al., 2004). Therefore, they should focus on these business systems, functions and practices, through which firms will achieve their goals, maintain or even extend their market share, differentiate from their competitors and build a strong sustainable competitive advantage (Porter, 1998).

Researchers have claimed that the most likely resource to create a sustainable competitive advantage for a firm is its human capital and the way it is managed (Pfeffer, 1998; Barney et al., 2001). An aspect reinforced by Wright et al. (2001) who stated that what firms actually need, are valuable, unique or rare and difficult to imitate or substitute resources. Namely, bundles of tangible and intangible assets,

such as skills, knowledge, processes, policies, everyday routine and information, that contributed to improved organisational performance.

Successful firms have always considered their human capital to be their most valuable asset, as people's skills, capabilities, knowledge and working attitudes are quite dynamic and easy to develop and change (Boxall et al., 2011). However, the key to long-term organisational success seems to be the good execution of its strategies and thus the management of employees (Andersen, 2011).

Thus, HRM can play an important role in an organisation's performance, survival and success. In this context the link and the impact of HRM to Organisational Performance (OP), has been increasingly studied in the past few decades by academics, and it has been considered by many as the "Holy Grail of HRM". A growing number of studies provide consistent evidence of a positive association between HRM and OP - which exists (though less stronger) even in crisis times - proving again the need for well managed human resources in an organisation in order to achieve success (Paauwe et al., 2013).

In the literature so far, there are competing perspectives concerning the HRM-OP relationship, confirming the need for longitudinal research in the field. The aim of this study is to shed light to the HRM-OP relationship in the context of recession. More specifically, using longitudinal data, it tests the direction of causality in this relationship (forward and reverse). Second, it examines the impact of the economic crisis on the strength of the relationship between HRM and OP. Third, it looks at the effect of the crisis on HRM practices. A new developed analytic framework, a circular model of causality, including both forward and reverse impact, and even a bilateral one, (supplementing previous studies), is proposed in this study, contributing to the formation of a causality theory as that was suggested by Guest (2011). Furthermore, it supports the view that "OP can be both a determinant and an outcome of organisational behaviour" (March and Sutton, 1997) and more specifically of HRM.

HRM AND OP AN OVERVIEW

The interest in the study of HRM – OP relationship stems from the attempt to prove that HRM and in particular good HRM, actually adds value to organisations (Paauwe et al., 2013). Since 1980s, a growing number of studies attempted to examine this relationship and develop a solid and consistent theory for it (Jiang et al., 2012).

Using a great variety of HRM practices and performance measures and sometimes different definitions of HRM and OP, researchers focused mainly on attempting to explore how the two are linked. Some of them find that a set/bundle of the so called 'best HRM practices', when applied, leads to increased OP (universalistic approach) (Kohan and Osterman, 1994). Others claim that different HR practices should be applied in different organisations so as to achieve high OP (contingency approach)

(Arthur, 1994). There is also the configurational or 'fit' approach adopted by many scholars, which states that when the HRM practices fit the organisational or business strategy then enhanced performance is achieved (Becker and Gerhard, 1996). All these past studies, using a wide variety of HRM practices and OP outcomes (proximal or distal ones), and carried out in different levels and industries, managed to demonstrate that a positive association exists among HRM practices and OP (Boselie et al., 2005; Combs et al., 2006).

Being mostly cross-sectional in their nature and using mainly post-predictive designs, past studies assume that the direction of the impact in the HRM – OP relationship is essentially driven from HRM practices to OP, and that it is usually mediated by factors such as employee attitudes and employee outcomes (Bakshi et al., 2014). This type of study limits the ability to explore all the spectrum of variables involved in the HRM-OP, how they impact on it and in what direction this impact is established (Jiang et al., 2012). Moreover, cross-sectional studies do not allow for the determination of causality in the relationship and its direction (Guest et al., 2003).

More recent studies and meta-analysis in the area favour both the view that HRM practices lead to higher OP (forward causality), and the view that high performing firms tend to use more HRM practices (reverse causality) (van de Voorde et al., 2011). Several methodological (survey design, methods of data collection, response bias, statistical analysis errors and bias) and theoretical issues (definitions, choice of HRM and OP measures) in previous studies might have led to misleading or incomplete results. Overall, the nature of these studies allows for limited ability to determine causality between HRM practices and organisational performance. In order to establish the direction of causality in the HRM-OP relationship longitudinal research designs are needed (Wright et al., 2003). Several researchers have tried to investigate the possibility of reverse causality in the relationship, however without the use of full longitudinal designs (Guest et al., 2003; Wright et al., 2003). They have examined the strength of the association between HRM and OP and have also controlled for past organisational performance. Forward association has been proved, but not the reverse causality case. Other researchers (Schneider et al., 2003) have concluded that reverse causation exists in the HRM-OP relationship, by proving the impact of OP on employee attitudes, but not that of employee attitudes on HRM; and they highlighted the possibility of a full reverse causation or even a bilateral/reciprocal one. Regardless of the different approaches adopted in these studies, a confusion and lack of clarity still exists concerning the causal order of the relationship and the mediating variables influencing it (Gerhart, 2005; Katou, 2008). It still remains unclear "what causes what", namely the causal order of variables involved in what is called by several authors the "black box" of the HRM-firm performance relationship (Katou and Budhwar, 2010). Hence the direction of causality still remains to be clarified; is it forward, reverse or reciprocal? It should be explained if the high performance and effectiveness of

successful and competitive firms stands as the return on investment on managing firm's human capital or if it forms the source for this investment. Therefore, there is still a need for longitudinal research that provides the opportunity, for a more rigorous analysis of the causal relationship between HRM and OP. At this point the present study, by using longitudinal data, aims to focus and contribute in the literature by answering whether the assumption that enhanced organisational performance results in the adoption and implementation of more HRM practices across an organisation, holds some truth, changing the up-to-now view of the relationship.

HRM AND RECESSION

The role of HRM has always been to maintain a balance between employers' and employees' interest. It should be taken into account though that, crises and recession periods represent a shock for HRM regarding its operation (Zagelmeyer and Gollan, 2012). HRM has to face instability, inequality, insecurity and deregulation. A recession changes the priorities of both the employers and the employees. Therefore, the whole business model has to change, and HRM has still to keep the aforementioned balance, between employees and employers under the new circumstances, while at the same time helping the achievement of positive outcomes (financial and non-financial). Especially nowadays, in the era of globalisation, when a great number of firms operating in a country are multinationals, HRM has to face national and global forces and to manage its global workforce (Sheehan and Sparrow, 2012). This makes its role even more demanding and viable to more external shocks. During crisis HRM plays a more important role than it used to do during prosperity periods (Patro, 2013). Many times HRM's previous role has to be redefined, and priorities have to be rearranged; HRM policies have to change, but with the same outcomes. Keeping the necessary balance in the organisation during a crisis will result in effective operation and positive outcomes for the HRM function (Nilakant et al., 2013).

It seems though, that most of the firms react having a short, rather than a long term view – which is to recover and become even stronger and more competitive in the future. Crisis should also be seen as an opportunity for a necessary and fruitful change. For this reason, HRM function has been put to the forefront, as during crisis, it is responsible for holding the organisation together so as to maintain its effectiveness and sustainability, and become even stronger in the future (Verma, 2012).

Thus, stemming from the above discussion on HRM practices and OP link during crisis, it would be interesting to examine this link once more in a country severely hit by crisis, such as Greece. We examine the following

Research question: *“What happens in the relationship of HRM and organisational performance during crisis?”*

Sub-research questions: “Does the HRM-OP relationship remains effective and which direction of causality is stronger in it?”

Do firms reduce maintain or even increase investment in human capital?”

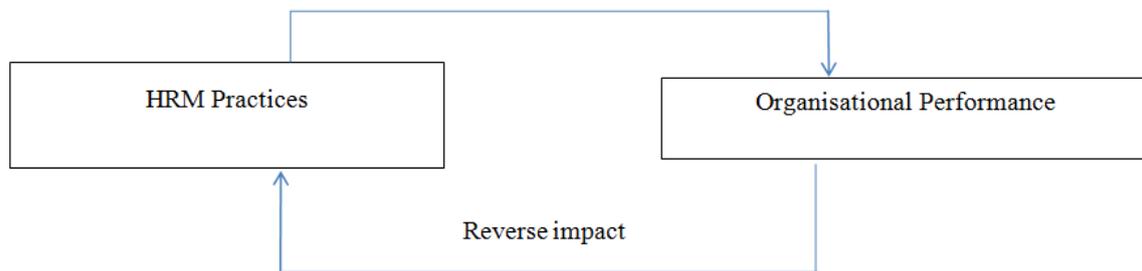
Hypotheses

(H1) *The impact of crisis has diminished the strength of the relationship between HRM practices and performance.*

(H2) *During crisis firms reduce HRM practices as being an expensive asset and as a standard reaction of cutting back? OR*

(H3) *During crisis firms consolidate, refocus and maintain or even increase investment in human capital to ensure they are in a stronger position to ride the crisis and emerge stronger?*

Figure 1: Research Framework



METHODOLOGY

Sample-Procedure

Hypotheses were tested by performing a longitudinal survey. The secondary data we used was the Greek data of the CRANET (Cranfield Network)survey, from rounds 2004 and 2008. (For more details on the CRANET Survey see the Cranfield’s project official website). First, we identified the firms that have participated in both survey rounds (2004 and 2008)in order to invite them in a third round conducted in 2012, with a new improved and reduced questionnaire (using a convenience sample). These organisations have been in total 73 (local and foreign) and they have been dispersed across all sectors of operations. For the purpose of the present paper, we focus only on 2008 and 2012 data, as this is the crisis period of interest. The respondents have been either HRM managers or HRM specialists or CEOs of the organisations in the sample, as they have been considered the most suitable ones and with better knowledge on HRM issues. Plus, they have also been the respondents in previous CRANET surveys.

The web-based survey questionnaire was developed in English and then translated and administered to Greek. The response rate for 2012, concerning the longitudinal panel dataset, reached 78% (with those firms that did not reply having either closed down, or merged with other firms in our sample mainly; only 6 have denied to re-participate in the survey).

Measures

The questionnaire administered incorporated the majority of the HRM practices used in past studies in the literature. The questionnaire is a combination of the questionnaire of CRANET for Greece and the questionnaire used by Guest et al. (2003) in their study. Where the emphasis has been put on causality and therefore on longitudinal data, only specific questions from the CRANET questionnaire have been used in our analysis. However, no scales have been combined for the purposes of the present study. The final questionnaire comprised of six parts, following the CRANET questionnaire divisions (namely HR department role, Recruitment and Selection, Training and Development, Rewards and Pay, Communication, Work Council and Trade Unions, Organisational data). In total the questionnaire has fifty (50) items, including Likert scale type questions, text entry and multiple choice questions.

However, for the purpose of the present study only those items that have been successfully used and related to organisational performance in previous studies have been used for the longitudinal analysis (10 questions – 9 measures). An adequate number, as most of the studies in the HRM-OP relationship field have used between two and thirteen practices, with a mean of five or six (Combs et al., 2006). More precisely the measures for HRM practices focus on a) recruitment, b) selection, c) flexibility, d) appraisal, e) training, f) career development, g) pay and benefits, h) work council and j) communication.

Following the logic of Jiang et al. (2012) that an additive measure of HRM practices, rather than individual practices or a system, is preferable, an additive measure/variable from the above mentioned HRM practices has been created. In order to arrive to a “Total HRM Practices Score”, the items in HRM practices categories have been scored and standardized (with a minimum of zero (0) and a maximum of one (1)). Then, all the individual firms’ scores (minimum 0 to 9 maximum) have been added up, so as to arrive to a total aggregated score for each specific year.

As for organisational performance, those are mainly financial performance indicators and labour productivity indicators. Namely, based on previous studies (Wright et al., 2003; Guest et al., 2003, Katou, 2013), as well as, on the financial data available through the ICAP (private institution for data collection) directory, we collected data on a) earnings before losses and taxes, b) gross profit margin, c) net profit margin, d) expenses, e) total assets, f) return on equity (ROE), g) sales, j) sales per employee and h) profit per employee (as labour productivity measure). However, due to inter-correlations

found, only some of them have been used for the exploration of HRM-OP link. Personnel data have been collected so as to calculate the productivity measures. Common method bias has been highly avoided, by using different sources for HRM and organisational performance data, and thus correlations between HRM and OP variables due to the same respondent has been avoided.

RESULTS

Taking into consideration that our data are longitudinal, we have to acknowledge that from one time period to another we might have attrition of the data, either due to dropouts or due to non-existence anymore of the item. Especially, in Greece, that has been hit by a severe economic crisis since 2008, we have to acknowledge that some firms of our initial sample might have either closed down, or undergone mergers and acquisitions. To avoid having a great level of attrition, for the first two rounds of the survey we have included in our study only those organisations that have participated in both rounds (2004 and 2008) of the CRANET project. Initially the firms were 73. However, since some of them do not publish their financial data, 64 were used to run the analysis for 2008. But since for 17 of them no personnel data were available, 45 companies were finally used, for our full longitudinal analysis, in order to include also the productivity indicator in our study. As far as HRM practices data are concerned no missing data/items have been detected for any of 2008 and 2012.

Changes of HRM practices, personnel size and productivity rates – Recession impact

As it was expected, HRM practices total score has decreased by almost 1.3 points, from 2008 to 2012 (table 1). Taking into consideration the fact that Greece was hit by crisis in 2008, this decreased could be justifiable. From a more in depth analysis, it appears that 84.8% of firms in the sample have decreased their investment in HRM practices, 10.9% have invested almost the same amount (+/- 0.5) and only 4.3% have increased their total investment.

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| TotalHRscore_2012 | 45 | ,29 | 8,24 | 2,1064 | 1,86650 |
| TotalHRscore_2008 | 45 | 1,33 | 6,55 | 3,4177 | 1,20260 |
| Valid N (listwise) | 45 | | | | |

Table 1: *Total HRM practices score change*

Examining the relationship of HRM practices and organizational performance

Testing for the reverse impact, from OP of 2005, 2006 and 2007 on HRM practices of 2008 (table 2), it appears that the correlations are significant as for ROE, across all three years. For the year 2005 the impact is significant, even in 0.01 level of significance. Whereas for 2006 and 2007, the correlation would most probably be significant in a larger sample as it now appears significant at 0,10 level of significance. Thus, it seems that the impact of ROE in this case needed 3 years to materialise. As for the rest OP indicators, the strength of their association to HRM practices in 2008 decreases as the time

lag shortens. Overall no significant impact exists from OP on HRM practices.

| Measures/Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|----------------------------|---------|---------|--------|---------|---------|-------|---------|---------|--------|--------|---------|-------|----|
| 1.NET PROFIT MARGIN 2005 | 1 | | | | | | | | | | | | |
| 2.NET PROFIT MARGIN 2006 | ,900**1 | | | | | | | | | | | | |
| 3.NET PROFIT MARGIN 2007 | ,222 | ,589**1 | | | | | | | | | | | |
| 4.ROE 2005 | ,085 | ,114 | ,178 | 1 | | | | | | | | | |
| 5.ROE 2006 | -,012 | ,248 | ,555** | ,639**1 | | | | | | | | | |
| 6.ROE 2007 | -,045 | ,163 | ,608** | ,659** | ,931**1 | | | | | | | | |
| 7.SALES 2005 | -,062 | -,073 | -,003 | -,070 | -,100 | -,109 | 1 | | | | | | |
| 8.SALES 2006 | -,067 | -,114 | -,121 | -,030 | -,102 | -,109 | ,443**1 | | | | | | |
| 9.SALES 2007 | -,068 | -,115 | -,128 | -,034 | -,105 | -,130 | ,555** | ,988**1 | | | | | |
| 10.SALES.PER.EMPLOYEE.2005 | -,022 | ,020 | ,151 | -,103 | -,129 | -,167 | ,611** | ,305* | ,382*1 | | | | |
| 11.SALES PER EMPLOYEE 2006 | -,068 | -,084 | -,079 | ,014 | ,006 | -,005 | -,046 | ,230 | ,211 | ,332*1 | | | |
| 12.SALES PER EMPLOYEE 2007 | -,062 | -,087 | -,081 | ,028 | -,005 | -,010 | -,036 | ,224 | ,208 | ,338* | ,997**1 | | |
| 13.TOTAL HR.SCORE 2008 | -,076 | -,090 | ,024 | ,489** | ,261+ | ,274+ | -,216 | -,078 | -,091 | -,124 | -,037 | -,078 | 1 |

*. Correlation is significant at the 0.05 level (2-tailed).
 **. Correlation is significant at the 0.01 level (2-tailed).
 +. Correlation is significant at the 0.10 level (2-tailed).

Table 2:Correlations of OP indicators of 2005-2006-2007 with afterwards HRM practices in 2008

Examining the forward relationship (table 3), we identify no possible correlation between HRM practices in 2008 and OP afterwards in 2009, 2010 and 2011. Therefore, the forward association of HRM to OP is not verified. Furthermore, it can be observed that the strength of the association between sales and HRM practices, and between sales per employee and HRM practices decreased as the time lag shortens.

| Measures/Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|--------------------------|-------|--------|--------|-------|--------|--------|--------|---------|---------|--------|-------|------|----|
| 1.TOTAL HR.SCORE 2008 | 1 | | | | | | | | | | | | |
| 2.NET PROFIT.MARGIN 2009 | -,145 | 1 | | | | | | | | | | | |
| 3.NET PROFIT.MARGIN 2010 | ,023 | ,609** | 1 | | | | | | | | | | |
| 4.NET PROFIT.MARGIN 2011 | ,151 | ,249 | ,796** | 1 | | | | | | | | | |
| 5.ROE 2009 | -,209 | ,435** | ,371* | ,238 | 1 | | | | | | | | |
| 6.ROE 2010 | -,151 | ,601** | ,582** | ,330* | ,877** | 1 | | | | | | | |
| 7.ROE 2011 | -,177 | ,199 | ,364* | ,428* | ,460** | ,565** | 1 | | | | | | |
| 8.SALES 2009 | ,070 | ,100 | ,044 | ,044 | -,033 | ,006 | ,004 | 1 | | | | | |
| 9.SALES 2010 | ,152 | -,033 | ,058 | ,059 | -,137 | -,082 | -,265+ | ,234 | 1 | | | | |
| 10.SALES 2011 | ,166 | ,038 | ,065 | ,066 | -,118 | -,052 | -,160 | ,723** | ,837** | 1 | | | |
| 11.SALES.PER.EMPLOYEE.09 | -,179 | ,015 | ,145 | ,163 | -,018 | ,013 | ,096 | ,477** | ,535** | ,535*1 | | | |
| 12.SALES.PER.EMPLOYEE.10 | -,060 | -,056 | ,052 | ,065 | -,025 | ,014 | ,090 | ,153 | ,166 | ,160 | ,043 | 1 | |
| 13.SALES.PER.EMPLOYEE.11 | ,028 | -,018 | ,125 | ,157 | ,076 | ,042 | ,294+ | -,541** | -,414** | -,377* | -,040 | ,024 | 1 |

** Correlation is significant at the 0.01 level (2-tailed).
 * Correlation is significant at the 0.05 level (2-tailed).
 + Correlation is significant at the 0.10 level (2-tailed).

Table 3:Correlations of HRM practices in 2008with afterwards OP indicators for 2009-2010-2011

The HRM-OP relationship under the impact of economic crisis

In this section, the impact of recession on HRM practices and on their relationship with organisational performance is explored. The first and most apparent impact of the crisis is that a number of organisations have seized operations or have merged with other firms (local or foreign ones). Therefore, the sample of 45 for the year 2012 has decreased to 36. (It should be mentioned that the firms that have participated in the 2012 survey were 57, out of the initial 73 sample of CRANET project). However, following again the same elimination procedure (excluding firms with no performance or personnel data available) the final sample of 36 firms was reached for 2012 analysis.

As far as the relationship between HRM practices and organizational performance is concerned first and foremost the reverse case (from OP indicators to HRM practices) is concerned, by exploring the correlation of OP in 2009, 2010 and 2011 with the HRM practices in 2012 (table 4). It seems, that apart from the correlation of sales per employee in 2009 with HRM practices in 2012 (three years' time-lag), no other significant correlation is observed. Compared to the reverse case scenario with HRM data in 2008, the significant correlation of sales per employee in 2009 with HRM practices is considerably higher. When it comes to HRM practices in 2012, and in the similar table/correlation matrix for that year the significant correlations between ROE (2009, 2010 and 2011) disappear in 2012. Therefore, it seems to be no relationship of financial performance indicators with HRM practices during recession, whereas when productivity measures are taken into account it seems to be verified (but only when there is enough time-lag for performance indicators to materialize, as for example 3 years).

| Measures/Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|--|--------|--------|-------|--------|--------|-------|---------|--------|--------|--------|------|------|----|
| 1.NET PROFIT.MARGIN 2009 | 1 | | | | | | | | | | | | |
| 2.NET PROFIT.MARGIN 2010 | ,597** | 1 | | | | | | | | | | | |
| 3.NET PROFIT.MARGIN 2011 | ,250 | ,817** | 1 | | | | | | | | | | |
| 4.ROE 2009 | ,436** | ,376* | ,243 | 1 | | | | | | | | | |
| 5.ROE 2010 | ,603** | ,583** | ,339 | ,877** | 1 | | | | | | | | |
| 6.ROE 2011 | ,197 | ,365* | ,425* | ,480** | ,581** | 1 | | | | | | | |
| 7.SALES 2009 | ,097 | ,036 | ,048 | -,042 | -,003 | ,011 | 1 | | | | | | |
| 8.SALES 2010 | -,043 | ,047 | ,061 | -,150 | -,095 | -,260 | ,225 | 1 | | | | | |
| 9.SALES 2011 | ,028 | ,053 | ,070 | -,132 | -,068 | -,153 | ,720** | ,834** | 1 | | | | |
| 10.SALES.PER.EMPLOYEE2009 | -,004 | ,132 | ,173 | -,038 | ,003 | ,121 | ,475** | ,538** | ,538** | 1 | | | |
| 11.SALES.PER.EMPLOYEE2010 | -,063 | ,044 | ,071 | -,035 | ,004 | ,098 | ,143 | ,157 | ,149 | ,036 | 1 | | |
| 12.SALES.PER.EMPLOYEE2011 | -,034 | ,108 | ,157 | ,084 | ,050 | ,291 | -,538** | -,408* | -,372* | -,035 | ,030 | 1 | |
| 13.TOTAL.HRSCORE2012 | -,002 | -,009 | -,010 | ,053 | ,058 | ,104 | -,069 | -,071 | -,099 | ,618** | ,000 | ,043 | 1 |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | | | | | | | | | |
| *. Correlation is significant at the 0.05 level (2-tailed). | | | | | | | | | | | | | |
| +. Correlation is significant at the 0.10 level (2-tailed). | | | | | | | | | | | | | |

Table 4: Correlation of OP indicators 2009-2010-2011 and HRM practices 2012

From the above analysis, no significant association has been found, not even the forward one: from HRM practices to organizational performance, nor the reverse one: from organizational performance to HRM practices. Concerning the longitudinal analysis of the data, once more in their majority correlations between HRM practices and OP have been insignificant. There have been only a few OP indicators which have correlated significantly with HRM practices, mostly when the reverse causation has been the case. In the reverse causation case there have been more significant correlations than in the forward one. As for the impact of the crisis (contextual factor), it seems that hypothesis for the reduced HRM practices holds true, as the total HR score has dropped since 2008, with a slight increase from the dropped figure of 2011 to 2012. Concerning the negative impact of the recession on the HRM practices-OP relationship, the strength of the relationship seems to diminish compared to previous years correlations (HRM 2008) and thus hypothesis H1 is confirmed as well. Concerning hypothesis H3, it can be said it holds true only for a very small number of firms being mainly foreign and in the merchandising sector.

As for the strength of the relationship, whether it increases or decreases it is again subject to the specific organizational performance indicator examined each time.

DISCUSSION

The present study has examined the relationship between HRM practices and organizational performance and its strength, using a longitudinal research design. The results of the study failed to confirm the existence of both forward and reverse causation in the HRM-OP. There have been only a few exceptions. This contradicts previous studies on the forward association of HRM practices and organisational performance, such as those of Gerhart, (2005), Katou, (2008) and Wright et al., (2003). It also contradicts the findings of the study of Katou and Budhwar (2010) and Katou (2008), who verified the forward association in Greece. A reason for the difference in results about Greece, might be the fact that Katou's previous studies have focused mainly on manufacturing industry and on SMEs, while the present study has examined the relationship of HRM and OP across all industries and in large firms. So, the forward relationship might be confirmed for small (SMEs) firms and in specific industry, in Greece. A reason for this might be the different way business and HRM systems are applied in small-medium and large firms (Guthrie, 2001).

From the two cases of direction of causation in the HRM-OP relationship, reverse causation has more cases (seven) of significant correlations among OP measures and HRM practices compared to the forward scenario from HRM to OP indicators (one). It should be also noted that from all the OP indicators used in the study, the productivity index (sales per employee) and return on investment (ROE) have been the ones with the significant correlations in the reverse case scenario (when the

impact is driven from OP to HRM practices). As for the productivity index (sales per employee) this might have come up as a result, since it is more directly related to human capital and to HRM, than financial indicators. As for ROE, one can speculate that the financial indices, not merely profitability indices, seem to be more related to HRM practices. A repetition of the study with less financial measures and more productivity or HR related measures might identify even more and stronger (significant) associations; a case suggested also by Guest (2003 and 2011).

The analysis of the data showed that firms tend to reduce HRM practices during crisis (thus H3a has been confirmed). The total HR score in 2012 decreased compared to 2008. However, the crisis seems to have played an important role, since the standard deviation has been double in 2012 compared to 2008, meaning that some of the firms have cut a lot on their HRM. This finding is in accordance with previous studies' findings (Philippakos, 2009; Sjoka, 2012), which indicate that HR department during crisis periods loses a lot of its tasks (cataclysmic effect-decimate HRM. Namely, the crisis results in the reduction of HRM practices, for firms to survive (Shen and D'Netto, 2012; Sjoka, 2012).

Therefore, the study's findings on HRM practices imply that firms in Greece seem to adopt a short-term view, which is justifiable by the cultural context in Greece (Myloni, 2002). This is a common characteristic for countries being part of the South/East cluster in Europe.

As far as the impact of the recession on HRM practices and organisational performance relationship is concerned, it seems that the strength diminishes during an economic crisis period. It seems that the view of Shin and Konrad (2014) also holds true for the present study, namely a downwards spiral appears, affecting negatively both HRM and organisational performance. Especially for the case of Greece, the present study's findings verify the findings of the study of Katou (2012 and 2013), which was also conducted in Greece, and found that the HRM-OP link losses in strength during crisis. Thus, it appears that the strength of the relationship diminishes in recession periods, no matter the size or the industry.

CONCLUSIONS - IMPLICATIONS

The present study has several significant contributions for academics as well as for practitioners.

The study adds to the field of HRM and especially in the area of HRM-OP link. From a theoretical perspective the study contributes in the appreciation of the HRM-OP relationship as it examines changes over time and during different economic cycles and especially during recession. No other study in the field examines the relationship during recession, for such a long time (Katou, 2013;Paauwe and Boselie,2005). The study shows that investment on HRM practices is affected during recession and usually decreased, with a few exceptions mainly from the manufacturing sector.

It contributes in understanding the strength of the effect of HRM on organizational performance (and the opposite) depending on the time-lag (when the strongest effect exists and how it evolves over the years and how long it persists). The main implication of the study is that it adds value to the HRM-OP link by clarifying causality and by using longitudinal data for this.

The present study also extends the body of knowledge by testing the relationship in a non US/UK context, but in a southeastern European one, in Greece, where few previous studies have focused (but in small samples and for less years) (Katou, 2013; Papalexandris et al., 2002). Thus, it adds to 'HRM in Greece' limited literature (Philippakos, 2009).

The present study, also, helps practitioners and HRM managers to understand the HRM and organizational performance theory and develop analytical skills, so as to apply the theory and the findings of this study in specific situations, according always to circumstances, and shape their own HRM policies and strategies and apply situational HRM. It also helps firms in Greece (and potential entries in the Greek market), to perform more effectively by considering the new knowledge about how HRM-OP relationship works in Greece. Our results can be used as a tool by managers for a better decision making and use of firm's resources and a more efficient implementation of HRM practices.

Overall, the present study has produced a set of interesting and novel findings regarding the HRM and organizational relationship, either by verifying or contradicting previous findings. It has also improved our understanding of HRM in Greece. It has been the first longitudinal study in the field of HRM and organizational performance relationship examining time-lags up to three years (before and after the introduction of HRM practices), the first in Greece focusing on large firms, and the first longitudinal study addressing HRM and the HRM-OP over a crisis period. The findings of this study have paved the way for future research along its lines, not only in Greece, but also in other countries.

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THE CORRELATION BETWEEN VOLATILITY AND VOLUNTARY DISCLOSURE OF FIRMS IN A MULTISTAKEHOLDER APPROACH.

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ABSTRACT

Purpose: Firstly, the aim of our paper is to analyze the relationship between the volatility business industries, measured by standard deviation, and the level of disclosure with reference to the many corporate stakeholders of a representative sample of listed companies.

In particular, we have verified the disclosure about the following stakeholders: customers, suppliers, competitors, institutions, environment, community, human capital and corporate governance and financial lenders.

For each stakeholder, we have selected a list of disclosure items and we determined an index comparing the number of items disclosed by the company to the maximum number of items identified.

Secondly, we tried to highlight the trend over time of the stakeholders' related disclosure, with reference to the years 2006, 2009 and 2012.

Design/methodology/approach: As for the first contribute (analyzing the level of disclosure with reference to the eight corporate stakeholders of listed companies), unlike previous works put in the mainflow "voluntary disclosure literature". Moreover, our study does not dwell only on the analysis of mandatory annual documents but on all corporate documents: annual and consolidated financial statements, management, sustainability and corporate governance reports.

Originality/value: To our knowledge, this is the first study that compute all the stakeholders identified at the same time, by following the "broad" approach of the Stakeholder Theory, that identifies a large number of corporate stakeholders.

Keywords: *Risk, Stakeholder theory, company disclosure, listed company.*

1 INTRODUCTION

The present study aims to verify the relationship between volatility (Campbell et al., 2001) and voluntary disclosure with reference to Italian companies, in a multi-stakeholder perspective. Economic theory suggests a number of reasons why an increase in disclosure should reduce stock volatility. First, a commonly cited benefit of disclosure is that by mitigating uncertainty, disclosure may reduce the magnitude of the impact of news about a firm's performance, which would reduce stock price volatility (Lang and Lundholm 1993; Bushee and Noe 2000). Second, simple theories of market microstructure theory suggest that by increasing the amount of public information, disclosure is likely to reduce information asymmetries in the market that result in pronounced price changes in response to changes in demand for the stock (Diamond and Verrecchia 1991).

There are various factors which influence stock price volatility. Previous research documented that disclosure (Titas Rudra 2010), firm's size, (Chang & Dong 2006) debt-equity, (Bushee & Noe 2000) book to market value (Kothari 2009), return on net worth, (Rubin & Smith 2009) firm's age, (Rubin & Smith 2009) and trading volume (Eric Girard, Mohammed Omran 2009) influence stock price volatility. Of all the factors disclosures play a key role on volatility. A full disclosure of information avoids confusion and helps investors to take decisions. Ambiguity in information or no information often leads to decisions which may not prove to be correct.

Research interest in the field of voluntary disclosure dates back to the early 1970s, stemming from the debate between social responsibility and social accounting (Gray and Stone, 1994; Azzone *et al.*, 1996).

The literature in the field of voluntary disclosure, although plentiful and varied, has never used a multi-stakeholder approach. Previous researches do not provide a quantitative analyzing of the disclosure about the different categories of stakeholders.

Firstly, the aim of our paper is to analyze the level of disclosure with reference to the many corporate stakeholders of a representative sample of listed companies. To this aim, for each company, we have built a specific disclosure index for every stakeholders selected and then we have estimated a general disclosure index.

The first contribution provided by our work is to realize, for the first time on the basis of our knowledge, a specific quantitative analysis on voluntary disclosure in Italian firms. With reference to Italy, does not exist in the literature any quantitative research that has studied the voluntary disclosure in such a wide period and for all the non-financial companies listed in Milan Stock Exchange.

Moreover (second contribution), unlike previous researches, put in the mainflow "voluntary disclosure literature", our study has extended this analysis to all the informative documents of the

entities. For this purpose, we have analyzed the individual, the consolidated financial reports (with a specific reference to the supplementary notes and notes to the financial annual report), the report on management, the sustainability report and the report on corporate governance, if present.

The remainder of the paper is structured as follows. In paragraph 2 is placed the literature review of voluntary disclosure and stakeholder theory. The paragraph 3 describes the research design, with the sample selection and the estimation of disclosure indicators. In paragraph 4 we will analyse the determinants that affect the volatility of business industry. Next, we will specify the sample examined and the methods of calculating the volatility, including defining the explanatory variables and presenting the econometric model (estimation and model data). We will then provide the results obtained in descriptive terms in terms of bivariate and multivariate analysis. Finally, the last paragraph includes the conclusions.

2 STAKEHOLDER THEORY AND VOLUNTARY DISCLOSURE: LITERATURE REVIEW

Research interest in the field of voluntary disclosure dates back to the early 1970s and is still growing. Voluntary disclosure concerns all non financial information, relate to social, environmental and governance issues. The literature in the field of voluntary disclosure, although plentiful and varied, has never used a multi-stakeholder approach. Prior researches examined the total voluntary disclosure in different countries (Nuova Zelanda, Messico, Nigeria, Svezia, Giappone, Malaysia, Spagna, Svizzera, Regno Unito, USA, Repubblica Ceca, Francia, Cina, Giordania, Italia, Kenia, Canada, Qatar), without a multistakeholder perspective. According to legitimacy theory, the literature has shown that voluntary disclosure is an important tool of legitimacy (Schipper, 1991; Roberts, 1992; Degan *et al*, 2002; Cho, C.H. and Patten, D.M. 2007; Dumay *et al*, 2015). Indeed, there is a positive relationship between the level of voluntary disclosure and firm size: large companies tend to provide more information in order to meet the needs of its stakeholders and gain greater social legitimacy.

As we said, the aim of our paper is to build a disclosure index that describes the nature, quality and extent of the information provided by each company in the sample with respect to each class of stakeholders. About how to classify and retrieve items of the disclosure, we used a multi-stakeholder approach, integrating stakeholder categories traditionally adopted.

In literature, there are many definitions for “stakeholder”, all of which related to the concept of “interest” and “subject to whom they are addressed the attention of management”. In this paper, we use the term “stakeholder”, according to a definition now shared, for any person or group

that is considered critical recipient of the business as it affects, or is affected by, the achievement of the objectives of the business organization (Freeman, 1984).

According to Preston (1990), the stakeholder concept originated in the thirties, in the practice of analysts and managers of companies, and has developed at an academic level in the debate on "stakeholder management". In 1932, General Electric identified its four major groups of "stakeholders": shareholders; employees, customers and the general public. In 1947, Johnson & Johnson identified stakeholder groups "strictly business" for any company: customers, employees, managers and shareholders. In 1950 Sears identified, in order of importance and for each company, the following stakeholders: customers, employees, communities and stockholders. In 1958 Dill also considers the category of competitors. In 1963 the Stanford Research Institute summarized the following main classes of stakeholders: shareholders; employees; customers; suppliers; creditors; collectivity.

The systematization of the stakeholder theory is due to Freeman and the authors of "stakeholder management" (Donaldson and Preston, 1995). Freeman (1984) defines "stakeholders" all the actors that influence or are influenced by the company. He, summarizing the previous contributions, classifies them as follows (see also Salomon, 1993; Freeman and Reed, 1983; Williamson, 1985): shareholders and management; customers; employees; suppliers; governments; competitors; trade associations; environmentalists; community; media; any interest group (SIG - Special Interest Group). According to the author, the first four classes are defined "internal stakeholders" and others "external stakeholders". Regardless of the distinction, the existence of stakeholders precedes the company and of its economic activity (RE Freeman, Evan WM, 1990, pp. 337-359). Subjects who matter are all those who are considered always stakeholders, regardless of the perception of the organization. Later this position, based on an ethical foundation, was partially modified by Freeman and mitigated in a paper with Evan (1990) in which he provides a more "neutral" definition of stakeholders and reduces the classes to the followings: suppliers, customers, employees, stockholders and the local community (including the management, understood as an agent of these groups).

According to the classification proposed by Clarkson (1995), it's possible to distinguish the following categories of stakeholders (see also Donaldson and Preston, 1995, p. 69): shareholders and investors (including banks); employees; customers; suppliers; governments; community; media; trade associations; political groups; any interest group (SIG - Special Interest Group). The first six classes of stakeholders are defined as primary, because they provide inputs to businesses; the others are defined as secondary, as suffering from the business activity.

Freeman gave rise the broad stakeholder theory (broad classification of stakeholders). The maximum extension of the broad stakeholder theory includes also environment and the Earth in general as stakeholders, considered as “non-human stakeholders” (Stead and Stead, 1992; Starik, 1994; Jacobs, 1997; Phillips and Reichart, 2000; Driscoll and Starik, 2004).

On the other hand, some authors restrict the definition of stakeholders, adopting a “narrow stakeholder theory”. They consider stakeholders only those individuals who in their own business come into close contact with the company. They do not deny, that is, the existence of other interests but place them in the background compared to the former. According to Campbell and Alexander (1997) stakeholders to consider the activity of enterprise are represented by the following classes: suppliers, employees, shareholders and customers. Mahon (2002) also considers other stakeholders that are, however, outline the main stakeholders, especially governments, the media and interest groups, who can choose whether or not to make contact with the company. According this theory, if you can choose to enter or not in the sphere of business are not properly stakeholders.

Table 1: categories of stakeholders in the literature review

| Author | Categories of Stakeholder |
|---|---|
| 1932 General Electric | Shareholders, employees, customers and general public |
| 1947 J&J | Customers, employees, managers, shareholders |
| 1950 Sears | Customers, employees, communities and stockholders |
| Dill (1958) | Customers, employees, communities and stockholders, competitors |
| SRI (1963) | Shareholders, employees, customers, suppliers, creditors, collectivity |
| Freeman e Reed (1983); Freeman (1984); Freeman &Evan (1990); Salomon (1993); Williamson (1985) | Shareholders, managers, customers, employees, suppliers, government, competitors, associations; SIG - Special interest group |
| Freeman & Evan (1990) | Suppliers, customers, employees, stockholders, managers, local community |
| Clarkson (1995); Donaldson & Preston (1995) | Shareholders, investors (including banks), employees, customers, suppliers, government, communities, media, associations, political groups, SIG |
| Campbell & Alexsander (1997); Mahon (2002) | Suppliers, employees, shareholders, customers |
| Starik (1994); Jacobs (1997); Phillips & Reichart (1997); Starik (2004) | Shareholders, managers, investors, customers, employees, suppliers, government, competitors, associations, SIG, environment |
| Friedman (1970); Porter (1985); Tirole (2001); Jensen (2002) | Shareholders, institutional and financial investors, managers |

The rejection of the theoretical foundations of Freeman, according to a narrow stakeholder management, is due to the objective function of enterprises, namely the increasing in the medium to long-term of company market value: the only people who are facing the business activity are those that are “contained” into the business, which are fundamental parts of businesses because they provided the main factors of production (capital) and because “they risk something”. In summary, according narrow stakeholder theory, stakeholder management and balancing of many interests conflicted with the aims of maximizing corporate value. Or rather, the balancing of many interests can take place if and only if it produces value primarily for business owners (Friedman, 1970; Porter, 1985; Tirole, 2001; Jensen, 2002). According to these authors, the actors that influence the company’s activities are mainly shareholders, lenders and managers (as agents of these entities), or those who have earned capital (or credit risk). Essentially stakeholders are those who risk their investment and that the shareholders and financial institutions. The following table includes a summary of those observations.

Taking up and synthesizing the above that, and adopting the broad approach, in this paper we refer to the following stakeholders:

- ⊗ Customers.
- ⊗ Suppliers.
- ⊗ Competitors.
- ⊗ Institutions: institutions are part of the public administration, political groups, trade unions, the government and the state in general.
- ⊗ Environment: it is understood not only as the associations of environmental protection but as a subject recipient of the business.
- ⊗ Community: we refer to the community in general, with particular reference to the community in which the activity is pursued, the associations with which it comes into contact the company and any special interest group (public utility or cultural) that each firm believes to influence or from which it is believed affected. In the present stakeholders also includes the relationships with the media.
- ⊗ Human capital and Corporate Governance: as part of this class we intend to cover any person internal company activities which are mainly employees and corporate governance.
- ⊗ Financial lenders: lenders intend to shareholders and those who contribute capital (typically banks and financial institutions).

3 RESEARCH DESIGN

3.1 Sample selection

We have selected a sample of firms that were listed on the Milan stock exchange on December 31,

2006, December 31, 2009 and December 31, 2012. To create the sample, we started from the total of firms listed as part of the Milan stock exchange in 2006. We then excluded firms listed after December 31, 2006 and those delisted during the period January 1, 2007 to December 31, 2012. After applying our rules, we obtained a sample of 144 firms and calculated the disclosure indicators in 2006, 2009 and 2012 for each.

3.2 Disclosure indicators

The disclosure index most commonly used in international studies is calculated by comparing the number of items of disclosure applied by individual companies to the total number of applicable items (Hope, 1979; Robbins and Austin, 1986; Wallace et al., 1994; Wallace and Naser, 1995; Meek et al., 1995; Cooke, 1996; Inchausti, 1997; Cammferman and Cooke, 2002).

For each stakeholder, our disclosure index is obtained by scaling a company's number of disclosure items to its total number of available items:

$$0 \leq I_j = \frac{\sum_{i=1}^n x_i}{n} \leq 1$$

The variable n is the number of items concerning the specific stakeholder; x_i is the i-element of disclosure disclosed by the j-company (elements vary from 1 to n).

Thus, for example, if 10 elements (items) must be taken into consideration for the disclosure and company X highlights only three, the index value of disclosure for that particular company is equal to 0.3 (= 3/10).

From the above, it follows that the first step in calculating the index is to determine how many items must be disclosed. As we said, we considered 8 stakeholder, for each we have selected specific items. The number of items is different for each stakeholder as representing in the following table.

Table 2: number of items for each stakeholder

| Stakeholder | N° items |
|--|----------|
| Customers | 15 |
| Suppliers | 9 |
| Competitors | 3 |
| Institutions | 10 |
| Environment | 31 |
| Community | 11 |
| Human capital and corporate governance | 25 |
| Financial Lenders | 22 |
| Totale | 126 |

The disclosure items have been found in the following documents:

- guidelines of the Global Reporting Initiative (GRI);
- ESG guideline approved by European Federation of Financial Analysts Societies (EFFAS);
- guidelines developed under CSR-SC project, prepared by the Ministry of Labour and Social Policy at the Italian Presidency of the European Union.

This resulted in identification of 126 items that, according to the sources indicated, should be included in the various corporate documents to give more complete voluntary information about social, environment and governance issues.

We then verified the presence of the items in all documents (financial statements and consolidated financial statements, management report, sustainability report and corporate governance report) from each company.

In order to estimate the disclosure index for each stakeholder, we assigned scores to each item in relation to the quality of information present in the documents examined by distinguishing between:

- ⊙ *detailed information*: information is expressed in a clear, comprehensive and systematic way about various items of interest, a score of 1;
- ⊙ *generic information*: information is provided in an inaccurate and incomplete way about the items and as such does not allow a systematic understanding of the phenomenon, a score of 0.5;
- ⊙ *no mention*: neither qualitative nor quantitative information is available about the items, a score of 0.

In substance, for each item the minimum score assigned is equal to 0 if the item is not present, and the maximum score is equal to 1 if the item is present and described in a detailed way. With reference to the general disclosure index, the minimum score is equal to 0, if the company doesn't give any information, and the maximum score is equal to 126, if the company gives detailed information about all the items.

In literature, researches generally applied a content analysis. We didn't do a content analysis. We matched the words and sentences in the documents and identified for each text whether or not the item was mentioned. An advantage of this manual approach over a computer-aided content analysis is that humans can better judge the meaning of words and phrases within a context. A disadvantage is that a manual approach is less cost-effective and flexible. In addition, human raters can make mistakes and are prone to researcher bias (Krippendorff, 2004). To avoid reliability problems, a team of three researchers built the score. The authors defined the list of items, and three research assistants conducted the analysis on the documents. After training was provided to the assistants by the authors, a preliminary check was performed on a sample of three annual documents.

4 ANALYSIS.

The sample selection strategy adopted in the previous section was instrumental in the selection of a fixed sample of 144 companies listed on the Milan Stock Exchange for the years 2006, 2009 and 2012. The sample was divided into industry sectors according to the classification of the Italian Stock Exchange. The number of companies belonging to the sector and the relative percentage are shown in Table 3.

Table 3: sample composition

| Sectors | # firms | % |
|---|---------|---------|
| <i>Auto/ Prts&Equip.</i> | 9 | 6,25% |
| <i>Building&Construct</i> | 12 | 8,33% |
| <i>Chemical</i> | 3 | 2,08% |
| <i>Commerce</i> | 2 | 1,39% |
| <i>Fashion and home products</i> | 18 | 12,50% |
| <i>Food and beverages</i> | 6 | 4,17% |
| <i>Health</i> | 5 | 3,47% |
| <i>Hi-tech</i> | 18 | 12,50% |
| <i>Industrial products and services</i> | 29 | 20,14% |
| <i>Media</i> | 10 | 6,94% |
| <i>Oil & Gas</i> | 7 | 4,86% |
| <i>Public Utilities</i> | 11 | 7,64% |
| <i>Real Estate</i> | 6 | 4,17% |
| <i>Telecommunication</i> | 3 | 2,08% |
| <i>Travel and leisure</i> | 5 | 3,47% |
| Total | 144 | 100,00% |

In this paper we want to relate the Industry volatility to a set of explanatory variables. In the remainder of this section, we will indicate which variables we have chosen for the purposes of our analysis, explaining the reasons behind this choice. In addition, for each variable choice, we will present the hypotheses that we will test in subsequent statistical analyses.

4.1 The dependent variable

The dependent variable is represented by stock volatility of Italian firms (standard deviation). It has been calculated using the average of the standard deviation of individual firms in a given industry. Standard deviation is calculated on firm's weekly equity returns for years 2006, 2009 and 2012.

4.2 The independent variables

The independent variables, at the industrial sector level, in our analysis are the following:

- ⊙ Business Industry (BI);
- ⊙ Return on Investment (ROI);
- ⊙ Unrecorded intangible assets (Q_Tobin);
- ⊙ Leverage (Lev);
- ⊙ Size (Ln_Assets);
- ⊙ Financial crisis (dt);
- ⊙ Disclosure index (I_Discl).

4.2.1 Business Industry

With reference to the business industry, we adopted a binary variable that takes the value of 1 if the firm belongs to an industry sensitive to the environment and the value zero otherwise. Sectors were identified using information taken from the Borsa Italiana database. Consistent with the classification proposed by Salama et al. (2012), we considered the following sensitive sectors: energy supply, paper and pulp, extraction and mining, contracting, chemicals, aerospace and defence, steel and auto parts, medical and telecom equipment and food processing.

4.2.2 Return on Investment

Profitability was measured by the return on investment calculated by dividing operational income by capital invested (Clarkson et al., 2011; Dawkins and Fraas, 2009). It has been calculated using the average of the ROI of individual firms in a given industry.

4.2.3 Unrecorded intangible assets

The Q indicator is considered as a proxy of unrecorded intangible assets (Laitner, Stolyarov, 2003). This is defined by dividing the sum of market equity and total liabilities by total assets (Smithers, Wright, 2002). It has been calculated using the average of the Q of individual firms in a given industry.

4.2.4 Leverage

Leverage was measured using the ratio of total financial debt to total capital.

4.2.5 Size

Regarding the size of the company, in line with the main studies on the subject (Anmad et al., 2003; Brammer and Pavelin, 2008; Clarkson et al., 2008; Cormier et al., 2005; Dawkins and Fraas, 2011; Galani et al., 2011; Monteiro and Guzman, 2010; Anbumozhy and Liu, 2009; Mukherjee et al., 2010; Stanny, 2013; Wang et al., 2012; Zarzesky, 1996; Zeng et al., 2012; Zorio, 2012), we used the natural logarithm of the total assets.

4.2.6 Financial crisis

Regarding the Financial crisis, we introduced a dichotomous variable that takes the value of 0 if is the year pre-crisis (2006) on and the value of 1 if the years are 2009 and 2012.

4.2.7 Disclosure Index

The disclosure index most commonly used in international studies is calculated by comparing the number of items of disclosure applied by individual companies to the total number of applicable items (Hope, 1979; Robbins and Austin, 1986; Wallace, 1987; Wallace et al., 1994; Wallace and Naser, 1995; Meek et al., 1995; Cooke, 1996; Inchausti, 1997; Cammferman and Cooke, 2002). The peculiarity of our study is that the disclosure is examined according to a multi-stakeholder approach.

4.3 Descriptive statistics

Table 4 shows the main descriptive statistics for all firms calculated in the three years of the survey for the nine indices analyzed. More specifically, mean, median, minimum and maximum values, standard deviation, skewness and kurtosis were calculated.

Table 4: descriptive statistics

| 2006 | | | | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|--|
| | BI | DEV_STD | DT | I_COM | I_COMP | I_CUST | DISCLOSUR | I_ENV | |
| Mean | 0.266667 | 1.057.780 | 0.000000 | 0.037628 | 0.055586 | 0.155040 | 0.133109 | 0.046923 | |
| Median | 0.000000 | 0.805965 | 0.000000 | 0.010000 | 0.027778 | 0.143103 | 0.120370 | 0.011667 | |
| Maximum | 1.000.000 | 3.224.143 | 0.000000 | 0.210000 | 0.197273 | 0.281818 | 0.279040 | 0.239091 | |
| Minimum | 0.000000 | 0.149665 | 0.000000 | 0.000000 | 0.000000 | 0.065000 | 0.071429 | 0.000000 | |
| Std. Dev. | 0.457738 | 0.824750 | 0.000000 | 0.055668 | 0.066913 | 0.058301 | 0.055625 | 0.069116 | |
| Skewness | 1.055.290 | 1.485.303 | NA | 2.177.621 | 0.885139 | 0.581879 | 1.373.686 | 1.639.333 | |
| Kurtosis | 2.113.636 | 4.343.424 | NA | 7.240.565 | 2.299.483 | 2.721.336 | 4.252.349 | 4.924.383 | |
| I_FIN I_HC_GOV I_LIST I_SUPPL LEVERAGE LNASSETS Q_TOBIN ROI | | | | | | | | | |
| Mean | 0.262817 | 0.173499 | 0.121987 | 0.107983 | 2.810.377 | 1.448.738 | 3.116.252 | 6.411.708 | |
| Median | 0.252222 | 0.165000 | 0.115556 | 0.106667 | 2.698.706 | 1.418.105 | 1.460.478 | 6.257.500 | |
| Maximum | 0.394286 | 0.308182 | 0.290000 | 0.228182 | 4.687.833 | 1.720.346 | 1.666.981 | 1.505.200 | |
| Minimum | 0.178000 | 0.084000 | 0.066000 | 0.048000 | 1.985.600 | 1.254.685 | 1.038.578 | 2.081.250 | |
| Std. Dev. | 0.066677 | 0.067233 | 0.053747 | 0.045230 | 7.422.955 | 1.482.843 | 4.106.551 | 3.449.336 | |
| Skewness | 0.560899 | 0.539732 | 2.101.826 | 1.066.361 | 1.119.239 | 0.515908 | 2.711.063 | 0.814012 | |
| Kurtosis | 2.202.091 | 2.575.070 | 7.553.067 | 4.311.569 | 3.805.411 | 2.127.214 | 9.236.177 | 3.656.611 | |
| 2009 | | | | | | | | | |
| | BI | DEV_STD | DT | I_COM | I_COMP | I_CUST | DISCLOSUR | I_ENV | |
| Mean | 0.266667 | 1.217.207 | 1.000.000 | 0.050074 | 0.065483 | 0.163840 | 0.158337 | 0.073228 | |
| Median | 0.000000 | 0.850262 | 1.000.000 | 0.028000 | 0.034000 | 0.150000 | 0.143849 | 0.035556 | |
| Maximum | 1.000.000 | 4.134.276 | 1.000.000 | 0.201818 | 0.242727 | 0.288182 | 0.311328 | 0.285455 | |
| Minimum | 0.000000 | 0.299318 | 1.000.000 | 0.000000 | 0.000000 | 0.070000 | 0.092063 | 0.006667 | |
| Std. Dev. | 0.457738 | 1.149.509 | 0.000000 | 0.055405 | 0.072758 | 0.060112 | 0.063598 | 0.085739 | |
| Skewness | 1.055.290 | 1.476.376 | NA | 1.424.314 | 1.003.699 | 0.589969 | 1.272.809 | 1.358.653 | |
| Kurtosis | 2.113.636 | 4.063.434 | NA | 4.624.529 | 3.193.464 | 2.648.635 | 3.678.354 | 3.692.720 | |
| I_FIN I_HC_GOV I_LIST I_SUPPL LEVERAGE LNASSETS Q_TOBIN ROI | | | | | | | | | |
| Mean | 0.298477 | 0.208003 | 0.153467 | 0.120302 | 3.255.211 | 1.461.843 | 1.429.443 | 1.329.385 | |
| Median | 0.278333 | 0.208333 | 0.148333 | 0.118276 | 3.177.500 | 1.420.665 | 1.217.692 | 1.960.000 | |
| Maximum | 0.454286 | 0.375714 | 0.337273 | 0.282727 | 6.032.667 | 1.716.280 | 3.745.528 | 1.047.400 | |
| Minimum | 0.194000 | 0.098000 | 0.093000 | 0.048000 | 1.792.667 | 1.236.766 | 0.822957 | -6.048.824 | |
| Std. Dev. | 0.077164 | 0.072568 | 0.063528 | 0.059277 | 1.026.304 | 1.510.215 | 0.760025 | 3.892.240 | |
| Skewness | 0.617709 | 0.621920 | 1.686.154 | 1.242.684 | 1.199.697 | 0.450548 | 2.174.545 | 1.024655 | |
| Kurtosis | 2.492.867 | 3.210.064 | 5.684.589 | 4.725.092 | 4.676.620 | 2.086.998 | 6.954.404 | 3.981.578 | |
| 2012 | | | | | | | | | |
| | BI | DEV_STD | DT | I_COM | I_COMP | I_CUST | DISCLOSUR | I_ENV | |
| Mean | 0.266667 | 0.614056 | 1.000.000 | 0.130524 | 0.087919 | 0.287441 | 0.260035 | 0.137451 | |
| Median | 0.000000 | 0.487302 | 1.000.000 | 0.099636 | 0.100000 | 0.299667 | 0.230529 | 0.081201 | |
| Maximum | 1.000.000 | 1.872.727 | 1.000.000 | 0.479339 | 0.199722 | 0.481818 | 0.499278 | 0.508798 | |
| Minimum | 0.000000 | 0.125538 | 1.000.000 | 0.000000 | 0.000000 | 0.137778 | 0.155492 | 0.010753 | |
| Std. Dev. | 0.457738 | 0.508694 | 0.000000 | 0.133952 | 0.065586 | 0.091500 | 0.097208 | 0.142874 | |
| Skewness | 1.055.290 | 1.235.547 | NA | 1.442.761 | 0.195065 | 0.445484 | 1.290.679 | 1.439.570 | |
| Kurtosis | 2.113.636 | 3.571.876 | NA | 4.209.557 | 1.866.003 | 2.769.772 | 3.723.561 | 4.116.508 | |
| I_FIN I_HC_GOV I_LIST I_SUPPL LEVERAGE LNASSETS Q_TOBIN ROI | | | | | | | | | |
| Mean | 0.451847 | 0.349813 | 0.229790 | 0.200510 | 3.488.323 | 1.466.661 | 1.140.975 | -2.532.346 | |
| Median | 0.431818 | 0.310345 | 0.195000 | 0.188889 | 3.214.250 | 1.409.053 | 1.112.296 | 1.565.000 | |
| Maximum | 0.613636 | 0.585714 | 0.531818 | 0.373016 | 7.113.833 | 1.710.587 | 1.731.831 | 4.765.000 | |
| Minimum | 0.276000 | 0.166667 | 0.116667 | 0.129259 | 1.725.333 | 1.244.595 | 0.760897 | -3.102.500 | |
| Std. Dev. | 0.095473 | 0.125548 | 0.118971 | 0.069535 | 1.340.393 | 1.509.549 | 0.260673 | 1.005.523 | |
| Skewness | -0.045819 | 0.464867 | 1.434.662 | 1.204.079 | 1.350.984 | 0.497681 | 0.852503 | -1.911.533 | |
| Kurtosis | 2.233.441 | 2.225.381 | 4.078.673 | 3.826.952 | 4.637.180 | 2.037.461 | 3.161.795 | 5.635.492 | |

I_COM=index- Comunity; I_COMPT=index -Competitors; I_CUST=index-Costumers I_ENV=index-Environment; I_FIN=index-Financial Lenders; I_ISTT= index-Institutions; I_SUPPL=index-Suppliers; I_UC_GOV= index- Human capital and corporate governance; IDISCL=index-Disclosure

Interestingly overall the disclosure index (IDISCL) took much higher average values in 2012 than in 2009 and 2006. The disclosure level however was still short of the possible maximum value of the index(= 1). More specifically, average indices were respectively equal to 0.13 in 2006, 0.16 in 2009 and 0.25 in 2012.

In the observed period 2006-2012 the indexes with the greatest growth are “Financial lenders”(I_FIN), “Human capital and governance” (I_HC_CG) and “Customers”(I_CUST). The first runs from a value of 0,28 in 2006 to a value of 0,43 in 2012; the second runs, in the same period, from a value of 0,17 to a value of 0,34 and the third runs, in the same period, from a value of 0,15 to a value of 0,29. Instead the indicators with less marked growth are: “Institutions” (I_IST) and “Suppliers” (I_Sup), with values ranging, in the same period, from 0,12 to 0,22 for the first index, and values ranging from 0,11

to 0,20 for the second. Indexes with modest growth are: "Environment" (I_ENV) and "Community" (I_COM) with values ranging from 0,04 to 0,12 for the first and values ranging from 0,03 to 0,12 for the second. The index with almost flat growth is "Competitors" (I_COMP) with values ranging from 0,04 in 2006 to 0,08 in 2012.

4.4 Model and method of estimation

Before carrying out the regressions, we verified the possible multicollinearity between explanatory variables using the VIF (*variance inflation factor*). In addition, we used the robust standard error clustered at the firm level (HAC). The regressions were performed using the OLS model. The Breusch- Pagan test attested that this model is preferable to the random effects panel model, and the Hausman test attested that the panel model was preferable to random effects with regard to the fixed-effects panel model.

To test the hypotheses, we performed a multivariate analysis by relating the indices of total disclosure with the explanatory variables identified above.

The regression can therefore be summarised in the following multivariate model:

$$\text{Std. Dev} = \alpha + \beta_1 \text{LNA} + \beta_2 \text{BI} + \beta_3 \text{ROI} + \beta_4 \text{L} + \beta_5 \text{Q} + \beta_6 \text{dt} + \beta_7 \text{I_Disc} + \epsilon [1]$$

Table 5 shows the results of the regression performed.

Table 5: multiple regression - total disclosure index: results

| Dependent variable | Standard deviation | |
|---|--------------------|-------------|
| | Coeff | p-value |
| const | 1,01365 | 0,4856 |
| Q_Tobin | 0,206962 | <0,0001 *** |
| i_Disclosure | -2,37832 | 0,0341 ** |
| LnAssets | 0,0418163 | 0,7072 |
| Leverage | 0,0222826 | 0,0418 ** |
| dt | 0,333754 | 0,26 |
| BI | -0,294757 | 0,103 |
| ROI | -0,0288877 | 0,0776 * |
| R-squared | 0,405374 | |
| Adjusted R-squared | 0,392877 | |
| P-value(F) | 2,31E-07 | |
| Akaike | 108,4541 | |
| * Statistically significant at the 10 percent level. | | |
| ** Statistically significant at the 5 percent level. | | |
| *** Statistically significant at the 1 percent level. | | |

The goodness of fit of the proposed model is presented in Table 5. The regression returns a quite high r^2 value = 0.405, $\text{adj}r^2 = 0,392$). In addition, the small difference between the r^2 and $\text{adj}r^2$ values demonstrates the adequacy of the number of explanatory variables considered. Lastly, still on a general level, it should be noted that the P-values (F) attest the significance of the models as a whole (i.e., all variables simultaneously).

The model confirm that disclosure index has a strong negative effect on the volatility.

Subsequently it was examined what type of stakeholders disclosure affects volatility, according to the previous model [1] but instead of using the general disclosure index we're going to check what kind of disclosure related to the single stakeholder has effect on volatility. To this aim we performed 8 regressions only changing the variable to disclosure that changed according to the selected stakeholders. For example, for customers:

$$\text{Std. Dev} = \alpha + \beta_1 \text{LNA} + \beta_2 \text{BI} + \beta_3 \text{ROI} + \beta_4 \text{L} + \beta_5 \text{Q} + \beta_6 \text{dt} + \beta_7 \text{I_Cust} + \epsilon$$

The results of 8 regressions are summarized in the table n. 6

Table 6: multiple regression for each stakeholder disclosure index: results

| | Coeff | p-value | | | Coeff | p-value | |
|----------------|--------------|----------------|-----|----------------|--------------|----------------|-----|
| const | 0,973831 | 0,4412 | | const | 1,1799 | 0,3163 | |
| Q_Tobin | 0,203137 | <0,0001 | *** | Q_Tobin | 0,205903 | <0,0001 | *** |
| LnAssets | 0,0656927 | 0,5252 | | LnAssets | 0,0412999 | 0,6502 | |
| Leverage | 0,026372 | 0,018 | ** | Leverage | 0,0242583 | 0,0301 | ** |
| dt | 0,398296 | 0,1339 | | dt | 0,31036 | 0,2865 | |
| BI | -0,336896 | 0,0544 | * | BI | -0,338935 | 0,0854 | * |
| ROI | -0,0276227 | 0,0713 | * | ROI | -0,033646 | 0,04 | ** |
| i Cust | -3,17784 | 0,0026 | *** | i Suppl | -3,46566 | 0,0112 | ** |
| | Coeff | p-value | | | Coeff | p-value | |
| const | 0,454153 | 0,8066 | | const | 0,778003 | 0,5108 | |
| Q_Tobin | 0,208894 | <0,0001 | *** | Q_Tobin | 0,207844 | 4,6735 | *** |
| LnAssets | 0,060588 | 0,6463 | | LnAssets | 0,0378969 | 0,3461 | |
| Leverage | 0,0215312 | 0,0562 | * | Leverage | 0,0217097 | -2,0244 | * |
| dt | 0,298204 | 0,3166 | | dt | 0,312773 | 1,0768 | |
| BI | -0,275741 | 0,1127 | | BI | -0,30999 | -1,8707 | * |
| ROI | -0,0240374 | 0,0953 | * | ROI | -0,0222298 | -1,5859 | |
| i Env | -1,96797 | 0,0657 | * | i Comu | -2,16923 | -2,3790 | ** |
| | Coeff | p-value | | | Coeff | p-value | |
| const | 1,02193 | 0,5074 | | const | 1,47461 | 0,36 | |
| Q_Tobin | 0,202141 | <0,0001 | *** | Q_Tobin | 0,211298 | <0,0001 | *** |
| LnAssets | 0,0308528 | 0,7866 | | LnAssets | -0,00359769 | 0,9759 | |
| Leverage | 0,0235012 | 0,0401 | ** | Leverage | 0,0222244 | 0,0641 | * |
| dt | 0,255596 | 0,4109 | | dt | 0,271749 | 0,3506 | |
| BI | -0,176632 | 0,3856 | | BI | -0,302774 | 0,0729 | * |
| ROI | -0,0239405 | 0,0681 | * | ROI | -0,0262118 | 0,0879 | * |
| i Comp | -3,23784 | 0,048 | ** | i Ist | -1,22781 | 0,2463 | |
| | Coeff | p-value | | | Coeff | p-value | |
| const | 1,61759 | 1,1952 | | const | 1,82402 | 0,157 | |
| Q_Tobin | 0,209472 | 4,7138 | *** | Q_Tobin | 0,212175 | <0,0001 | *** |
| LnAssets | -0,00798444 | -0,0792 | | LnAssets | -0,00836752 | 0,9331 | |
| Leverage | 0,0229974 | -2,0182 | * | Leverage | 0,0226262 | 0,0431 | ** |
| dt | 0,305385 | 1,0372 | | dt | 0,287483 | 0,2958 | |
| BI | -0,251923 | -1,3277 | | BI | -0,243528 | 0,2115 | |
| ROI | -0,0274377 | -1,7331 | * | ROI | -0,0354695 | 0,0493 | ** |
| i HC CG | -1,19594 | -1,5661 | | i Fin | -1,43812 | 0,0409 | ** |

The table shows that the stakeholder that has a strong impact on volatility is Costumers, while the disclosure of Suppliers, Community, Competitors and Financial lenders have a moderate effect on volatility. The stakeholder environment disclosure has a low impact on volatility. Finally Institutions and Human Capital and Corporate Governance they seem to have no effect on volatility.

5 CONCLUSIONS

The present study aims to verify the voluntary disclosure with reference to Italian companies, in a multi-stakeholder perspective. In particular, we have examined the documentation of all non-

financial firms listed in Milan Stock Exchange in 2006, 2009 and 2012, in order to verify, not only the level, but also the evolution throughout time of the voluntary disclosure.

For this purpose, we have verified the disclosure about the following: customers, suppliers, competitors, institutions, environment, community, human capital and corporate governance and financial lenders. The disclosure index like other indexes have all a growing trend, the only index that has a very limited growth is that of competitors. If the analysis focuses on the sectors with the best scores, they are: Public Utilities, Oil & Gas and Auto/ Parts & Equipment. These sectors are those that have developed, before others, non-financial reporting. Outside investors may view information disclosure as useful because it can influence their investment decisions. The evidence presented in this paper suggests that information disclosure may be useful to the market. Controlling for a number of other factors, such as the size and risk of the industry, we find that industry that discloses more information on key items of disclosure show lower measures of stock volatility than do industry that discloses less information. In our paper, moreover also verify what kind information affect the volatility, in particular we have ascertained that Customers, Suppliers, Community, Competitors and Financial lenders and Environment disclosure have a moderate effect on volatility while Institutions and Human Capital and Corporate Governance they seem to have no effect on volatility.

In conclusion, we must emphasize that our paper is not without its limitations. As we said, we didn't do a content analysis, but we used a manual approach and we matched the words and sentences in the documents and identified for each text whether or not the item was mentioned. An advantage of this manual approach over a computer-aided content analysis is that humans can better judge the meaning of words and phrases within a context. A disadvantage is that a manual approach is less cost-effective and flexible. In addition, human raters can make mistakes and are prone to researcher bias (Krippendorff, 2004). To avoid reliability problems, a team of three researchers built the score. The authors defined the list of items, and three research assistants conducted the analysis on the documents. After training was provided to the assistants by the authors, a preliminary check was performed on a sample of three annual documents.

Furthermore, it's important to point out that this paper is just the first step of our project. Future developments will be to study the determinants of the disclosure, in order to verify which drivers and the relationship between the voluntary disclosure released and the companies' characteristics, in a multi-stakeholder perspective. It could also be interesting if the disclosure about the different stakeholder has the same or different explicative variables.

We also will extend our analysis to other countries, in order to formulate comparisons and to understand if the companies, operating in different countries, adopt a different behaviour.

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ATTACHMENT IN RETAILING SECTOR: RETAILER OWN-BRANDS OR MANUFACTURER BRANDS?

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ABSTRACT

The aims of this study are (i) to explore the effect of brand credibility, familiarity and brand image on brand attachment and brand attitude; and (ii) to test how a grocery product category and the perception of quality of own-label brands versus manufacturer brands moderate the inter-relationship of brand credibility, brand familiarity and brand image on brand attachment and brand attitude. A survey is administered to a quota sample of Portuguese supermarket shoppers via a face-to-face personal interviewing method. Findings reveal that all relationships are significant except brand familiarity on brand attitude. Credibility and familiarity seem to be more important to enhance attachment in the case of the manufacturer brands and image in the case of retailer own-brands.

Keywords: *Credibility, Familiarity, Image, Brand Attitude, Attachment Retailer Own-Brands, Manufacturer Brands*

INTRODUCTION

Supermarket retailers have been actively pursuing innovation in order to respond to the consumers' demands for low prices and high range and quality of grocery products (Nielsen, 2014). Consumers tend to purchase increasingly own-label brands ever since the economic downturn (PLMA, 2013). In Portugal, retailers have also started to distribute their own brands within other small retail companies. Own-label brands (private labels, house brands, retailer brands, and store brands) are products that stores put their own names or brands on and they have one element in common: they are manufactured and brought to the market in much the same way as the familiar national brands (Oxera, 2010). The Nielsen (2014) study revealed that the Portuguese consumer tries to save money when shopping in supermarkets. About eight out of ten Portuguese buy (especially when it comes to grocery items) based on the price, but they also consider that the quality of retailer own-brands has improved over time. This perception is higher in Portugal than the European average, which reaches 62%. Previous studies have proven that consistency in brand positions over time, including

consistency in the attribute (e.g., quality) levels of products, increases the credibility of a brand as an indicator of a product's position, which, in turn, may decrease the perceived risk (variance of consumer quality perception), information costs, as well as increase the perceived quality (by consumers) associated with a brand (e.g., Dhar and Hoch, 1997; Erdem, Zhao and Valenzuela, 2004; Erdem *et al.*, 2006). Nevertheless, one question arises: can the strength of the influence of brand credibility, image and familiarity on the consumers' overall evaluation and attachment to a brand be affected by the grocery product category and the perception of the quality of an own-label brand versus a manufacturer brand?

Attachment theory has been the basis of a number of studies in several different fields. In 1970's the attachment theory emerged to explain the parent-child relationships (Bowlby, 1979) and continued through to adulthood and romantic relationships (Hazan and Shaver, 1994), kinships and friendships (Weiss, 1988; Trinke and Bartholomew, 1997). In the consumer research field, several studies have suggested that emotional attachment is formed between human beings and animals, places, destinations, special objects, brands (e.g., Richins, 1994; Schouten and McAlexander, 1995; Price *et al.*, 2000; Thomson, MacInnis and Park, 2005; Yuksel *et al.*, 2010; Malär, Krohmer, Hoyer and Nyffenegger, 2011; Loureiro *et al.*, , 2012).

Consumer experience is also regarded as influencing attachment to products/brands and places (e.g., Oh *et al.*, 2007; Loureiro, 2014). Experience refers to the multi-sensory, the fantasy, and the emotive aspects of a product (Hirschman and Holbrook, 1982). Customers seek cognitive development, sensations and novelty in their experiential relationship with a product/brand (Hirschman, 1984). Schmitt (1999) conceptualized experience as individual (sensory, feeling and thinking) and shared (acting and relating). Brakus, Schmitt, and Zarantonello (2009) considered brand experience as sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand's design and identity, packaging, communication, and environment. Experiences, such as tourism experiences, may lead to positive emotions and favorable memories contribute to attachment (Loureiro, 2014).

Brand experience may lead consumers to buy more without further scrutiny and contribute to consumer satisfaction (Brakus, Schmitt, and Zarantonello, 2009). Therefore, a rewarding experience with a brand, product or place will provide favorable memories, familiarity and a good brand image in the consumers' minds and may contribute to brand credibility. Previous studies have analyzed the effect of information on consumer brand evaluation and attitude moderated by brand attachment and source of credibility (e.g., Park and Lee, 2013; Chiou, Hsu and Hsieh, 2013). Veasna, Wu, and Huang (2013) found that destination source credibility and destination image can affect the tourists' perceptions of destination attachment and destination satisfaction. Nevertheless, to date, only few

studies have attempted to deal with the inter-relationships of credibility, familiarity and image on attachment or attitude. In order to contribute to bridge this gap, the current study aims (i) to explore the effect of brand credibility, familiarity and brand image on brand attachment and brand attitude; and (ii) to test how a grocery product category and the perception of quality of own-label brand versus manufacturer brand moderate the inter-relationship of brand credibility, brand familiarity and brand image on brand attachment and brand attitude.

The remainder of this article (i) provides a theoretical foundation pertaining to a brief review of previous research related to credibility, brand image, familiarity, brand attachment, and attitude; (ii) presents a research model and proposes hypotheses to be tested; (iii) describes the research methodology and reports the findings; and (iv) introduces the implications, limitations, and suggestions for future research.

THEORETICAL BACKGROUND

Brand Attitude and Brand Attachment

Brand attitude has been regarded as an evaluation of a brand, that is, an individual's internal evaluation of an object such as a brand or a product (Mitchell and Olson, 1981). Spears and Singh (2004, p. 55) pointed out that attitude towards a brand as a "relatively enduring, unidimensional summary evaluation of the brand that presumably energizes behavior". Therefore, a favorable brand attitude is regarded as a predictor of the consumers' behavior towards a brand.

Favorable brand attitudes are often associated with strong attachments, developed over time and based on interactions between an individual and an attachment object, brand or product (Baldwin *et al.*, 1996). Previous studies suggested that attachment is formed between human beings and animals, special objects, brands (e.g., Richins, 1994; Schouten and McAlexander, 1995; Price *et al.*, 2000), human brands or celebrities (Thomson, 2006), destinations and places (e.g., Gross *et al.*, 2008; Ednie *et al.*, 2010; Yuksel *et al.*, 2010). Consumers who are strongly attached to an object are generally committed to continue their relationship with it (e.g., Miller, 1997; Thomson *et al.*, 2005).

Brand Credibility

The signaling theory has been in use to study the credibility of a brand or a company. This theory is based on the assumption that a different level of information about the goods, services, or company flows between companies and consumers causing the problem of information asymmetry and consumer uncertainty about the quality of the products provided by a business or a company (Kirmani and Rao, 2000). To minimize such problem managers use signals, that is, an action or effect that the service provider or seller can use to convey "information credibly about unobservable product quality to the buyer" (Rao, Qu and Ruckert, 1999, p. 259). In this vein, brands symbolize a

company's past and current marketing-mix strategies (Erdem and Swait, 1998) and are used as signals to lessen the uncertainty of the quality of goods or services (Gammoh, Voss and Chakraborty, 2006; Erdem, Swait and Valenzuela, 2006; Baek, Kim and Yu, 2010).

The credibility of a brand as a signal is defined as "the believability of the product position information contained in a brand, which depends on the willingness and ability of firms to deliver what they promise" (Erdem *et al.*, 2006, p. 34). Brand credibility comprises two components: trustworthiness (willingness of a company to deliver what it has promised) and expertise (the ability of a company to actually deliver what it has promised) (Erdem and Valenzuela, 2004; Erdem, Swait and Louviere, 2002; Erdem *et al.*, 2006; Sweeney and Swait, 2008). Credibility depends on the cumulative effects of the previous marketing-mix actions taken by a company and so the consistency of such marketing actions, that is, the convergence and the stability among the marketing-mix elements over time, is vital to leverage the level of credibility (Erdem *et al.*, 2006).

The credibility of a brand, a company, or a place is also regarded as extrinsic cues, meaning that the price of the product, how it is advertised or communicated, or the offering of a certain warranty may act as signals that bestow credibility. Credible brands increase perceived quality and decrease perceived risk (Erdem *et al.*, 2006) and so we expect that a credible brand enhances a favorable attitude towards the brand and may contribute to strengthen the consumers' emotional attachment to that brand. Credibility regarded as extrinsic cues influences emotions which, in turn, may emotionally attract consumers to a brand. Thereby (see figure 1):

H1: Brand credibility positively influences brand attitude.

H2: Brand credibility positively influences brand attachment.

Brand Image

The Associative Network Theory explains brand image as a mental scheme formed by a network of concepts (nodes) interconnected by linkages or associations (Anderson, 1983; Morrin, 1999; Keller, 2003). Brand image is the consumers' mental representation, the impressions, beliefs, and feelings about a company or a brand (Barich and Kotler, 1991; Barich and Srinivasan, 1993).

Brand image is a complex construct that can comprise several different dimensions. Brand image is related to quality standards (van Riel *et al.*, 2001; Völckner and Sattler, 2006), reputation (Hem *et al.*, 2003) or affection (Sheinin and Schmitt, 1994), among other associations. The products' quality standards are related to its functional image and contribute to create value (Loureiro *et al.*, 2014). The pleasantness of the brand and its "personality" are regarded as an affective image and reputation is a global evaluation (e.g., Martin and Brown, 1990; Weiss *et al.*, 1999). Corporate and brand reputation is the aggregate perception of outsiders on the salient characteristics of companies or brands (Fombrun and Rindova, 2000). A good brand reputation is likely to attract more customers (Milewicz and

Herbig, 1994). In fact, not only the brand image, but also the store image and the brand experience contribute to a favorable brand attitude (Dolbec and Chebat, 2013). Therefore, we propose:

H3: Brand image positively influences brand attitude.

H4: Brand image positively influences brand attachment.

Brand Familiarity

In the consumer behavior field, several studies have been carried out pertaining to the role of brand familiarity (e.g., Park and Lessig, 1981; Hutchinson and Zenor, 1986; Kent and Allen, 1994; Laroche *et al.*, 1996; Urala and Lähteenmäki, 2003; Ares *et al.*, 2010; Benedicktus *et al.*, 2010). Product or brand familiarity refers to the visual or mental impression of a product/brand or consumer experience and can stimulate positive attitudes towards a brand and purchase intentions (e.g., Park and Lessig, 1981; Kent and Allen, 1994; Laroche, Kim and Zhou, 1996; Wang *et al.*, 2013).

A higher level of familiarity with the brands can lead to a stronger connection between the brand and its attributes (Hutchinson and Zenor, 1986), since familiar brands are less affected by competitive interference in a highly cluttered advertising environment than unfamiliar brands. Actually, in the context of online banking Maäenpää *et al.* (2008) highlighted that familiarity has a significant impact on consumer perceptions and preferences, that is, familiarity influences the customers' perceptions of internet banking service dimensions.

In this vein, a consumer who knows the brand and has favorable information about it and has had a positive experience will have a positive evaluation of that brand, will establish bonds and will feel attached to it. Thus, we propose:

H5: Brand familiarity positively influences brand attitude.

H6: Brand familiarity positively influences brand attachment.

A favorable experience and relationship between the brand and the consumers may generate familiarity, positive image, and credibility which, in turn, may enhance positive overall evaluation and reinforce the connections and bonds with brands (e.g., Jaakkola *et al.*, 2015). However, in a high competitive environment between manufacturer and retailer grocery brands, where the retailer own-brands have higher growth rates and often have exceeded the growth of the manufacturer brands (e.g., Kwon *et al.*, 2008; Oxera, 2010), the category of grocery products may strengthen the impact of credibility, image, and familiarity on the consumers' overall evaluation and their attachment to the brands.

Given that, in the grocery categories where consumers prefer the manufacturer brands or where brand label products compete successfully and innovatively to maintain their position the share of own-label brands remains low (e.g., Kwon *et al.*, 2008; Oxera, 2010), it is expected that product category may moderate the relationship between credibility, familiarity, image, attitude, and

attachment. A product perceived by consumers as being of higher quality and safer for health provided by manufacturer brands will strengthen the relationship linking credibility, familiarity or brand image and attitude and attachment. Thereby, we propose:

H7: Product category and type of brand moderate the effect of brand credibility, brand image, brand familiarity on brand attitude and brand attachment.

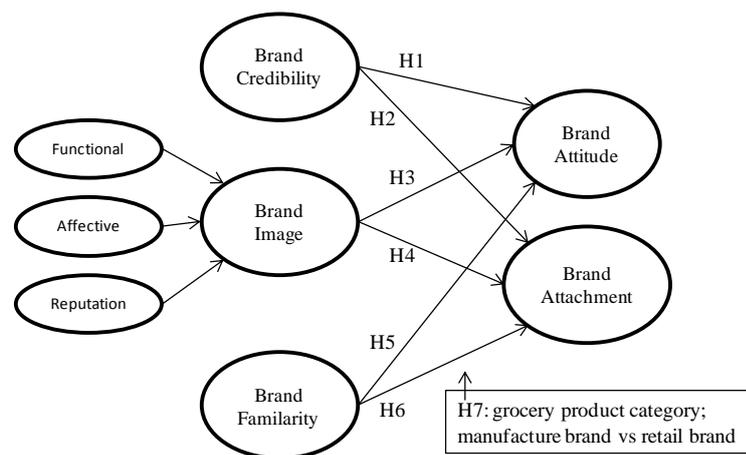


Figure 1. Proposed model

METHODOLOGY

Sample and Data Collection

The survey was conducted during the period between November 2013 and September 2014 in Lisbon, Amadora and Sintra. The three municipalities were chosen for being the most densely populated and for having the largest number of grocery retailers in Portugal. From a total of 800 questionnaires collected using a face-to-face personal interviewing method in low, medium, and high-peak shopping days, 756 were usable for data analysis. The respondents' profile is according to the last CENSUS 2011, representing a quota sample (see Table 1).

| Age and gender | Education | Nº of people in the household |
|--------------------------------------|---------------------------------------|-------------------------------|
| >64 years: 9% male; 14% female | Basic education (9 years): 28% | 1: 14.7% |
| 55 to 64 years: 6% male; 8% female | | 2: 29.6% |
| 45 to 54 years: 7.5% male; 8% female | High school education (12 years): 31% | 3: 31.6% |
| | | 4: 20.6% |

| | | |
|--|----------------------|---------|
| 35 to 44 years: 9% male; 9% female | Higher or university | 5: 2.6% |
| 25 to 34 years: 7.5% male; 9% female | education: 41% | >5:0.8% |
| 18 to 24 years: 4.5% male; 4.5% female | | |

Table 1. *Respondents' demographic profile.*

Brands considered for this study were selected based on the most representative in two product categories: rice and milk. These are two products that the Portuguese purchase very frequently, but they tend to purchase more milk from manufacturer brands and rice from retailer brands (Marktest, 2012; Nielsen, 2014). Therefore, Continente, Dia and Pingo Doce are retailer brands, whereas, Caçarola, Cigala and Saludães are manufacturer rice brands; and Agros, Mimosa and Gresso are manufacturer milk brands.

The questionnaire was created based on the literature review, and all measurement items were adapted from existing instruments. The original questionnaire was written in English (because most items were originally in English), then translated to Portuguese, and translated back to English to ensure that both questionnaires communicated similar information (Sekaran, 1983). A pilot sample (10 households) was used to ensure that the wording of the questionnaire was clear. Very few adjustments were made. A section of the questionnaire is concerned to socio-demographic data.

Although the questionnaire was developed based on instruments used in previous studies, the structure took several aspects into consideration in order to avoid common method bias. Thus, the items and questions were prepared to avoid ambiguity, namely: keeping them simple and concise, without unfamiliar terms and complex syntax (Tourangeau *et al.*, 2000). Since all constructs were measured using a Likert-type scale (except for brand familiarity), in the current study the same format of response scales was employed. In these instances, it is important to give priority to maintaining the content validity of the items because a lack of content validity poses an even bigger threat to construct validity than does common method bias (MacKenzie *et al.*, 2011). The physical distance between measures of the same construct was also taken into consideration, that is, not to have all items of the same construct right next to each other (Weijters *et al.*, 2009).

Variables and Measurement

Brand credibility was measured using six items based on Erdem, Swait e Valenzuela (2006), brand image comprises three dimensions based on Salinas and Pérez (2009), brand familiarity was measured using two questions based on Laroche, Kim and Zhou (1996). Regarding the dependent constructs, brand attachment was assessed using three items adapted from Thomson, MacInnis and Park (2005) and brand attitude was evaluated using four items based on Mitchell and Olson (1988). All the items were rated using a 5-point Likert type scale (1 – strongly disagree to 5 – strongly agree), except for brand familiarity (1-no previous experience to 5-a lot of previous experience).

Data analysis

Regarding data treatment, the PLS approach was used to test the hypotheses of this study. PLS is based on an iterative combination of principal component analysis and regression to explain the variance of the constructs in the model (Chin, 1998). PLS enabled the researchers to avoid biased and inconsistent parameter estimates, and it is an effective analytical tool to test interactions by reducing Type II errors and allowing analysis using a small sample (Chin *et al.*, 2003). PLS makes lower demands on measurement scales, sample size and residual distributions (Wold, 1985). In addition, PLS avoids inadmissible solutions and factor indeterminacy (Fornell and Bookstein, 1982). PLS algorithm minimizes the variance of all the dependent variables instead of explaining the co-variation and so the manifest variables do not have to follow normal distribution, in other words, there are no assumptions regarding the distributional form of manifest variables (Chin, 1998).

RESULTS

The proposed model of this study has a second order formative construct and the PLS path modeling allows for the conceptualization of higher-order factors through its repeated use of manifest variables (Chin *et al.*, 2003; Tenenhaus *et al.*, 2005; Kleijnen *et al.*, 2007). A PLS model should be analysed and interpreted in two stages. First, the measurement model or the adequacy of the measures is assessed by evaluating the reliability of the individual measures, the convergent validity, and the discriminant validity of the constructs. Then, the structural model is evaluated.

In order to evaluate the adequacy of the measures at the first order construct level, the reliability of the individual measures and the discriminant validity of the constructs are considered (Hulland, 1999). Item reliability was assessed by examining the loading of the measures on their corresponding construct. Items with loadings of 0.707 or higher should be accepted, which indicates that over 50% of the variance in the observed variable is explained by the construct (Carmines and Zeller, 1979). Table 2 shows that all items have an item loading higher than 0.708 (range between 0.708 and 0.921). The reliability of the constructs was mainly analyzed using composite reliability, since it has been considered a more accurate measurement than Cronbach's alpha (Fornell and Larcker, 1981). Table 2 indicates that all constructs are reliable since the composite reliability values are over 0.8 (Nunnally, 1978). The measures also demonstrated convergent validity as the average variance of manifest variables extracted by constructs (AVE) is at least 0.5, indicating that more variance is explained than unexplained in the variables associated with a given construct (see Table 2). The measurement model for the present study was estimated and presented using the full sample because comparisons of the measurement models for the sub-samples showed no statistical differences.

| <i>Construct / item</i> | Mean | Item | AVE | Composite | Cronbach's |
|-------------------------|------|------|-----|-----------|------------|
|-------------------------|------|------|-----|-----------|------------|

| | | loading | Reliability | Alpha | |
|--|-----|---------|-------------|-------|-------|
| <i>B. Attitude</i> | 3.7 | | 0.790 | 0.938 | 0.912 |
| My evaluation of the brand is positive | | 0.894 | | | |
| This is a good brand | | 0.872 | | | |
| I have a favorable evaluation of this brand | | 0.886 | | | |
| This brand is likable. | | 0.904 | | | |
| <i>B Attachment (connection)</i> | 2.9 | | 0.806 | 0.926 | 0.879 |
| I feel attached to this brand | | 0.867 | | | |
| I feel bonded to this brand | | 0.910 | | | |
| I feel connected to this brand | | 0.916 | | | |
| <i>B. Credibility</i> | 3.4 | | 0.647 | 0.916 | 0.889 |
| This brand delivers what it promises. | | 0.843 | | | |
| This brand's product claims are believable. | | 0.708 | | | |
| Over time, my experiences with this brand have led me to expect it to keep its promises, no more and no less. | | 0.834 | | | |
| This brand is committed to delivering on its claims, no more and no less. | | 0.857 | | | |
| This brand has a name I can trust. | | 0.784 | | | |
| This brand has the ability to deliver what it promises. | | 0.858 | | | |
| <i>B. Familiarity</i> | 2.8 | | 0.794 | 0.885 | 0.745 |
| How do you rate your level of familiarity with the brand? (1-no information/5- a great deal of information) | | 0.860 | | | |
| How do you rate your level of familiarity with the brand? (1-no previous experience/5-a lot of previous experience) | | 0.921 | | | |
| <i>Affective</i> | 3.5 | | 0.685 | 0.867 | 0.770 |
| This brand is nice | | 0.837 | | | |
| This brand has a personality that distinguishes itself from competitors | | | | | |
| It's a brand that doesn't disappoint its customers | | | | | |
| <i>Functional</i> | 3.3 | | 0.752 | 0.858 | 0.670 |
| The products have a high quality. | | 0.879 | | | |
| The products have better characteristics than competitors. | | 0.854 | | | |
| <i>Reputation</i> | 3.6 | | 0.682 | 0.811 | 0.536 |
| It's one of the best brands in the sector. | | 0.799 | | | |
| This brand is very consolidated in the market. | | 0.852 | | | |

| <i>Second order formative constructs</i> | <i>First-order constructs/ dimensions</i> | <i>Weight</i> | <i>t-value</i> | <i>VIF</i> |
|--|---|---------------|----------------|------------|
| <i>Brand Image</i> | Functional | 0.331*** | 16.207 | 2.390 |
| | Affective | 0.472*** | 20.582 | 2.722 |
| | Reputation | 0.296*** | 15.297 | 2.859 |

Note: Significant at *** $p < 0.001$

Table 2. *Measurement model*

At the second-order construct level, we have the parameter estimates of indicator weight, significance of weight (t-student) and multicollinearity of indicators. Weight measures the contribution of each formative indicator to the variance of the latent variable (Robert and Thatcher, 2009). A significance level of at least 0.05 (in the case of this study a significant level of at least 0.001) suggests that an indicator is relevant to the construction of the formative index (brand image), and thus demonstrates a sufficient level of validity. The recommended indicator weight is > 0.2 (Chin, 1998). Table 2 shows that all three indicators (functional, affective and reputation) have a positive beta weight above 0.2. The degree of multicollinearity among the formative indicators should be assessed by variance inflation factor (VIF) (Fornell and Bookstein, 1982). The VIF indicates how much an indicator's variance is explained by the other indicators of the same construct. The common acceptable threshold for VIF is below 3.33 (Diamantopoulos and Siguaw, 2006). Table 2 shows VIF values are < 3.33 and so the results did not seem to pose a multicollinearity problem.

Regarding discriminant validity, the square root of AVE should be greater than the correlation between the construct and other constructs in the model (Fornell and Larcker, 1981). Table 3 shows that this criterion has been met. The last part of Table 3 shows that the correlations between each first order construct and the second order construct is > 0.71 revealing that they have more than half of their variance in common, as expected (MacKenzie *et al.*, 2011).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------|--|-------|-----------|-------|------------|-------|-------|
| AVE ^{1/2} | 0.828 | 0.889 | 0.898 | 0.804 | 0.891 | 0.867 | 0.826 |
| 1. Affective | 1.000 | | | | | | |
| 2. B Attitude | 0.696 | 1.000 | | | | | |
| 3. B Attachment | 0.683 | 0.684 | 1.000 | | | | |
| 4. B. Credibility | 0.705 | 0.706 | 0.703 | 1.000 | | | |
| 5. B. Familiarity | 0.469 | 0.516 | 0.520 | 0.471 | 1.000 | | |
| 6. Funtional | 0.614 | 0.676 | 0.653 | 0.692 | 0.521 | 1.000 | |
| 7. Reputation | 0.664 | 0.663 | 0.592 | 0.611 | 0.501 | 0.629 | 1.000 |
| | Correlation between first and second-order construct | | | | | | |
| | Functional | | Affective | | Reputation | | |
| Brand image | 0.884 | | 0.935 | | 0.898 | | |

Table 3. *Discriminant validity*

Table 4 displays the full structural results. Path coefficients (standardized betas) indicate the strength of a direct relationship between constructs. The nonparametric approach (Bootstrap) was used to estimate the precision of the standardized betas (Chin, 1998; Fornell and Larcker, 1981). The path coefficients are found to be significant at the 0.05, 0.01 and 0.001 levels with signs being in the expected direction, except for the relationship B. Familiarity → B. Attitude. In the case of the product Milk the relationship B. Familiarity → B. Attachment is also not statistically significant. In this vein, the findings demonstrate that B. Credibility has a positive and significant influence on both B. Attitude ($\beta=0.304$, $t=3.025$) and B. Attachment ($\beta=0.344$, $t=3.191$). B. Image has a positive and significant effect on both B. Attitude ($\beta=0.578$, $t=5.788$) and B. Attachment ($\beta=0.337$, $t=2.607$). B. Familiarity has a positive and significant effect on B. Attachment ($\beta=0.176$, $t=2.050$), but not on B. Attitude ($\beta=0.060$, $t=0.928$).

The values of the Q^2 (the Stone–Geisser test) can be used to evaluate the predictive relevance of the model. All Q^2 are positive, confirming that the relationships in the model have predictive relevance. The model also demonstrates a high level of predictive power (R^2), because the modeled constructs explain for 77.3% of the variance in brand attitude and 57.3% of the variance in brand attachment, considering the full sample. The overall goodness of fit, proposed by Tenenhaus *et al.* (2005), reveals a good fit for the full sample and each of the divided samples. Even so, the value of GoF is the highest for the sample of Rice from manufacturer brands.

Table 4 also shows the t-values of the multi-group analysis, using the formula proposed by Chin (2004). Considering the product Rice, the relationship B. Familiarity → B. Attachment has a statistically significant difference between manufacturer brand and retailer brand. Pertaining to the product Milk, two relationships have significant differences: B. Credibility → B. Attachment and B. Image → B. Attachment

| Path | Beta full sample | Hypothesis | Beta Rice Retail brand | Beta Rice Manufacture brand | t-test multi-group analysis | Beta Milk Retail brand | Beta Milk Manufacture Brand | t-test multi-group analysis | Hypothesis |
|--------------------------------|------------------|---------------------|------------------------|-----------------------------|-----------------------------|------------------------|-----------------------------|-----------------------------|-------------------------|
| B. Credibility → B. Attitude | 0.304** | H1: fully supported | 0.352** | 0.249* | 0.765 ns | 0.293* | 0.240* | 0.386 ns | H7: partially supported |
| B. Credibility → B. Attachment | 0.344** | H2: fully supported | 0.291* | 0.334** | -0.242 ns | 0.219* | 0.470*** | -1.966* | |
| B. Image → B. Attitude | 0.578** | H3: fully supported | 0.501*** | 0.658*** | -1.092 ns | 0.581** | 0.599*** | -0.147 ns | |
| B. Image → B. Attachment | 0.337** | H4: fully supported | 0.345** | 0.182 ns | 0.777 ns | 0.540** | 0.252* | 1.967* | |

| | | | | | | | | | |
|---------------------------------|----------|---------------------|---------|----------|----------|----------|----------|-----------|--|
| B. Attachment | | supported | | | | * | | | |
| B. Familiarity -> B. Attitude | 0.060 ns | H5: not supported | 0.092ns | 0.057 ns | 0.394 ns | 0.089 ns | 0.108 ns | -0.216 ns | |
| B. Familiarity -> B. Attachment | 0.176* | H6: fully supported | 0.205* | 0.375** | -1.965* | 0.118 ns | 0.108 ns | 0.074 ns | |
| R ² B. Attitude | 0.773 | | 0.732 | 0.839 | | 0.763 | 0.809 | | |
| R ² B. Attachment | 0.573 | | 0.509 | 0.640 | | 0.610 | 0.614 | | |
| Q ² B. Attitude | 0.633 | | 0.634 | 0.668 | | 0.643 | 0.667 | | |
| Q ² B. Attachment | 0.578 | | 0.589 | 0.613 | | 0.596 | 0.610 | | |
| GoF | 0.71 | | 0.73 | 0.80 | | 0.75 | 0.78 | | |

Table 4. Structural results and multi-group analysis

CONCLUSIONS AND IMPLICATIONS

The current study attempts to contribute to the understanding of the effect of brand credibility, brand image and brand familiarity on brand attitude and brand attachment. Moreover, we also tested whether the grocery product category and the perception of quality of own-label brand versus manufacturer brand moderate the inter-relationship of brand credibility, familiarity, and brand image on brand attachment and brand attitude. The relationships between constructs emerge from previous studies, but as far as we know have not been empirically tested.

The proposed hypotheses were supported, except H5, demonstrating the role of brand image and brand credibility on the formation of a positive evaluation of a brand and creating bonds and connections. Brand familiarity contributes to reinforcing the bond and connection to a brand, but does not wield a significant effect on attitude. The affective dimension of brand image is the most relevant when it comes to shaping the brand image, followed by functional dimension. This seems to reveal that grocery customers give more importance to the pleasantness and distinctive “personality” of the brand, than to the disappointment and the quality of a brand. Nevertheless, the three dimensions capture the essence of brand image as suggested by Salinas and Pérez (2009).

Erdem *et al.* (2006) have proven that brand credibility affects the consumers' choice because it lowers risk perceptions. Sweeney and Swait (2008) showed the effect of credibility on loyalty through commitment and satisfaction. However, this study suggests brand credibility, regarded as external cues, as an important driver to develop bonds and strong connections to a brand. A grocery customer

who believes the brand's product claims and trusts the brand because it delivers what it promises is more willing to develop bonds with such brand.

Brand image seems to be more effective in influencing the favorable global evaluation of a brand than brand credibility. Therefore, the results of this study are in line with that of Salinas and Pérez (2009), where brand image exerts a significant influence on attitude. On the other hand, the experience with a brand and the knowledge about it, that is, familiarity, do not mean having a favorable evaluation about the brand. Brand familiarity may act as a buffer against the adverse impact of negative information on brands. The consumers' prior familiarity with the brand moderates the perceived crisis about a brand and the attitude towards it (Dawar and Lei, 2009). Laroche *et al.* (1996) highlighted the importance of brand familiarity as determinant of purchase intention through a positive attitude towards a brand. Nevertheless, the current study goes further and suggests that brand familiarity is more important for establishing bonds and connections towards a brand than having a really significant effect on a favorable evaluation of the brand. Moreover, a product (such as rice), considered by consumers as having similar quality in both manufacturer and retailer brands, seems to increasingly strengthen the relationship between brand familiarity and brand attachment in the case of the manufacturer brands. According to Dawar and Lei (2009) and Benedicktus *et al.* (2010), familiar brands serve as abstract associations and strong signals of quality and benefits and even act as a high-scope heuristic capable of buffering the generalized suspicion consumers may have and so are more willing to establish and maintain strong ties with customers.

Although the products from retailer brands are progressively improving their quality and such fact is recognized by customers, the fact that retailer brands are associated to a variety of product categories contributes to blur the associations in the customers' minds. Yet, a manufacturer brand is associated to a single product category or at least a short variety of products, and so the manufacturer brand is more category specific than the retailer brand. Thus, if the consumer is familiar with a brand, the neural network in the customer's mind is not so easily interconnected with other product categories and it is possible to strengthen the customer's emotional attachments to the brand.

The believability of the product information contained in a brand, which requires that customers perceive the brand as having the expertise and trustworthiness to continuously deliver what has been promised, contributes to the emotional attachment to a brand and this is particularly true in the case of manufacturer brands of product categories where customers are more concerned about the product quality such as milk. In this vein, the emotional attachment to a manufacturer brand seems to be more associated with the credibility and familiarity which generate long-term ties with a certain manufacturer brand.

Brand image appears to be more effective in establishing ties in the case of retailer brands. As mentioned by Salinas and Pérez (2009), positive image facilitates business expansion through brand extensions. Retail stores use their brand labels in several product categories; thereby, if the affectivity, functionality, and reputation of the store are favorable to customers such image can be transferred to the products in a mechanism of image extension.

The findings of the current study have theoretical implications for research on retailer and manufacturer grocery brands and customer behavior. First, we show that the familiarity with a brand does not always contribute to a significantly favorable overall evaluation of a brand. This is noteworthy because previous research pointed out the strength of direct relationship between familiarity and attitude. Second, our research is the first attempt to suggest that brand credibility and brand familiarity are more effective in enhancing the emotional attachment to a manufacturer grocery brand. Third, the image of a store may leverage the retailer brand image of grocery products in such a way that enhances the customers' attachment.

As regards to the managerial implications, grocery store managers should be aware that the growing acceptance and choice of retailer brands, despite the perceived quality, may be too associated with a time of economic crisis and the cutback of the family budget. After this period, customers may prefer the manufacturer brands, with which they are more familiar with and to which they bestow more credibility. Thereby, retailer grocery brands should not only follow the tendencies and characteristics of the products used by manufacturer brands, at the lowest price, but should also be more active on creating a product differentiation. Moreover, grocery store brand managers should be more effective in communicating the extension of the store image to the image of the products; they should develop a consistent and differentiating brand image. From the point of view of the manufacturer grocery brands, managers should be directed towards continuous innovation, being the leaders in innovation and introducing products by skimming, even if the market share is lower.

Regarding limitations and further research, the study has several limitations that could potentially represent opportunities for further research. Firstly, the data was collected in a country struggling in an economic crisis, Portugal, which limited the generalization of the findings. Therefore, the study should be replicated not only in other counties, but also at different time periods (longitudinal approach). Secondly, Thomson *et al* (2005) identified a higher-order emotional attachment construct consisting of three factors: affection, passion, and connection. However, in this study brand attachment was measured using only the connection factor because it is the factor more associated with bonds and ties. Even so, future research should test brand attachment considering the other two factors. Thirdly, the product categories and brand names were selected given that they are the most purchased. Future studies should consider other product categories.

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SOME ANTECEDENTS AND OUTCOMES OF PASSIONATE DESIRE FOR FASHION CLOTHES AND ACCESSORIES

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ABSTRACT

Fashion trends and consumer-fashion brand relationships have been subject of study for both researchers and practitioners. Yet, as far as we know, there is a lack of analysis of the process behind the creation of a fashion trend, in previous studies. Therefore the main goal of this research was to start to understand the process behind the creation of a fashion passion for clothes and accessories, particularly to understand in what extend do narcissism and social values influence passionate desire and then, the way passionate desire influences positive word-of-mouth and affective commitment. Findings reveal that Social values have a positive and significant direct effect on Passionate desire. Yet, the strength of the relationship between Narcissism and Passionate desire is weak. The strength of the relationship between Passionate desire and word-of-mouth is weaker than the relationship between Passionate desire and Affective commitment. The current study also provides managerial implications and suggestions for further research.

Keywords: *passionate desire, narcissism, affective commitment, word-of-mouth, fashion brands*

INTRODUCTION

Karl Lagerfeld once said "Buy what you don't have yet, or what you really want, which can be mixed with what you already own. Buy only because something excites you, not just for the simple act of shopping." This sentences contain the relevance of emotional relationship that a fashion brand should create within its consumers. We even point out the passionate desire to buy and use fashion products, such as clothes and accessories. The passion for fashion may enroll consumers on being affectively committed, an antecedent of loyalty. The passionate desire could also be a lever to recommend and give suggestions to others. But, what could be the drivers for such passionate desire? The current study analyze two: narcissism and social values.

In this vein, the main goal of this research was to start to understand the process behind the creation of a fashion passion for clothes and accessories, particularly to understand in what extend do narcissism and social values influence passionate desire and then, the way passionate desire influences positive word-of-mouth and affective commitment.

The remainder of this article presents the theoretical background, the hypotheses and the proposed model. These are followed by the methodology and the results. Finally, conclusions and implications are presented and suggested.

THEORETICAL BACKGROUND

Passionate desire

Passion and love have been analyzed from two perspectives: emotion (single, specific feeling akin to affection) (Richins, 1997) and relationship (can last for decades and involves numerous affective, cognitive, and behavioral experiences) (Fournier, 1998). Several typologies of emotions have been proposed. Some of them consider love as a basic emotion (e.g., Arnold, 1960; Parrott, 2001), but for others is a human feeling resulting from joy and trust (e.g., Plutchik, 2011).

One of these approaches is proposed by Sternberg (1986), who suggests a triangular theory of love. The interpersonal triangular theory of love adapted to the consumption context considers that brand love is made by dimensions such as passion, intimacy, and commitment (e.g., Kamat and Parulekar, 1997; Keh, Pang, and Peng, 2007). Ahuvia (1993) suggests that consumers can have a real feeling of love toward an object and conceptualizes the love feeling as having two dimensions: the real and the desired integration.

Based on the consumer-brand relationship paradigm, Carroll and Ahuvia (2006) indicate that brand love is composed of five dimensions: passion, attachment, positive evaluation of the brand, positive emotions in response to the brand, and declaration of love for the brand. Here, passion is regarded as the “desire to invest mental and emotional energy in increasing or maintaining the extent to which an object is integrated into the self” (Ahuvia, Batra and Bagozzi, 2009, p. 353).

Albert, Merunka, and Valette-Florence (2008) propose two main components of brand love that are also to be found in the interpersonal love literature. The seven first order dimensions (idealization, pleasure, intimacy, long duration relationship, dream, memories, uniqueness (Albert et al., 2008). The seven factors offer a second order solution with two factors labelled passion and affection. Albert et al. (2008) using exploratory correspondent analysis followed by cluster analysis found eleven dimensions underlie brand love: passion, a long duration relationship, self-congruity, dreams, memories, pleasure, attraction, uniqueness, beauty, trust (satisfaction), and a willingness to state this love. However, Albert et al. (2008, p. 1073) note that they did not find the aspects of attachment and commitment.

Lately, Batra, Ahuvia, and Bagozzi (2012) try to bridge the gaps of previous studies and propose the brand love higher-order prototype model which comprises seven latent constructs: self-brand integration (current and desired self-identity, life meaning, intrinsic rewards, and frequent thoughts); passion-driven behaviors (willingness to invest resources, passionate desire to use, involvement);

positive emotional connection (intuitive fit, emotional attachment, positive affect); anticipated separation distress; overall attitude valence; attitude strength (certainty and confidence).

In the relational perspective passion emerges as a dimension of a love toward a brand (name, term, design, symbol, according to AMA), an idea, or an object or thing. An individual that is passionate about a brand and hence demonstrates passion-driven behaviors reflects a strong desire to use the brand or the object in question; he/she will invests time and money in that brand and frequently interacts with it. According to Carroll and Ahuvia (2006) the love for a brand involves the “*degree of passionate emotional attachment a satisfied customer [develops] for a particular trade name*”. Love and passion are at the core of a strong brand relationship, meaning infatuation, selfish, and even obsessive dependency.

Consumers passionate about fashion will enjoy to express their inner-self through fashion objects and brands. Individuals who enjoy to exhibit the clothes and accessories and be admired for their choices will enhance the passion for fashion and the willingness to communicate their consumption experience and suggestions.

Narcissism

In Western cultures narcissism is regarded as a focus on individualism and concern for individual goals of wealth and fame (Fukuyama, 1999; James, 2007). Lasch (1991) characterizes the culture of narcissism by an “entitlement mentality”, which comprises an unjustified sense of privilege. Therefore, consumers feel the compulsion of consumption to feed their self-esteem and self-image. Narcissists are, thus, concerned about reaching individual goals, rather than on communal ones. They also carefully select partners who will improve their image instead of seeking partners who improve warmth and intimate rewards. Narcissists tend to do not involve and commitment themselves in relationships, since the focus is on the individual. This may even reflect playing games with romantic partners, by being superficially charming, in order to attempt to enhance status (Lambert and Desmomid, 2013). In extreme cases, narcissists may be aggressive if that’s what it takes to achieve their goals and objectives. So, narcissists tend to value their inner-self more than they value others, such as partners, with whom they have a relationship. Narcissism may be defined as an egocentric, self-aggrandizing, dominant, and manipulative orientation (Sedikides et al., 2004; Morf, Horvath and Torchetti, 2011).

Cisek *et al.* (2014) argue that narcissists are addicted to self-esteem as well as striving for self-enhancement. Their self-dignity lay on the admiration that they receive from others rather than on building long-lasting relational bonds. They are exhibitionists who value vanity and have a relentless need to validate their self-beliefs in front of others (Wallace and Baumeister, 2002). Additionally, they show a desire for material possessions (Cisek *et al.*, 2014) and prefer products that positively

distinguish them, that is, tend to search for products that are scarce, unique, exclusive, and customizable (Lee, Gregg and Park, 2013). Particularly, narcissists enjoy to display material possessions, such as fashionable clothes, (Sedikides, Cisek and Hart, 2011). New and impressive-looking clothes are used as an extended self and not more reliable and practical clothes (Belk, 1988). Therefore, consumers who enjoy to show impressive-looking clothes, desire for material possession, new trends, be the center of attention, and admire their look in the mirror should be passionate for fashion (see Figure 1).

H1: Narcissism has a positive effect on Passionate Desire to use fashion products (clothes and accessories).

Social influence

Solomon *et al.* (2006, p.113) define value as “a belief about some desirable end-state that transcends specific situations and guides selection of behavior”. Consequently, values play an important role in the consumption process. Individuals may use fashionable clothes to assert their professional position or demonstrate their social status, or even to classify or differentiate themselves from others (Li *et al.*, 2012; Loureiro and De Araújo, 2014). Individuals may buy clothes and other products mostly to impress others, (Lawry *et al.*, 2010). Therefore, social values are related to what others say and reflect the participation of the community, the group of belonging and society.

Fashion industry is associated to conspicuous consumption. The term coined by the sociologist Veblen emerges to consider a type of consumption connected to the symbolic, unnecessary, that goes beyond the utilitarian. Conspicuousness of a product is related to its susceptibility to the reference group, to be displayed in public (Bearden and Etzel, 1982). Thus, social “needs” and the potential prestige that a fashionable clothe may confer to an individual (Kort *et al.*, 2006) are related to the feeling of recognition within their social group.

The importance of the others, the feeling of being accepted may contribute to the passion for fashion. Fashion items or products that are accepted by others, friends and groups of belonging provide more incentive for the desire to have it, desire to have and use.

Therefore, such fashion products seem likely to enjoy more passion from consumers.

H2: Social values have a positive effect on Passionate Desire to use fashion products (clothes and accessories).

Affective Commitment

Although commitment has been considered as a core construct in consumer-brand relationship, love and commitment are two distinct dimensions (e.g., Fehr, 1988; Chang and Chieng, 2006). Commitment happens when mutual motivation and efforts exist, therefore ensuring and maintaining an on-going

relationship, which is defined as very important for all parties (Morgan and Hunt, 1994; Fullerton, 2003; Stanko et al., 2007; Bobot, 2011).

Commitment is an enduring desire to maintain a valued relationship (De Wulf, Oderkerken-Schröder and Iacobucci, 2001; De Ruyter, Moorman, and Lemmink, 2001; Morgan and Hunt, 1994), which reflects a psychological connection, a voluntary willingness and intention to remain in and develop efforts toward maintaining a relationship (De Wulf, Oderkerken-Schröder and Iacobucci, 2001; Palmatier et al. 2008). Different motivations can underlie this intention to maintain a relationship, thus leading to two different types of commitment, one more economic, designed calculative commitment and another more emotional and called affective commitment. The calculative one captures the more rational dependence due to the difficulty to change to other brand or firm or switching costs (Fullerton, 2003; Anderson and Weitz 1992; Dwyer, Schurr, and Oh, 1987). Affective commitment reflects the affective nature of the relationship between the individual and the product or brand (Gruen, Summers and Acito, 2000). Thus, we propose:

H3: Passionate Desire to use fashion products (clothes and accessories) has a positive effect on affective commitment.

Positive word-of-mouth

Consumers tend to buy products with images consistent with their mental representation of self and with in-group (group of reference) (Escalas and Bettman, 2003, 2005). Possessions allow consumers to extend, expand, and strengthen their sense of self (Belk, 1988). When consumers develop a favorable relationship with a brand or object, feel positive emotions, a passion, then they are willing to talk about and recommend it to others, or even re-buy the brand (e.g., Zeithaml, Berry and Parasuraman, 1996; Carroll and Ahuvia, 2006; Thomson *et al.*, 2005). Nevertheless, individuals are spreading word-of-mouth about products, brands, ideas in order to be consider experts near their family and friends, or want to be viewed as experts in the market and influencing others or gaining social status (e.g., Richins, 1983; Feick and Price, 1987).

Nowadays, after the advent of Internet, individuals have several possibilities to express their ideas and opinions about product, brands, objects, using blogs, Social Networking Sites (SNS), MySpace, YouTube and others. Individuals are using these platforms to spread their self-expression, exposing the way they are through posts and photos many times using the brands to be more explicit or as a means of communicating their interests and attracting attention. The way consumers desire to self-express about the products and brands they buy and use may act as a motivator to spread word-of-mouth (Saenger, Thomas and Wiggins Johnson, 2013). Therefore, consumers enjoy to express themselves through the products and brands they buy and use and communicate to other about their

consumption and advise others. The passion for some fashion products may lead the consumer to want to express it to others through social networks. Thus,

H4: Passionate Desire to use fashion products (clothes and accessories) has a positive effect on word-of-mouth about consumption activities.

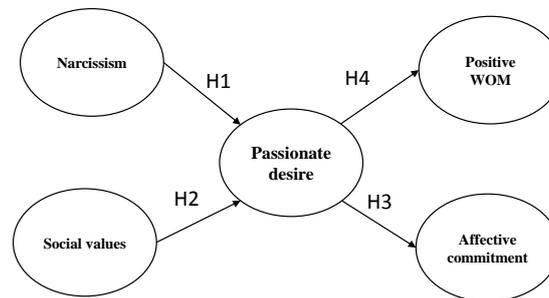


Figure 1. Proposed model

METHODOLOGY

Data collection

A questionnaire was formed based on the literature review and all measurement items were adapted from existing instruments. The original questionnaire was written in English, then translated to Portuguese and translated back to English. Back translation was used to ensure that the items in Portuguese and English communicated the same information (Sekaran, 1983). The structure of the questionnaire took several aspects into consideration in order to avoid common method bias, such as the disposition of the items of each construct and the items and questions were prepared to avoid ambiguity. Additionally, the Likert-type questions appeared random, so that the order and constructs were not obvious.

The last part of the questionnaire concerned socio-demographic data. Then the questionnaire was pilot tested with the help of ten consumers to ensure that the respondents understood the questions and there were no problems with the wording or measurement. After this, only a few adjustments were made.

Data collection was conducted over two weeks, March 26th and April 8th, 2015. Respondents were contacted in the Lisbon area through a panel sample.

The categories of fashion brands were used as a control variable, considering Haute-couture brands (ex: Chanel, Hermés, Prada, etc.); High-fashion brands (ex: COS, Hackett, Massimo Dutti, Uterque, etc.); Fast-fashion brands (ex: Zara, Asos, H&M, Pull&Bear, etc.); and Sports brands (ex: Adidas, New Balance, Nike, Reebok, etc.)

Sample Profile

Of the participants in this questionnaire, 69% were female and 31% were male. In regards to age groups, 1% was less than 18 years old, 46% was between 18 and 25 years old, 20% was between 26 and 35 years old, 12% between 36 and 45, 14% between 46 and 55 years old, only 6% was between 56 and 65 and, lastly, 1% was more than 65 years old. Looking at marital status, 67% were single, 25% married, 7% divorced and 1% widowed. Then, educational level, 1% has less than a High School diploma, 12% finished High School, 50% completed a Bachelor degree (university), 35% completed a Master degree and finally, 2% a PhD. Lastly, the monthly income level was also relevant to analyze. So, 46% of respondents earn less than €1,000, 29% earn between €1,000 and €2,000, 9% between €2,000 and €3,000, 5% between €3,000 and €4,000, 3% between €4,000 and €5,000, and to conclude, 8% earn more than €5,000.

Variables and Measurement

The constructs were measured with multi-item scales (see Table 1). All items were measured using a 5-point Likert-type scale.

| Construct | Items: statements | Source |
|----------------------|---|-----------------------------------|
| Brand Categories | B1: Haute-couture brands (ex: Chanel, Hermés, Prada, etc.) | Tungate (2014) |
| | B2: High-fashion brands (ex: COS, Hackett, Massimo Dutti, Uterque, etc.) | |
| | B3: Fast-fashion brands (ex: Zara, Asos, H&M, Pull&Bear, etc.) | |
| | B4: Sports brands (ex: Adidas, New Balance, Nike, Reebok, etc.) | |
| Passionate desire | LP1: I feel myself craving to use it. | Batra, Ahuvia, & Bagozzi (2012) |
| | LP2: I feel myself desiring it. | |
| | LP3: I feel a sense of longing to use it. | |
| | LP4: I have a feeling of wanting toward it. | |
| Affective commitment | BL1: I am committed to the brand. | Johnson, Herrmann, & Huber (2006) |
| | BL2: I'll continue the relationship with this brand, through good times and bad. | |
| | BL3: I have a lot of faith in my future with this brand. | |
| Narcissism | N1: Modesty doesn't become me. | Raskin, & Terry (1988) |
| | N2: I get upset when people don't notice how I look when I go out in public. | |
| | N3: I like to be the center of attention. | |
| | N4: I would do almost anything on a dare. | |
| | N5: I really like to be the center of attention. | |
| | N6: I like to start new fads and fashions. | |

| | | |
|-------------------------|--|-------------------------|
| | N7: I like to look at my body. | |
| | N8: I like to look at myself in the mirror. | |
| | N9: I like to display my body. | |
| | SV1: I like to know what brands and products make good impressions on others. | Adapted from |
| | SV2: I usually keep up with style changes by watching what others buy. | Wiedmann et al. (2009). |
| | SV3: Before purchasing a product it is important to know what kinds of people buy certain brands or products. | |
| | SV4: Before purchasing a product it is important to know what others think of people who use certain brands or products. | |
| | SV5: I tend to pay attention to what others are buying. | |
| Social Value Dimensions | SV6: Before purchasing a product it is important to know what my friends think of different brands or products. | |
| | SV7: I actively avoid using products that are not in style. | |
| | SV8: If I were to buy something expensive, I would worry about what others would think of me. | |
| | SV9: Social standing is an important motivator for my luxury consumption. | |
| | SV10: For me as a luxury consumer, sharing with friends is an important motivator. | |
| | SV11: I often consult my friends to help choose the best alternative available from a product category. | |
| | SV12: My friends and I tend to buy the same brands. | |
| | W1: I like to talk about what products and services I use so people can get to know me better. | Saenger, Thomas, & |
| | W2: I like the attention I get when I talk to people about the products and services I use. | Johnson (2013). |
| Positive W-O-M | W3: I talk to people about my consumption activities to let them know more about me. | |
| | W4: I like to communicate my consumption activities to people who are interested in knowing about me. | |
| | W5: I like the idea that people want to learn more about me through the products and services I use. | |

W6: I like it when people pay attention to what I say about my consumption activities

Table 1. Constructs and multi-item scales used in the questionnaire

RESULTS

In order to treat data, we first analyzed the quality of the same and captured the dimensionality of each construct by conducting several factorial analyzed (principal components) and Varimax rotation. As expected, the several constructs are one-dimensional except two: Narcissism and Social Values. Each of these two constructs is composed by two factors. Social values (Kaiser-Meyer-Olkin measure of 0.916; $\chi^2 = 1953.3$, sig.=0.00) presents the factors called prestige and informational. Also, Narcissism (Kaiser-Meyer-Olkin measure of 0.815; $\chi^2 = 1472.0$, sig.=0.00) presents the factors called Vanity and Exhibitionism, according to the adapted scale. Next, these two constructs are regarded as second order formative construct. The PLS (Partial Least Squares) approach was employed to test the relationships presented in the proposed model with a second order formative construct, using the repeated indicators method (Chin *et al.*, 2003; Kleijnen *et al.*, 2007).

Measurement Results

A PLS model should be analyzed and interpreted in two stages. First, the measurement model, or the adequacy of the measures, is assessed by evaluating the reliability of the individual measures, the convergent validity, and the discriminant validity of the constructs. Then, the structural model is evaluated.

Analyzing the measurement model, in this study the item loading of each item exceeds the value of 0.707 (see Table 2). All Cronbach's alpha values are above 0.7 (0.694) and all composite reliability values are above 0.8. Therefore, all constructs are reliable since the composite reliability values exceed the threshold value of 0.7. The measures demonstrate convergent validity as the average variance of manifest variables extracted by constructs (AVE) is above 0.5, indicating that most of the variance of each indicator is explained by its own construct.

| Latent Variable | LV Mean | Item loading Rang | AVE | Composite Reliability | Cronbach's Alpha |
|------------------------------|------------|----------------------|-------|--------------------------|---------------------|
| Narcissism- Exhibitionism | 2.0 | (0.714-0.866) | 0.594 | 0.878 | 0.825 |
| Narcissism- Vanity | 3.0 | (0.749-0.810) | 0.622 | 0.831 | 0.704 |
| Social values | 2.7 | (0.716-0.785) | 0.534 | 0.820 | 0.706 |

| Informational | | | | | |
|--|----------|---------------|--|----------|-------------|
| Social values Prestige | 2.2 | (0.713-0.785) | 0.576 | 0.905 | 0.877 |
| Passionate desire (brand love) | 3.0 | (0.716-0.824) | 0.578 | 0.845 | 0.757 |
| Word-of-mouth | 2.2 | (0.728-0.828) | 0.643 | 0.915 | 0.889 |
| Affective Commitment | 2.9 | (0.735-0.839) | 0.618 | 0.829 | 0.694 |
| <i>Second order formative construct (LV)</i> | | | <i>Second order formative construct (LV)</i> | | |
| | Weight | | | Weight | |
| Exhibitionism → Narcissism | 0.760*** | Significant | Informational → Social values | 0.345*** | Significant |
| Vanity → Narcissism | 0.362*** | Significant | Prestige → Social values | 0.743*** | Significant |

Note: ***p<0.001

Table2. Measurement results

At the second-order construct level, the parameter estimates of indicator weights, which measure the contribution of each formative indicator to the variance of the latent variable (Robert & Thatcher, 2009). A significance level of at least 0.05 (in the case of this study, a significant level of at least 0.001) suggests that an indicator is relevant to the construction of the formative index (Narcissism or Social Values), and thus demonstrates a sufficient level of validity. The recommended indicator weight is > 0.2 (Chin, 1998). Table 2 shows that all indicators of both Narcissism and Social values have a positive beta weight above 0.2.

Regarding discriminant validity, the square root of AVE should be greater than the correlation between the construct and other constructs in the model (Fornell & Larcker, 1981).

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|--------------------------|-------|-------|-------|-------|-------|-------|-------|
| AVE ^{1/2} | 0.786 | 0.771 | 0.731 | 0.760 | 0.759 | 0.788 | 0.802 |
| 1 – Affective Commitment | 1.000 | | | | | | |
| 2 – Exhibitionism | 0.286 | 1.000 | | | | | |

| | | | | | | | |
|---------------------------------------|---|-----|-----|-----|-----|-----|-----|
| 3 | - | 0.3 | 0.4 | 1.0 | | | |
| Informational | | 31 | 89 | 00 | | | |
| 4 – Passionate desire (love& passion) | | 0.6 | 0.2 | 0.3 | 1.0 | | |
| | | 58 | 97 | 86 | 00 | | |
| 5 – Prestige | | 0.3 | 0.6 | 0.6 | 0.3 | 1.0 | |
| | | 83 | 57 | 43 | 77 | 00 | |
| 6 – Vanity | | 0.2 | 0.5 | 0.3 | 0.1 | 0.3 | 1.0 |
| | | 11 | 27 | 43 | 53 | 73 | 00 |
| 7 – WOM | | 0.4 | 0.6 | 0.5 | 0.3 | 0.6 | 0.3 |
| | | 12 | 51 | 55 | 92 | 58 | 83 |
| | | | | | | | 1.0 |

Table3. Discriminant Validity

Structural Results

In this study, a non-parametric approach, known as Bootstrap (500 re-sampling), was used to estimate the precision of the PLS estimates and support the hypotheses (Chin, 1998). All path coefficients are found to be significant at the 0.001 level, with the exception of H1 (see Figure 2).

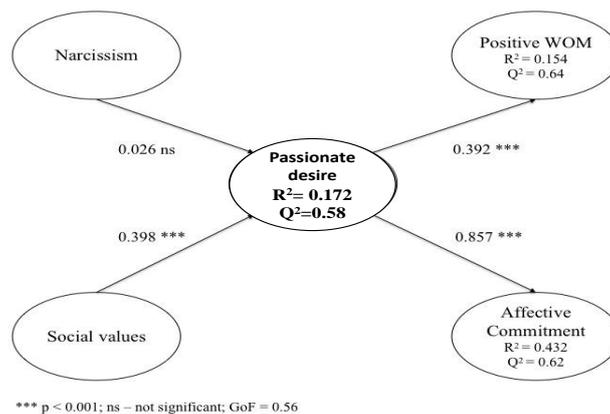


Figure 2. Structural results

The results show that the Social values construct has a positive and significant direct effect on Passionate desire for fashion products (clothes and accessories). Yet, the strength of the relationship between Narcissism and Passionate desire is weak. The strength of the relationship between Passionate desire and positive word-of-mouth is weaker than the relationship between Passionate desire and Affective commitment. Although this is the first attempt to test the influence of Narcissism (its two dimensions) and Social values on Passionate desire, the findings are aligned with the study presented by Loureiro and De Araújo (2014), where social values create the subjective norm and consequently the desire to use. The fact that Narcissism did not reveal an active and strong role on

Passionate desire to use may be explained by the fact that the sample was composed by people from a collectivist Nation (Hofstede model) and so more studies should be done in order to properly understand the phenomenon. On the other hand, the outcomes are aligned with the studies developed by Carroll and Ahuvia (2006) and Loureiro (2012).

As models yielding significant bootstrap statistics can still be invalid in a predictive sense (Chin *et al.*, 2003), measures of predictive validity (such as R^2 and Q^2) for focal endogenous constructs should be employed. All values of Q^2 (chi-squared of the Stone-Geisser criterion) are positive, so the relations in the model have predictive relevance (Fornell & Cha, 1994). The model also demonstrated a good level of predictive power (R^2), particularly in explaining Affective commitment. The good value of GoF (0.56) proposed by Tenenhaus *et al.* (2005) reveal a good fit. As Wetzels *et al.* (2009) proposed, a GoF greater than 0.35 in the social science field indicates a very good fit.

CONCLUSIONS AND IMPLICATIONS

The main goal of this research was to start to understand the process behind the creation of a fashion passion for clothes and accessories, particularly to understand in what extend do narcissism and social values influence passionate desire and then, the way passionate desire influences positive word-of-mouth and affective commitment.

The findings reveal that Social values have a positive and significant direct effect on Passionate desire. Yet, the strength of the relationship between Narcissism and Passionate desire is weak. The strength of the relationship between Passionate desire and word-of-mouth is weaker than the relationship between Passionate desire and Affective commitment. Although this is the first attempt to test the influence of Narcissism (its two dimensions) and Social values on Passionate desire, the findings is aligned with the study presented by Loureiro and De Araújo (2014), where social values create the subjective norm and consequently the desire to use. The fact that Narcissism did not reveal an active and strong role on Passionate desire to use may be explained by the fact that the sample was composed by people from a collectivist Nation (Hofstede model) and so more studies should be done in order to properly understand the phenomenon. On the other hand, the outcomes are aligned with the studies developed by Carroll and Ahuvia (2006) and Loureiro *et al.* (2012). Finally, Portuguese population is regarded as being collectivist. Therefore, they tend to make purchases according to their groups of friends and family.

Regarding managerial implications, there are several suggestions for fashion brands. First, blogs and bloggers who promote fashion brands are continuously growing in terms of readers and followers on social networks. Therefore, fashion brands should invest in product placement in the blogs with the brand identifies the most with. They should also invite bloggers to events such as new store openings;

or create events specific for bloggers, where they meet in a common place and see the new collection, having access to discounts and asking to make contests on their blogs for readers to win a prize or to get discounts as well. Lastly, blogs in Portugal should rethink their focus, since the blogs that were born as fashion and style are now converging to other topics and forgetting somewhat their origin. Nowadays, blogs and social networks are preferment vehicles where consumers search, post and follow trends or put away other products and brands. This enrolment is particularly important in more collectivist nations, where the population tends to value the social opinion and social impression.

Although the study has been conducted with caution, the limitations may work as avenue for further research, such as: (i) conducted in other countries and regions (e.g.: Anglo-Saxon countries – more individualist and thus narcissist – and Asian ones – even more collectivist, in comparison to the Portuguese culture) in order to better understand the phenomenon and understand the cultural effects of the different constructs presented; (ii) other potential drivers of Passionate desire should be considered, as well as the inter-relationship among constructs.

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THE MEDICAL MENTORING AS A POTENTIAL MODEL OF EDUCATIONAL INTEGRATION IN THE EUROPEAN MANAGEMENT INNOVATION

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ABSTRACT

Nowadays, in the ever changing environment of our world, the health of the Health System should be reassessed starting from within. The traditional approaches do not provide any more a realistic solution for the way in which the medical systems are behaving within the partnership with their patients and the traditional system of management.

The new paradigm should take into account a more complex feedback approach in order to implement coherent strategies and good practices, internationally recognised that could annihilate instable and negative cascade of effects, otherwise often ignored.

Here we discuss some constrains in the medical business and public policy fields - to show that *conventional recipes* for public management and strategies are not sufficient anymore when restrained only to classical contain and standards. Once explained, the complex behaviour of individuals could develop along with the societal dynamics to be modelled and entangled into the valuable assets of modern management knowledge with applications in any field.

We bring into discussion an innovative approach of prevention a thorough proactive education to manage an integrated health system converging in order to save public funds, bring a higher satisfaction to patients and facilitate the European integration through a new form of self-awareness and responsible engagement as a solid added economic and social value.

Keywords: *Medical management, leadership, medical mentorship, behavioural model.*

INTRODUCTION

The services industry is meant to bring a continuous contribution to the development of any nation. The added value is solid and complex when the services development flows with the natural essence/mechanisms of the economy. The world economy knew different stages of development, some of them characterised by *manufacturing services and labour force* increase; the era of standardization, computerization and automation followed and the services industry managed to increase its influence in GDP and employment rate reduction. At present, the whole economic structure suffered deep modifications, together with the perception of qualifications and economic societal needs and this relationship no longer confirms the former tendencies. In the medical services industry, the economic *stagnation* is not anymore correlated with the *productivity* and the demand for *employability* or the *value*

of medical services. In other words, industry, distribution, medical services and patients' satisfaction are all in critical need for reconstruction.

The phenomenon of erosion of the structure of society generated also the decline of education as a whole and of education inside the health system too. The increase of corruption and parasitism influencing the social protection model and values are more and more active on the market and in people's life through: • an increased presence of inequalities, • the socio-economic consequences of poverty in its double form - relative and absolute, • the limited access to the health and education products all-over the country, for most categories of people, • the compromised economic competitiveness due to increased corruption and lack of responsibility and of an assumed engagement or desire to contribute, • the polarisation of incomes of the all medical actors.

Experts in the field (Albert, M. 1994) believe that individual self-realization cannot be achieved without returning to the fundamental objectives, at realities and social relations, at the community values. Dealing with new and complex trends they daily make people facing a reverse hierarchy in valuing industries and markets, technology, social media role and more.

The use of modern products and technologies brought changes into medical services too: the use of 3D printing in surgery, the assistance provided by animation and holograms, the maker movement that includes individuals and groups creating and marketing assembling products that can generate new services to be provided, the operability in real-time of mobile systems in conjunction with new integrated devices changed the world of medicine. These new trends in market development are innovatively driven and already assist the specialists to better design their work and apply improved management tools. The new solutions are reliable for the implementation of innovative models designed on realistic needs, based on better understanding of the past experience, placing in *two* contradictory approaches: one to ensure the freedom of the individual, and the other to *discipline* him through frames and standards. Thus, the modernity will get links to the new capabilities and abilities forcing people to design and apply new laws of application as the single way to adapt to a changing environment and to realize the role and functions of efficient management complexity and uncertainty.

The quality standards and sanitary regulations remain a definite condition of recognition as a sound nation and the code for access the supportive mechanisms of the European Union. Although the European Union area sets as a priority the health care of its citizens, there are still high regional differences that need to be addressed. In Romania, less than 12 % of health administrators /workers at all levels serve the rural population. Some of the countries do not have any specialist for different important medical domains – oncology, gastroenterology, surgery. This means that a physician's portfolio will address the medical needs of over 2,500 patients but may not cover at all the educational

and prevention side of their obligations. The lack of specialists, the low quality of the medical act, the inexistence of the newest innovative medicine, often very pricy, for specific or rare diseases create enough opportunities for corruption to install and act fearless.

At European level this situation is as dramatic as in Romania, when specific indicators outline a dramatic situation, as follows: in 2014, more than 670 000 persons died in the EU from respiratory diseases; one of four deaths were caused by cancer in the European Union society; one of five of the EU working-age population reported a disability; meanwhile the circulatory diseases still remained the principal cause of death for both men and women over 65 years.

The last statistics show dramatic signs for the segment of mature population, both males and females aged between 30-45 years old. The reported data show also that the health system's doors are less and less open to all citizens, similarly to what happens inside the education system. People forget about value of education and prevention as the market requirements are not based on this anymore.

Therefore medical practitioners rise should become aware of the market signs and draw the policy decision makers' attention to rethink the staff's position not only as managers of their own practice, but also as mentors for their patients.

The healthcare system is a mixed and dynamic field whose main function should become the prevention; protecting and improving the general health of the public is on the long run more efficient than to cure an altered organism.

Prevention can be done by: • teaching the medical services; • developing to patients the need of contribution, of behaving proactively and identify alternative funding sources and incomes to be used by paramedics in volunteering activities and services; • developing collateral educational activities based on each person's need to contribute to other individuals' health improvement: paramedical services, anonymous clubs for maintaining a high level of motivation, donors' network, as suggested by World Health Organization. Once making it a reality, such approach would show its importance in creating the right operational circuits between services providers, patients and the sanitary used logistics.

World Health Organization defines the three most important objectives of health services (HS): •improving the health of the population they serve; •responding to people's expectations; and •providing financial protection against the costs of ill-health.

As the health systems' performance varies from one country to another, our analysis granted the identification of factors causing specific discrepancies. Often, this comes with governments' habit of keeping the healthcare systems focused mainly on the public care and disregarding the private one.

Thus here we consider an alternative for the medical sector: to begin a deal with the representatives for a better accomplishment of their responsibilities. Everybody should recognise the value of

prevention through sanitary education as long-life learning and improving this aspect could transform it into a national branding tool. The blended social-economic aspects of health status of the population are of high importance for their life styles and health behaviour as determinants of public health policy. The above determination issued from our 6 months research reuniting the daily activity within two general practitioners' (GP) office within their network of patients amounting 2386 individuals, 808 between 35-64 years old and 549 were over 65 years old patients of which 1136 were males and the rest of 1250 were females. Amongst them, 1029 were young adults. In the end, 130 of all patients accepted to be part of the on-going survey. Their demographic characteristics [Tziner et al, 2007] are the followings: gender: all of them females; age: (mean=37.38); tenure: (mean=10.45); education: 46.2% completed high school, 43.8 had some academic training, and 10% had a university degree. The analysis and mentoring process took place during another three months and the patients considered agreed their data be monitored as an aggregate contribution to get better services provided to them. They accepted to participate at the advanced prevention monitoring and let themselves learning both in alternative fields of medicine and psychology.

According to the European Definition of General Practice / Family Medicine, a general practitioner treats acute and chronic illnesses and provides preventive care and health education to undifferentiated way at an early stage of development, which may require urgent intervention.

The data enable the analysis of public health challenges as well as the demographic and socio-economic correlations and disparities in health status and its determinants in order to provide a tool for monitoring effects of health policies.

The first parameter to measure was the prevalence of high blood pressure (HBP) and the outcome was that 48.1% of the patients had HBP. 54 new cases were discovered among the young adults. As more data regarding their gender, age, and social status were recorded we have found that 17.2% associate the HBP with heavy weight, most of them between 35 and 64 years old.

The most interesting elements were linked to the age – most were young females registered with obesity and high blood pressure, given their tendency for a solid career, correlated with an increase number of divorces and presenting the high responsibility of growing up children as a single parent. When comparing our results with the general European trends, our findings are much higher outlining the social stress influence and the lack of education and perseverance in preserving the proper health.

Thus, we considered the health status of the patients involved in the study including elements such as: the number of healthy life years, the awareness of self-perceived health as well-being, along with the daily activity limitations, the frequency of visits at the GP, the number of accidental injuries. The analysis is based on following European determinants: body mass index, the ratio of daily physical

activity, the consumption of positive and negative products (vegetables, fruits, tobacco, and alcohol). The rationale for choosing these parameters was the need to reconsider some of the regulations that govern the general practitioners' activity such as the number of daily visits or the patients' monthly visits. We focused on the quality of the dialogue between the general practitioners and their patients, their power of communication and the way they tried to convince the individuals to participate at the project, to give up bad habits such as drinking, alcohol and coffee, and to take their lives in their own hands adopting a new life style, a sound behaviour of working and living.

During the trainee program several topics were considered: • identify their conscientiousness as a tendency to set high standards of reliability and motivation to excel on the health; •

To accommodate them with the self-efficacy, meaning the personal belief that each of them meeting the training requirements [Tziner, 2007] and the medical program objectives; • develop the individual perception that completion of training will lead to valued outcomes, including a feeling of accomplishment for a greater and healthier potential. The motivation to learn has been sustained through periodical monitoring of each person's health by comparison with past data. This contributed to the group exchange data and feelings with regard at the results obtained and corrected targets for the next period of self-training.

The results came as follows: all patients took all brief intensive courses in small group sessions of teaching emphasizing the general problem solving; in the end two thirds of the groups found themselves highly motivated to go on at individual, vocational basis, given their educational skills and decide to help creating anonymous groups cancelling for HBP, all of them reported better status of individual health and a serious improvement of the results of new taken medical tests.

Following such an approach, physicians would develop paid national programs of mentoring to educate their patients and inspire them towards effective behavioural change helping them to better understand their condition and act on treating the causes rather than the effects of the disease, when that it is possible. The cost would be much less than the treatment expected and provided from national funds. They would lead the way for their patients towards a better life rather than just managing their pathology. During this study both groups of physicians and patients developed new skills, knowledge and discovered more competences. The learning outcomes approach shifts focus to the knowledge, skills and competences each learner acquired during their life or study programs at school. The new competencies were more obtained in an informal or a non-formal way (Colardyn, Bjornavold, 2004) starting from a known point of what both the doctor and the patient knows, understand, accept and decide to do, regardless the system under which a particular qualification was obtained. (Official Journal C 111, 6.5.2008)

DEFINING THE NEW MEDICAL ACTIVITY AS A MENTORING ONE

For a better understanding of what a mentor physician is, we identified some activities adopted by the GP inside the new concept that made a big difference: he took the time to ask open and close questions and carefully listen for his patients' answers. He became a trusted guide by being and showing more empathy towards the patient enabling the share responsibility in solving the medical problem. The doctor takes on the positive role of someone who offers to help the patient to become a better and healthier person. The experienced physician proved skill in sharing his expertise, providing support and direction to the patient, looking for feedback to assess by developing a medical plan and increasing each individual's power to take the right decision to create new habits (Noe, 1988, p. 458). The medical guidance is hard to follow as it needs long term support and sustained advice.

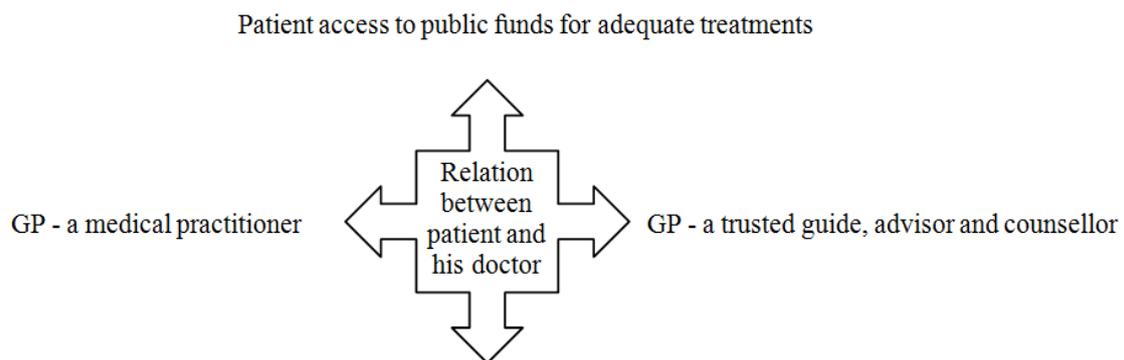


Figure 1 *The General Practitioner Cross* (after Mihoreanu, Costea, 2016)

Mentoring is a sound partnership, motivated and inspired by both sides who set up a plan, a vision, and make it a success. It requires: • trust, • patience to build a solid relation, • strength to remain inside the relation and implement the targets, one by one. Understanding and respecting each other's effort will bring the medical success.

This approach comes along with new standards of work, relevant to doctors as managers and leaders who have a specific responsibility for mentoring individuals.

The medical doctors' increase of responsibility and of assumed engagement in making changes in their patients' life put them in the situation to identify themselves as complex mentors that use traditional ideas, sometimes in a group session to serve the patients in developing stronger care bonds. The visit to the doctor continued at distance via electronic support by emails. The results were surprising. During the entire period, the number of patients developing acute symptoms of their disease diminished by 28%. The females decided to take permanent care of their weight following specific diets, designed for them and with them for a better compliance and monitored at each visit.

The experiment identified several versions to develop the medical act during the classical consultation. By accessing supplementary knowledge, patients got the possibility of choice – what

really do with their life and health; they could accept stronger medical treatment or turn into non-medical possibilities, such as: acceptance of the idea that there are more factors contributing to the evolution of disease (emotions, stress, nutrition), participating at future sessions of counselling, learning new technics of behaviour (respiration, meditation, the use of placebo treatments). This way, a new pattern of behaviour would become a symbiosis of doctor as specialist, manager and mentor.

This will bring a turn into the public use of money and public investments in: a) sustainable health systems combining innovative reforms aimed at improving cost efficiency and reconciling fiscal consolidation targets with the continued provision of sufficient levels of public services; b) investing in people's health as human capital helps improve the health of the population in general and reinforces employability, thus making active employment policies more effective, helping to secure adequate livelihoods and contributing to growth; c) investing in reducing health inequalities contributes to social cohesion and breaks the vicious spiral of poor health contributing to, and resulting from, poverty and exclusion; d) reduce the medical leaves funds on company and government behalf, based on statistic estimations by comparing with the past periods of time.

With other words, the healthcare system could develop better if the medical decision include mental and emotional assessment components, by introducing a diagnosis package of filters (psychological, mental, energetic and emotional) helping the body to reset and recreate the natural connexions within the body to administrate to the body personalised remedies and non-invasive treatments as an integrated proactive cure of sound health.

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EDUCATION – EMERGING COUNTRIES' DRIFT IN PROMOTING MARKET SUSTAINABILITY AND PEOPLE SATISFACTION

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ABSTRACT

Education has been widely considered forcefulness for the economic and social wellbeing of all world citizens. Through education, nations aspire to make technological progress and improve human beings lives. Through education people strive for social justice, understanding and international peace. Education makes individuals and societies better adapted to thrive in a changing world.

Education and training policy has gained particular momentum with the adoption of the Europe 2020 strategy, the EU's overarching programme focusing on growth and jobs. ... *Recognising that lifelong learning is the key to both jobs and growth and the participation of everyone in society..... "Since 2007, the EC has integrated its various educational and training initiatives under a single umbrella, the Lifelong Learning Programme"* [European Commission, 2011]. And everything was done looking at the employment market.

The present paper makes some considerations on the future of market and modern school

Keywords: *business driven education, entrepreneurship academia, diversity, multi-cultural management education*

ARGUMENTS FOR A BETTER BOLOGNA CONCEPT IN EDUCATION

Across the globe, nations have been differently affected by the uncertainty and instability generated by their rush to modernity. The financial and economic turmoil has also differently influenced this switch. Therefore, social and political repercussions of these phenomena called for policymakers' special attention. The effects, alleviated by both the capabilities of government to manage change and people's attitude towards development, generated different and the general entrepreneurial propensity of society. All these fields concern also education. Macroeconomic volatility and its societal effects, has been amplified by the pre-existing conditions of several countries. The markets which were coping with the challenges of transitioning from centrally planned economies and those which were developing new strategic directions faced greater risks. Nowadays they all suffer from the medium to long term repercussions of the crisis.

The mature and highly developed countries have been exposed to the negative impact of the financial crisis and have seen their economic growth rate drop. However, the emerging countries and those effectively still in the process of transition are being forced to rapidly redefine their policies and growth models, since they lack the economic space to manoeuvre and cannot sustain the deficits and austerity measures for extensive periods of time. Large migration, long term unemployment and job security are among the most pressing issues to be addressed by countries in transition in the near future as political and social unrest are already real obstacles against sound growth [Vasile, 2011].

When assessing the characteristics of the labour market and the long term potential of economies to create and maintain qualified employment, three items of interest arise: • the skill of graduates prepared for the market needs; • the structure and requirements of employment dealing with quantitative measures and • the competences and real skills of employees dealing with the qualitative aspects. Education provides a driving force for economic, social and cultural development. Nevertheless, in certain situations it can be expensive and ineffective [Johnson, J. et al, 2012].

QUANTITATIVE PERSPECTIVE FOR EMPLOYMENT IN EUROPE AND ELSEWHERE

The fundamental difference in the labour structure between western countries and those in the emerging ones reside in the manner in which the market first developed. Whereas the labour market in the western developed economies was modelled under the direct influence of business cycles and the promise of profitability, its equivalent in developing countries and those transitioning from centralized market systems, was the result of political planning, conflicts and misuse of certain economic guidelines. The relatively limited entrepreneurial propensity and the weak private sector generated at the start of the transition period in the early nineties have made the Eastern European economies more vulnerable to the entry of new multinational companies. The number of active small and medium sized enterprises in an economy directly and positively influences the proportion of the middle income classes in the population and reduces the proportion of poor people and unemployment [Tianyoung, 2007]. Hence, a cornerstone in any transition process has been the encouragement of small and medium sized firms. Furthermore, these policies need to be continued even as the transition is approaching its finality. With other words, both companies and schools need to learn a new more pragmatic style of education able to diminish the differences in economic culture, to prepare specialists worldwide recognised and highly motivated to contribute in their countries of origin, to eliminate the discrepancies between what the school provide and what the real market is needed.

Unemployment and the long term development of the labour force are dependent on central authorities and their policies. The Governments' agendas in this respect include also specific programs. In the case of transition economies, the risks are highlighted by privatizations and the fact that decisions regarding the workers had to be gradually released by the state and reallocated to the private owned companies. As studies have identified, the political influence on the development of economic systems is, in many cases, evident and can induce distortions in the operations of a free market [Desai, R., Olofsgard, A., 2010].

Last come with excellence and is determined by creativity and determination; they are typically enhanced by necessity and uncertainty, which act in the shape of catalysts. The lasting repercussions of the latest economic crisis have indicated that policies and economic principles have to be reevaluated and rewritten in order to encourage sustainable development. [Costea, Popescu, Tasnadi, 2010)].

There is a general consensus on the matter that long term endogenous growth can be sustained through the introduction of new technologies. There are scholars who describe the economic growth as necessarily connected with restructuring and reform, introducing the notion of creative destruction [Aghion, Howitt, 1992]. This generates a paradox in which structural unemployment and the rendering of certain occupations as redundant are always prerequisites for growth and development. The introduction of new products and services will always make part of the work force unemployed [Aghion, Howitt, 1992]. Consequently, sustainable economic growth is achieved only through the continuous implementation of technological improvements and through the restructuring of existing sectors. These directions require the formation of a capable and dynamic workforce, well adapted for the challenges of the modern market. In countries such as Romania, Turkey or Moldova, the labour force in the agricultural and services sector is superior to that employed in industry. A more extreme situation can be seen in the case of Georgia where more than 50% of the national labour force is employed in agriculture. Expanding the analysis to the entire region, the imbalance is evident. Furthermore, if the Russian Federation is retracted from the analysis, the total employment in agriculture surpasses that of industry. The results from the remaining Black Sea Region become 24.5% of total employment in agriculture and 22.2% in industry.

This situation depicts a significant problem going further, as structural change will continue to be a policy imperative. Consistent differences between the two groups of countries can also be seen in terms of general productivity of employment. Calculating the ratio between the national GDP and total employment, significant discrepancies emerge between countries of Western Europe and those around the Black Sea.

ARE THERE ANY PERSPECTIVES FOR BETTER EMPLOYMENT?

The structure and the productivity of employment in various regions do not completely portray the entire situation. Sustainable development and efficient business activities require the formation and the maintaining of a well-educated and capable labour force.

The educational system has a crucial role in the long term development of individuals. Formal as well as informal educations provide individuals with the competences required to flourish. Contemporary business planners and policymakers need to take into account aspects such as personal aspirations, individual motivation, gender equality, freedom of movement. As a consequence, their strategies and operations have to be correlated with the increased mobility of the employees, their changing motivational drive as well as their demand for flexibility and freedom of expression.

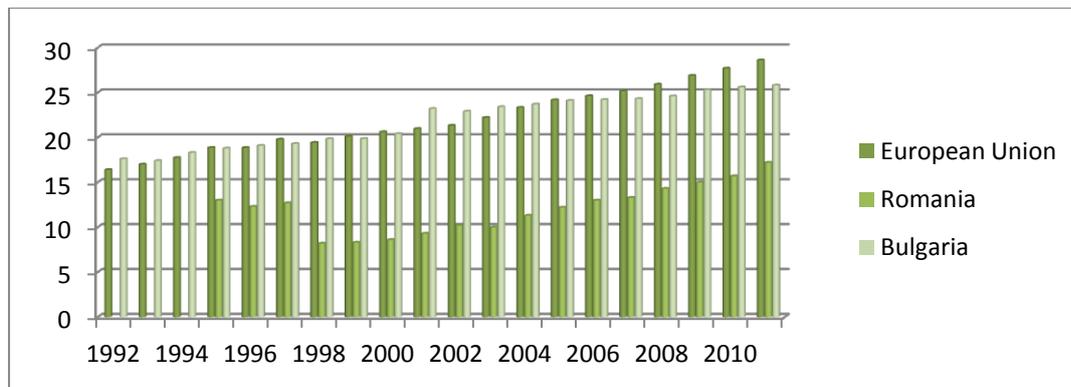
To this end, the amount of resources directed towards the superior training and education of individuals a valuable indicator. The following figure depicts the evolution of the expenditure per student as percentage of GDP per capita in the European Union, Romania and Bulgaria. The latter were chosen as they concurrently joined the EU in 2007 and have formally followed a process of convergence towards the Union's average. The first half of the period was characterized by a downward trend for the EU and Romania and a sharp increase for Bulgaria. One can note the fact that while in the last 6 years the EU average surpassed the values for the two Black Sea area countries, the variance within the group became significantly smaller.

The expenditure per student constitutes an important indicator for predicting the long term quality of employment in any region as it incorporates the investments made in the higher education of the population.

Telling information can be extracted from the previous figure in the fact that the European Union's average decreased in this period from approximately 34 % in 1998 to 28% in 2009. Placing a reduced emphasis on higher education can hide serious repercussions for future development.

The skills and capabilities of employees are expected to be correlated with the years of formal education received. Thus a valuable insight can be provided by the evolution of employment with tertiary education across the European Union and Romania. The effect that university education has on the economy is expected to grow as more jobs require this level of training.

Figure 1. *The evolution of employment with tertiary education*

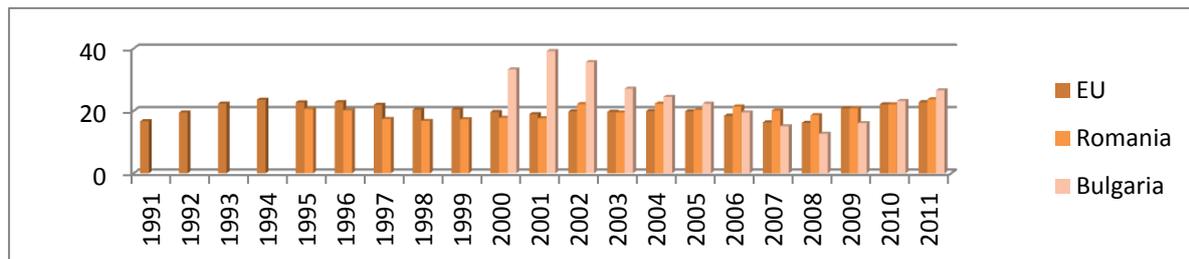


Source: based on data provided by World Bank Indicators, <http://data.worldbank.org/indicator/all>

Figures show that while improving its situation during the last two decades, Romania lags behind its neighbour Bulgaria as well as the European Union's average. Bulgaria on the other hand has managed to register values consistent with the European averages. The unemployment with tertiary education is well over 10% in the European Union and continues to experience an ascending trend. Romania also experiences a growing tendency. However, the values remain at approximately 6%. This indicator is very significant in the fact that it describes the ability of the economy to offer jobs for university graduates on the one hand and the degree to which higher education ensures job security. For the last year in the analysis, 14% of unemployed in the European Union were university graduates while in Romania the figure rose to approximately 6.7%.

The evolution of this indicator can be assessed in relation to unemployment among young people.

Figure 2. The evolution of unemployment among young people (15-24 years)



Source: based on data provided by World Bank Indicators, <http://data.worldbank.org/indicator/all>.

WHAT IS NEXT? THE ROLE OF EDUCATION IN SOLVING THE PROBLEMS

As already mentioned, a growing concern across the entire European Union is represented by the rise of unemployment among young people. After declining to approximately 16% in 2008, the European average rose sharply to over 22% in 2011. The values for Romania taken in the most recent EU countries, Romania and Bulgaria, follow a similarly troublesome path. No matter the situation, education should be considered as a driving force for a fulfilling wellbeing [Johnson, J., et al, 2012]. The cost of education is never linked to its aspirations. Sometimes, it can be pricy and completely

ineffective. Scientists identified important stimulating situation that they called the *Grand Challenges* [Johnson et al, 2012], as follows: • the capacity to enable people to learn orders of magnitude more effectively, • the possibility to enable people to learn at orders of magnitude less cost, and • the advantage to demonstrate success by exemplary interdisciplinary education in complex relation with economies and societies. The mixture of theory with entrepreneurial experiments will translate into: • analytical and computational practical tools for researchers, practitioners and leaders; • procreative principles for resilient educational new systems inside of which the environment is centred; • innovative scalable, yet personalized, learner engagement and assessment. Since in Europe and elsewhere the higher education is partly public, partly private, other important elements should be considered for a better understanding of their capabilities and opportunities. [Johnson, J., et al, 2012]]. At 26 years since the former central planned economies are off, the educational culture is still suffering the old inspiration, imposing abusive approaches and practices in correlating the good with public universities and the bad with the private ones. The way the decisions are taken and the education budget created attract an anticompetitive approach, diminishing both the value of private universities and their resources to be used for the benefit of the entire society.

In the same way, the brain drain massive flow towards the developed western countries contribute to the creation of an even bigger gap between societies, economies, schools, to the application of an unethical treatment when similar behaviours are considered. According to different studies, only last year, 35 per cent of economists were working outside their home countries. The majority of economists went to work to the US, Germany and France (11%), followed by Switzerland (8%), Italy, Netherlands and the UK (6%). The academic fees, the way both universities and academics are assessed; the unequal number of European or national agencies for Quality Management evaluation are as many factors of limitation for a sound education. The educational system is always searching for the best model to apply.

The understanding of current limits of development impose a new paradigm, a highly creative once, accepting changes and implementation of super non-linear dynamic network as catalyst for a sound growth in which complex interconnection of concepts and domains, institutions and their complete visions of development be built close to the realistic situation of life and society, beyond the scientific theories and sustaining researches. A sort of shadow new paradigm is nowadays influenced by what is happening in the business area where a very special form of partnership is developed and called "alliance". They want to be taken for formal association created between two or more bodies who agree to cooperate for pursuing a set of agreed upon goals, for mutual advantage, for enhancing competitive advantages or to meet a vital business need while remaining autonomous organizations in order to keep the best position in the market and do not lose the big slice of profit.

Under these alliances, each partner has some competences and strong points and they are put at the partner's disposal, in order to realize the objectives set together, in an environment where they could not face alone, because their resources are limited. One of the major aspirations is attaining synergy, meaning that each partner hopes that the benefits from the alliance will be greater than those obtained from individual efforts. The alliances allow companies to concentrate over the key aspects of their development, offering a great flexibility and lesser risk exposure comparative to the case when they should have taken alone responsibilities.

Thus, at international level, different sorts of alliances appeared in the market:

- *Total alliances* constituted when partners decide to cooperate in multiple stages of the value chain, such as research-development, designing, marketing, distribution, and, by conjugate efforts lead to a rapid growth;
- *Functional alliances* coming into being in one domain: research, production, production, finances;
- *Marketing alliances* formed by partners sharing services and experience they possess in the field.

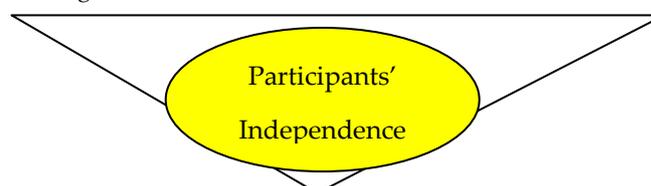
A special form is *piggybacking*, where a company (rider) has the chance to distribute its products by using the carrier distribution network – already active in the hunted market - and accept the alliance as a way to increase its profits, under the condition that the products sold should come from complementary and non-concurrent domains.

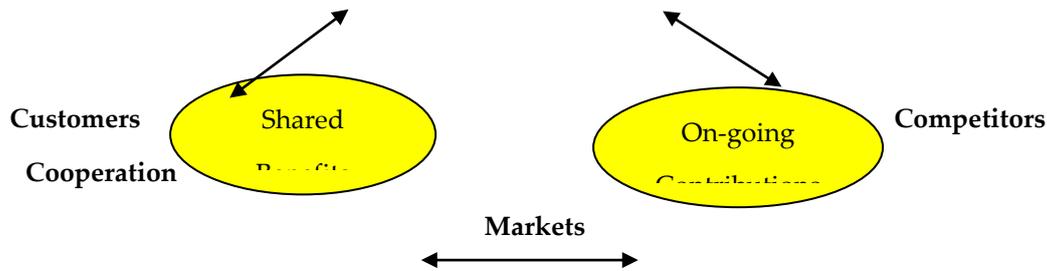
In the market, companies use to use different ways to create value: • setting up new businesses, • accessing new markets, •acquiring skills, •gaining scale, and • improving their SCM to create stronger networks.

Through strategic alliances firms access key resources, like the partner's technologies, financial funds, new markets, management skills, qualified human resources. They also obtain increased brand awareness through partner's channels, can achieve scale, critical mass and momentum, can reduce research and development time and accordingly they can launch new products at an early stage on the market comparing with other competitors.

Several elements are also considered prior to plan, design, enter and manage alliances over the time: •the validation of their foundation; •the appropriate design; •the right time to start; •the detailed operations; •the postponement. This approach put all partners in specific relations regarding their independency, the connection to benefits and obligations.

Scheme 1. *Global Marketing Relations*





Source: Keegan W., Green M. -*Global Marketing*, Pearson Education, USA, 2003, page 341

Specific alliances often bring benefits to their partners, such as: • access to distribution channels, • presence on the international market, • to their partner's capital, products, technology, intellectual property, management skills. They also bring increased brand recognition via their partner's channels, significant savings linked to product development time and faster-to-market products, reduced R&D costs and risks, rapidly achieve scale.

Table 1. *Determinants success in international alliances Motivators*

| Determinants: | Motivators: |
|-------------------|--|
| 1. Objectives | Alliances use the mutual advantageous situations, according to common needs |
| 2. Strategy | Alliances may develop in multiple version if capable to avoid conflicts |
| 3. Equity | Discussions and consensus should be the norm. |
| 4. Culture | Personal relationships are important, as well as establishing a common set of values |
| 5. Governance | Innovative structures are welcome, if they counterbalance the complexity of management systems |
| 6. Administration | The taking decision process is guided by a common understanding and acceptance of problems |

Source: *Adaptation after Global Marketing Strategy*, Harold Chee, Rod Harris, Pitman Publishing, 1998, p.321

Under the appropriate models, business can grow. Therefore modern education should let itself linked to adequate models to better fulfil its requirements and needs: incubators of young ideas, complex logistics of virtual campuses where new variables validate social structures and scenarios [Johnson, J., et al, 2012]], international educational leadership opportunities to:

- develop expertise and foster.
- work as intellectual leaders, honest brokers to accelerate progress towards these goals.
- facilitate the development of partnerships, monitor progress, and track the achievements of countries and the international community towards the Education for All goals.

Despite their aspirations, millions of people have inadequate access to high quality education or the outcome of their educational is disappointing, as we now discuss. Educational contexts must be treated as multilevel socio-technical complex systems. According to us, educational change is supposed to involve: • super networks of systems including schools, universities and companies with tasks in education; • government departments and provincial administrations; • individual learners and communities of learners; commercial providers and businesses; ideas, data and • theories; • and much else besides. This is why such an approach can't ignore anymore the role of complex science.

Events look to be similar in all parts of the world, in European Union, in former communist countries, known today as emerging countries, in Africa, in Asia.

ChIndia is a blend concept that refers to China and India together in general. The credit of coining the now popular term goes to Indian Member of Parliament Jairam Ramesh. China and India are two neighbours among the fastest growing major economies in the world. Together, they contain over one-third of the world's population (2.5 billion). They are considered possessing the highest potential for growth in the next 50 years in a BRIC (Brazil, Russia, India and China) report. The perceptions of their economic strengths seem complementary: – while China's strengths rely on manufacturing and infrastructure, India has better services and strong information technology. From the technological point of view China is hardware producer while India is a software designer. From the markets point of view China has advantages in physical markets while India is a financial markets recognised player. The countries also share certain historical interactions - the spread of Buddhism from India to China and British-European trade on the Silk route are famous examples.

The commonly cited complementary nature of China and India's economies is also being questioned as the service sector in China is rapidly growing, while India's manufacturing sector has seen rapid growth in recent years.

Over the last two decades the world of higher education and research in economics in India has been mesmerised by a series of conferences and collaborative researches generously sponsored by the World Bank and its "development partners". The result: A particular kind of crony intellectualism has flourished, strengthening neo-colonial hegemony in the realm of economics. In the other social sciences, the postmodernist claim has made huge inroads, namely, that any "narrative" is as valid as any other. But, parallel with the spread of crony intellectualism, the integrity of India's liberal-political democratic system has been vitiated; it is now a money-driven system, and the media is closely involved in the dissemination of the propaganda that is necessary to legitimise it.

China also has a head start in international marketplaces and is a large investor in Africa. Asian Youth joins school districts in North America and Asia to share best practices and to work together to overcome common challenges.

A new World Bank Report on Education Financing in Indonesia shows that spending patterns need to be altered to increase quality of education and improve learning outcomes. *The public expenditure review assesses the progress Indonesia has made in education over the last decade and highlights the major challenges that remain. The report highlights the need for a greater focus on improvements in the effectiveness of spending if the recent increases in public education investment are going to deliver improvements in education quality,*" says World Bank Lead Education Specialist for Indonesia, Mae Chu Chang, in a launch event

jointly hosted with Paramadina University, the Government of the Kingdom of the Netherlands and the European Union.

Gender gaps in education and health have been closing but important disparities remain in access to economic opportunity, voice and influence in society.

Many societies gradually moving to dismantle gender discrimination, yet more can be done, by promoting the gender equality in access to: • productive resources; • economic opportunities; • voice in business and society. This way a higher contribution and more representative quality can be sustained in both decision making and development.

With other words, we are in the global innovation age, which requires a new set of skills for success.

It provides a path to develop critical knowledge, skills, and dispositions in the academic disciplines as well as in a multidisciplinary way, as an Open Education Resource including academic training and leadership coaching under the entrepreneurial university umbrella.

THE PRIVATE PUBLIC ACADEMIC PARTNERSHIP – THE ACCELERATOR OF REVIVING THE LABOUR MARKET AND MATCH MAKING BETWEEN ASPIRATIONS AND NEEDS

While higher education cannot remain a simple panacea of the socio-economic dilemma, as the previous indicators suggest, there are reasons to support a continuation of efforts to make this type of formal education more available for individuals and adapt the programs to contemporary job requirements. This implies: building on other work on ICT-enabled changes, giving to education deeper insights into social organization and the behaviour of individuals. This will be at the level of local societal structures - institutions at meso levels and global structures and policies at macro-levels and will be able to offer:

Personalized learning and teaching. The notion of personalized learning attempts to address these issues, with the emergence of a new class of software known as Recommender Systems [<http://recsys.acm.org>]. Efforts to model aspects of educational domains and learners take a number of forms, including user models comparing the inferred cognitive model against an ideal model of smart tutoring; presentation layers which then tune content dynamically if progress is deemed to be too slow (adaptive educational hypermedia; and the use of data mining for patterns that correlate user behaviour with learning outcomes (educational data mining). More intelligent software thus seeks to provide a student experience of targeted feedback and personalized tuition [Johnson, J. et al, 2012].

Stigmergic learning trails [Johnson, J. et al, 2012]. As an illustration of the kind of disruptive innovations that complex systems science can bring to education, consider the work begun in the early 2000 when the leading-learning company Paraschool based in France was looking for a system to enhance site navigation by making it intelligent and adaptive to the user. They needed an autonomic system because their student numbers were rapidly growing (the number of registered students went from 50,000 to 500,000 in 5 years) as were the number of topics covered by their software (all topics of French secondary education). It was thought that a solution to their problem could lie in social swarm techniques such as those developed by ant colonies. These have been much studied by the complex systems community as examples of complex systems

Automated assessment. As noted above, traditional methods of collecting data on students are very crude. They can also be non-scalable and very expensive. A large part of a student's learning process is governed by assessment. Automated assessment provides the possibility of increasing the amount of feedback a student can receive during the learning process (possibly automatically generated) and so receive greater support for their learning. There are three main approaches to automated marking: ●multiple choice questions, ● short answer marking in free text, and ●essay marking.

Learning analytics. The rapidly developing field of Learning Analytics is concerned with these challenges with respect to education. It seeks to exploit educational big data to deliver as close as possible to real-time feedback to stakeholders in the system, from individual learners, employees and citizens, to institutions, regions and nations. In complex systems terms, the creation of rapid feedback loops at many levels could transform the system's capacity to sense and respond effectively to the environment.

The virtual classroom as Virtual lecture theatre and the virtual laboratory. One reason for conventional education being expensive but ineffective is that it is conducted in geographically distributed purpose-built spaces with specialized equipment. In our universities it is common to have hundreds of students assembled in a large purpose-built theatre listening to a more or less inspiring lecturer. This social structure precludes interaction between individual students and the lecturer, and assumes that everyone in the audience is assimilating information at the same speed. Of course the reality is that apart from listening to the lecture students are engaging in many activities including reading their emails, chatting and even sleeping.

Social networking and peer-to-peer teaching and learning and computer based assessment. One of the best ways to learn is to teach others. Although some universities use this approach with members of one cohort of students teaching members of subsequent cohorts, the motivation is usually to relieve senior teaching staff of some teaching duties. There is clearly much to be learned about the pedagogic

benefits of peer-to-peer (P2P) education for students in the roles of teacher and learner [Johnson, J. et al, 2012].

Get the students aware and responsible for learning. The conventional motivations for learning include: • parent, family and social pressure; • love of learning; • expectation of better job prospects or promotion in one's career; • and peer rivalry and competition. These pressures work well for many students most of the time, but they cause problems for some students some of the time, and they are completely ineffective for a minority of learners for whom demotivating factors can be stronger, e.g. discouragement or hostility to learning by parents, family, and social groups; hatred of learning, because it is boring, frustrating, irrelevant, etc.; low job expectations, or 'alternative' job expectations such as crime; and negative peer pressure or a culture of low achievement.

ICT-enabled social networking is changing the way that people form groups allowing individuals to transcend geographically local social structures and form social networks outside the limited confines of the people in one's neighbourhood. These more virtual societies are often bound together by social structures that include the dynamics of individual relationships [Johnson, J. et al, 2012]. There is a large and increasing body of knowledge of reputation systems, and this will develop considerably through FuturICT over the next decade. This research will be invaluable in helping to motivate students to learn using the Education Accelerator.

Develop alternative teaching by drama roles and games. While young people enjoy informal communication and playing different imaginative role, the computer games are extremely popular with many people. A study of people playing computer games in 2008 found the numbers of internet users playing computer games once a month or more in the largest European countries were: Germany 29.3 million, UK 23.8 million, France 20.2 million, Spain 14.6 million and Italy 12.9 million. The reasons such large numbers of people spend so much time and effort playing computer games include personal challenge through competition and a sense of achievement at doing something well. It has been found that this motivation can carry through when gaming techniques are applied in education. One such experiment is teaching English in the context of computer games. The results so far suggest that students find this approach to language learning much more attractive and motivating than conventional methods.

Spaced learning. Trans-disciplinary neuroscience and educational research into the dynamics of learning can identify key triggers that allow valuable new innovations to emerge. One is 'Spaced Learning' that can reduce learning times by a factor of 10 or more. It is based on neurological studies of memory acquisition demonstrating the intracellular changes in neurons that lead to late Long Term Potentiation and long term memories, difficult, demanding and unpleasant.

Today more than ever we need to *rethink education*. The Education Accelerator may deliver more effective and less expensive learning, enabling societies worldwide to educate all their citizens within the available resources. If the traditional education is done only in the formal way, under public and institutional patterns, the actual conditions of economic globalization involve persuasive connection between economic growth and natural resources' demand growth, yet, dynamics of such interconnection are far from being fully grasped. This can be an issue to implement the real entrepreneurial academies, and franchise them along regions as in a race of pragmatic excellence.

Increasing integration of economies, geographic mismatch between supply and demand added to the changing geopolitics fuel higher security concerns in the energy sector. Consequently, universities are to adapt their role and responsibilities in securing the main resource to supply to the market, that one imposing fast adaptation, secure leading and net value creation. Universities need also to adapt with conditions of global competitive and political pressures as they have to develop academia as excellent business suppliers. Universities developmental role reveal a shift from a social actor to more of orchestrator of human capital resources assigning a central role to education in the process of wealth accumulation.

In this context the collaborative partnership should consider to provide market and society friendly incentives, infrastructure, operational education, technology as well as guaranteeing, investment security. As to meet these requirements, universities have to understand that nothing can be done beyond the excellence within collaborative partnerships. Excellence may not exist anywhere but it can spring everywhere.

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PROFILING CHINESE CONSUMERS – IMPLICATIONS FOR MNCS SUSTAINABLE PRACTICES

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ABSTRACT

The open door policy encouraged growth through investment for China. Multinationals have seized the opportunity of this lucrative consumer market mainly because of its large population, a rapidly growing middleclass, and rising disposable incomes. Associated with this growth arise problems of environmental degradation. China faces a devastating environmental problem and this seems to be growing. There appears an urgent need to address these issues through game changing creativity by understanding consumer's consumption needs. Particularly because cross cultural differences exist in international markets, recognizing these differences become fundamentally important. As solutions to environmental degradation require urgent changes in human behavior and cultural practices to reduce consumption, understanding these consumption views become very necessary. MNCs have been categorized as sources of advanced technologies and quality products in China – but these advantages are weakening. It is now questionable whether MNCs can provide products with quality, sustainability and profitability. Against this backdrop, several views of consumption are proposed through a two dimensional conceptualized model that shows which consumption approaches requires strong or weak sustainable value chain strategies against their intensity of the willingness to adopt sustainability. Based on this model, marketers can better understand how to project their strategies towards increasing sustainable consumption amongst consumers. The article presents an overview of Chinese consumerism. It discusses the crux of environmental crises in China and the consumption behaviour in this market. This model provides the basis for future empirical research in a dynamic market.

Keywords: *China, Consumer, Environmental degradation, Consumption, Multinationals*

INTRODUCTION

A KPMG (2012) study of the future for MNCs in China reports “the shift from “cheap China” to “consuming China” means firms will be looking to produce less in the country’s factories, and instead sell more to its consumers—ultimately a more challenging business model, but one that offers significant rewards”. To sell to the Chinese consumer, one needs to understand the Chinese consumer and what drives consumption. It is estimated that China will be home to more large companies, those with a revenue of over \$1.5 billion, to be headquartered in emerging markets than in the US or Europe (Dobbs, Manyika and Woetzel, 2015). Implementing the open-door policy and economic reforms in China since 1978 has had a significant effect on China’s economic performance and foreign investment (Chung Chen, 1995). The introduction of the Open Door Policy by Deng Xiaoping in 1978 allowed for China to open its world for trading. By the mid 1990s most of China was open for trade and the government policies encouraged growth through investment by providing benefits such as reduction in taxes, tariffs and regulations, following which rapid changes in the market occurred allowing for additional investment. Joining the World Trade Organization in 2001 created more changes and a consistency within foreign trade rules. Multinationals see China as a lucrative consumer market mainly because of its large population, a rapidly growing middleclass, sustained economic reforms and rising disposable income (Wang and Lin, 2009). Foreign investment in the country has also improved lives through creating jobs and disposable income, reactivating the commercial markets, and has led to the improvement in infrastructure around the country (Yu, Chen & Sun, 2010) thus giving rise to consumerism.

ENVIRONMENTAL CRISES IN CHINA

Associated with any growth and development arises environmental problems, prior to this not only Multinational companies (thereafter MNCs) but also other firms need to address these issues either through game changing creativity by understanding consumer’s consumption needs or by optimizing environmental goals within their existing businesses.

As we move into more emphasizes on a sustainable society, the Chinese consumer market can barely be ignored with over 1.3 billion people and several MNCs wanting to enter this lucrative market. In relation to the maxims of modern international business – think global, act local may be changed to localizing priorities to take precedence to meet the demands of obtaining sustainability (Emery, 2011). Multinationals face enormous pressure in China. More recently it has been reported that the Chinese market is maturing, wage costs are rising and with the introduction of environmental standards as consumer’s get more sophisticated are now driving the green demand (Economist, 2015). Sustainable marketing is the new, standard and conventional way of progressive marketing. It is marketing that has the potential to change businesses from within through consistent demands from the consumer;

sustainability is changing the face of marketing. In part, sustainability can be achieved through a change in the consumption habits of the public (Emery, 2011).

China faces a devastating environmental problem. Chinese scientists have warned of the increasing toxicity in their air pollution. There is a call for strong measures to be undertaken as it is affecting their food supply, health, agriculture. This has resulted in the economy to shut down such as schools closing, flights grounded, highways restricting traffic and keeping the tourist house bound. While the environmental problems are colossal, this research looks at a prominent underlying consumer issue in sustainable consumption. For MNCs to encourage more sustainable forms of consumption it is necessary to understand the nature of consumption and the rationale behind those consumption patterns. Particularly because cross cultural differences exist in international markets, one should be able to recognize these differences. As solutions to environmental degradation require urgent changes in human behavior and cultural practices to reduce consumption (Oskamp, 2000), understanding these consumption views become very necessary.

Understanding the underlying motivations of Chinese consumers is important for foreign investors (Madden, 2009). There is a significant need from a global perspective that Chinese consumers adopt the pathway of sustainable consumption. While this may be unlikely to occur on its own but with efforts from all stakeholders that involve central and local government(s), businesses and individuals something can be achieved (Thogersen and Zhou, 2012). Even though there is an expansion of private consumption in China, there are limited publications on Chinese consumer-citizens' adoption of or willingness to adopt sustainable lifestyle elements (Chan, 2001; Yin, Wu, Du, & Chen, 2010). For example, at the moment the government by adopting the green building policy as a national strategy is taking precaution to reduce energy consumption by developing sustainable cities (Guo et al., 2010; Malmqvist, 2008; Yuan et al., 2013). Besides, apart from other attributes, green dwelling attributes were rated as an important factor for homebuyers purchasing an apartment in Nanjing. Other variables such as socio economic status of homebuyers that determine their purchasing power and willingness to pay for green attributes also acknowledged that only the rich are prepared to pay for green apartments. The problem lies in the damage caused to health and to all the idea of health was important in terms of unpolluted environment and non-toxic construction materials (Hu, Geertman and Hooimeijer, 2014). Clearly, health plays a critical role in planning sustainable cities (Duhl, 2005; Kenzer, 1998). Even though research shows that health concerns and food safety received the highest motivating scores, other important factors such as high quality and environmentally friendly products (McCarthy, 2015) also contribute to China's sustainability.

Against this backdrop the objective of the paper is to review Chinese consumption and propose a two dimensional model based on views of consumption and relationship with sustainability that identifies whether strong or weak Sustainable Value Chain Analysis strategies can be applied against their willingness to adopt. In the following sections, the paper gives a brief overview on Chinese consumption patterns; applying theories from consumption literature, we conceptualize the relationship between Sustainable Value Chain analysis strategies and adoption of sustainable products. We apply this conceptualized model to China as it has an evolving and volatile consumer base; this proposal can lend itself to other MNCs within other emerging markets and open avenues for future research.

CONSUMPTION IN CHINA

The opportunities faced by international marketers of consumer goods and services have never been greater. With an increasing consumer's base in Big Emerging Markets (BEM) such as China, the need to understand the consumer and their consumption behaviour is imperative. China's 12th Five – Year Plan aims to increase domestic consumption and is making it a top priority for the future (Carew, 2006). According to Carew (2006), the plan aims to increase stronger domestic demand by reducing China's trade surplus, increasing the currency to rise, and decrease savings into the inefficient banking sector who's loose lending practices has led to overinvestment. Yet, despite these common goals, the market share and profit potential are still attractive to foreign investors, who rely on the strength of the Chinese consumer population.

The Chinese consumer's current consumption behaviour is a result of many years of social and economic change. While in the era from the 1950's to the late 70's, the government had taken complete control of the people. Strong Maoist ideology prevailed and socio economic policies prohibited consumerism. The Communist Party encouraged families to have simple and frugal gatherings with simplistic foods (Parish and Whyte, 1984: 139). The Chinese people were encouraged to work for the betterment of the country, while individualism was seen to be going against the party. Clothing was functional and practical and personal adornment was discouraged (Gamble, 2001; p. 91). The late 1970's and early 80's economic reform gained momentum and they encountered great changes. The early 1980s, after years of shifting ideological campaigns the Party could not use ground-breaking rhetoric and political campaigns to urge the masses. As Richard Madsen concisely stated, the Communist Party was 'ideologically dead' (1993: 183). Instead the Party's elite decided to increase the economic prosperity of the public – to adapt Marx, 'the hope is that material prosperity would act as the opium of the masses' (Gamble. 2001 p. 92-93).

More recently, the Chinese consumer market is rapidly changing not only from a behavioural perspective but with monolithic amounts of funds being invested; one can't help witnessing major historical transformation that has seen the consumer wealth multiply (Van Dijk, 2011). For foreign companies trying to enter into China's volatile consumer market, the possibilities and the drawbacks in this process are in the extremes (Carew, 2006). Foreign investment in China affects local manufacturers, these manufacturers get an opportunity to compete on the global front (Yu, Chen & Sun, 2010); on the other hand they obtain a lesser market share and need to continually improve in quality. It is reported that in 2010, around 445,244 foreign invested enterprises in China, which employed more than 15% of the urban workforce. This represented roughly over 55 million workers (Morrison, 2012). More recently, foreign investment patterns are changing, there are risks associated with China becoming more technologically competitive, increasing purchasing power, more quality oriented and advanced hi-tech, manufacturing innovation and emphasis on environmental protection (Chen, Newburry and Park, 2009).

Consumerism on the contrary tampers with ones sense of wellbeing with a quest for values and having the money to satiate these drives to meet personal happiness (Lupton, 1997). The government still has plans to increase consumerism in China, by curbing on traditional saving habits. This has resulted in the government increasing spending in the area of health care and pensions to encourage households to save less for these items. To increase economic spending the Government has introduced a low tax system. It is forecasted from 2012 – 2022, Chinese households will increase consumption by 17 trillion yuan (Morin, 2007). Story (2010) contends that the Chinese save because they cannot trust the government to provide the medical care they may need, as their policies towards health care and its legal systems are still developing. The policy that has changed the way consumers think was the introduction of the one child policy. This enables the child to become a big consumer of products as they parents and grandparents focus all their money on the one child. Other influences which are the consequences of the consumer habits of modern day Chinese are the younger Chinese who desire to be 'white and western'; the younger generations want all the things their parents could not get from the west. The ideal of *guanxi*, and the fact that the Chinese consumer is often a better saver than their western counterpart also impacts the buying behaviours of the Chinese consumer (Gamble, 2001). Having said that, the alteration of the one child policy that has been newly introduced will put China in a different position, however, the economy and public policy largely determines what makes the Chinese consumer, who they are and who they will be.

Confucianism has a deep history in China, and it is connected to the consumerism of the Chinese as it promotes the values of 'face and social status'. This mean consumers are more likely to buy high end products to help give them respect and acceptance in their social groups. This can be demonstrated

why owning high luxury goods makes the Chinese very brand aware (Jap, 2010). Research by Jap (2010) indicates consumers believe that high end products attracts attention, recognition and acceptance, respect from others, social status and self-confidence. Besides owning the same products as people helps with building relationships or *guanxi* and don't face embarrassment by their social groups. These concepts and values give rise to a significant psychological burden on the Chinese consumer to keep 'face' or to be acceptable into society (Jap, 2010).

Prior to the economic reform, there was similarity in clothing and earnings, meaning that they lived similar lifestyles and was not concerned about self-image. After the reforms, there are several segments (some of which have still remained untouched). Consumers now hold individual attitudes, opinions, values and lifestyles which make it complex to cater to these segments.

SEGMENTATION

There is no doubt that the Chinese consumer market is sophisticated extremely diverse and requires careful analysis to understand its consumers. China shares a common cultural heritage, due to a socialist command government. Although China can be regarded as a fairly homogeneous market (Cui and Liu, 2000) it is not one market and homogeneous market may be only a perception, as it is in fact made up for 22 distinct markets and with variations in climate, geographic, income, history and culture (Chan and Zakkour, 2014).

A survey conducted by Mckinsey (2011) showed that 45% of the Chinese people surveyed agreed shopping is one of their favourite leisure activities compared to 25% in America. Whereby a few years ago that wouldn't have been the case, showing the effects of a changing consumer. Their attitude to goods have changed from looking for goods with high functional attributes to ones that have a little something extra, may it be a brand name or portrays a certain image. Nonetheless, the Chinese consumer can be price sensitive when it comes to consumer goods that do not evoke a sense of status. "Brands that don't matter because they aren't used to mark status, for example food and other commodities, have a much harder time developing loyalty because, when everything else is the same, the consumer will buy based on price" (Story, 2010; p. 178). There are controversy surrounding willingness to pay higher prices for green food, with some research showing consumers are willing to pay a premium (McCarthy, 2015) with the others reporting that high prices are an impediment to purchase in China (Yin et al., 2010; Marchesini et al., 2010). Although they would prefer to purchase the real thing rather than counterfeit brands which may not be affordable, many are willing to save up to acquire such goods; they don't buy on impulse, more particularly for products with a greater value as they are both brand conscious as well as price conscious; a survey reported that one-third of the visitors to a Chinese shopping mall did not purchase any thing (Li et al., 2003).

Wages in the eastern part of China has increased significantly, resulting in a rapid number of Chinese consumers switching from lower class to middle class status (Zhang et al., 2008). Consumers that enter new middle class status, tend to purchase affordable widely known premium products that represent their new social status (Zha, 1996). While the Chinese consumers on average are getting richer so are their spending habits. The average disposable income of Chinese consumers in 2010 doubled in 2014. From an income perspective, this can be segmented into three types of consumers: value consumers, mainstream consumers and affluent consumers (Gamble, 2001). Value consumers are Chinese who can just afford to pay for their needs, with a disposable income of \$6000 to \$16000. Mainstream consumers have a disposable income between \$16000 and \$34000, and are regarded as reasonably wealthy households (Chan & Zakkour, 2014). Affluent consumers earn more than \$34000 and represent two percent of Chinese urban market, or 4.26 million households, which on average is 15 million people (Van Dijk, 2011).

Moving from the traditional 'low-cost everything' mindset, to the now contemporary 'value-driven' consumer thought process can lend itself to a different way of positioning a Chinese consumer. The market could be segmented on their behaviour into two main streams: value driven consumers and new entrants to luxury market consumers (Chan & Zakkour, 2014). Consumers in the 'value driven segment' are noted to typically earn \$15,000 to \$30,000 per year, and are regarded as the 'sweet spot' for Chinese consumerism (Zhang et al., 2008). While the value driven consumers shop less frequently but spend large amounts in single transactions, they are more sophisticated and will pay premium to get what they desire (Cui & Liu, 2000). These are often categorised as young consumers, who are in fact tech savvy and resort to the internet for comparing deals. Nearly 20% of the time, they will compare products and price on the internet and buy through a smart phone (Chan & Zakkour, 2014).

In comparison, the 'new entrants to luxury market' Chinese consumers' account for 27% of worldwide purchases, this is expected to increase to 34% after 2015 (Zhang et al., 2008). It is predicted that China beyond 2015 will account for the largest consumer of luxury products. At one time they accounted for 20 % or (US\$27 billion) global luxury sales (Atsmon, Dixit, Wu, 2011). It is believed that these luxury consumers like to differentiate themselves from traditional new Chinese buyers by buying sophisticated niche or exclusive brands, which tend to be even rarer as compared to other luxurious items (Chan & Zakkour 2014). China has long been recognised as a collectivistic society in which people treasure tradition, benevolence and conformity (Kim & Xiao, 2009). Displaying wealth has become a trend in China, and we think this will continue to translate into growing purchases of luxury goods for oneself, or as gifts" (HSBC 2011). Past research has suggested that people in collectivistic cultures, as opposed to those in individualistic societies, may hold different beliefs or attitudes toward luxuries (Dubois, Czellar, & Laurent, 2005; Tidwell & Dubois, 1996). China is perceived as

representative of collectivistic culture, the Chinese consumer has keen interest in luxury consumption (Wang, Sun & Song, 2011 p246). Luxury brands that can draw out status have had a powerful effect on the Chinese consumer's buying patterns. "Brands that are seen, that demonstrate status, are the ones that evoke fierce loyalty, and those include luxury products and high-end home furnishings and appliances" (Story, 2010; p: 177-178).

It is believed that consumer motives for adopting new ideas are the product of the media and other cultural and legal dimensions which is entirely different from the western world (Shaw & Clarke, 1998; Solomon, 2008; Usunier & Lee, 2009). (e.g. Kim, Pan, & Park, 1998). A study by Wills (2008) identified that when Chinese consumers shop for western products they alter their buying behaviours with a different mindset, adopting a more dynamic, proactive and assertive buying behaviour and believe having "guanxi" with the shop assistants is less important as compared to situations where they are shopping for Chinese products. When purchasing Chinese products consumers tend to feel more relaxed and comfortable, consumers also have a tendency to shop in groups and seek peer review of the goods before purchasing. Notably, there are contradicting views. Traditional values don't seem to disappear so easily especially since coming from a culture that is thrifty, more particularly the emerging middle class consumers demand quality as well as cheap prices (Wang and Lin, 2009). Resistance to Western culture and lifestyle have had periodic upheavals, for example, a Starbucks coffee shop has had to close shop following an online campaign by a China Central TV anchor challenged the presence of the store's operation in the city. The news anchor objective was to preserve the Chinese cultural identity (Wang and Lin, 2009; Goldkorn, 2007). It was observed by revolutionary western Marketers that Chinese consumers would purchase products that met Chinese cultural standards (Hamilton, 1977). Today there is resurgence to the traditional culture, a patriotic emergence rising among Chinese consumers retaliating against foreign manufacturers. This questions whether Western influences have reached their limits (Wang and Lin, 2009). Given above is the evolving Chinese consumer that can be segmented into various groups, they have different tastes, lead different lifestyles and at the same time are also patriotic with their views. Given below we present a model that attempts to capture some characteristics of this consumer and profile them against their consumption behaviours.

MODEL

There is a societal drive occurring in both developed and emerging markets for realizing increased corporate sustainability (e.g., London and Hart, 2004; Park and Vanhonacker, 2007). Keeping in mind that as markets evolve from being manufacturing-focused to becoming more consumer-focused,

MNCs should identify that sustainability requires diverse mindsets and innovative business models to access broader markets (Chen, Newburry and Park, 2009). Chen et al. (2009) presents new challenges for the Chinese markets based on the belief that MNCs investing in China relied on production based have now to move to consumer based focus; intensity in competition is increasing, lastly MNCs have been categorized as sources of advanced technologies and quality products in China – but these advantages are weakening. It is now questionable whether MNCs can provide products with quality, sustainability and profitability. Sustainability is at the higher end of the spectrum. Given these challenges, this research proposes the following model on sustainable consumption. While there is emphasis on MNCs and sustainability both in terms of ecological sustainability as well as a broader approach that considers functional and operations of these firms from a sustainable perspective, it somehow misses a strong understanding of how sustainable consumption can be used to position consumption. Following the definition of Sustainable Consumption at the 1994 Oslo Symposium: “..the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations.” As China plays a critical role in addressing their environmental problems, this research has focused on a broader area of consumption by proposing a framework to position consumption, with the intention of targeting consumers. In essence, a two-dimensional model is proposed to understand the complexity of Chinese consumption and a proposed MNC strategies based on sustainable value that can be designed for the consumer’s willingness to adopt green products.

Figure 1 is a two-dimensional model presenting consumption perspectives and sustainable value chain strategies driven to assist MNCs. On the vertical axis you have Strong SVC strategies and Weak SVC strategies; and on the horizontal axis is the high willingness to adopt green products and low willingness to adopt green products. These two distinct dimensions presents consumer consumption sentiments that are identified to fall into various quadrants.

We draw on Sustainable value driven strategies that are based around the Sustainable Value Chain Analysis (SVC). SVC is the combination of two methodologies i.e. Value Chain Analysis (VCA) and Life Cycle analysis (LCA) which is often used as a diagnostic tool for value chains. It is suggested by de Bakker and Nijhof, (2002) that value chain analysis should not be used in isolation and consideration should be given to the value that final consumers attach to all the activities that contribute to pollution and degradation of the environment, suggesting that LCA should also be integrated for adapting to environmental constrained markets. This in turn would improve an MNC’s competitive positioning, reputation and market access.

Notably, VCA focuses on three areas (Taylor, 2005; Bonney et al., 2007): they suggest, first, the dynamics of information in the value chain, from final consumption through to primary production and input suppliers and back again. It regards how visible and responsive are the information and communication within the chain. How much are stakeholder decisions influenced by what consumers value? Second; how is the creation and flow of value, as perceived by the consumer from the beginning to the final stage in the value chain? How much of the manufacturing and processing activities actually add value? Types of investment made in these key areas; how to optimize on value creation and efficiency? Third, what is the nature of relationships between the different stakeholders, from the supplier to the retailer? How much trust is exhibited? What are the different levels of communication between these organizations and their commitment? What are the underlying risk factors?

Life Cycle Analysis (LCA), considers the life cycle of a product from the time it is sourced to the time it ends, often referred to as 'cradle to grave' analysis, it considers operations such as production, processing, packaging, distribution use and disposal of a product (Camilleri, 2008). The aim of this process is to invest wisely at each level of the value chain in environmental resources such as renewable resources, energy and water; reducing environmental impacts and identifying opportunities for improving environmental performance.

The model classifies consumption into four quadrants conformed within this two-dimensional model. Consumption is categorized as follows: rational, socio-psychological, hedonistic, self-identity/symbolic and communication based (Schaefer and Crane, 2005; Berry).

RATIONAL VIEW OF CONSUMPTION

Under this form of consumption, consumers are rational, utility maximizing decision makers who take a logical decision making processes. This is based on the level of utility attached to, and probability of obtaining, each choice. This model shows that people's choices are based on rationally calculating the costs and benefits of a particular choice they would opt for (Davoudi, Dilley and Crawford, 2014). It is believed that environmental concern can lead to inclusion of environmental criteria in the decision making process. The present situation of China's current environmental problem could exacerbate green consumption. Those consumers that demonstrate perceived consumer effectiveness or those that have strong attitudes towards the environment will follow this path of rational consumption.

This type of consumption can be placed in quadrant one with consumers having a strong willingness to adapt to sustainable products. Since environmental concern leads to inclusion of environmental criteria in individual consumer decision making it is necessary that marketers respond to consumer

demand for greener products and services making use of strong SVC strategies. In addition, one may adopt a differentiation strategy for environmental sound products.

Porter (1980: 37) views product differentiation in terms of the “uniqueness” in the product offering. Some marketer analysts define differentiation as attributes which are ‘perceived by the customer to differ from its competition on any physical or nonphysical product characteristic including price’ (Dickson and Ginter, 1987: 4). Although, product differentiation is particularly relevant for more durable consumer products; Levitt (1980) notes that the strategy can also generate successful outcomes for other commodities; and can be achieved through branding. Some analysts argue that by endorsing a product label the product becomes a ‘self-fulfilling prophecy’ (Peters & Austin, 1985: 61). Product differentiation can also be achieved by external means, such as reputation for reliable delivery or other services offered by the retailer (Caves, 1987; Lawless 1991). The success of this strategy is relevant when there is little that a producer can do to differentiate a product from the competition.

SOCIOLOGICAL VIEW OF CONSUMPTION

This involves shopping to acquire specific social and cultural needs. Consumption is embedded in social and cultural practices. People engage in this consumption for the sake of social engagement with family, peers and friends. This is unlikely for long term sustainability hence a weak SVC strategy is suggested and this category would fall in category III of the quadrant. China being a collectivist society would require a cultural change to integrate society as a whole towards sustainable consumption. The Chinese traditional values of Confucianism have a huge part in how consumers buy products and the social status attributed to them.

Here the focus is more on consumption that has important sustainable roles that account for cultural and social aspects, hence placed in quadrant III as strong willingness to adopt to sustainable products based on strong social views but weak or neutral towards sustainability. As they are resistant to change, there requires a wider transition to address sustainability, create more awareness. Marketers need to promote new ways of fulfilling social and cultural needs through integrating sustainable values.

HEDONISTIC VIEW OF CONSUMPTION:

This type of consumption is regarded as wasteful and discriminatory pattern of consumption and is known as the most recent development in the form of modern capitalism (Migone, 2007). The very use of a product or just by their possession is how consumers gain contentment. It directly opposes

sustainability principles advocated by environmentalists. Chinese consumers are growing more sophisticated in their purchasing habits, they don't just consider utilitarian factors but also look at more hedonic factors that provide value derived from immediate gratification that comes from purchasing, of which luxury brands can be seen within this classification (Story, 2010; Babin and Harris, 2012). This has even led to a booming market for counterfeits of prestige brands (Story, 2010). They are placed in quadrant IV having low willingness to adopt to sustainable products and thus weak SVC strategies. Changing attitudes and behaviours are necessary for this type of consumption.

SELF IDENTITY CONSUMPTION/ AND CONSUMPTION AS COMMUNICATION:

Both these types of consumption appear similar. Consumption as a means to construct psychological and social identity, as such, Durning states that consumption has become 'our primary means of self definition', allowing us 'to satisfy with material things what are essentially social, psychological, and spiritual needs' (Durning, 1992, pp. 8, 23). This consumption is regarded as a code for communication of status, taste, self identity and social relationships. It is a link to building self-identity. The symbolic value of goods is significant. It is the value of highly visible behaviour influencing the behaviour of others is important. For instance, shared experiences of sustainable lifestyles within families, groups and communities whereby individuals feel the need to conform to similar values. The most prominent cultural influence is that of face. Lin Yutang (1939) views on the concept of face is that it can be placed above all earthly possessions. It can be more powerful than fate. Face can be regarded the self as presented to or revealed to other. Confucius focus on wealth and high position is preferred over poverty (Wangdao, 2001). This position or social status also attaches itself to luxury or highly priced possessions and materialism.

This is placed in quadrant II, given that it supports conspicuous consumption. Consumption on products that are not observable due to their private use will tend to diffuse more slowly than innovations that are conspicuous (Hoyer & MacInnis, 2006; Rogers, 2003). Here consumer actions largely depend on behavior and visibility of a product. Marketers need to highlight the exclusivity of their products for products to be used (Amaldoss and Jain, 2005).

For this type of consumption to be sustainable, there is a strong need for SVCs strategies that emphasize visible green association of the product, hence stronger SVC strategies are required for a low willingness to adopt type of consumers. If shared experiences of sustainable lifestyles in families, groups and communities can identify sustainable self identities and lifestyles this would be able to promote more sustainable consumption patterns.

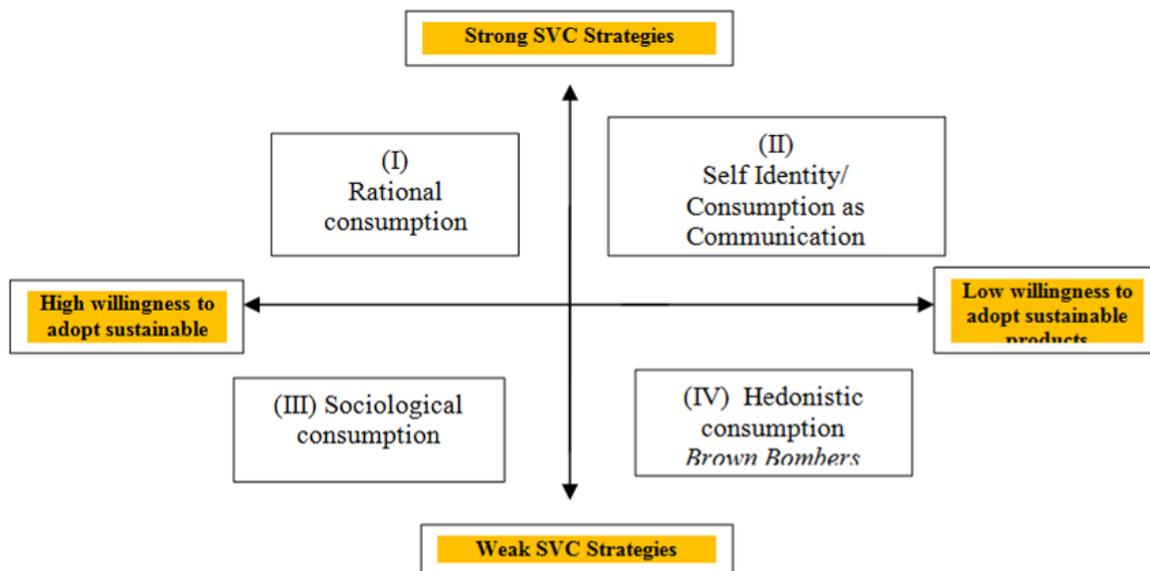


Figure 1. A two-dimensional model of Sustainable strategies and consumption views

To conclude, while this may not be equally applicable across other areas of consumer's environmental behaviour, future research could be directed towards empirically testing the model by experimenting on the different types of consumption approaches. In essence, other measures can be considered to pigeon-hole consumers in various segments that determine their demographic and psychographic characteristics. A cluster analysis will result in providing a richer information base of these consumer segments. To determine market power, researchers could compare leading MNC brands. Further investigation of the green Chinese consumer should also be undertaken to identify whether green consumers are likely to include leading brands in their repertoire. Overall, MNCs should design and position strong and weak SVC communication strategies as they can be target to different categories of consumers with different marketing mix strategies. Segmentation strategies based on consumption provides a more viable measure for the Chinese consumer as they are culturally bound, some of them are transitioning from a collective culture to an individualistic one, have mixed views by following the doctrine of Confucianism and have an increasing purchasing power.

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CORPORATE ENTREPRENEURSHIP IN PHARMA R&D ORGANIZATIONAL TRANSFORMATIONS

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ABSTRACT

This multiple-case study examined factors that could contribute to a richer understanding of top managers' perceptions on maintaining high-performance teams in Pharma R&D. In addition, this multiple-case study investigated top managers' perceptions of building opportunity-based entrepreneurial culture in organizations during strategic change, considered as critical factor for organizations during change, the results of which can be used to guide management in preventing destructive actions of business non-loyalty. Following, this multiple-case study examined the management of change within the corporate entrepreneurship literature as a means of helping organizations improve on practical intelligence of defining growth goals and new enterprise growth management processes and procedures, including those relevant to change, the way they function, and formal and informal rules protecting adequacy of governance arrangements as well as the organizational culture. Participant responses to the interview question regarding capability to maintain high-performing teams resulted in themes regarding role of leadership in risk management approach, leadership development challenges, trust and commitment in inter-firm relationships, as being the top managers' perceptions and the attitudes in outsourcing R&D industry sector since the enactment of the strategic change.

Keywords: *Corporate Entrepreneurship; Organizational Change, High-Performing Teams, Top Management Perceptions.*

INTRODUCTION

As stated by World Health Organization (WHO), the crisis in multicultural management (MCM) policies highlights the need for the use of culture and language to improve standards of care in health services organizations. Global pharmaceutical industry is forced to balance competing economic and scientific priorities before the start of research and development (R&D) of new products and services in a climate that is becoming more stressed by increased regulatory standards, high and inflexible cost structures, depleting product pipeline and increased complexities of clinical trials (Kaitin, 2010). Reduction in research and development productivity makes only one in 13 compounds to reach the

market (Khanna, 2012). Mergers and acquisitions, outsourcing, combined with downsizing and strategic alliances, have become the new norm (Kaitin, 2010; Lowman et al., 2012). Past research has highlighted the impact that organizational transformation can have on Pharma R&D strategic partnerships, particularly with regard to corporate entrepreneurship, governance effectiveness and maintaining high performance teams (Hofstede, 2003; Fink, Dauber & Yolles, 2012; Strebel, 2003).

The purpose of this qualitative study is to explore the perceptions of contract research organizations (CROs) industry sector leaders on how CROs can maintain high performing teams in successful central laboratory services. A multiple-case study research design (Yin, 2013) was used to satisfy the goal of this exploratory research, and data have been collected through multiple sources, including in-depth individual interviews, field notes (George, 1990) and subject matter expert (SME) review and reflection of the data collected. The researcher conducted eight in-depth, face-to-face interviews with business executives holding leadership positions within the pharmaceutical industry in Europe and the US with specific knowledge on building Pharma-CROs partnerships. Additionally, SME examination on the subject matter provided formative evaluation of the interview guide/ instrument and SME reflection on the data collected provided an unbiased and objective view in the analysis phase (Rowley, 2002). Triangulation of data sources was conducted to establish credibility of the researcher's reflections on the phenomena under study (Creswell, Hanson, & Plano, 2007).

MATERIALS AND METHODS

To address the purpose of this study, the researcher first identified business executives holding global leadership positions within the CRO industry. The participants had suitable knowledge on the subject of the pharmaceutical industry outsourcing R&D projects and the researcher conducted eight in-depth interviews with the subjects (Attachment 1). An initial field test was conducted to confirm the applicability and dependability of the interview questions and data collection techniques. A semi-structured interview format provides adaptability, a feature important for case studies, in that each participant's experiences is unique and therefore, questions may need to be refined (Stake, 1995). Open-ended questions, as commonly used in a semi-structured interview, identify themes and nuances in the participants' answers (Yin, 2013). An initial field test was conducted to confirm the applicability and dependability of the interview questions and data collection techniques. Purposive and snowball sampling, the most common sampling strategies in qualitative research, were applied for subject recruitment to the study. Applying this sampling strategy also reassured successful recruitment of "hidden populations"; that is, participants within the pharmaceutical industry that were not easily accessible through other sampling strategies (Noor, 2008).

RESULTS

Different themes emerged from research results that align with the central research question of this study regarding how a corporate entrepreneurship framework can be used to explore perceptions of R&D Laboratories/CRO industry sector leaders on how CROs can maintain high performing teams for developing a successful central laboratory services. Participant responses resulted in themes regarding role of leadership in risk management approach, leadership development challenges, trust and commitment in inter-firm relationships, as being the top managers' perceptions and the attitudes in outsourcing R&D industry sector since the enactment of the strategic change. For example, results suggested that top managers expect maintenance of high-performing teams through leadership development, trust and commitment from the organization in times of strategic changes (*Hansson & Jansson, 2013; Won & Hannon, 2013; Wright, 2010*). In addition, research results showed that top managers who perceive that when management commits to personal development of their subordinates, then career development path within the organization can be maintained by employees together with management to successfully implement the change (*Saari, 2013; Simons, 2013*).

Role of leadership in risk management approach.

All study participants believed that the role of top management is very critical in an organization that is undergoing a strategic change, and that top management must provide a communication strategy to share information with employees, supporting that in order for change to be sustained, management must try to maintain high performing teams and manage risks related to building and keeping them in order to build trust and commitment in relationships with their client base.

Leadership development challenges. All research participants confirmed that when management commits to personal development of their subordinates, then career development path within the organization can be maintained with employees. Effective communication is a fundamental factor in building succession planning of managers, and contributes to the creation of an entrepreneurial environment motivating employees to work even harder and be more productive, even in times of change. In case of strategic partnerships with client management of partnering companies should work together to develop some kind of entrepreneurial ideas pool to communicate the plan of change as well as offer methods of monitoring as to how these ideas and experiences of change are internalized throughout the organization. Further findings suggested that lack of management's commitment to personal development of their subordinates, career development path within the organization affects the quality of relationships, and that management should make good-faith efforts and behave with honesty in relation to their high-performing teams.

Trust and commitment in inter-firm relationships.

Half of participants believed that top managers of their strategic partners get together rarely discussing mainly technical and organizational capabilities involved in agreed relationships. These findings indicated that when top managers of both strategic partners get together to discuss skillsets of their personnel, technical and organizational capabilities involved in agreed relationships, they can focus on positive aspects regarding their reactions to organizational change and be more enthusiastic in promoting positive working relationships. Study findings are consistent with international applications of corporate entrepreneurship theory, which is an important factor that can promote successful business practices, within and between organizations (Mainela et al., 2014). When individuals are interactively involved in international business opportunity building, action and knowledge of personnel can mutually reinforce each other (Dunlap et al., 2013), as is also suggested in this study's findings.

Research findings provided insights supported by the extant literature and that can be used to address entrepreneurial collaborative solutions in interactions with clients to adapt changing research environment (Lustig & Thompson, 2013; Ullman & Boutellier, 2008). Findings further indicated that the role of management is very critical in an organization that is undergoing change in effective communication culture and adequate sharing of information with the client base; by encouraging the breadth of services they are supporting clients with, and that influences organizational strategy and our operating plan. (Kaitin, 2010; Kaplan, 2012; Sams-Dodd, 2013). Three distinct elements make up entrepreneurial culture and are associated with how managers build their CRO/R&D laboratory's positioning in the industry and the expectations for changes that need to be implemented as well as how they treat their current clients (Mirowski & Van Horn, 2005). All research participants underlined role of top managers in risk management and current challenges in leadership development within the organization. Half of study participants mentioned trust and commitment culture in inter-firm relationships skills as crucial for maintaining high performing teams. Accordingly, research findings suggested that managers could help avert negative behaviors on the part of clients when they balance and implementing strategies and operating tactics, while preserving the current business delivery. As a result, clients are willing to work together with management to implement the change (Chow & Chang, 2011; Coates & Bals, 2013; Grimpe & Kaiser, 2010).

DISCUSSION

Build higher performing teams in comparison to their present teams was perceived by top managers as critical importance in relation to risk management approach during the implementation of change (Hansson & Jansson, 2013; Won & Hannon, 2013; Wright, 2010). This element of corporate

entrepreneurship was considered by Saari (2013) and Simons (2013) as to be tied to management commitment to personal development of their subordinates to ensure that employees together with management successfully implement the change. Accordingly, research findings suggested that trust and commitment culture in inter-firm relationships could help overcome conservatism of the part of clients when R&D lab recognizes the role of global alliance management increasing the governance, of skilled professionals in its leadership teams that are been trying managing alliances with different companies. The significance of opportunity-based view of entrepreneurship through application of practical intelligence and communication was found as another support factor in strategic relationships with clients during times of uncertainty and ambiguity (Baum et al., 2011; Brown et al., 2001; Stevenson & Jarillo, 1990).

Effectiveness of multicultural management (MCM) strategies for influencing policies in organizational settings is a subject of multiple researches. Ronen & Kraut (1977) were the first, who in scholar literature clustered countries based on employee work values and attitudes. Geert Hofstede (1980) introduced for different geographic regions four dimensions of power distance, uncertainty avoidance, individualism vs. collectivism, and masculinity vs. femininity as the key elements of MCM. Fons Trompenaars proposed model of national culture differences as a framework for cross-cultural communication applied to general business and management, and added layers in MCM: universalism vs. particularism, individualism vs. collectivism (communitarianism), neutral vs. emotional, specific vs. diffuse, achievement vs. ascription, internal vs. external control, and sequential vs. synchronic (Trompenaars and Hampden-Turner, 1997).

A critic of above theories claims their inadequacy to popularity and little value to those organizations promoting economic growth. Hofstede (1984), Frey (1984) suggested that future theory and research should concentrate on the interaction between economic growth by emphasizing factors at individual, national, and international levels. Schäffner et al. (2006) found that the firm's culture should incorporate the normative assumption or belief that diversity is an opportunity and becomes a predictor of team innovativeness. Kearney & Gebert (2006) confirmed that diversity in age, nationality, and functional background have a positive effect on team innovativeness in a high transformational leadership context, but no effect in a low one. A curvilinear relationship between diversity and performance was identified by Richard, Barnett, Dwyer, & Chadwick (2004). Kochan et al. (2003) found few positive or negative direct effects of diversity on performance.

Scholars of corporate entrepreneurship contend that change management constitutes a natural component of the working lives of organizations (Brown et al., 2001; Simons, 2013; Stevenson & Jarillo, 1990). A corporate entrepreneurship framework offers a means for better understanding, within the context of strategic change (Stevenson, 1984), managers' perceptions of maintaining high-performance

teams in an organization (Baum et al., 2011; Lustig & Thompson, 2013; Ullman & Boutellier, 2008). Given that strategic change is an inevitable factor in the life cycle of modern organizations, the findings from this study contribute to a better understanding of how change in organizations can be successfully and more effectively implemented (Kaitin, 2010; Mirowski & Van Horn, 2005). Overall literature research claims that high-performing teams maintenance needs to be properly managed if any business benefits are to be reaped. If properly managed, diversity likely will respond to these business goals. This does not preclude that diversity at all levels of society should be a goal 'per se'. Beyond business benefits, research should pay more attention to societal benefits attached to the promotion of more inclusive and diverse workforces.

Shift from multiculturalism to diversity as a tool in growing organizations

Rosado (1996) proposed new definition of Multiculturalism as a system of beliefs and behaviors that recognizes and respects the presence of all diverse groups in an organization or society, acknowledges and values their socio-cultural differences, and encourages and enables their continued contribution within an inclusive cultural context which empowers all within the organization or society (p. 2).

Cox (2010) proclaims diversity management as a more dynamic approach and a way to get from a heterogeneous work force the same productivity, commitment, quality, and profit as from the homogenous one. Harper (2011) paid special attention to practical application aspect of MCM policies and their variations across countries. Author emphasized the respect to the various cultures in an organization, their embedding in the policies, and promoted the cultural diversity. Cotter (2011) reinforced importance of MCM policy frameworks. The author described *Interculturalism* as a concept with focus on interaction and communication between different cultures. Interactions of cultures provide opportunities for the cultural differences to communicate and interact to create multiculturalism. The author used another concept of *Cultural Isolation*, presenting any specific ethnic, religious, or cultural community values as a central, key management subject that should center policy frameworks on diversity and cultural uniqueness.

Recent MCM bifurcation trends of *Interculturalism* and *Cultural Isolation* Harper (2011) defined as a borderline between several business leadership MCM styles: controlling vs. adapting, and prospecting vs. defending. Multicultural management became an education discipline that facilitates providing accurate cultural information, leading to a productive psychosocial orientation to an effective cross-cultural communication. Agency for Healthcare Research and Quality (2013) defines national cultural health as focused on sufficient values, interests and principles of the Nation, a person or group lives in. Ethnic cultural health is focused on cultural values, interests and principles of the ethnic group a person belongs to or interacts with.

Dawkins (2006) suggested the explanation of developing ethnocentrism by genetic *The Selfish Gene*, while Hammond & Axelrod (2006) have attempted to select the ethnocentric phenotypes. De Dreu et al. (2011) evaluated correlation between ethnocentrism and oxytocin hormone levels in blood. They found that in randomized controlled trials that oxytocin creates intergroup bias because oxytocin motivates in-group favoritism and, to a lesser extent, out-group derogation. Daniel Goleman (2013) defined links between oxytocin releases with activation of amygdala, the brain radar of danger. McCleskey (2006) described this three-phase physiologic process. The release of stress hormones leads to excessive death of neurons in the critical pathways responsible for emotional regulation: emotion defeats reason. Once an association is made through repetition of a behavior, it increases the likelihood one will continue to make the same association and decreases the likelihood of a different association. Behavior change involves both unlearning and relearning and developing new chemical connections in the brain; this explains why “wired” patterns of behavior are so difficult and slow to change.

From anti-MCM to organizational change resistance

Cultural models are made up of culturally derived ideas and practices that are embodied, enacted, or instituted in everyday life (Fryberg & Markus, 2007). Dauber et al. (2012) suggested performance assessment (i.e., inward-oriented operations) as a mechanism of strategic changes in organizational structure. The authors consider learning processes, such as “single-loop learning” that refers to the detection of errors and the adjustment of strategies to overcome mistakes. Double-loop learning, however, questions existing underlying assumptions, that is, organizational culture, and may lead to more fundamental changes in strategies and their operationalization. Dauber’s concept of organizational culture model transformation into a more holistic, comprehensive, and interdisciplinary cultural dynamics in organizations can serve as a meaningful reference to build new cultures.

Relevance of cultural models to business, their impact on critical variations as cultural shock, negotiation failures, strategic collaboration failure, as well as cultural routine business prototypes (centralized vs. decentralized decision making, risk management, engagement, rewards and organizational loyalty) define future of companies, their strategic partnerships, competitiveness, sustainability, and innovativeness. To reach the new level of performance, the organization has to empower self-organizing teams and transform the role of the manager from controller to enabler.

Beer et al. (1990) proposed six steps of effective change: 1) Mobilize commitment to change through joint diagnosis of business problems; 2) Develop a shared vision of how to organize and manage for competitiveness; 3) Foster consensus for the new vision, competence to enact it, and cohesion to move

it along; 4) Spread revitalization to all departments without pushing it from the top; 5) Institutionalize revitalization through formal policies, systems and structures; 6) Monitor and adjust strategies in response to problems in the revitalization process.

CONCLUSION

Scholars of corporate entrepreneurship contend that organizational change constitutes a natural component of the working lives of organizations (Brown et al., 2001; Simons, 2013; Stevenson & Jarillo, 1990). A corporate entrepreneurship framework offers a means for better understanding, within the context of strategic change (Stevenson, 1984), managers' perceptions of technical and organizational maturity, efficient governance, and maintaining high-performance teams in an organization (Baum et al., 2011; Lustig & Thompson, 2013; Ullman & Boutellier, 2008). Given that strategic change is an inevitable factor in the life cycle of modern organizations, the findings from this study contribute to a better understanding of how change in organizations can be successfully and more effectively implemented, as well as how to forecast allocation of resources so as to bring about the desired change (Kaitin, 2010; Mirowski & Van Horn, 2005).

This multiple-case study examined factors that could contribute to a richer understanding of top managers' perceptions on maintaining high-performance teams. It also sought to advance knowledge that could help organizational leadership recognize the significance of establishing mutual trust and networking structures with their clients so they may successfully cooperate with their strategic partners during times of strategic change. In addition, this multiple- case study investigated top managers' perceptions of building opportunity-based entrepreneurial culture organizations during strategic change, considered as critical factor for organizations during change, the results of which can be used to guide management in preventing destructive actions of business non-loyalty. Following, this multiple-case study examined the management of change within the corporate entrepreneurship literature as a means of helping organizations improve on practical intelligence of defining growth goals and new enterprise growth management processes and procedures, including those relevant to change, the way they function, and formal and informal rules protecting adequacy of governance arrangements as well as the organizational culture. Participant responses to the interview question regarding capability to maintain high-performing teams resulted in themes regarding role of leadership in risk management approach, leadership development challenges, trust and commitment in inter-firm relationships, as being the top managers' perceptions and the attitudes in outsourcing R&D industry sector since the enactment of the strategic change.

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ATTACHMENT 1. INTERVIEW GUIDE QUESTIONS

Top Managers' Perceptions of Technical and Organizational Maturity (T), Efficient Governance (F), and Maintaining High-Performance Teams (MoC) Using an Organizational Entrepreneurship Framework

Date: _____

Introduction

To Interviewee:

"The interview is recorded on tape for the best possible data. Is this okay? I can turn off the tape recorder along the way if you wish."

"Have you read the information I sent in the e-mail? Have you signed the Informed Consent Form to participate in this study?"

"The purpose of this investigation is to explore how an organizational entrepreneurship framework can be used to explore top managers' perceptions of technical and organizational maturity, efficient governance, and maintaining high-performance teams of central laboratory services operations in a global R&D lab/CRO." "Do you wish to ask any question regarding the study or this procedure before we proceed?"

Exploring Interviewee Perceptions on the Study Topic

To Interviewee: "This is an investigation to determine how the application of the central laboratory services (CLS) business model has had an effect on top management tasks of a global CRO. This interview will specifically refer to the CLS regarding strategic partnerships with pharma R&D sponsors and transformational changes within the organization, one of the leaders in the R&D labs/CROs' industry sector during the last years."

Part A (Participant Information)

| | |
|------------------------------|----------------------------------|
| A1. Interviewer: _____ | A2. Interviewee ID number: _____ |
| A3. Job title: _____ | A4. Location: _____ |
| A5. Gender: Male / Female | A6. Employee age: _____ |
| A7. Years in industry: _____ | A8. Years in CRO: _____ |

Part B: Interview Questions addressing issues of Technical and Organizational Maturity, Efficient Governance, and Maintaining High-Performance Teams Using an Organizational Entrepreneurship Framework

The interviewer will ask the interviewee to answer the following interview questions by freely expressing their beliefs, opinions, and feelings associated with the R&D labs/CRO's business

model. The interviewees will be asked to elaborate on their responses when appropriate and following normal in-depth interview procedures.

B1. Why are strategic and operational changes needed in established R&D labs/CROs today in order to develop a central laboratory positioned for success in the future?

B2. How can established R&D labs/CROs today enact strategic and operational changes in order to develop a successful and sustainable central laboratory business model?

B3. Why are strategic and operational changes needed in established R&D labs/CROs today in order to develop a more efficient client/provider governance model?

B4. How can established R&D labs/CROs develop effective governance to maintain a successful today entrepreneurial business model for tomorrow?

B5. How can R&D lab/CRO leadership build higher-performing teams in comparison to their present teams in order to better meet the future business plan goals of a successful R&D lab/CRO?

B6. How do you perceive the viability of an entrepreneurial business model to help your R&D lab/CRO become more competitive in tomorrow's pharma R&D market?

Summary

Thank you for your kind participation in this study and the opportunity to explore the organizational entrepreneurship framework through your valuable perceptions of technical and organizational maturity, efficient governance, and maintaining high-performance teams in global R&D labs/CRO business models.

DO CHILDREN OVERESTIMATE THEIR INFLUENCE ON PARENTS' PURCHASE DECISION? SYSTEMATIC ANALYSIS

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ABSTRACT

Children's influence on their parents' purchase decision was examined in more than 270 articles published in a period of 1985 – 2015. The purpose of this article was to systemize previous findings from researches that were performed in dyads or triads of respondents (child and one or both parents) in order to answer these questions: Do children overestimate their influence on parents' decisions to purchase products? If yes, how overestimation differs depending on certain types of products? A systematic analysis of articles in nine main databases of social sciences was performed to select the articles related to child's influence on his/her parents' purchase behavior. 30 articles, suitable for further analysis sample-wise (dyads or triads), were selected for analysis. Researches included data on a number of products, which let us create a database of 149 cases where children's and parents' perception of children's influence on parents' purchase decision was measured. Qualitative and quantitative data analysis methods were applied. Both of them proved that there is congruence between children's and parents' perception of influence on purchase decisions in most of the articles, researches and cases. Just in 22% of the cases children overestimated their influence, if compared to parent's response. Parents overestimated children's influence in 14% of the cases. Based on this analysis we can conclude that children's overestimation of their influence on parents' decision to purchase products is more an exception than a rule. Products for children and commodities are the categories where children's overestimation of influence was observed more often.

Keywords: *children influence, parents' purchase decision, consumer behavior, systematic analysis.*

INTRODUCTION

The effect of children's influence of parental purchase decision making has been under researchers' interest for over 40 years. Researches were performed in developed and developing countries in a vast geographical spread (Dikcius et al., 2014; Kerrane et al., 2012; Kaur and Medury, 2013; Che-Jen and Sijun, 2010, Gaumer et al., 2013; Wang et al., 2007, Akinyele, 2010; El Aoud and Neeley, 2008, Shoham

and Dalakas, 2005; Ülger and Ülger, 2012, Marshall and Reday, 2007). Studies, related with children's influence on parental purchase decision varied depending on product categories: goods (Buijzen and Valkenburg, 2008; Fikry and Jamil, 2010), services (Labrecque and Ricard, 2010); products for children's consumption (Kim et al., 2009, Fallon and Bowles, 1998) versus family consumption (Gavish et al., 2010). The researches varied depending on participants as well. A lot of researches asked only parents how they perceived their children's influence (Bakir et al., 2006; Dikcius et al., 2014), while some researches included only children and evaluated their opinions (El Aoud and Neeley, 2008; Marshall and Reday, 2007). However, only a small portion of researches included both children and parents in the same research. These studies used dyads or triads of respondents in order to measure perceived children's influence on their parents' purchase decision from children's and parents' point of views.

Researchers that used dyads or triads for measuring an influence on purchase decision expected that participants in a family would have different perceptions of their impact on a decision to buy products. Belch, Belch, and Ceresino (1985) were among the first authors who concluded that children expressed higher level of influence than their parents did, but not in all product categories. The authors found that children expressed higher level of influence than their parents only in case of five products out of 18 that were researched. Later researches provided different results as well. Some authors proved that children overestimated their own influence on parents' decision to purchase products (Beatty and Talpade, 1994; Akinyele, 2010; Şener, 2011). Other researches noticed the opposite: parents' overestimated children's influence on their parents' decision to purchase products (Fallon and Bowles, 1998; Lee and Beatty, 2002; Harper et al., 2003). In addition, there are studies which found congruence between children's and parents' perceptions (Belch et al., 2005; Nørgaard et al., 2007; Wang et al., 2007). Thus, the issue that some family members, children primarily, might overestimate their influence on others in purchase decision is unresolved. Empirically based, and moreover, comprehensive knowledge whether children tend to overestimate their impact could support researchers and practitioners in designing research and interpreting their results.

The studies indicated that product type is one of the main factors differentiating children's influence (Dikcius and Medeksiene, 2008; Beneke et al., 2011). It was reported that strength of children's influence was higher in the case of products for children than for the family use (Beatty and Talpade, 1994; Chavda et al., 2005; Dikcius et al., 2014). Evidence is provided that children had bigger impact on parents' decision to purchase goods than services (Batounis-Ronner et al., 2007; Flurry and Veeck, 2009; Kim and Lee, 1997). Finally, several authors argued that children are more influential on parents' decision to buy convenience products (some named these as minor products) comparing to the case of shopping products (major products) (Chavda et al., 2005; Akinyele, 2010). That allows presuming that children's overestimation of their influence can differ depending on different products categories.

Due to such variation in results of previous researches the question “Do children overestimate their influence on parents’ decisions to purchase products?” remains unanswered. Thus, the main goal of this research was to determine whether children’s evaluation of their influence on parents purchase decision was higher than their parents’, and how the overestimation differs depending on product category.

The systematic analysis of scholarly publications from major databases was performed. 30 articles published in a period of 1985 – 2014 were extensively examined. Since most of researches included data on a number of products, we analyzed 149 cases where children’s and parents’ perception of children’s influence on parents’ decision to purchase products was measured. Qualitative and quantitative methods were used for the analysis of the selected articles.

THEORETICAL BACKGROUND FOR CHILDREN’S OVERESTIMATION OF THEIR INFLUENCE

Some theories could be used in order to explain why children could overestimate their impact on parents’ decisions, but none explains the phenomenon (if it exists) exhaustively.

Valkenburg and Cantor’s (2001) theory of children as consumers development suggests that at different developmental stages children have different needs, followed by cognitive and social abilities that could affect their evaluation of influence on purchases. With an increasing age and socialization the number of examples when children’s requests, suggestions, provisions of information, settled priorities or other indirect means of influence were satisfied, increases. That happens since children are acknowledged as more mature, expert in particular fields, deserving decision making freedom and respect to their opinion by their parents with age. In this case the phenomenon of survivorship bias (suggested by Wald, 1943) might take an effect – people tend to recall, analyze, and follow the selective examples of success much more than their actual proportion in the events’ population is. Children, being successful in some cases of desired purchase, also not avoid this bias, considering that their influence on parents is higher than actual on the basis of selective success examples.

A number of explanations why parents and children evaluate their perceived influences on purchases differently could be related with theories of perception of social reality: construction of social reality, social projection, and impression management (Eveland and Gleen, 2008). In this case social reality is a purchase, where individuals frame and cognitively or sub cognitively analyze shared situations.

McLoed and Chaffee (1972) used cognitive theory of co-orientation as a background in explaining evaluations’ differences of shared social reality. The model argues that evaluation differences are dependent on person’s cognition. This suggests that parents’ evaluation could be more accurate, considering that their cognition is more capable and developed if compared to children’s cognition.

In a similar manner, higher parent's accuracy in estimating the influence could be explained by social projection. This concept explains that individual's judgment about others is dependent on the judgment about oneself, and the more accurate the initial judgment is, the more accurate is projection, and thus, the final perception (Nickerson, 1999, Hoch, 1987). It is likely that parents follow this process with more accuracy starting from self-evaluations, following to projection and final perception, thus their estimated influence is more adequate.

In case of any respondent, results could be biased due to impression management (Prentice and Miller, 1993). Some people might aim for artificial distinctiveness, exaggerating selective characteristics or statements about their behavior (in the case of influence, it can be treated as social success). As younger age is usually related to higher susceptibility to interpersonal influence (Park and Lessig, 1977), children might tend to over report their influence for the sake of interviewer's social impression.

The last explanation why children might overestimate their influence on parents is based on the phenomenon of omnipotence (sometimes referred as magical omnipotence, since it is imaginary), which explains individuals' shaped belief that he/she is gifted with much more than actual (even unlimited) powers. Psychologists explain that the feeling of omnipotence is characteristic to children, especially in early childhood (Skynner, Cleese, 1993), since a child who is beloved, cared for, and supported might elaborate the feeling of world's submission to his/her wills, which decreases with development (Bromberg, 1983). When affected by omnipotence, children, especially younger ones, might truly believe they serve as influencers and decision makers in family purchase decisions more than they in fact are.

Nevertheless, there might be cases when parents allow children to participate in purchase decisions more extensively, giving them a feeling that they are influential. Children participate more often in purchase decisions when the purchase is related to their own needs; and in everyday shopping of comparatively inexpensive purchases. Since regular grocery purchases are a part of children's daily interaction with parents, where socialization is taking place, children might perceive higher influence if compared to actual due to higher involvement and more frequent participation in events. Influence in purchase of shopping goods and services should be perceived more realistically due to relatively more seldom involvement and participation.

METHODOLOGY OF SYSTEMATIC ANALYSIS

Articles were selected in August 2015 from the most acknowledge databases for social sciences, and especially marketing. Nine databases (see Table 1) formed the population of articles. We decided to use period from 1985 till 2015. Four groups of keywords were used for selection of articles. First group was related to the question Who? The main keyword was "child*" and some other keywords as

“adolescent*”, “teen*”, “tween*” were used as well. Another group of keywords were related to action. It included such words as “impact”, “role”, “participation”, “involvement” and “influence”. The third group was related to the question Whom? In addition to the main keyword “parent*”, we used other words like “famil*”, “mother*” and “father*”. The final group of keywords had such keywords as “purchas*”, “consum*”, “shopping”, “buy*” and “decision”. Additionally, manipulations were run by putting any of collateral arguments in article title, and “child” (or related) in text, and afterwards adding additional arguments, if the result was too vast.

Three step screening procedure was applied in order to select articles that suited for the purpose of the analysis. The key criterion for the selection of articles’ was the relevance to the topic of child influence on parents’ purchase decision. This primary screening of the articles allowed us to develop a list of 278 articles (see Table 1).

| Database | EBSCO | Emerald | JSTOR | Research gate | Sage Journals | Science direct | Springer link | Taylor and Francis | Wiley |
|--------------------|-------|---------|-------|---------------|---------------|----------------|---------------|--------------------|-------|
| Number of articles | 95 | 44 | 12 | 41 | 15 | 25 | 10 | 17 | 19 |

Table 1. Initial sample of articles according to the databases

During the next step of the screening, the list of articles was analyzed more deeply. 40 articles were excluded due to repetition. Articles that appeared to be in other than English language were excluded as well. Some articles which were not available as full text through the same databases and after extra check from other possible sources were removed. In addition, articles that did not report results of primary research (literature review, theoretical developments) and working papers were removed. Thus, a number of articles was reduced to 176.

During the third stage of screening we evaluated all entries on the basis of suitability for the analysis. First, we checked if an article included dyad or triad of respondents (a child and one of parents at least). Second, a child’s influence on parents’ decision to purchase products had to be measured. Finally, content of measurement was evaluated in order to estimate if data were presented in comparable way. The last stage of screening left 30 articles, which served as a total sample of current analysis (these are marketed as * in the list of references). Two coders analyzed the suitability of articles for further analysis. Cohen’s kappa coefficient, used to assess intercoder agreement, was $k=0.758$, which shows excellent agreement between coders, since value is greater than 0.75 (Banerjee et al., 1999).

DESCRIPTIVE DATA OF ANALYZED RESEARCHES

Initial analysis of articles showed that researches were performed in different countries. Some articles published results from researches performed in several countries, which resulted that we had 36

researches in total, which were performed in 15 countries. These countries represent various regions in Africa, Asia, Australia, Europe, Middle East and North America.

The amount of researches differed significantly depending on a decade of publishing. We found only 4 researches published in 1985-1994. However, the amount of researches increased three times during next decade (12 researches) and continued to grow during 2005 and 2014 (20 researches) (see Table 2). We can conclude that the topic is gaining more importance, since the number of researches grows constantly.

| Year of publishing | 1985-1994 | 1995-2004 | 2005-2014 |
|----------------------|-----------|-----------|-----------|
| Number of researches | 4 | 12 | 20 |

Table 2. Distribution of researches according years

The selected articles differed according to research methodology. More than 90% of researches were quantitative, while 9% of researches used qualitative approach (they were used for qualitative analysis only).

CHILDREN'S OVERESTIMATION OF THEIR INFLUENCE ON PARENTS' DECISION TO PURCHASE PRODUCTS: QUALITATIVE ANALYSIS

Two coders were employed in order to evaluate congruence and differences of children's and parents' perception. Three main and two additional categories were developed for measurement. Main categories were as follows: a) children overestimate their influence on parents' decision to purchase products; b) parents' overestimate children's influence on parents' decision to purchase products; c) no statistical differences were observed between perceptions of parents' and children's. Additional two categories were developed for those researches where authors subjectively evaluated perceptions of parents' and children's. The coders used mode when a research included more than one object. Cohen's kappa was applied to measure intercoder agreement. Cohen's kappa coefficient was high ($k=0.836$) for evaluation of congruence and differences of children's and parents' perception.

Analysis of articles has showed that in two thirds of articles no differences between parents and children were found in evaluation of perception of child's influence on their parents' decision to purchase products. Just in three articles children's perception was statistically higher than parents'. However, parents' perception was statistically higher than children's in the same amount of articles. We observed just minor difference in subjective evaluation of several articles (those contained no statistical analysis) (see Table 3).

Some articles had researches performed in several countries, which let us look deeper to the individual research. However, in case of separate researches we had almost identical situation. No statistical differences between perceptions of parents' and children's were observed in 67% of researches (see

Table 3). In addition to the results of articles, one more research showed that children's perception of child's influence on their parents' decision to purchase products was statistically higher compared to the parents'. Such results contradicted to the initial idea, that children overestimate their influence on parents' decision to purchase products.

| | Number of articles | Number of researches |
|---|--------------------|----------------------|
| Children's overestimation was statistically significant | 3 | 4 |
| Children's overestimation was subjectively higher | 3 | 3 |
| Parents' overestimation was subjectively higher | 2 | 2 |
| Parents' overestimation was statistically significant | 3 | 3 |
| No statistical differences between perceptions of parents' and children's | 19 | 24 |
| Total | 30 | 36 |

Table 3. Distribution of articles and researches according to differences in perception of family members' influence of family purchase decision

Since the initial analysis revealed only several researches that reported differences in children's and parents' perceptions, it was worth to analyze these cases in more detail. Both types of researches were performed during the same period of time (see Table 4), therefore there was no dependence between the period and the overestimation in perception of child's influence on their parents' decision to purchase products. Due to a very small amount of cases we couldn't compare results for each country, but having a look country-wise we can claim that higher children's perception, if compared to parents' perception, was noticed in developed (USA, UK, Belgium) than in developing (Nigeria, Turkey) countries. However, the results have similar distribution on the other side as well: higher parents' perception than children's was noticed in developed (UK, Australia, New Zealand, Canada) and developing (India) countries as well.

| | Children overestimate their influences | Parents overestimate children's influences |
|----------------------|--|--|
| Years of publication | 1985-2011 | 1998-2004 |
| Countries | Nigeria, USA, UK, Turkey, Belgium | UK, Australia, New Zealand, Canada, India |
| Type of research | Quantitative, Qualitative | Quantitative |
| Type of measurement | Means, percentages, qualitative | Means, percentages, correlation |

Table 4. Distribution of researches with children's or parents' overestimation

As the external environment of the researches did not present clear dependency of the results, we evaluated methodological aspect of the selected researches. In both cases (children overestimate their influence and parents' overestimate children's influence), quantitative researches were used (see Table 4). Only one qualitative research found that children evaluated their influence on parents' purchase decisions higher than their parents did. We can conclude that in most of the articles and researches children's and parents' perception of children's influence on parents' purchase decision did not differ.

CHILDREN'S OVERESTIMATION OF THEIR INFLUENCE ON PARENTS' DECISION TO PURCHASE DIFFERENT PRODUCTS: QUANTITATIVE ANALYSIS

28 articles out of 36 had means or percentages used for measurement of children's influence on parents' decision to purchase products. These evaluations were made in dyads or triads of children and their parents. Moreover, each research had several evaluations (mainly because each research included several products). All that compiled a database of 149 cases, suitable for quantitative analysis. Previous researches showed that children's influence on parents' decisions to purchase products depends on the type of products. The sample of cases included almost one third of products for children and two thirds for parents (see Table 5). Almost 80% of selected cases analyzed goods. Finally, some studies discovered that children had stronger influence on parents' decision to buy convenience products comparing with more expensive and rarely purchased products. The sample included more than 30% of convenience products (like daily food products, toothpaste, sweets, etc.) and almost 60% of shopping products (such as cars, TV sets, computers, apparel, holidays, furniture, etc.).

| | Frequency | Percent | | Frequency | Percent | | Frequency | Percent |
|-----------------------|-----------|---------|----------|-----------|---------|----------------------|-----------|---------|
| Products for children | 49 | 32.9 | Goods | 115 | 77.2 | Convenience products | 48 | 32.2 |
| Products for parents | 91 | 61.1 | Services | 21 | 14.1 | Shopping products | 88 | 59.1 |
| Other | 9 | 6 | other | 13 | 8.7 | Other | 13 | 8.7 |

Table 5. Distribution of cases according to the type of products

Initial idea of using meta-analysis was rejected, since the selected researches have used different measures to evaluate perception of children's influence. The biggest part of researches used five point Likert scale for measurement (almost 80% of cases), but some researches were based on 7 point (7% of cases) or 6 point scales (7% of cases) and some researches evaluated children's influence using percentages (7% of cases). In addition, large variety of products caused a substantial heterogeneity across all studies.

Due to such variety of cases, we decided to analyze each case individually using appropriate statistics. In case of means used for measuring the impact, we applied Welch's t-test, while Z test was used for evaluation of differences between percentages. The same categories were used for the analysis: a) children's overestimation of their influence on parents' decision to purchase products was statistically significant; b) parents' overestimation of children's influence on their parents' decision to purchase

products was statistically significant; c) no statistical difference between perceptions of children's and parents'.

Quantitative analysis confirmed the conclusions of qualitative analysis. The biggest part of cases (63.8%) had no statistical differences between children's and parents' perception of children's influence on parents' decisions to purchase products. This percentage statistically significantly differ from percentage of cases when children overestimate their influence (22.1% McNemar $\chi^2= 29.070$, $p=0.000$) and from percentage of cases when parents' overestimate children's influence (14.1% McNemar $\chi^2= 45.940$, $p=0.000$). However, no statistical difference was found between the last two percentages (McNemar $\chi^2= 2.241$, $p=0.134$). These results contradict initial expectation that children tend to overestimate their influence on parents' decision to purchase products. Just in 22% of cases children evaluated their influence higher than parents' did. However, almost the same percentage of cases stated the opposite – parents' overestimated children's influence.

Such small number of cases when children evaluated their influence higher than parents' means that it is rather an exception, but not a rule. At the same time, it is possible to look for specific cases where children's overestimate their influence occurred more often. As it was mentioned earlier, many authors noticed that children have more influence on parents' decision to purchase products for children. Therefore, we could expect that children could overestimate their influence as higher in cases of products for children. Analysis of the cases proved this expectation, since statistically significant difference was detected ($\chi^2= 8.479$, $p=0.014$). Z test proved that the bigger part of children (37%) overestimated their influence on parents' decision to purchase products for children compared with the products for family (15%) (see Table 6).

| | Products for a child | Products for family |
|--|----------------------|---------------------|
| Children overestimate their influence | 37** | 15 |
| Evaluation of influence didn't differ significantly | 49 | 69** |
| Parents' overestimate children's influence | 14 | 16 |
| **difference statistically significant at 0.05 level | | |

Table 6. Distribution of cases depending on a consumer of a product, %

Some authors pointed out that children are more influential in case of purchase of goods comparing with purchase of services. However, analysis showed that children's and parents' evaluation of children's influence did not differ depending if goods or services were analyzed ($\chi^2= 0.958$, $p=0.619$).

Finally, due to the results of previous researches, we suppose that children overestimate their influence on parents' decision to buy convenience products more than shopping products.

| | Convenience products | Shopping products |
|---|----------------------|-------------------|
| Children overestimate their influence | 31* | 17 |
| Evaluation of influence didn't differ significantly | 50 | 69** |
| Parents' overestimate children's influence | 19 | 14 |

| |
|--|
| **difference statistically significant at 0.05 level |
| *difference statistically significant at 0.1 level |

Table 7. Distribution of cases depending on category of products, %

Analysis (see Table 7) showed that there is a statistically significant difference in distribution of cases depending on a category of products only at 0.1 significance level ($\chi^2= 5.221$, $p=0.073$). Congruence between children's and parents' evaluation of children's influence was noticed in statistically higher percent of cases for shopping products (69%) than for convenience products (50%). Using Z test, we found that bigger percentage of children (31%) overestimate their influence on parents' decision to purchase convenience products compared to shopping products (17%) only at 0.1 significance level.

CONCLUSIONS

Findings of previous researches were quite controversial towards children's overestimation of their influence on parents' decision to purchase products. At the same time, the topic about children's influence on parents' decisions gets more and more attention from the researchers. The analyzed articles covered very long time period from 1985 to 2014, which let us evaluate the issue over the time. Moreover, the researches were performed in different countries, including various respondents. All that increased transferability of our results. In order to avoid subjectivity in evaluations, several techniques were applied. Systematical selection of articles assured that all articles from the selected databases would be chosen. We used qualitative and quantitative approach for the data analysis.

Results of both qualitative and quantitative analysis denied initial idea of children's overestimation of their influence on parents' decision to purchase products. Congruence between children's and parents' perception of influence was noticed in more than 60% of all articles, researches and individual cases.

Children's overestimation of their influence on parents' decision to purchase products was found in some researches. We observed such phenomenon in 20% of the analyzed cases. These cases did not differ depending on external factors such as time, country or measurement. Children's overestimation was found in higher percentages of cases where purchase decision was related with children-related products and convenience products. On the contrary, congruence between children's and parents' perceptions was in higher percentage of cases where purchase decision was related with family-related products or shopping products.

Parents' overestimation of children's influence on parents' decisions to purchase products was detected in 14% of the analyzed cases. These cases did not differ depending on such factors as time, country, measurement or product type.

Since our results demonstrate that influence overestimations in family purchase decisions from one or another side are exceptional, the implications are important primarily for the researchers. Results allow claiming that parents and children have more or less adequate and equal understanding of their

powers on each other in purchase decisions. Although it is considered that dyadic and triadic samples bring to higher accuracy, at the same time they are far more costly and difficult in sampling, data collection and analysis stages. If influence estimations bring to very similar results having only one side of interviewees, it means that efforts could be significantly reduced with minor losses (if any) in result's reliability.

Both scholars and researchers in practice can assess the responses gathered from children on their influence on parents as rather reliable, since their parent's perceptions usually match. However, caution should be taken in products for children, and in convenience products – although children's influence overestimations were not very frequent, they happen more often in these categories. The result implies that in cases of these products parents are more reliable source of information, signaling real situation of influencers, decision makers, and purchase behavior.

Further research could address the differences of influence estimations on the basis of gender and age of the child and/or parents, and social class of a family. Other methods (experiment, observation) could be added to the research design besides questionnaire, to assess whether reported influence is actually yielding in opinion change or purchase action.

The primary limitation of this research is a comparatively small sample of articles (although it led to 149 comparable cases). Acknowledgement of other limitation includes the fact that authors of the articles used measures that differed in statements, response formats and scalar properties. Samples and sampling procedures also differed across articles, interfering results' comparability. Unfortunately, the sample of articles under the analysis did not include articles published in top rated journals, since comparatively small portion of articles applied dyads or triads for sampling.

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THE INDIVIDUAL: THE CORE OF THE ORGANIZATION IN A WORLD OF CONFORMISM

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ABSTRACT.

The object of this work is to emphasize the importance of the individual's uniqueness for the organization he belongs to, by means of its creative potential in a world where conformism breaks into all fields. Starting from a global presentation it continues with the organization and in the end deals with the individual as central element within the organization, identifying the elements influencing his creative capacity as well as the methods by which means are created favourable conditions for its stimulation.

The work presents, in a theoretical approach, the conformism's influence upon the human creative potential. Concrete results need putting in practice the recommendations by the organization which should be included in a "pilot" programme, preferably in small organization for the beginning.

Individual's creative capacity stimulation and development shall materialize in improving organization performance at all hierarchical levels and in creating a competitive advantage.

The work expresses an original vision upon the individual as integral part of an organization, contributing to the specialized literature through its theoretical value.

Keywords: *Human resources, entrepreneurship, personnel management, creative potential, organizations*

OVERVIEW

Mankind has always been organized under different forms with different aims, complying or not with certain rules (tribes, human settlements, provinces, kingdoms etc.). Nevertheless mankind's destiny changed every time with individual interventions whether we talk about leaders or independent characters (Archimedes, Alexander the Great, Leonardo da Vinci, Albert Einstein, Adolf Hitler, Sigmund Freud, Charles Darwin and the list may continue).

This happens also nowadays by means of individuals putting their mark upon the direction in which mankind evolves. Unfortunately, the negative aspects of individual influences are obstinately highlighted (take into consideration especially the individualized aspect of terrorist attacks, as well as the transformation of scientific findings first of all into weapons and afterwards in benefits put in

mankind's service). Paradoxically, important and valuable achievements of mankind (radio, telephone, computer, laser, internet and internet communications etc.) are also used by those with destructive preoccupations, making their work easier and simulating their creative capacity oriented to evil actions.

It seems now more than ever the inventors are confronted with the less positive side of their inventions and may see their negative results spread on a large scale.

A first image of the world's current situation presents maps with all kind of conflicts (armed, economic, religious etc.), as you cannot fail to observe that almost in every corner of the world a conflict exists under one way or another inducing or emphasizing a state of unsafety.

At the same time, the great powers' inability as well as of the different alliances with decisive roles in the world's destiny as shown in the last periods in critical situations (Crimea conflict, current immigrant crisis, terrorist attacks, economic scandals in which various economic giants are involved – like Volkswagen etc.) come to strengthen these negative aspects creating serious security breaches in the so far relatively stable climate.

Under these circumstances and taking into consideration the fact that the central element of this work is the individual through its creative potential a natural question occurs: How may this potential be beneficially exploited, as the conditions of the current context give the impression that the amplification of conformism from the top of the society to its basis (the individual) is absolutely necessary?

It is well known that the rules restrict the individuals' liberties, but the basic condition to show creativity at its true level is precisely the liberty.

Why is the creative potential important? In my opinion this represents a genuine and priceless treasure of the most amazing being, the man, as it is the engine of developing human civilization.

Currently it is in real danger because both its improvement and use start to be restricted.

A new question emerges as regarding things from another perspective: if in 2000 years some remarkable people succeeded to change so much the mankind, what would happen if each of us would discover its own creative potential and put it in mankind's service?

Looking at things from the perspective of technological developments in the last years and taking into consideration the value of technological achievements by means of all things making our lives easier, of communication systems interconnecting us with anybody, anywhere and anytime, being as such informed of changes in real time, I consider that now, more than ever, people can do amazing things both as individuals or belonging to groups stimulating creativity, allowing them continuous improvement, as well as support for the materialisation of ideas. These reasons strengthen the idea of a need for a framework where the creative potential to be based on freedom and flexibility.

However, either if we talk about the economic environment, the political one or about any other environment we live in, we cannot fail observing the current tendency of moving towards a new stage, where the standardization concept, in all its complexity shall constitute a new pole around which any human activity shall revolve. Subsequently, questions like the ones below occur naturally:

Which are the boundaries of this standardization? How and how much would mankind, the individual and implicitly its potential creative is influenced? Expectations shall be confirmed by results?

In the search for answers, a short analysis of the past shows that the great inventions which changed mankind are individualized, namely that they are the product of some individuals' creativity (Alexander Graham Bell - telephone, Thomas Edison – electrical bulb, Nikola Tesla – alternative current, Gutenberg – printing press and others) who did not obey the rules, moreover in some circumstances fought with the boundaries set by leaders, environment, people etc.

Besides these aspects, we should also mention an aspect which is all the same important, namely the financial aspect, as many of the inventions were impaired by the fact that although the inventors were geniuses, their poverty restricted them putting into practice their ideas. This may be viewed as a delay of mankind's progress and you cannot not ask yourself which is the value of the cost of opportunity for mankind's evolution (in some circumstances – maybe of hundreds of years).

This picture allows us to formulate a first observation: *the human creative potential has a unique character, as it is individual's it manifests favourably when his liberty of action is not restricted and materializes when it is supported by favourable environment conditions.*

It might be understood that imposing some standards, rules having as consequence limitation of some liberties, would adversely influence the human creative potential.

But facing history and the present you may clearly see that a world without rules, standards is not possible and not preferred, as favours disorder and implicitly would increase the destructive potential.

We shall not forget that human creative potential is bivalent, as it may lead both to progress and disaster (many of the inventions considered beneficial transformed in mass destruction weapons – it is superfluous to remember that the greatest and horrible disaster of the mankind is based on Albert Einstein's theory of relativity). So, restricting individual liberties is stimulating individual's creative potential in the negative way?

Under these circumstances we have a second observation: *standards and regulations are basic elements supporting human creative potential as long as help guaranteeing a stable and safe climate and do not produce to the individual feelings of unjustified limitation of his liberties.*

THE IMPORTANCE OF HUMAN CREATIVE POTENTIAL

The mankind evolution reached a stage when technology allows shortest times you may see accomplished the products of creativity, as this provides a fluency and abundance of ideas, due elimination of uncertainties but especially of errors through practical achievements. In another words you may rapidly transit from theory to practice, thing that may constitute a strong motivation for any individual to lose imagination and create amazing things. In other words what I want to emphasize is the fact that the possibility of ideas materialization in palpable products determines individual's satisfaction level increase, consolidating self-trust and stimulating creativity, important issues for creative potential encouragement of as many individuals as possible.

The reality shows that during the last period a tendency of increasing social discontent level manifested both in employed individuals, regardless of the hierarchical position they have or the way they report to it (employees or entrepreneurs) and also among those who do not belong to this category, as pensioner, unemployed or unoccupied man, both in Member States of the European Union and outside it, in south-eastern European countries.

Although the modern technology allows an easier approach of the activities at the workplace, the work volume is increasing, the performance is decreasing and the level of satisfaction reaches negative boundaries entering the discontent field.

So, what causes such a state of fact?

As working hypotheses:

Possible causes having direct linking to individual

- Lack of professionalization: as result of fast development of all things the work places suffered important changes in a relatively short time, leading to removal of some professions and to the emergence of new ones (coaching, IT)
- Decrease in education level among population: as the statistics of the last years reveal, the education at world's level registers alarming figures for the indicators measuring the rate of school dropout and functional illiteracy
- Change of the perception upon the real needs, as well as creating the favourable climate that you can get what you cannot really afford
- Lack of knowledge in accounting the own value
- Inclination to standardization and favouring the traditionalist development and implicitly some cultural blockings preventing creative potential development.

Or cause independent of it, as globalisation or individuals' migration.

Of them, this paper deals with those having direct connection with the individual. We analyse these aspects from the perspective of individual belonging to an organisation and of the individual

liberty at the workplace in a regulated environment, where the individual should manifest his entire complexity at the true value of his potential.

ORGANISATION, RESOURCES, HUMAN RESOURCES – A VISION WHERE THE INDIVIDUAL IS THE CENTRAL ELEMENT

Paying attention to the organisational environment, we should find at the chapter resources of the organisation: the human resources and other resources.

The man regarded as a resource constitutes for any organization the most complex, unpredictable and valuable resource, as it is the base of transformation of other resources in value-added elements, or oppositely.

Precisely due to this cause the most complex issues occurring in an organisation are generated by “using” of this resource.

All the resources of a company, excepting the human resource, may be submitted to rigorous and standardized use rules with a high level of predictability of the final results. But the man as resource is a unique and complex “system” who from my point of view should not be submitted to standardization except some clear and well delimited situations if we want to obtain some remarkable results and implicitly some substantial profits (the final aim of any economic activity).

It is preferred that the general standards and rules of an organisation to be drawn up following some analyses and individual assessments, as such to represent the interests of all and subsequently they should be converted in individual values system of each member of the organisation to the extent it is possible as any limitation or rule to be understood as an advantage for the individual and not a restriction (transforming rules from enemies in allies).

The value of the human resource permanently changes due to its capacity to assimilate information and transform them in knowledge, knowledge as developed in time transforms in what we call experience, either professional or life experience. No one can exactly say how small or big this value is because it is a variable depending on some essential elements: the individual’s personal dowry (the set of abilities and knowledge, as acknowledged or not an individual is born with; in current language the personal dowry notion is met under the name of talent), his awareness ability and environmental conditions.

An individual’s capacity to assimilate and exploit the knowledge depends to a great extent of this personal dowry, of the measure he is aware of its existence but to a greater extent of the set of environment conditions where he manifests, develops, improves and exploits this knowledge (financial conditions, access to education and information etc.). In other words, no matter how hard we would try for example, to transform a mechanical engineer in a doctor, this would be impossible,

except we are satisfied with average results. Supposing that through hard work, an exceptional learning capacity and strong motivation would succeed to reach a certain level of knowledge, he would not be able to get performance in this profession as he hasn't personal dowry.

In fact my intention is to emphasize the fact that in general people cannot be aware of their personal dowry, practicing professions for which they have no talent, as the source which is permanently feeding the native talent is drained, or more precisely it did not exist. If you want you can imagine this presentation as a fir tree planted in the desert. What changes of development would have? Maybe as long as someone wets it enough, but water is unlikely to be enough for its great development as would happen in its original environment. The same chances in obtaining professional performances have those practising professions which do not assimilate.

Therefore it is very important that everyone discovers in dully time personal dowry, an important contribution to this may have the specialised persons in this field.

The most important obstacle met in the stimulation process of an ascendant trend of the human value consists of low individual's capacity to be aware of personal dowry. It often happens that individuals discover their talent at senior ages but most of our fellows never get to this point.

On the other hand, the personal dowry without material support and creation of some favourable conditions of showing it is in vain and as example the most conclusive to me seems to be TV talent shows where you may see very many people belonging to different social categories and with different professional training, presenting their talent on the stage and almost in all cases it has no connection with profession. These shows represent for them real opportunities to manifest their talents, as offering them something they cannot afford (and it is essential to not transform personal dowry in uselessness), namely: environment conditions (popularity, money etc.). This is similar to the situations inside organisations and as long as the collocation "the right man in the right place" is not complied with, one cannot talk about performance.

It may be highlighted also the aspect that any resource remains in its pure condition as long as the human factor does not hinder it, namely the human resource. I consider in this respect that the human resource of a company must be very well separated by other resources of it.

In fact the biggest problem of each contemporary organization is precisely this human factor classification in resources category with all consequence of this classification, especially the aspects concerning standardisation processes, as this allowed the application of some universal character methods (the same as in non-human resources) and established some limits of action applicable to some group of persons classified in certain activity categories called departments (logistics, marketing, production, legal assistance etc.), without considering the human nature and individual's uniqueness.

Basically, at this time it is simply happening nothing but the application of some rules acting in a completely unfavourable way upon the individual as a whole, upon people's creative-innovative potential, who are transformed into executing robots, which in time leads to self-esteem altering, so they are inculcated the idea that their job is nothing more than what the bell meant for Pavlov's dog.

So, without truly understanding the individual, going beyond CVs and standard interviews and without stopping applying "bulk" rules upon the people in an organisation, major changes cannot be obtained as materialized in a valuable increase of the organisation as a whole.

Therefore, in my opinion important things should be considered to obtain long-lasting results in a world characterised in a single word: speed.

In this respect, future designing absolutely needs personal dowry discovery from early ages and children orientation to those areas where their talents be developed, as such when mature this dowry shall be a solid basis for their future evolution and for their contribution to the mankind evolvement. I would stress here children education by means of their talents and not by means of their parents' expectations or failures (are many examples of parents who torment on purpose their children with useless piano, dance lessons and other activities although they are talented for example, in mechanics, natural sciences etc.). How may be handled this situation? Maybe, the simplest method would be the authorized and correspondingly regulated intervention (here comes the positive part of regulations / standards) of some specialized persons in charge of discovering each child's talents, bringing it to the knowledge of the parents and including the children in groups with the same orientations, as such their preparation continuously stimulating their potential. The children represent the future of tomorrow organisations and due to this reason it is very important this early process of professional orientation.

As considering the current situations within organisations, my personal recommendations would be passing from the formalism manifested in all fields and at all levels, to individual point wise orientation, both as concerning the selection process of the future members and the activity of the organisation as a whole. As I previously mentioned, the recruitment process of the future members of an organisation should disobey the current patterns, beyond CVs and formal interviews and pay greater attention to the individual by means of his personal dowry, of his expectations related first with his personal life and then those of the organisation he shall belong to, expectations which shall overlap over organisation's to such extent as those shall become component part of the future member's expectations.

Regulation of framework of activities developing must have flexible aspects as regarding liberty of creation of the individual and to rapidly correct the vulnerable points concerning work safety and security. Generally, the regulations determine emergence of some conflicts when the liberties and

restrictions are put in balance, but both the causes and the effects may be diminished by the intervention of specialised persons in modern activities, as coaching, which may find ingenious solutions as normality and balance status be re-established and so the results not be altered.

Both learning ability and how the information is assimilated and transformed in knowledge are different from one individual to another. This is why the organisational activities intended for professional development through learning must also gain individualised character, meaning the training programmes shall be customised and only the activities needed information changes shall be delivered in as focused sessions as possible with a high level of practical applicability (as making some simulations similar to laboratory experiment principle). In another words in a world where information is available in real time, anywhere and anytime, why do you think that someone shall want to partake to long and tiring training sessions where a lot of talk and little examples is and where all attendees are as “batch”?

At the same time brainstorming removal is indicated and its support at individual level with the possibility of interactive meeting which shall facilitate finding the best idea.

Coaching providing in organisations as required activity for its value increase by each individual's value increase, member of organisation as the coaching works with the individual helping him being aware of his values and vulnerabilities and determining him to find solutions as to intensify positive potential and keep under control the negative one. This activity should not be regarded as a “luxury” activity to which has access only top managers but it should be used for all personnel categories in an organisation.

As I consider this would be the future challenge for those involved in human resources field as conceiving some customized learning programmes, composing simulations, creation of some experiments supposes analysis and understanding capacity of the organisation and of the individual in the smallest detail, creativity, innovation but also the capacity to relate to other fields connected to human resources field. The future professionals in this field must be connected to the same extent to the external environment of the organisation and also to its internal environment without failing to report to the organization by means of the individual.

As for all these changes be materialised in positive results, it is absolutely necessary periodical professional assessments for each member of the organisation not only by means of organisation's interests in relation with the individual but also the individual's with the external environment, underlining aspects describing as clearly as possible individual's nature and character but also his level of awareness as concerning its potential and the method he reports to organisation's objectives. I consider in this respect that specialised assessing persons shall be out of the organisation as the

assessment shall be delivered by modern, professional means and methods and the assessment shall be as objective as possible.

Individual periodical assessment is essential as it is the most relevant method of observing the changes that may occur both professionally and personally.

CONCLUSION

People employment must take into account both professional training but also the method it reflects personal dowry use. Aspects shall also be considered influencing different characteristics, such as the emotional component, learning ability, values and compatibilities with other members of teams he shall be part of etc., all of which are analysed in terms of expectations.

Professional and personal performances permanent assessing, underlining individual's expectations.

The motivation system shall be established individually and permanently updated according to the changes occurring at individual expectations level.

Company mission and vision notions is "translated" by means of individual's expectations as he shall assimilate them as belonging to its own wishes.

Orientation to another area of activity when it is observed incompatibility with the held position, if by coaching programme the incompatibility issue was not solved.

A priority for any organisation shall become keeping experienced personnel knowledge reserves and their use for future professionals training, as well as experts' stimulation to creation and innovation areas which do not necessarily have connection with the current activity.

Organisations must understand and determine current existing conformism adaptation and modifying mentalities as concerning the individual as component part of the organisation by means of his creative capacity and contribution to the whole value of the organisation which may have negative consequence upon human creative potential if these are seen as enemies and not as allies.

IMPACT OF CORPORATE R&D ON EFFICIENCY IN OECD INDUSTRIES

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ABSTRACT

Efficiency and productivity has always being a key issue in economic science. The analysis of the impact of R&D (Research and Development) has been extensively studied in industries and countries of more or less aggregated level. This paper aims to investigate the impact of corporate R&D in performance of low-tech industries, medium-tech and high-tech in OECD countries.

This paper aims to answer the questions: Is the impact of R&D significant for all types of industries? If so, what are the differences and the magnitude of these effects in each of these types of industries?

To this end, an unbalanced dataset from 2000 to 2011 was collected for the main countries of Europe and the United States concerning low, medium and high-tech to analyse the impact of the magnitude of corporate R&D and capital accumulation on productivity of these industries. The productivity of industries was measured by stochastic parametric frontier functions, in order to measure the efficiency of R&D and accumulation of capital on labour productivity.

The main results highlight the impact of corporate R&D on productivity of high-tech industries, but for other industries those relations are not clear. However, capital accumulation became crucial on low technology to improve their performance. These results, although needing to include a more extensive dataset of industries across countries, refer the need for policy and decision makers to allocate public funds for R&D in high-tech industries, while the investment in capital seems crucial, particularly in low-tech industries to improve the productivity.

Keywords: *corporate R&D, productivity, technical efficiency, stochastic frontier analysis; OECD countries.*

INTRODUCTION

Efficiency and productivity has always been a crucial issue in economic issues. The R&D impact analysis has been widely studied at industry and country levels in a more or less aggregate. Research and development (R&D) has been generally assumed to have has a positive impact on business

productivity (Griliches, 1979; Kumbaker et al., 2012, Liik et al., 2014).

Ortega-Argilés et al., (2014) Marsili (2001); von Tunzelmann and Acha (2005); Mairesse and Mohnen (2005) debate the alleged advantage of different kinds of industries, namely the low-tech over high-tech sectors in achieving additional and higher efficiency gains from R&D investment. The argument is that 'catching-up low-tech sectors' are investing less in R&D but would benefit from a 'late-comer advantage', whereas firms in high-tech sectors might be affected by diminishing returns. According to this argument, the relationship between R&D and productivity growth is expected to be weaker in high-tech than in low-tech sectors (Kumbaker et al., 2012, Ortega-Argilés et al., 2014).

Besides that, previous authors identify that additional R&D activities exhibit a higher marginal impact in high-tech sectors and that additional capital investment shows a higher marginal impact in low-tech sectors. So, the main goal is to investigate whether low-(high-tech) sectors are more (less) successful in achieving productivity gains from R&D activities.

However, from the viewpoint risk, there exists great uncertainty in the R&D process when the high-tech firms cannot precisely forecast the market demand or make a breakthrough in technology (Wang, 2007).

Hoskisson & Hitt, (1988); Hitt & Hoskisson (1997) and Chang & Hong, (2000) find that R&D intensity and operational performance are negative for firms diversifying in business growth. Similar findings are reported besides those that have been understood by policymakers and researchers around the world and reflected in different countries setting targets for innovation inputs and outputs, probably the most well-known one being the Lisbon target, setting the R&D expenditures to the 3% level of GDP by 2020 among the European Members States (Liik et al., 2014). It has also been questioned whether the same targets should be set for countries at different levels of development and different industrial structures (dominating low-tech or high-tech industries) and whether the indicators used to compare countries' innovation performance, like the European Innovation Scoreboard, are always meaningful (Schibany & Streicher, 2008; Liik et al., 2014).

Despite Kumbhakar et al., (2012) investigate the impact of corporate R&D activities on German Firms' performance, measured by labor productivity over the period 2000 to 2005 and Liik et al., (2014) analysed the impact of the R&D on industry productivity and level sector in OECD countries over the period 1987-2009, but more centered at Baltic countries level with the USA as the frontier.

This paper contributes to the literature in two ways: First in the present post-subprime crisis scenario by which the European countries still have a very modest growth of their industries, it is crucial that the resources spent on R&D have an impact on innovation and technological progress in these countries, and, secondly, because the resources spent on R&D are scarce, it is crucial to know which contribute to the performance of the different industries in order to provide guidance to decision

makers about the optimal allocation of R&D resources across industries and countries.

LITERATURE REVIEW

European Programs establish the Europe 2020 with the EU countries involved (with a detailed research programs, namely the Horizon 2020) and as an European innovation policy and advises the Member States to strength their knowledge base to remain competitive and support programs for European companies to massively invest in research and innovation in order to foster a smart, sustainable and inclusive economic growth strategies as established in (European Commission 2010 and Horizon 2020).

The Innovation Union flagship initiative of the EU2020 Strategy has confirmed the Lisbon strategy commitment to higher levels of R&D intensity as well as to changes in organizational R&D and framework conditions (Cincera et al., 2014).

The objectives rest partly on proposals to increase publicly-funded R&D, and business private funds called BERD. The main goal of this policy is the EU aim to approach and possibly surpass the effort made by competing economies, especially Japan and the US according Cincera et al., 2016). Soete (2006), refers that the EU has failed to convince the private sector and its citizens to invest in knowledge, the key to its own long term future.

On the other hand, the effect of R&D on firm performance has been widely studied in the literature since the pioneering work of Griliches (1979) and more recent contributions by Klette and Kortum (2004), Janz et al. (2004), Rogers (2006), Loof and Heshmati (2006) and Heshmati and Kim (2011) Kumbhakar et al., (2012); Liik et al., (2014); Cincera et al., (2014). However, little literature, except from the last authors referred, has focused on the simple relationship between R&D and firm's technical efficiency in countries or across them.

Although at the corporate level this relationship became known (Mairesse & Mohnen, 2010), there are still raised doubts at the relationship between R&D expenditures and GDP growth on the effectiveness of an innovation policy that attempts to improve aggregate productivity only based on increasing R&D intensity (Pessoa, 2010), there could be some necessary minimal critical level for the positive relationship to show up (Siliverstovs, Boriss (2016) and Liik et al., (2014) and have different impacts depending on industry types (low, medium and high tech) (Zhong et al., 2011; Kumbhakar et al., 2012; Liik et al., 2014) and across the EU countries and USA industries (Ortega-Argilés et al., 2014). That motivates the study of the comparison of the efficiency of the innovation production processes in different countries.

Previous authors have shown not only that the R&D-productivity link is positive and significant at the microeconomic level but also that this relationship is stronger in the high-tech manufacturing sectors

(Ortega-Argilés et al., 2014). These authors analysed the lower European productivity performance in comparison with the US industries. The conclusions suggest that both in manufacturing, services and high-tech manufacturing sectors US firms are more able to translate their R&D investments into productivity increases and low tech industrial and middle- and low-tech sectors have a lower capacity to translate R&D efforts (Ortega-Argilés et al., 2014).

Pessoa (2009) argues that GDP per capita and R&D intensity ratio lacks there are many factors omitted in the typical regressions, which affect simultaneously TFP (total factor productivity) growth and the incentives to invest in R&D. But the major works on this field are mainly based on macroeconomic level models and not from industry level models.

DATA

The present study is based on industry-level (by International Standard Industrial Classification of All Economic Activities (ISIC4) data comes from OECD countries, presently only available for 15 countries from STAN database (under construction) and combined with the last database STAN - ISIC3 for the missing countries and values, over a 12-year period from 2000 to 2011, the latest data available, forming an unbalanced panel. Two countries were initially considered outliers, namely, Korea, and Sweden. We had considered industries at two digits level for low-tech (D10 to D12); medium-low-tech (D19 and D22) and high-tech industries (D21 D26) according the ISIC 4 classification after conversion to ISIC3 (with different nomenclature for the missing countries and values). Table A1 in the Appendix provides an overview of the sectors analyzed, grouped into the three technological categories. The analyzed countries¹ include the European Union available countries and USA, because in order to construct the efficiency frontier we would need data from countries with the highest levels of productivity in the respective industries (Liik et al. 2014). We utilized two OECD combined datasets: the OECD STAN Database for Structural Analysis (ISIC Rev. 4) (for measures of output, labour input, and capital) and OECD ANBERD STAN3 and STAN 4 for R&D expenditures in Industries (ISIC Rev. 4), because the last one doesn't cover all the OECD countries, but 40. So this work is in continuous progress as the results of the database became full available.

The variables computed from the database were:

E – Number of employees per industry typology;

GFCF – Gross fixed capital formation and current prices;

VALD – Value added at current prices;

¹ Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Slovenia and the United States. For the high tech industries, in order to avoid collinearity of the variables, due the low degrees of freedom, we combine STAN 3 database with STAN 4 -ISIC to joint the Mediterranean countries (Portugal, Spain and Greece) and more European OECD countries, namely the Baltic countries.

R&D – R&D expenditures in Industry at current prices.

So the focus was on singling out sectoral differences in the relationship between R&D and productivity. All the data was at national currency and current prices, so it was deflated with the respective deflators GFCF; VALD and R&D from OECD database and updated for the base year, thus transforming all the values at constant prices at national currency. Then they were uniformed of national currency to US per constant dollar and p.p.p. through the OECD Database again. The industry-level input and output variables aforementioned are transformed for subsequent logarithization (ln).

In this paper, we allow different technological regimes across industries reflected by the characteristic R&D intensity of a given sector. Considering high, medium and low-tech sectors separately allows us to estimate industry-specific frontiers and reflect the corresponding technology most adequately, according to Kumbhakar et al., (2012) and Liik et al., (2014). So, R&D expenditures (accumulated knowledge) and investments into physical capital was capitalized, in order to provide R&D and physical capital stock variables. For this purpose, the perpetual inventory method was used (Kumbhakar et al., 2012 and Liik et al, 2014) based on the following equations. R&D capital stock in time period t derives as follows:

$$R\&D\ capital_t = R\&D\ capital_{t-1}(1 - \delta) + R\&D_t \quad (1)$$

where δ is the depreciation rate and $R\&D\ capital_t$ are R&D expenses during the period t . For the following period R&D capital is calculated at the time t_0 as follows:

$$R\&D\ capital_{t_0} = \frac{R\&D\ Accumulated_0}{(g_{i,t} + \delta)} \quad (2)$$

Where $R\&D\ capital$ is accumulated R&D expenditure, t is the time, i is the industry level. The same procedure was used for fixed capital accumulation (GFCF).

THE METHOD

The defining an efficient frontier function in order to measure the performance of productive units has been used for a long time by many authors in different sectors, countries, and industry-level aggregation. Two main general approaches have been applied to identify efficient frontiers: parametric and non-parametric methods.

The literature refers that both have strengths and limitations, but the choice mainly depends on the most appropriate for a certain research question, data nature and main goals of the work.

The main difference between the two methods is that the parametric approach requires the

construction of a functional form and test hypotheses taking into account statistical noise and providing estimates of the parameters of production factors, elasticities, etc. making new interpretations possible, imposing a functional form to be estimated (although it may be flexible), together with the assumptions regarding the distribution of the compound error term (Kumbhakar et al., 2012).

On the opposite way, the non-parametric method (mathematical programming technique) - Data envelopment analysis (DEA), does not require these assumptions and is comparatively more easier to calculate according Kumbhakar et al., (2012). However, when wishing to study industries, such as those present with different technological levels there are severe limitations because each of the industries has a functional form that is not common to the low-and medium high-tech industries in different countries. On the present study low; medium and high-tech industries across the OCDE are used so it is not recommended the use of non-parametric frontiers such as DEA.

Kumbhakar et al., (2012) presents the main advantages and disadvantages of parametric approach. So, taking the strengths and limitations of the method into account we selected the parametric stochastic frontier technique (SFT) in this study according Kumbhakar et al., (2012) and Liik et al., (2014).

The stochastic frontier production function was first proposed by Aigner, Lovell and Schmidt (1977) and Meeusen and van den Broeck (1977). The original specification involved a production function specified for cross-sectional data which had an error term that had two components, one to account for random effects and another to account for technical inefficiency. This model can be expressed in the following general form:

$$VALP/E_{ij} = x_{ij}\beta + t_{ij} + (V_i - U_i) \quad i=1, \dots, n, \quad (3)$$

Where:

$VALP_{ij}/E_{ij}$ is the logarithm of the accumulated added value/employer) of the ij -th firm and industries;

x_i is a $k \times 1$ vector of (transformations of the logarithm Accumulation of Capital/Employer) of the ij -th firm and industries;¹

β is an vector of unknown parameters;

t_{ij} – is the time i is the firm j is the industry.

the V_i are random variables which are assumed to be *iid*.

$N(0, \sigma^2)$, and independent of the U_i which are non-negative random variables which are assumed to account for technical inefficiency in production and are often assumed to be *iid*. $|N(0, \sigma^2)|$ (Coelli et

¹For example, if $VALP/E_i$ is the log of output and x_i contains the logs of the input quantities, then the Cobb-Douglas production function is obtained.

al., 2005).

This original specification has been used in a vast number of empirical applications over the past two decades. The specification has also been altered and extended in a number of ways. These extensions include the specification of more general distributional assumptions for the U_i , such as the truncated normal or two-parameter gamma distributions; the consideration of panel data and time-varying technical efficiencies as used on the present work.

Results and discussion

Table 1 presents the models' parameters and efficiency (TE) estimates for different industries, from low to medium high to high technologies and for the whole sample. The program used was FRONTIER 4.1. and testing after with econometric models. The results highline confirm the results of the previous authors, namely, Kumbhakar et al., (2012) and Liik et al., (2014).

The models show a reasonable degree of adjustment to the data. Nevertheless, R^2 presents low/medium values due the limited of degrees of freedom, caused by incomplete STAN 4 Database, while STAN database 3 only contains complete data until 2008. A linear time trend was used to capture shifts of the production function (technical change) and was found to be significant (Table 1). Accordingly, as a whole, technological progress at the rate of about 2.1% per year. For the other industries technical progress is respectively, 1%; 6%; and 2.3% in low-tech industries, medium, high tech sample industries. The results prove a growth rate of industries during the review period varies annually. These results are in agreement with the previous authors's findings, but distinct due the differences on data, industries and time trend.

Table 1. Models' parameters and efficiency estimates for different sectors.

| Model | Whole sample | Low-Tech | Medium-tech ¹⁸ | High-tech |
|--|-------------------|-----------------|---------------------------|-----------------|
| ln R&D/E | - | - | - | 0,28 |
| ln K/E | 0,690** | 0,742* | 0,221*** | 0,259** |
| constant | 0,356** | 0,441* | 2,501*** | 1,857** |
| time | 0,021 | 0,001 | 0,0670 | 0,023 |
| Sector dummies (1) | 0.6393 | 0.177 | 0.148 | 0.670 |
| R^2 | 0,508 | 0,37 | 0,545 | 0,41 |
| White heteroscedasticity test (p-value) | 2,77614 0,0000 | 2,184 0,0000 | -0.3021 0,0000 | |
| t K | 15,802** | 3,881* | 0,024*** | 0,076** |
| t R&D | 0,044** | -- | 0,048*** | - |
| t constant | 3,897 | 0,221* | 0,533*** | 0.107** |
| log likelihood function | -0.99126185E+03 | -0.33469816E+02 | -0.16770188E+03 | -0.16770188E+03 |
| Mean efficiency (TE) | 0,367 | 0.1050 | 0.368 | 0,409 |

Source: authors' calculations. Note: *p < .05; **p < .01; ***p < .001. (1) joint Wald test

¹⁸ From D19 e D22, medium-high industries

Table 1 results show that capital accumulation is not relevant for the high tech and medium tech industries, but the opposite occurs with low tech industries when capital accumulations seems crucial to increase the labor efficiency. On the opposite way these industries do not present a clear need of R&D to improve their efficiency.

Results from Figure 1. about intra-industry distribution of efficiency in the manufacture of food products, tobacco and beverages, confirm the main countries with high efficiency are Denmark in addition to USA.

The main results from Figure 2; 3 and 4 about medium and high industries efficiency highline confirm the great values of efficiency manufacture of medium and high industries comes from the Finland and Demark (as USA as frontier). The other countries of European Union present a gap, excluding Germany and UK. The cluster of Baltic and Mediterranean countries are associated a low efficiency groups when compared with the northern and middle European countries.

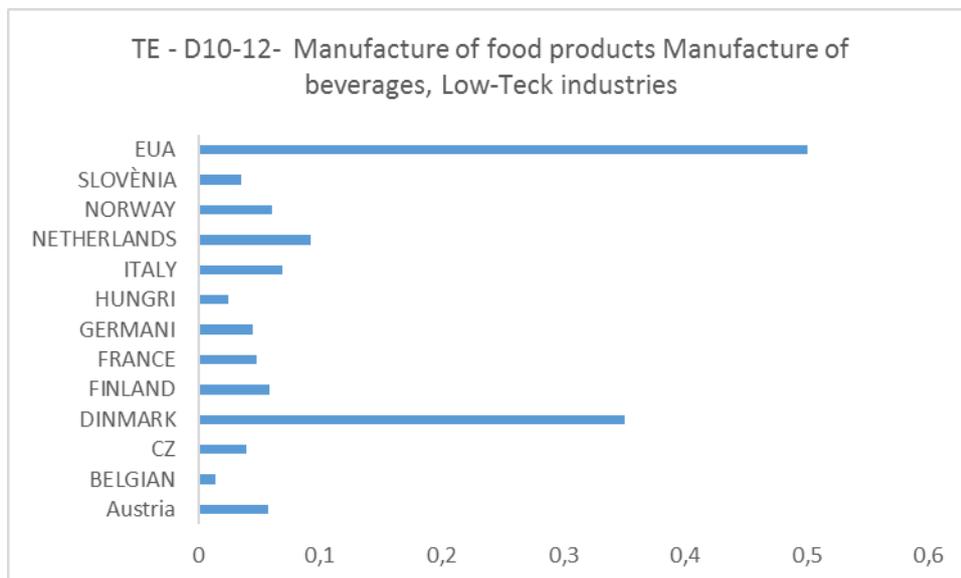


Figure 1. Intra-industry distribution of efficiency in the manufacture of food products, tobacco and beverages (D10–12). Source: authors' calculations.

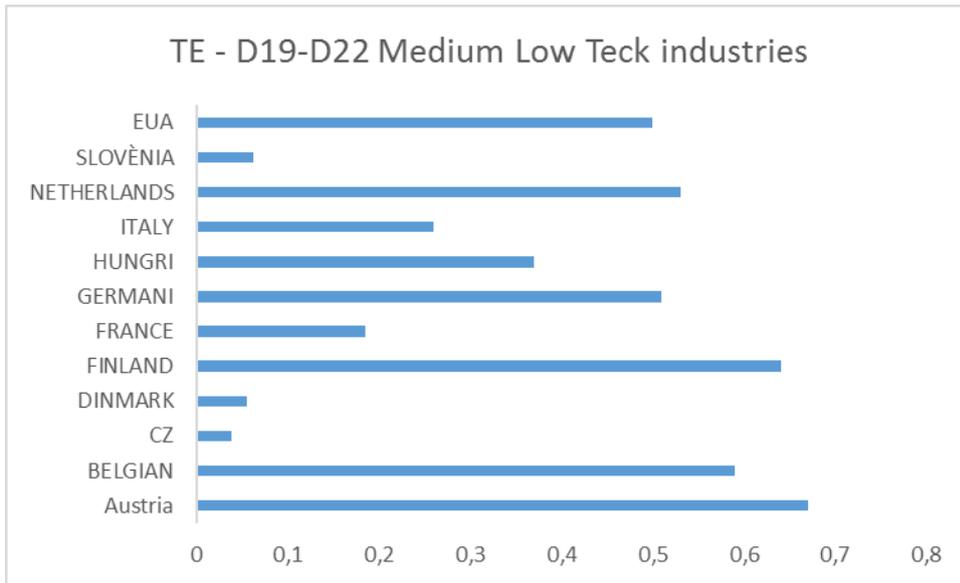


Figure 2. Intra-industry distribution of efficiency in the Manufacture of coke and refined petroleum products (D19) and Manufacture of rubber and plastics products (D22). Source: authors' calculations.

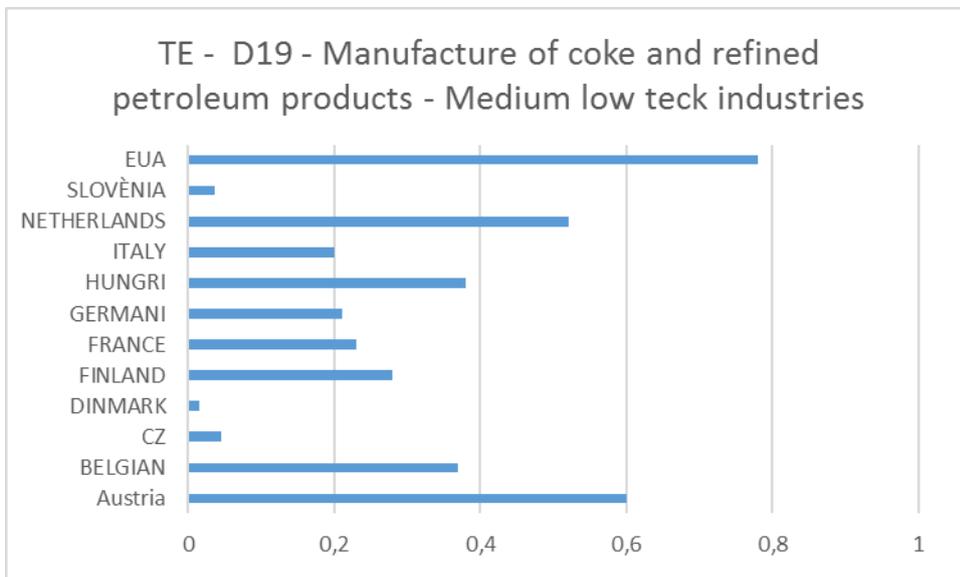


Figure 3. Intra-industry distribution of efficiency in the Manufacture of coke and refined petroleum products (D19) Source: authors' calculations.

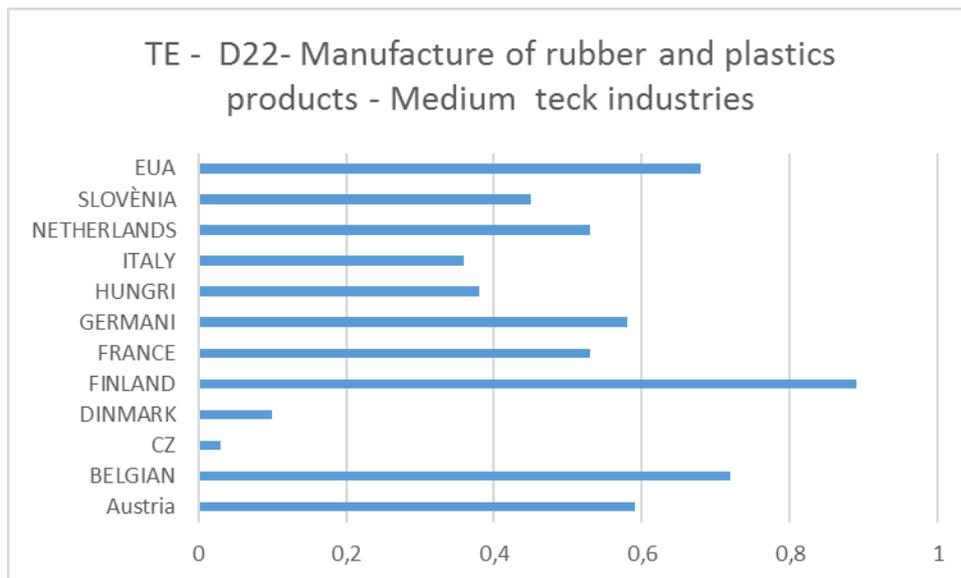


Figure 4. Intra-industry distribution of efficiency in the Manufacture of rubber and plastics products (D22). Source: authors' calculations.

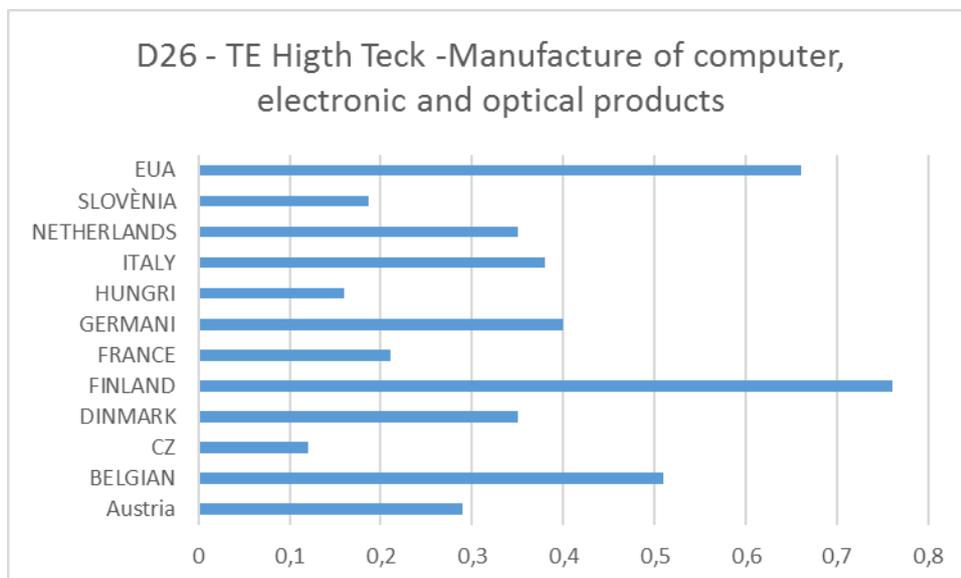


Figure 5. Intra-industry distribution of efficiency in the Manufacture of computer, electronic and optical products (D26) and Manufacture of pharmaceutical products and homeopathic pharmaceutical (D21). Source: authors' calculations.

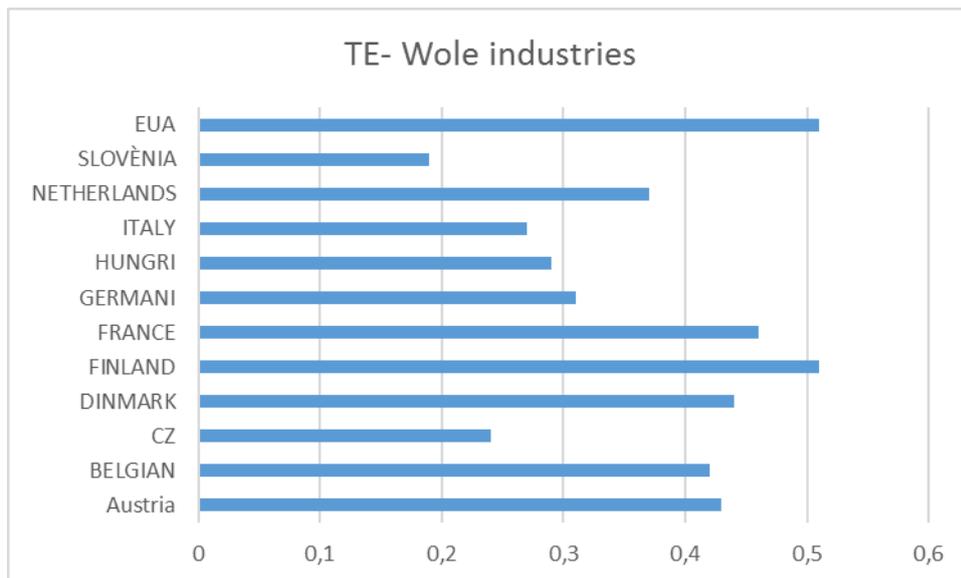


Figure 5. Intra-industry distribution of efficiency in the whole industries. Source: authors' calculations.

CONCLUSIONS

The present results show that high-tech industries are generally associated with higher efficiency and productivity values than the other industries with medium and low technologies. These industries are also associated with higher growth rates of knowledge. These results were according the previous authors. The R&D is crucial for the development of a competitive high tech European industry across the world. But for other industries the capital accumulation seems crucial for the development of a medium and mainly low tech industries strong across the world. So the public and privates funds must charter the industries according to their needs and technological performance.

That implies that decisions makers may give more attention to European programs about the European funds distribution. In particular, more funds on R&D must be attributed to the high-tech industries across all the industries and European countries. On the opposite way the accumulation of capital must give priority to the low tech industries.

This work is in development, future research must include more detailed panel data across European, Eurasian and USA industries. More detailed dataset could improve the results to.

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EUROPEAN PUBLIC SECTOR ACCOUNTING STANDARDS (EPSAS) AND FISCAL TRANSPARENCY: HARMONIZATION OBSTACLES IN THE ITALIAN CASE

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ABSTRACT

Fiscal transparency is only one aspect of the 'transparency agenda' (Heald, 2003, 2006, 2012; Ball, 2013). There is tension between transparency and surveillance (Heald, 2013), with significant implications for the behaviour of some specific actors in the fiscal policy process. Academics are unlikely to lead the fiscal transparency agenda (Hagemann, 2010; Ball, 2012; Heald, 2003, 2006, 2013) but can contribute through: conceptual and normative studies; econometric investigations of variables promoting or obstructing fiscal transparency; assessments of the outcomes of fiscal transparency practices; and the conduct of theoretically-informed case studies at entity or country level. These difficulties led to the creation of a set of European Public Sector Accounting Standards (EPSAS). The paper analyses the issues related to fiscal transparency obstacles (Heald, 2013) and the harmonization of accounting systems among EU public administrations. In particular, the focus will be on the applicative problems resulting from the Italian *Tax amnesty* and the relevant *anonymity declaration*.

Keywords: *EPAS, fiscal transparency, accounting harmonization, accountability, tax amnesty, tax shield*

INTRODUCTION

The introduction of the new accounting rules is aimed to facilitate the comparability of financial statements and to improve the quality and transparency of economic and financial information, favouring the increase of efficiency and integration, at least at European level (Brusca et al, 2013; Jorisen et al, 2013).

Nowadays the topic of fiscal transparency is not merely a subject of interest amongst academics of public management. It is becoming more and more a sensitive issue for public managers and practitioners from their organizations, as they are confronted on a daily basis with the problem of delivering - efficiently and effectively - public policies aimed at fostering harmonization of accounting

systems among EU public administrations (Jannelli, Tesone, 2013; Brusca, Caperchione, Cohen, Manes Rossi, 2015)

Fiscal transparency is only one aspect of the 'transparency agenda' (Heald, 2003, 2006, 2012; Ball, 2013). There is tension between transparency and surveillance (Heald, 2013), with significant implications for the behaviour of some specific actors in the fiscal policy process.

Academics are unlikely to lead the fiscal transparency agenda (Hagemann, 2010; Ball, 2012; Bergman, 2014; Heald, 2003, 2013, 2015) but can contribute through: conceptual and normative studies; econometric investigations of variables promoting or obstructing fiscal transparency; assessments of the outcomes of fiscal transparency practices; and the conduct of theoretically-informed case studies at entity or country level. These difficulties led to the creation of a set of European Public Sector Accounting Standards (EPSAS).

The paper analyses the issues related to fiscal transparency obstacles (Heald, 2013) and the harmonization of accounting systems among EU public administrations (Benito, Brusca, 2004; Christians' et al., 2010; Ball, 2012; Malson, 2012; Jorge, Jesus, Caperchione, 2015; Brusca, Caperchione, Cohen, Manes Rossi, 2015). In particular, the focus will be on the applicative problems resulting from the Italian tax amnesty (*Tax Shield – Scudo Fiscale*)(Esposito, 2012) and the relevant *anonimity declarations*.

RESEARCH METHOD

The paper uses a case study method (Yin R.K. 2005, 2013) which is a valuable tool for understanding the complexities faced when trying to facilitate the comparability of financial statements and to improve the quality and transparency of economic and financial information, this way favouring the increase of efficiency and integration, at least at a European level.

The case under examination is the one related to the Italian Tax Shield and uses a deductive and inductive approach to describe the phenomena and the dynamics related to the processes entailed.

The paper analyses the issues related to fiscal transparency obstacles (Heald, 2013) and the harmonization of accounting systems among EU public administrations. In particular, the focus will be on the applicative problems resulting from the *Italian Tax Shield* and the relevant *anonimity declarations*.

Given the high level of generability of the case study itself, the paper aims at supporting scholars and practitioners alike who are called to pursue fiscal transparency and the harmonization of accounting systems among EU public administrations.

The paper fills the gap in the examined area of fiscal transparency.

RESEARCH OBJECTIVES

The aim of this paper proposal is to find answers to three research questions:

RQ1: In what way fiscal transparency can contribute in fostering harmonization of accounting systems among EU public administrations?

RQ2: How could fiscal transparency eventually contribute to facilitate the comparability of financial statements and improve the quality and transparency of the economic and financial information provided by EU public administrations?

RQ3: In Italy, are EPSAS an incentive for fiscal transparency or for fiscal anonymity? Is Italy, ready for EPSAS?

The case-study method can help understanding fiscal transparency obstacles and surveillance (Heald, 2013), with significant implications for the behaviour of some specific actors in the fiscal policy process, in tax amnesties or fiscal condonation cases (Tax Shield – Scudo Fiscale).

In general, the case-study method (Yin, 1989, 1995), has a twofold aim of detailing the main characteristics of the phenomena and of understanding the dynamics of a given process. From a methodological point of view, the development of a case study represents a “strategy of research that is concentrated on the comprehension of the dynamics that characterize specific contexts” (Eisenhardt 1989, p. 532).

Qualitative approaches and forms of research in action (Fayolle, 2004), allow to describe, explain and understand situations in their own dynamics and their own evolution.

The case-study method represents a valuable tool to ‘capture’ different dimensions of fiscal transparency and the harmonization of accounting systems among EU public administrations, from the analysis of the case study itself as far as suggesting criteria for further action (Craig 2003). In particular, the focus will be on the applicative problems of public (dis)value (Esposito, Ricci, 2015), resulting from the Italian Tax amnesty (Tax Shield – Scudo Fiscale) and the relevant anonymity declarations.

EPSAS AND FISCAL TRANSPARENCY: A LITERATURE REVIEW

The financial crisis has reinforced the importance of controlling the deficit, especially in the European Union, where fiscal and budgetary stability is not robust. The European Commission is working on several fronts to achieve the implementation of uniform and comparable accruals-based accounting practices for the European Union Member States and for all the sectors of General Government, that is, Central Government, State Government, Local Government and Social Security, considering that at the same time it can help ensure high quality statistics (European Commission, 2013a). “These initiatives have become stronger in force in the light of the current public sector financial crisis, were

the role of fiscal discipline in safeguarding economic and monetary union is apparent. The repercussion of this is that monitoring fiscal discipline should rely on high-quality measurement of the fiscal situation of each Member State within the European Union", (Aggestam, Brusca, Chow, 2014). According with authoritative professional and scholars EPSAS are a necessary tool for fiscal integration in the EU (Alt, Lassen, 2006; Glennerster, Shin, 2008; Wehner, de Renzio, 2011; Allen et al., 2013; Bergman, 2014; Heald, 2003, 2013, 2015), and fiscal transparency (Heald, 2006a) is a critical point and a pre-condition for harmonization of accounting systems among EU public administrations (Bentio, Brusca, 2004; Christians' et al., 2010; Ball, 2012; Malson, 2012; Jorge, Jesus, Caperchione, 2015; Brusca, Caperchione, Cohen, Manes Rossi, 2015). Transparency now makes remarkably frequent appearances in political speeches and bureaucratic documents, with the putative transparency obligation being placed on others. It is often claimed that others should be rendered accountable, without consideration of the extent to which there should be reciprocal obligations of transparency (Heald,2015). Like transparency itself, fiscal transparency has become an umbrella term, which therefore requires unpacking. Heald (2003) "distinguished between nominal transparency and effective transparency, the gap being partly caused by deniable-at-the-time practices", which then spread across the world into jurisdictions with less capacity to manage complex off-balance sheet obligations (RQ1). International organizations then play catch-up, in the form of changing definitions and strengthening reporting obligations: this sometimes looks like closing the stable door after the horse has bolted. The IMF has done this on PPPs (Akitoby, 2007; Rial, 2012), as has the OECD (2012) on the design of PPP programmes" (Heald, 2015). In particular, Heald categorizes eight obstacles to fiscal transparency as *intrinsic or constructed*. As Heald (2015) conceptualizes, "intrinsic obstacles" to fiscal transparency are considered in:

- technical complexity;
- the changing nature of State activities;
- fear of number;
- media negativity;
- denial of legitimacy of "Downards Transparency" claims;
- volume and opaqueness;
- validation of opportunism and cheating by agents;
- endemic corruption.

Table 1: Obstacles to Fiscal Transparency

| <u>Intrinsic Obstacles</u> | <u>Constructed Obstacles</u> |
|--|---|
| 1. Technical complexity of measurement systems, both financial reporting and national accounts | 5. Denial of legitimacy of claims to information (downwards transparency). Information about the financial affairs of state is regarded as the sole preserve of the executive, most likely in (a) non-democratic regimes, and/or (b) where the person and the role of ruler as public authority are not distinguished |
| 2. The well-delineated 'positive' state (which held assets and delivered services) has partly given way to a more-difficult-to-map 'regulatory' and 'contract' state (which has more complex and diffused modes of governance and extensive liabilities) (Majone, 1997). This process has gone further in Anglo-Saxon countries than in much of continental Europe | 6. Volume and opaqueness used by governments as tools for managing hostile and aggressive media and for disabling and discouraging users of government financial information. High index scores for fiscal transparency may co-exist with inaccessibility |
| 3. Cognitive problems about numbers that make many elected politicians switch off, and which diminish citizen understanding | 7. Perceptions of unfairness may validate cheating in the minds of those subjected to upwards transparency. Those lower down the principal-agent chain manipulate data (for example, project appraisals for Public-Private Partnerships) as a means of 'doing good by stealth', within constraints they cannot challenge |
| 4. Relentless media negativity that interacts with government incentives to 'spin' and 'plant', thereby reinforcing the career advancement incentives of elected politicians not to commit to a scrutiny role | 8. Perceptions that rulers engage in fraud and corruption leads to such practices becoming endemic across hierarchical levels. In such a cultural context, all are incriminated whether by commission (personal engagement in such practices) or omission (toleration of what others do, perhaps for reasons of self-preservation). Fiscal data will lack reliability as accounting records will be falsified |

Source: Modified and re-sequenced version of Heald (2013, Figure 33.4 on p. 736).

Table 1 shows intrinsic obstacles (as technical complexity, the changing nature of State activities, fear of number and media negativity) deriving from the subject matter and institutional settings. Constructed obstacles (as denial of legitimacy of "Downwards Transparency" claims; volume and opaqueness; validation of opportunism and cheating by agents and endemic corruption), are created by decision-makers whose political or economic interests might be damaged by fiscal transparency (RQ2) (Heald, 2012, 2013).

ANONIMITY IN ITALIAN TAX AMNESTY AND FISCAL TRANSPARENCY: “THE SOUND OF SILENCE”

Some scholars argue that tax amnesty can be a useful “tax policy tool when exploited in exceptional circumstances. Amnesties can also be used systematically as a discriminatory mechanism to improve the efficiency or even the equity of the tax system (Marchese, 2000). Taxpayers participating in an amnesty may also be subject to special surveillance in subsequent years. Of course these policies reduce the amnesty’s appeal and its potential as an immediate revenue source.

If the government is primarily interested in raising revenue and encouraging participation to boost the immediate amnesty’s proceeds, the auditing powers can be limited or excluded, and *anonymity* can be offered to the amnesty participants. One way this can be achieved is by allowing participants to disclose their liabilities and to make the amnesty payments to a third party (such as a bank), which releases a certificate to be used as a shield in case of future tax audits: the 2001 Italian tax amnesty for capital repatriation with these characteristics was called a “scudo fiscale” (tax shield). However, it is also true that the government’s commitment not to access such information may be more or less credible. In Italy, a 2011 law introduced a new tax on capital that benefited from that 2001 amnesty. The new tax was justified on the basis of the benefit principle, with the benefit being continued secrecy to those who entered the amnesty despite newly introduced legislation granting the tax administration easier access to taxpayers’ bank accounts” (Marchese, 2000). Some of these measures as “tax shelter”, or rather, the tax shield can be considered as an instrument capable of performing to a plurality of functions to achieve different purposes.

It is also necessary to emphasize a key feature of return process and the regularization of the activities under review, namely, anonymity: in fact, with regard to the repatriation of assets abroad, their confidential statements, which exclude the criminal liability that is the result of tax assessments on those goods are not fed back to public authority.

With regard, however, the mere adjustment of capital abroad, the taxpayer must notify the tax authorities the detention of themselves outside the borders of national (completely anonymous) by completing the appropriate forms attached to the declaration returns, prepared by the Ministry of Economy of Finance, through the Agency of Entree. This aspect of *anonymity declarations* of the emergence differs significantly from the 2009 Italian tax amnesty provisions concerning the return of capital in other countries in which those who want to stabilize the capital exported must pay in full the taxes evaded in previous years.

In Italy, tax shield also provided non-criminal offense tax, prescribing penalties of up to six years of imprisonment:

- non-declaration of income and unfaithful;

- a declaration by fraudulent use of invoices for nonexistent transactions;
- false representation of records required;
- concealment or destruction of documents;
- false company (accounting fraud).

Tax amnesty tend to undermine the credibility of fiscal transparency policy, and the findings encouraging evasion destroying the credibility of EPSAS the political process of harmonization of accounting systems among EU public administrations (RQ3).

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INTEGRATED CULTURE SYSTEMS: AN EXPLORATORY RESEARCH

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ABSTRACT

This paper focuses on the topic of Integrated Culture Systems with the aim to fill the gap in the literature of Public Management and Governance and to provide practitioners with good tools for measuring Public Value.

It is argued, infact, that there is a major opportunity for governments to achieve effective and efficient results in improving their communities by allowing citizens to use performance measurement (Bovaird 2003, Holzer and Yang, 2004; Borgonovi 2008; Bianchi, Wiliams, 2013) to generate actions towards better public services (Bianchi, 2009, 2012, 2014; Bianchi, Rivenbark, 2014). In other words, the model of Community Governance, observes the linkages between citizens, governments and measuring performance as configured in a triangle (Foley, Martin, 2000). The literature will also cover the issue of the territorial dimension named the Metropolitan Area (Bryson, 2011) that, by its natural and original configuration as a public policy, is “per se” conceived as a form of public value that is generated or destroyed (Esposito, Ricci, 2015). Within the territorial configuration of Metropolitan Areas, policies towards the creation of integrated systems, such as culture systems in this circumstance, will be also explored in order to understand if Performance Measurement represents a tool that is useful to visualize tangible and intangible Public Values or if it is, rather, a “myth” as argued by some authoritative scholars (Mondell, 2004).

Keywords: *performance measurement, public value, community governance, integrated culture system*

INTRODUCTION

The topic of performance measurement (Bovaird, 2003; Holzer and Yang, 2004; Borgonovi, 2008; Bianchi, Williams, 2013) of public value (Benington, 2009: 5,6; Benington and Moore, 2011) for the welfare of citizens is not merely, today, a subject of interest amongst academics of public management. More increasingly, it has become a heated matter for public managers and their organizations’ practitioners since they are daily confronted with problem of delivering efficiently and effectively public actions, policies, goods and services under the rubric of the 21st century’s paradigm in the Public Management literature, that is *Community Governance* (Manfredi, 2009, 2013). This

perspective, which unfolds through a series of networks and relationships has sparked off the development of innovative public and private models aimed at integrating all community's views and interests in a *systemic view*. Community Governance, therefore, entails a method of governing that pursues, as its primary aim, sustainable development for communities and territories, and it is supported by coherent processes of community planning and programming by adopting a multidisciplinary, strategic and systemic approach (Totikidis, 2005).

This paper focuses on the topic of Performance Measurement in the realm of Community Governance with the aim to fill the gap in the literature of Public Management and Governance and to provide practitioners with good tools for measuring Public Value.

It is argued, in fact, that there is a major opportunity for governments to achieve effective and efficient results in improving their communities by allowing citizens to use *performance measurement* (Bovaird 2003, Holzer and Yang, 2004; Borgonovi 2008; Bianchi, Williams, 2013) to generate actions towards better public services (Bianchi, 2009, 2012, 2014; Bianchi, Rivenbark, 2014). In other words, the model of Community Governance, observes the linkages between citizens, governments and measuring performance as configured in a triangle (Foley, Martin, 2000).

The literature will also cover the issue of the territorial dimension named the *Metropolitan Area* (Bryson J.M. 2011) that, by its natural and original configuration as a public policy, is "*per se*" conceived as a form of public value that is generated or destroyed (Esposito, Ricci, 2015). Within the territorial configuration of Metropolitan Areas, policies towards the creation of integrated systems, such as culture systems in this circumstance, will be also explored in order to understand if Performance Measurement represents a tool that is useful to visualize tangible and intangible Public Values or if it is, rather, a "myth" as argued by some authoritative scholars (Mondell, 2004).

RESEARCH DESIGN

The paper analyses *performance measurement* of Public Value in the territorial framework of the Metropolitan Area of Bari. In particular, the focus will be on the applicative problems resulting from the measurement of intangible values generated or destroyed in the cultural integrated system of the Metropolitan Area of Bari.

The paper, in fact, finds that the main difficulties in measuring intangible public value, that would ultimately lead to disvalue of public cultural goods/services, lies in the incapacity of understanding the cultural heritage as made of both tangibles and intangibles.

Given the conditions of a high level of generability of the case study itself, the paper has the ambition to support scholars and practitioners to map all tangible and intangible public value produced or

destroyed, to the extent that a real Public Value's Map (Esposito, Ricci, 2014) could be drafted on the same way as the *Treasure's Map* is conceived.

The Map itself will be able to identify the strategies by avoiding all those problems deriving from performance measurement and transformation of (dis)value into (plus)value (Esposito, Ricci, 2015). This is achieved by measuring the variation and gradation of public value created for the community in the perspective of Community Governance.

The investigation conducted in the perspective of Metropolitan Areas through the case study of the Integrated Culture System of the Strategic Plan "*Metropoli Terra di Bari*" (2007 – 2015).

RESEARCH METHOD

This paper uses a case-study method (Yin 1989, 1995) which is a valuable tool for understanding the complexities of governing in the perspective of Community Governance and for suggesting criteria for further actions in creating a shared, integrated, networked-based and systemic public value. The case under examination is the one of the Integrated Culture System of the Strategic Plan "*Metropoli Terra di Bari*" (2007 – 2015) and uses a deductive and inductive approach for describing the phenomena and dynamics of the processes entailed.

RESEARCH OBJECTIVES

The aim of this paper is to find answers to two research questions:

RQ1: In what way, the tools used for performance measurement, can contribute to the visualisation of Public Value or disvalue?

RQ2: How could performance measurement eventually contribute to determine the extent of public value creation or destruction? Alternatively, is Performance Measurement an emerging or declining organizational "myth"?

The case-study method can help understanding the complexities of measuring public value also characterized by forms of capital rationing that affect both current and future communities.

In general, the case-study method (Yin, 1989, 1995), has a twofold aim of detailing the main characteristics of the phenomena and of understanding the dynamics of a given process. From a methodological point of view, the development of a case study represents a "strategy of research that is concentrated on the comprehension of the dynamics that characterize specific contexts" (Eisenhardt 1989, p. 532). Qualitative approaches and forms of research in action (Fayolle, 2004), allow to describe, explain and understand situations in their own dynamics and their own evolution. The case-study method represents a valuable tool to 'capture' different dimensions of performance measurement of

Public (plus)Value, from the analysis of the case study itself as far as suggesting criteria for further action (Craig 2003).

MEASURING PUBLIC VALUE: A LITERATURE REVIEW

The theme of public value has been abundantly subject of attention in the academic community. In recent years it has become also known amongst a non-specialist audience, this way becoming part of what can be called as a new 'management frenzy' (Abrahamson, 1991, 1996).

From a theoretical point of view, the research work was inspired by the debate that, according to some authoritative authors, began in 1995 with Moore who was, at that time, dealing with the subject of quality in PA (Jorgensen, Bozeman, 2007: 361). Through further elaborations, clarification and contextualization, it has, then, developed into a model that features the theory of public value as a new paradigm – integrative or even alternative to NPM – that was named Public Value Management (Stoker, 2006; O'Flynn, 2007; Alford and O'Flynn, 2009).

Value is *created* and *destroyed* whenever an individual is called upon to perform any of these activities in relation to a public service (Denhardt and Denhardt, 2003; Kelly, Mulgan and Meurs, 2002). In theory, these actions produce disvalue (Esposito, Ricci, 2015) when the emerging target differs from the one which was originally established and conceived to be reached by the actions themselves. This means that it could be possible to understand whether a certain behaviour - or an omission - by a politician is such as not to create or even destroy value. It is therefore paramount to understand if the good pursued by political action is what essentially originates, motivates and drives political action, that ultimately is, in other words, any action carried out in the community and for the community. In order to better understand the significance of this statement, it seems extremely useful to go back to 2300 years ago by citing the philosopher Aristotle who addressed the question as follows:

" (...) all knowledge and every pursuit aims at some good, what it is that we say political science aims at and what is the highest of all goods achievable by action. Verbally there is very general agreement: (...) it is happiness" (Nicomachean Ethics, Book 1).

Happiness should therefore be the good to be pursued through politics. As far as happiness it concerned, it seems to depend on whether and how public value is *created* or *destroyed* after meeting an ever changing *social desirability* (Dahrendorf, 1994: 30).

Scientific literature has shown how public managers are given a much more demanding task, which is to combine purely political issues with those of a more technical nature, in order to ensure the creation or destruction of public value (Hefetz and Warner, 2004).

The approach to public value was born at the beginning of the '90s, independently from NPM studies, and it has gradually become an important part of their development and revision, first by highlighting

and, later, by filling and amending their gaps and inconsistencies respectively. This has led in some cases to significant changes of direction in the process of modernization of public administration compared to originally NPM issues. What has been revisited, in particular, is the notion that policy makers should take into account multiple goals. According to this relatively new approach, the citizen is not seen as a customer, but rather as someone who contributes to shape decisions and public policies that are ultimately taken by managers who operate in the light of transparency and delivery of quality-based public services.

The theory of public value is based on the need to assess public services and to achieve higher levels of efficiency and effectiveness measured by Performance Measurement tools. This would in turn facilitate the establishment of an accountability culture where the public management should be held responsible as much towards citizens as they are towards politicians, overcoming a static approach based on top-down models where public managers try to reach targets set at central level following performance measurement.

It has been argued (Blaug et al., 2006) that the public value model tries to reconcile the tension between bureaucracy and democracy. The assumption at the basis of the public value theory is the acknowledgement of needs and preferences of citizens, who are the recipients of public services, in order to avoid that any decision regarding quantity and quality to be delivered stays only in the hands of politicians, public managers or of private companies.

Public value should therefore be seen as a key factor in designing and implementing political decisions and strategies regarding the services to be provided and should involve the entire decision-making process as far as the final stage when the service is delivered (Lapsley, 1999; Sevic, 2001; Marcon and Russo, 2008).

In the last twenty years the systems to measure performance in complex organizations have abounded and have become part of the current debate amongst scholars and practitioners (Mondell 2004).

Governments, at all levels, have developed performance measurement systems, with particular reference to the use of resources and the quality of services delivered but such measures, mainly economic and financial in nature, have been considered scarcely efficient to support the development of public policies and the definition of actions to respond to citizens' needs. "Whilst many accounting scholars have long taken a rather critical view of the possibilities of improving public sector management through one-sided reliance on financial PM, proposing a more multidimensional approach (e.g., Mayston, 1985; and Pollitt, 1986), more pronounced, normative advocacy of readily 'packaged' solutions to the latter end has only recently surfaced (Chow et al., 1998; Forgione, 1997; Kaplan, 2001; and Kaplan and Norton, 2001). However, the basic idea of tightly coupling performance indicators to strategic objectives inherent in such approaches goes back a good while (Drucker, 1954

and 1976) and has long appealed to public sector reformers (see e.g., Covaleski and Dirsmith, 1981; Dirsmith and Jablonsky, 1979; and Holmblad Brunsson, 2002). Given this longstanding debate, it would seem opportune to investigate how 'new' PM solutions such as those outlined above may become more firmly embedded in organizations at a conceptual level" (Modell, 2004).

MEASURING PUBLIC VALUE IN COMMUNITY GOVERNANCE AND INTEGRATED CULTURE SYSTEMS

Although some scholars claim that 'the public sector provides a leading edge on issues of performance measurement' (Lapsley and Mitchell, 1996, p. 5), critics argue that public sector organizations 'have measured too many things and the wrong things' (Atkinson et al., 1997, p. 26) and need to 'sharpen their focus when identifying the long-term issues of mission, objectives, and strategies' (Chow et al., 1998, p. 278). "This suggests that there are at least two potential bases for challenging the current state of public sector Performance Measurement practices for prospective contestants. They may claim that one-sided reliance on financial and other types of efficiency-based PM has largely failed to improve the provision of public services. Alternatively, the Performance Measurement practices of public sector organizations may be considered too broad and unfocused to provide strategic direction for action. Whilst seemingly inconsistent, these two positions are not mutually exclusive but may co-exist in organizations and generate ambiguity as to how Performance Measurement should be improved. The latter one, which may be described as yet another Performance Measurement myth, implies that there are few alternatives available in terms of 'better' approaches for broadening the assessment of performance within the public sector" (Modell, 2004). The focus of this paper, focuses on the development of the Apulia Integrated Cultural System. A system intended as a "web of relationships" that can connect the local cultural system with actors or other institutional and economic networks of proximity (Valentino et al, 2001). According to some scholars engaged in developing a theoretical framework on Integrated Cultural System, beyond some semantic ambiguity (Seddio, 2013), the economic and business literature identifies the integrated cultural system as a systemic complex and culturally shared landscape.

In this paper, the cultural heritage will be investigated not as a set of cultural assets to be protected and maintained (Riccaboni, Magliacani, 1984); but rather as a set of organizational and governance solutions, to govern the growing strategic complexity (Rebora, Meneguzzo, 1990; Cavenago, 2000; Ruffini, 2000; Borgonovi, 2001; Longo et al, 2005). This heritage is represented, therefore, as a complex system, culturally homogeneous with social and economic implications in the reference area, by the different stakeholders involved in the economic activities (Airoldi, Brunetti, Coda, 1994: 129; Airoldi,

Forestieri, 1998; Valotti, 2000: 51), capable of promoting and supporting the processes of generation of utilities that are to influence public interests (Kooimen, 2003; Longo et al 2005: 17).

The theoretical framework that is emerging from the basis of the analysed literature, could also be useful to investigate the possible different trends in the application of studies on cultural systems integrated in different countries.

In Italy, the garrison of corporate economic literature on the subject of integrated cultural systems, is guaranteed by various scholars (Sibilio Parri, 2004; Marcon, 2004; Seddio, 2002, 2013; Zangrandi, 2007; Zan, 2007; Hinna, 2009; Donato, 2010; Manfredi, 2010, 2013; Del Sordo, Orelli, 2012; Magnani 2014), and by a substantial and growing ranks of professionals.

THE MODEL OF COMMUNITY GOVERNANCE APPLIED TO BARI METROPOLITAN AREA

The Metropolitan Area of Bari is located in a crucial border, at the edge of the European Union, as a gateway to the Balkans and with close ties with the Southern coast of the Mediterranean Sea.

This area, which should not be considered as the periphery of the Apulian region has made use of the Strategic Plan BA2007 – 2015 to activate processes and resources enabling the creation of a Metropolis as a centre of cultural production.

The Metropolitan Area of Bari attempted to implement a strategy to prevent that culture became everything. Thus, very specific actions in the field of arts, heritage and knowledge had been clearly identified and implemented following European trends which place culture in a pivotal position as being used in urban development strategies and cultural agents as provider of contents for a creative economy.

The scope of the Strategic Plan of the Metropoli Terra di Bari, as far as the field of culture and heritage is concerned, was merely centred on the development of a homogenous plan of cultural and tourist strategies at the Metropolitan Area's level in order to create an univocal and attractive tourist and cultural offer of the reference area. The drafting of a local cultural strategy depended, to a great extent, on the state of the art and the level of development of each single municipality compounding the Metropolitan Area. The idea of the Plan was to focus on the field of culture and tourism in order to prove their usefulness and their contribution to the creation of an economic and financial opportunities for the community of the Metropolitan area such as employment and urban regeneration. A strong emphasis was made in the economic dimension of culture that would have helped in providing new jobs and new income to the local economy of the Area.

The strategic Plan was merely used as a tool that would have offered the Metropolitan Area a renewed image that, at turn, would have contributed to increase local community identity and

historical awareness through the creation of cultural and creative industries. The activity of strategic planning in the sector of culture was mainly focused on the creation of a portrait of the city as a City of Knowledge and Creativity. The main goal was to fill the Plan with a set of events emphasising processes of cultural production, diversity, interculturalism and intercultural dialogue by making the most of the existing traditional cultures of the Area.

Cultural actions were those actions aimed at creating a respectful tourist offer, based on the cultural assets of the territory, contributes to the economic growth of the Metropolitan Area, without damaging the social fabric so that rural spaces as well as urban ones were all used at best, as a single common and shared heritage, to connect the Municipalities of the Area altogether. And this is what was meant as an integrated cultural system where the main idea was to link intangible cultural capital to the territory and the community and to present the system created as an attracted offer to sell on the market.

Therefore, it could be argued that the scope of the Plan regarding culture, heritage and tourism did not contemplate the establishment of a set of indicators that would have afterwards measured the result of the impact of those strategies on the territory and on the communities of the Metropolitan Area. No assessment of performance indicators can be actually conducted, today, at level of the integrated culture system that the Plan attempted to create, simply efforts of creating a strategic, synergic and concerted vision on culture were not driven by the spirit of measuring the cultural intangible value generated or destroyed.

PERFORMANCE MEASUREMENT IN INTEGRATED CULTURE SYSTEMS: A “TREASURE’S MAP” FOR PUBLIC (PLUS) VALUE?

An interesting case of community planning is found in the adoption of the Community Governance’s model applied to the Strategic Plan of the Bari Metropolitan Area (or PSMTB).

The PSMTB needs to be conceived as political willingness, and ultimately a decision, to converge into a single institutional authority. The analysis of documents related to performance measurement of the Metropolitan Area of Bari has occurred through two steps:

- a) direct collection of data;
- b) collection of documents and indirect resources resulting from public engagement activities.

From the analysis of the documents above, it has been possible to observe that the tools of Public Measurement cannot highlight, in a clear and measurable manner, the value that is generated or destroyed. This can be explained in the lack of robust, measurable and valid strategic objectives that the Public Administration has established ex-ante.

The paper, in fact, finds that the main difficulties in measuring intangible public value, that would ultimately lead to disvalue of public cultural goods/services, lies in the incapacity of understanding the cultural heritage as made of both tangibles and intangibles (*RQ1*).

Given the conditions of high level of generability of the case study itself, the paper has the ambition to support scholars and practitioners to map all public value produced, tangible and intangible, to the extent that a real Public Value's Map (Esposito P., Ricci P., 2014) is drafted on the same way as the Treasure's Map is conceived.

The paper fills the gap in the examined area of public value that is the measurement of gradation/variation of public value. The investigation conducted in the perspective of Metropolitan Areas through the case study of the Integrated Culture System of the Strategic Plan "Metropoli Terra di Bari" (2007 – 2015) represents an instrument itself by the means of the Treasure's Map that it created.

From the analysis of the case-study it is possible to observe that the performance measurement tools adopted by the Metropolitan area of Bari in the cultural integrated system seems to be a missed opportunity. The tools abovementioned are not part of the Treasure's Map since they don't enable the assessment of the value's transformation as far as the intangibles are concerned. Consequently, they are also unable to allow the visualisation of the plus value may be generated or destroyed.

From the observation of the performance measurement conducted by the Metropolitan Area of Bari, it comes that (*RQ2*) is confirmed since, in this case study, performance measurement tools in the public sector stand as only a "myth" (Mondell, 2004).

Any European metropolitan area, strategically planning its future, needs to formulate a strong cultural vision. In other words: There is no future for a metropolis that does not give culture a central role in the exercise of strategic planning and confirms with adequate funding and suitable processes the expansion of the cultural resources during the implementation of the plan. The inclusion of culture in the Strategic Plan Metropoli Terra di Bari took into account three main strategies guiding the future of the Metropolis: a polycentric, competitive and attractive and efficient governance.

The case study of the Metropolitan Area of Bari shows a lack of culture and cultural heritage's indicators that demonstrates the institutional incapacity of measuring intangibles and the government's aim to monitor trends in the contribution of cultural heritage to the Metropoli Terra di Bari's society and economy. No indicator has been set as it is shown in the document on "Performance Assessment of the City of Bari – Pianificazione e Controllo Strategico nelle grandi Citta'" conducted and presented by the Italian Ministry of Funzione Pubblica in 2013.

Therefore in this context it is not possible to measure the value or disvalue, rather, the plusvalue generated by cultural assets and their impact on cultural heritage on individual and community well-

being. Specifically, it is not possible to discern any correlations between participation in arts and cultural heritage activities, individual well-being and social capital in communities in the Metropolitan area of Bari. What is important is the use of intangible and performance outcomes that are being used to assess investment in cultural heritage and determine future public policy. This links the value that the public cultural places experience with the Public Value that public authorities seek to create through investment and policy. And arts and cultural heritage are the conduits for that value creation. And all this, is completely inexistent in the study case under examination.

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PUBLIC-PRIVATE ALLIANCES IN OPEN INNOVATION PROJECTS: THE GOVERNANCE OF ALLIANCES IN SMART CITIES

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ABSTRACT

This paper aims at deeply understanding the governance mechanisms of alliances between public and private in a new and increasingly important contest of analysis: the Smart Cities. To do this, 21 in-depth semi-structured interviews with both Innovation and Smart City managers from seven large multinational corporations participating in Smart City initiatives were carried out. Results propose significant new insights useful to manage these hybrid partnerships that involve the development of uncertain technologies, services or business models with the final aim at satisfying citizens needs. Implications both for private managers and for public bodies and cities' policy making were presented in the light of the existent literature.

Keywords: *Public-Private alliances; Public-Private Partnership; PPP; open innovation; governance mechanisms; alliance governance; smart cities; smart city alliances; smart city governance.*

INTRODUCTION

Open innovation partnerships help firms to access and leverage external complementary resources, reduce innovation costs and risks, adapt to dynamic environments and generate higher revenues (Chesbrough, 2003; Du *et al.*, 2014). Despite this, in OI literature only very few studies try to analyze open innovation through community forms of collaborations such as private-public partnerships (West *et al.*, 2014). This type of cooperation can provide firms with access to complementary resources to enable the successful development of new products and processes (Laursen and Salter, 2014; Santoro *et al.*, 2014). Thus, most of this research has focused on knowledge partnerships between firms. Both the literature on Open Innovation and the older research on R&D cooperation have traditionally neglected the R&D cooperation between firms and public organizations.

In this context, literature on public-private partnerships suggested different problems and obstacles that may lead to the failure of this hybrid cooperation due mainly to the diversity of the actors that

prevents them from collaborate with ease. First, an efficient knowledge sharing process implies that the scientific or technological distance between partners may not be too large (Röller *et al.*, 1997; Inkpen and Beamish, 1997). Second, the management of the intellectual property rights (IPR) and sharing proprietary know-how is often problematic (Hagedoorn *et al.*, 2000). Third, objectives are usually very different because the public body focused on social and collective benefits while firms involved in this projects usually aim at making profit. Fourth, the coordination of different time-horizons because private managers often complain that public institutions operate on extended time lines and have little regard to the urgent deadline of business (Pavit, 2003; Du *et al.*, 2014).

Due to compounded difficulties coming from the heterogeneity of partners, higher rate of cooperation failure and the unexplored contest we designed our study, the main goal of this paper is to understand how firms engaging in Smart City alliances design the governance of alliance. The differences in managing these forms of alliances compared with the classical private forms is an important research gap that this paper filled up. Another important contribution is the new and emerging topic, referring to "Smart City", in which we analyze this topic. In fact, this is one of the first study aim at highlighting which are the mechanisms to manage the governance of alliances within this hybrid partnerships.

Thus, this paper aims at contributing mainly from three different points: first, it look for the most suitable alliance governance mechanisms in the Smart City context; second, it look for challenges and best practices adopted by firms in order to partner with public organizations in Smart Cities projects; third, it look for suggestions for firms that need to partner with public organizations in order to exploit Smart City's opportunities.

This article is structured as follows: in section 2 we present the theoretical background of the paper, firstly explaining how public-private alliances are different in Smart Cities projects and subsequently proposing previous studies on the alliance governance, that is the focus of the paper. In section 3, we proposed our multiple case studies regarding seven multinational companies that started partnerships with municipalities in many cities of the world. In section 4, we present the results of the paper regarding the governance of alliances and some key driver that managers need to follow in order to achieve positive results in Smart City projects.

THEORETICAL BACKGROUND

Partner with public organizations in Smart Cities

Nowadays, an increasing number of public organizations are participating in Open Innovation strategies (Alves, 2013). In the last years, open innovation approaches are gaining popularity across all levels of government (Mergel and Desouza, 2013). Most approaches can be defined as experimental

lighthouse projects, and each case is situated in its own political and legal environment, with a diverse set of unique public management problems (Mergel and Desouza, 2013). Some of the Open Innovation adoption in public organizations is explained by the growing interest of policymakers for smart cities programs. Within the scope smart cities programs, firms and public organizations tend to cooperate to develop innovations, which usually are more radical than incremental because most Smart City projects involve cutting edge technologies and highly uncertain outcomes (Almirall *et al.*, 2014). Thus, public partners are less prepared to manage this kind of knowledge exchanges and this uncertainty. But, cities may be a great locus of smart innovation and successful experiments need the cooperation and support of local governments. As noted above, earlier research on decision making in public organizations suggests that public managers may be unwilling to make decisions without the consent of legislative and political superiors and powerful stakeholders (Rufin and Rivera-Santos, 2012). Therefore, public managers rarely support experiments and innovations which may harm political strategies of decision makers or the interests of significant stakeholders. Over the last decades, a large number of articles have studied how to build and develop alliance capabilities. Most of this research has focused on dyadic relationships between firms or public-private partnerships for the delivery of well-known services with mature technology and clear business models. However, Smart City projects typically involve alliance portfolios involving several partners, both public and private, which develop uncertain technologies, services or business models. Therefore, alliances in Smart City initiatives have some specific and underexplored aspects (Ferraris and Santoro, 2014).

The study of the smart city phenomenon from the Public Administrative literature shows that most of the smart city projects may fall within the concept of Public Private Partnership (PPP). According to Van Ham and Koppenjan (2001) a PPP is "cooperation of some sort of durability between public and private actors in which they jointly develop products and services and share risks, costs, and resources which are connected with these products".

Drawing on transaction cost economics and externalities theory, public-private partnerships will be necessary when economic opportunity realization (1) calls for industry-specific competencies but entails significant positive externalities (i.e., implies specialized private actions with significant public benefits), (2) is shrouded by high uncertainty for the private actors, and (3) necessitates for private actors high governance costs for contracting, coordinating, and enforcing (Rangan *et al.*, 2006). More specifically, alliances in Smart City may fall under the scope of constructive partnership in the sense of Rangan *et al.* (2006), an alliance between private and public actors where both uncertain and governance costs for private firms are high, that enable creative and effective responses to tackle the economic and social crisis.

Since most of the PPP are related to goods and services linked to public infrastructures, innovation has been limited to incremental improvements of existing technology (Hodge and Greve, 2007). Furthermore, current PPP instruments do not seem to be very well suited for the development of cutting edge technologies (Stiglitz and Wallsten, 1999; Bloomfield *et al.*, 1998; Leiringier, 2006; Barlow and Koberle-Gaiser, 2008). In fact, PPP legal framework is not friendly to open innovation strategies since most of the rules and regulations of PPP are based on the traditional mode of contracting that requires that public organizations to know the solution they need in advance and to work with prescreened vendors in order to define an auction.

The governance of alliance in Smart Cities

Former literature suggests that the three main mechanisms of alliance governance are equity ownership, contractual provisions and relational governance (Kale and Singh, 2009). Equity governance may be useful when partners have concerns over the retention of intellectual property (IP) outcomes. Some firms are wary of sharing their IP with public partners, since the knowledge exchanged with them may flow to competitors that have other partnerships with the public organization (Molas-Gallart and Tang, 2006). Moreover, public partners often incur high transaction costs in the creation and termination of these joint ventures and, as the number of actors involved rises, governance costs can be expected to rise as well. (Rangan *et al.*, 2006). Consequently, they will tend to enter into a reduced number of partnerships with this governance mechanism.

In fact, research on public-private partnerships implies that public partners will be reluctant to create public-private joint ventures because of legal constraints and the reticence of public organizations towards profit making activities (Ruffin and Rivera-Santos, 2012). When there are uncertainty regarding market conditions facing the relationships, mainstream literature highlighted how the creation of an equity-based alliance may be an important option for firms (Kale and Singh, 2009). This implies that one partner takes an equity stake in the other, or both partners create a new, independent venture wherein both take a stake. The main advantages of this governance choice may be at least three: a) it allows to address better the contingencies between partners and, at the same time, the hierarchical supervision and the monitor of the day-to-day activities of the alliance becomes easier; b) it creates incentives for the cooperation between partners and it creates a basis for each partner to receive a share of the returns from the alliance in proportion to its level of ownership; c) it improves partner shared goals, aligning mutual interests, improving the commitment of partners and, at the same time, reducing opportunistic behaviors (Molas-Gallart and Tang, 2006).

Contractual provisions are more flexible than joint ventures and at the same time they may help managing exchange uncertainty in a variety of ways. Contracts limit information disclosure by partners, specify the distribution of the alliance's outcomes and set forth mutual rights and obligations

of private and public partners. Contracts also limit information disclosures by partners during the operation of the alliance, specify how each partner will interact with third parties, and outline ways in which the alliance will end (Kale and Singh, 2009). However, public-private contracts are highly bureaucratic and are based on traditional modes of public procurement that are a strong barrier to innovation (Edler and Georghiou, 2007; Mergel and Desouza, 2013).

In PPP these costs are normally higher compared to traditional procurement of public investment projects (Hodge and Greve, 2007). The main reasons are their long-term character, ownership and financing structures, and risk-sharing features (Van Ham and Koppenjan, 2001), because it is more difficult to write complete contingent claims contracts.

Finally, relational governance reduce transaction costs relying on goodwill, trust, and reputation. This self enforcing governance directly influences contracting, monitoring and adaptation costs. In addition, relational governance enables partners to work together in implementing value-creation initiatives that need sharing of tacit knowledge between partners, exchanging resources that are difficult to price, and offering responses that are not explicitly called for in the contract (Zajac and Olsen, 1993; Kale and Singh, 2009).

Relational governance mechanisms is based upon social processes that promote norms of flexibility, solidarity and information exchange. Moreover, relational approach may safeguard against exchange hazards and facilitate the enforcement of obligations (Kivleniece and Quelin, 2012). Thus, it emphasizes the role of trust in achieving mutually successful supply outcomes through a variety of enforcement mechanisms ranging from the expectation of repeat business, reputation effects, social obligations, and fulfillment of basic social needs (Zhou and Poppo, 2006).

However, it is to be highlighted that a significant risk associated with opportunism exists in PPPs for both partners. Following a TCE reasoning, the governance structure of the PPP will need to be designed by the partners in ways that mitigate this risk (Rufin and Rivera-Santos, 2012).

THE STUDY DESIGN

The "Smart City" context is still emerging and the work of defining and conceptualizing it is in progress. Despite these difficulties in defining this fuzzy concept, our research design focus on the evidence that firms need to operate and collaborate with city governments in order to exploit Smart City opportunities (Scuotto et al., 2016).

This study uses a multiple-case research design and follow an exploratory and qualitative methodology. A case-study methodology enables the researcher to maintain the complexities and contextual contingencies in which the firms and the phenomena under study are embedded (Yin, 2013). We consider this methodology an appropriate approach to our goals, as there is limited

theoretical knowledge of partner selection in Smart Cities. We have studied the strategies of large corporations with a clear Open Innovation Strategy in partnership with public actors in cities (Scuotto et al., 2016).

| Company | Gross Revenue 2013 (\$ billion) | Industry | Relevant Examples of Partnerships | | | | |
|-----------|---------------------------------|--------------------------|---|---|--------------------|----------------|---|
| IBM | 99.8 | Software and IT Services | Rio de Janeiro (Brazil) | Rio operations centre control room | | | |
| | | | Qatar (Qatar) | Smart roads and drainage infrastructure | | | |
| | | | Madrid (Spain) | Big Data analytics on public service monitoring | | | |
| | | | Boston (U.S.) | Big Data analytics on video surveillance data | | | |
| | | | Mons (Belgium) and Malaga (Spain) | Electrical and thermal energy control system | | | |
| | | | Milan (Italy) | Subway control room | | | |
| Indra | 3.7 | Software and IT Services | Medellín (Colombia) | Integrated Mobility Management Technology Platform | | | |
| | | | La Coruna (Spain) | Integrated Smart City Government Platform | | | |
| | | | Malaga (Spain) | Geo monitoring of social network activity in the city | | | |
| Siemens | 95 | Manufacturing | London (U.K), Vienna (Austria), Paris (France) , Berlin (Germany) | Smart transportation systems | | | |
| | | | Manchester (U.K) | Intelligent energy management | | | |
| | | | Shanghai (China) | Intelligent buildings | | | |
| Ferrovial | 10.3 | Building and Services | Sheffield, Birmingham (U.K) | Smart transportation | | | |
| | | | Santander (Spain) | Waste management and parking systems | | | |
| | | | Torrejon (Spain) | Intelligent street lighting | | | |
| BBVA | 26.8 | Banking | Madrid and Bilbao (Spain) | Big data analytics on tourism data | | | |
| | | | Telecom Italia | 29.3 | Telecommunications | Trento (Italy) | Big data analytics on mobile services use |
| | | | | | | Milan (Italy) | Expo Milano Control Room |
| ENEL | 100.9 | Utilities | Turin (Italy) | Water management systems | | | |
| | | | Genoa (Italy) and Barcelona (Spain) | Smart Grids | | | |
| | | | Malaga (Spain) | Renewable energies and smart metering | | | |
| | | | Santiago (Chile) | Energy management systems | | | |

Table 1. Summary of the case studies

The scope of this research project was to study both service and technological innovation in urban environments. Consequently, firms participating in the research project were four technology providers (IBM, Siemens, Indra and Telecom Italia) and three service providers (Ferrovial, Enel and BBVA). The projects discussed during the interviews were located around the world (See Table 1). We used multiple data sources. First, we collected and analyzed extensive secondary materials. Second, we conducted 21 in-depth interviews lasted from 1 to 2 hours with both Innovation and Smart City

managers from seven large multinational corporations participating in Smart City initiatives on the different aspects of the project and their OI strategy. Smart City managers are firms' project managers that coordinate Smart City projects with external partners. Each city manager is assigned a specific city with the goal of building trust with decision makers and learning the specific processes and problems of the city. Additionally, city managers also evaluate how difficult the mutual adaptation is between different stakeholder interests and priorities and firm's resources and strategies. The managers were questioned on the alliances in Smart City with a focus on the governance mechanisms used for explorative and exploitative alliances.

FINDINGS

Despite legal constraints and the reticence of public organizations towards profit making activities our analysis showed that some private partners supported the adoption of equity governance mechanisms in Smart Cities initiatives. Equity governance may be useful when partners have concerns over the retention of intellectual property (IP) outcomes. In Smart City alliances, some firms are wary of sharing their IP with public partners, since this knowledge may flow to competitors that have other partnerships or relationships with the public partner. In addition to IP concerns, firms may use this mechanism aiming at implementing a lock-in strategy in a particular city, this is the case of Siemens in Wien with local energy suppliers and public partners.

However, contractual provisions are the governance mechanism most often adopted in Smart City alliances, since they are more flexible than joint ventures and at the same time they may help managing exchange uncertainty in a variety of ways. Public procurement contracts often make it challenging for public partners to work with and attract private partners for small projects where transaction costs and bureaucratic efforts may overwhelm the expected profits. Public procurement procedures are one of the major challenges in the implementation of Smart City projects. Some city governments, such as Sheffield and Birmingham city governments in UK and Rio de Janeiro in Brazil, have tried to adapt their contractual relationships to the specificities of Smart City projects, by promoting more flexible contracts or longer term relationships.

The effectiveness and costs of contracts in public-private alliances depend on managing coordination and developing trust between partners. However, not all the traditional coordination mechanisms may be feasible in Smart City projects. For instance, a traditional coordination mechanism such as programming may be difficult to implement due to the uncertainty linked to the nature of experimentation of Smart City projects.

In our interviews, it often emerges the presence of a formal structure aiming at facilitating the interaction between partners and information and resource sharing. Sometime public partners create a

specific organizational units or institutions to play this role like MONUM in Boston, Public Management Office (PMO) in Rio or Trento Rise in Trento. Other times, public actors do not have the resources or the possibility to do this and these units are created by the private partners such as Indra in the city of La Coruna in Spain. These coordination units are not only designed to interact with external partners, but most importantly to fostering internal cross-functional collaboration and to eliminating organizational and technological silos in the cities' organization.

Finally, some mechanism referring to "relational governance" has been individuated mainly in to exploiting stages of technology and service development where partners engage into Smart City alliances with reciprocal interdependence and generally need more complex coordination mechanisms such as joint teams and co-location. Here, trust based mechanism need time to be built but have the advantage of reducing the burden of administrative controls and facilitating knowledge creation and exchange. Moreover, joint teams and co-location centers favor the creation of social bonds and the reciprocal understanding of partners' organizational cultures and working styles, thereby increasing partner compatibility. Overall, firms in our research consider that these bonds reduce the need for formal control by facilitating information sharing, by reducing the perceived risk of opportunistic behavior and by promoting mutual adaptation to evolving contingencies.

DISCUSSION AND CONCLUSION

Building on the literature on open innovation in public organization in this paper we have discussed how firms can address alliances with public partners in cities to increase the success of their projects by focusing on one of the main dimensions of alliance management: alliance governance.

From our findings, despite there are some evidences in favor of the adoption of equity governance mechanisms, in Smart Cities initiatives mainly because of IP concerns and for a city's lock-in strategy most of the alliances in our research prefer contractual provisions.

In fact, contractual provisions are more flexible than joint ventures and at the same time they may help managing exchange uncertainty in a variety of ways. Although public procurement procedures are one of the major challenges in the implementation of Smart City projects, some city governments have tried to adapt their contractual relationships to the specificities of Smart City projects, by promoting more flexible contracts or longer term relationships. This in order to manage and develop high level of trust between partners that improve the effectiveness of contracts and reduce transaction costs.

Moreover, a formal independent structures like MONUM in Boston, Public Management Office (PMO) in Rio or Trento Rise in Trento facilitate: a) the interaction between partners, b) the information

and resource sharing, c) internal cross-functional collaboration and, d) the elimination of organizational and technological silos in the cities' organization.

Finally, some mechanism referring to "relational governance" has been individuated in order to reduce the burden of administrative controls and facilitate knowledge creation and exchange mainly in to exploiting stages of technology and service development. Moreover, our results suggests how joint teams and co-location centers favor the creation of social bonds reducing the need for formal control: a) by facilitating information sharing, b) by reducing the perceived risk of opportunistic behavior and, c) by promoting mutual adaptation to evolving contingencies.

From the perspective of public bodies, cities need to manage a trade-off between the flexible contractual relationships and the long term relationships. Public managers need to design new form of flexible contracts and procedures if public organizations want to become more attractive for firms that start Smart Cities projects. Moreover, cities must be aware of the problems related to IPR management and find mechanisms and incentives to the firms in order to create win-win situations related to knowledge spillovers, otherwise the local economical impact of Smart City projects may be limited. Thus, this paper adds to the existing literature mainly on three aspects: first, it improves general knowledge on the adoption and effectiveness of some alliance governance mechanisms in a new context of analysis; b) it finds out the main challenges that private and public managers face in this kind of projects and it highlight some best practices; third, it proposes some key insights for open innovation and alliance literature in the Smart City context.

From the perspective of private managers, this paper has some implications: a) it helps them to understand the challenges in innovating with public partners in Smart Cities; b) it proposes key insights on the choice of the right governance of alliance with public partners; c) it gives real examples on the adoption of alliance governance mechanisms in a specific context (i.e. the Smart City), where new technologies and business models need to be tested and adapted to the city and to the citizens.

This research has some limitations. First, even if the internal validity of the empirical results is ensured by the cross-case explanation building and pattern matching analyses, the study does not explicitly take into account the effects of other parts of the innovation ecosystem, such as the influence of citizens and other stakeholders or national and supranational institutions in Smart City projects. Second, our sample has some bias since our firms are large multinational and technology intensive corporations. The choice of the government mechanisms may be different for smaller, more local and less technological firms. An interesting avenue for future research is a large-scale survey to statistically test the relationships that emerged from this study, including more heterogeneous firms.

Moreover, through our research, we hope to inspire additional managerial accounts as well as further scholarly study in this exciting domain. Nowadays, in some cities, open innovation projects typically

include failures due to: a) private actors' incapacity of managing alliance or developing Smart City alliances routines; and b) the choice of the right governance mechanisms in order to manage the alliances. Therefore, we encourage successful examples to be documented, involving both new firms' or municipalities' experiences of managing alliances with heterogeneous partners.

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A MODEL FOR VERIFYING THE CORRELATION BETWEEN THE COMPANY'S SIZE AND ITS PERFORMANCE

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ABSTRACT

The purpose of the research is to verify if the company's size (in terms of production value) could be considered as a relevant factor in impacting their performance. To reach this purpose, the Italian and German companies have been compared.

Thanks to an empirical evidence in a sample composed of 41,344 Italian companies and 12,219 German companies, operating in different sectors, the correlations among several variables (country, production value cluster, and financial indicators) shows that the country factor has a primary importance in determining the differences of performance between German and Italian companies. On the contrary, the company performance and company's size are poorly correlated, meaning that the size factor is not one of the main factors that explains why the performance of the German companies is better than Italian ones.

The research is characterized by series of both theoretical and practical implications, especially for the management and the investors.

Keywords: *company's size; company's performance; economic and financial performance; company's profitability; financial debt repayment; Italian companies; German companies.*

INTRODUCTION

The comparison between performance of the companies in different countries constituted a subject of numerous publications, despite the fact that international comparisons are not easy issue because of significant economic, social and cultural differences between the individual countries (Arrighetti and Ninni, 2012; Arrighetti, A. et al., 2012; Boffelli and Urga, 2015; Borio, 1990; Bozio et al., 2015; Corbett and Jenkinson, 1996; Falzoni and Grasseni, 2012; Florio et al., 1998; Guerrieri and Esposito, 2012; Hall and Oriani, 2004; Ivanov, 2009). Moreover, the results obtained are not always convergent, as they depend on both the database and variables used to evaluate different sizes of the companies (Rivaud-Danset et al., 2001).

The literature is focused on the opportunity to present a certain number of interdependent factors concerning the company's situation (Arcari, 2004; Campedelli, 1998; Ferrero, 1968 and 1987; Ferrero et al., 2006; Giacosa, 2011; Giacosa, 2015; Teodori, 2008). Our research is focused on the observation context mentioned above.

The purpose is to verify if the company's size (in terms of production value) could be considered as a relevant factor in impacting their performance. In particular, a correlation between the company's size and its performance has been investigated, comparing Italy and Germany companies.

To that end, framework of the present research (Giacosa and Mazzoleni, 2016) is defined by the model that has distinguished small and medium-sized enterprises into various typologies, on the basis of the following criteria: growth, profitability and their attitude to repayment of the financial debt, in the context of an informative matrix (a model mentioned above was introduced in a previous publication. Additionally, it can be considered that the present research represents a development of Giacosa et al., (2016), which identified a set of indicators which identifies the appropriate financing methods for small and medium-sized companies, in terms of growth, profitability, and capacity of financial debt's repayment. Our current research refers to the above indicators to reach a different purpose.

The research is composed of the following parts. The second paragraph represents the literature used for the purpose of the current research. In the third part the research methods were introduced. The fourth paragraph contains the description of the results obtained and their discussion in the next section. And at the end the conclusions and implications of the survey are outlined, along with its limitations.

LITERATURE

Researchers focused on a range of variables that permits a comparison between the company's situation, in several terms of observation, within a country or comparing several countries. With particular reference to the international comparisons, the comparison between the performance of the different countries was the subject of numerous publications.

Considering the aims of the present research we have focused on the relationships between the company's performance, the country system and the company's size. Some of the research lines of studies divide literature in the following groups:

- a) the relationships between the companies' business situation and trend of their growth;
- b) the existing relationships between profitability, company's size and the country system.

With reference to the first group of studies, exists many different ways of observing the condition of the company: it can be considered by taking into account the growth aspect (Canals, 2001; Hart and

Mellons, 1970; Giacosa, 2012a and 2012b; Goold, 1999; Grandinetti and Nassimbeni, 2007; Potito, 2013) as well as referring to economic and financial context (Baginski and Hassel, 2004; Giunta, 2007; Rossi, 2014b; Vause, 2001).

Instruments of financial analysis were very useful tool in evaluating the company's economic and financial situation, because its signaling ability (Bernstein and Wild, 1998; Foster, 1998; Fridson, 1995; Ingram et al., 2002; Helfert, 1997; Higgins, 2007).

By focusing our attention on the companies' financial structure (which permits, among other, to monitor the company's situation), a number of studies has linked the companies' financial structure with the company's growth trend (Borio, 1990; Bloch and Laudy, 1993; Corbett and Jenkinson, 1996; Delbreil et al, 2000; Harris and Raviv 1990; Rivaud-Danset et al., 2001).

In opinion of Giacosa (2015), the growth is an important factor in determining the financial structure of the company, as the financial resources useful to support every subsequent strategy depend on the growth. Among the choices in the context of the financial structure, we can find a degree of indebtedness. It must be analyzed jointly with the company's ability to generate cash flows. Indeed, a certain level of debt is acceptable if the resources externally acquired generate a positive leverage effect (Ferrero et al., 2003 and 2006).

With a particular reference to the existing relationship between the growth and the company's size (Kumar, 1999; Yasuda, 2005; Vlachvei and Notta, 2008), some suggestions are so interesting. Oliviera and Fortunato (2006) stated that newly established companies and the small ones have more substantial growth than the big and mature companies. This statements are in contrast with the theory of Gibrat (1931), according to which the company's growth and size constitute two independent factors.

With reference to the second group studies, a number of studies has used a different methodologies and samples, to compare this aspect of observation.

Rivaud-dansent et al. (2001) showed that the differences in profitability between companies from different countries are mainly influenced by the company's size factor, and a little by the country factor. Schiefer and Hartmann (2009) attributed to the country factor only a residual role in the explanation of the difference between the profitability of different countries.

With reference to the relationship between profitability and leverage, the results of studies conducted by different authors are homogeneous. They claimed that, with increasing profitability, the debt of the company decreases (Remolona, 1990; Rajan and Zingalez, 1995; Shyam-Sunder and Myers, 1999), as the company produces by itself a series of financial resources useful to support the needs of management.

According to the literature presented above, we can conclude that doesn't exist a model which would be able to assess the evolution in time of the state of health of the small and medium-sized companies in the period considered, in the context of combination the following criteria: growth, profitability, and the company's ability to repay financial debt. Moreover, the developed model could permit a companies to adopt a various measures necessary to improve their situation, by defining the current state and following the path leading to virtuous position in terms of economic-financial situation and the companies' growth.

METHODOLOGY

The sample

The purpose of the research is to verify if the company's size could be considered a relevant factor in impacting their performance. In particular, we compared Italian and German companies.

The Amadeus-Bureau van Dijk database was the basis for our analysis, as it allowed to identify the Italian and German companies on which the survey was conducted. Subsequently, the companies have been matched to proper economic sector, adopting the NACE classification of the European Institute of Statistics (Eurostat).

Carrying out the survey requires an identification of two samples: Italian companies sample, and German companies sample. According to the sample of Italian companies, the population taken into consideration consists of 758,153 companies, while the sample of German companies counts 201,854 companies (presented in Amadeus database on the analysis reference day).

Creation of the samples demanded application of the following criteria:

- availability of the company's financial statements related to 2011, 2012 and 2013 (this three-year period was considered as minimum necessary to conduct the survey);
- preparation of the financial statements was not made in accordance with IAS (International Accounting Standards), in order to ensure the cohesion of the data analysed;
- belonging to economic activities of NACE, considered as relevant (the companies belonging to its residual economic activities have been excluded);
- achievement of the production value in 2013 between 5 and 250 million euro (in present analysis "*production value*" instead of "*sales*" was used to extend it about the working on order companies);

- presence of the detailed "Total debt" position in the financial statements (the companies which have not fulfilled this condition were excluded from the survey).

Manufacture sector consisting of 23 different activities has been further divided in the following categories: food, automotive, pharmaceutical, rubber-plastic, machinery, metal-mechanic, petrochemical, textile and other manufacturing.

The final sample is composed of 41,344 Italian companies and 12,219 German companies, operating in different sectors.

The method

In order to achieve the aim of this research, the following research question has been formulated:

RQ: Does exist a correlation between the company's size and its performance, comparing Italy and Germany?

The research methodology has been developed by the following steps.

A) Classification of the companies by production values cluster

The company's size of Italian and German companies have been classified in relation to production value in five classes:

- 200 and 250 million euro;
- 100 and 200 million euro;
- 50 and 100 million euro;
- 10 and 50 million euro;
- 5 and 10 million euro.

Once the companies have been placed in the correct production value cluster, for each cluster we calculated:

- the average amount of production value, Ebitda and financial debt recorded during the three year-period considered;
- the average amount of production value, Ebitda and financial debt of a company belonging to that production value cluster.

B) Identification of some relevant indicators for the survey

For this purpose, our framework is represented by a model developed in a previous publication (Giacosa and Mazzoleni, 2016), which identified some relevant indicators for evaluating small and medium-sized companies performance.

The relevant indicators have been classified into the following categories – despite they have been considered in a system way (Coda, 1990; Ferrero et al., 2006; Teodori, 2000): company's growth; company's profitability; and company's ability of financial debt repayment.

The company's growth was measured using the CAGR indicator (*Compound Annual Growth Rate*), which represents the annual average production value in three-year period (2011-2013). Indicator was calculated using the formula illustrated below.

$$CAGR = \sqrt{\frac{PV_m}{PV_n}} - 1$$

where:

PV_n , PV_m = Production value developed by a company respectively in years "n" and "m", with $m > n$.

CAGR indicator permits to neutralize the volatility of growth rates' effects, calculated on individual years, avoiding an arithmetic average which is less meaningful.

The criteria used to define relevant parameters necessary to valuate economic and financial situation of the company are as follows:

- high correlation between the company's situation and each indicator;
- correlation between identified indicators.

It emerged that some indicators (EBITDA/PV and Financial Debts/EBITDA) reflect both: the significant correlation between the company's situation and the indicators themselves (respectively - 0.3245 and -0.0874) as well as a lower correlation between two identified indicators (-0.0094). Finally, the following indicators have been used:

- referring to profitability: relation EBITDA to Production Value which reflects the capacity of generating cash flow by the company:

$$\text{Profitability in the year "n"} = \text{Ebitda (n)} / \text{Production value (n)}$$

- referring to ability of financial debt's repayment: the relation between Financial Debt and EBITDA enables the estimation of time necessary to repay debts using the sources deriving from the core business activity:

Ability to repay the financial debt in the year n = Financial Debts (n)/Ebitda (n)

C) Use of the above indicators for the evaluation of the economic and financial situation of Italian and German companies

The first step was the calculation of the average values of the three above-mentioned indicators for each of the companies (the only exception was the growth, regarding to which the calculation of average values was unnecessary, because the CAGR indicator reflects by itself an average growth rate in three years considered).

$$CAGR = \sqrt{\frac{PV_{2013}}{VDP_{2011}}} - 1$$

$$Average Profitability = \frac{EBITDA_{2011} + EBITDA_{2012} + EBITDA_{2013}}{PV_{2011} + PV_{2012} + PV_{2013}}$$

$$Average Financial Debt Ratio = \frac{Financial\ Deb_{.2011} + Financial\ Deb_{.2012} + DFinancial\ Deb_{.2013}}{EBITDA_{2011} + EBITDA_{2012} + EBITDA_{2013}}$$

Secondly, next step was the calculation of the average value of the three indicators of all of the Italian and German companies, using the following formulas:

$$CAGR = \sqrt{\frac{PV_{c2013}}{PV_{c2011}}} - 1$$

$$Average Profitability = \frac{EBITDA_{c2011} + EBITDA_{c2012} + EBITDA_{c2013}}{PV_{c2011} + PV_{c2012} + PV_{c2013}}$$

$$Average Financial Debt Ratio = \frac{Financial\ Deb_{.c2011} + Financial\ Deb_{.c2012} + DFinancial\ Deb_{.c2013}}{EBITDA_{c2011} + EBITDA_{c2012} + EBITDA_{c2013}}$$

where:

$PV_{c2013}, PV_{c2012}, PV_{c2011}$ = Production value achieved by the companies from the cluster C in 2013, 2012 and 2011; $EBITDA_{c2013}, EBITDA_{c2012}, EBITDA_{c2011}$ = Ebitda realized by the companies from the cluster C in 2013, 2012 and 2011 $Financial\ Deb_{.c2013}, Financial\ Deb_{.c2012}, Financial\ Deb_{c2011}$ = financial debts reached by the companies from the cluster c in 2013, 2012 and 2011 ;

c = identifies the country and means respectively Italy or Germany.

The same methodology was adopted to calculate the average values of the indicators for each group of the companies, identified on the basis of classification by production value, presented in point A.

Referring to RQ , a Pearson correlation between country, production value cluster and single indicators has been calculated. To avoid the impact of outlier on the calculated correlation, the calculation has involved only the values between the first and the fifth quartile. In particular, for each indicator the values included in inter-quartile range have been identified and then we have calculated the correlations between country, production value cluster and single indicator.

The country factor assumes value equal to 1 if each company runs its activity in Italy, and value equal to 0 if it operates in Germany, while the production value cluster assumes values 1, 2, 3, 4, 5 corresponding to clusters of 5-10 mln, 10-50 Mln, 50-100 Mln, 100-200 Mln e 200-250 Mln.

The Pearson correlation, in case in which the two samples are independent, is calculated as follows:

$$\rho = \frac{Cov(x, y)}{\sqrt{var(x)Var(y)}}$$

where

$Cov(x, y)$ = illustrates the correlation between the variables x and y ;

$var(x)$ = represents the variance of x ;

$var(y)$ = represents the variance of y ;

x, y = reflects the variables by reference to which the correlation is calculated

FINDINGS AND DISCUSSION

The research was conducted with the reference to Italian and German companies. The sample on which the survey was carried out consists of 41,344 Italian companies and 12,219 German companies. Table 1 shows Italian and German companies according to the different production value clusters identified in the methodology. It's interesting to compare companies' dimensions of analyzed countries.

Table 1 - Comparison Italy/Germany articulation of the Italian and German companies for the production value cluster

| <i>Production value cluster</i> | <i>Italy</i> | | <i>Germany</i> | |
|---------------------------------|---------------|-------------|----------------|-------------|
| | NR | % | NR | % |
| 5-10 Million | 19,050 | 46.08% | 2,661 | 21.78% |
| 10-50 Million | 18,588 | 44.96% | 6,111 | 50.01% |
| 50-100 Million | 2,414 | 5.84% | 2,063 | 16.88% |
| 100-200 Million | 1,081 | 2.61% | 1,141 | 9.34% |
| 200-250 Million | 211 | 0.51% | 243 | 1.99% |
| Total | 41,344 | 100% | 12,219 | 100% |

Source: Own elaboration

According to the table presented above, it emerged that:

- the average production value of 91% of the Italian companies analyzed was between 5 and 50 million euro in period 2011-2013;
- the remaining 9% of the Italian companies analyzed has developed in 2013 a production value between 50 and 250 million euro;
- 72% of the German companies has realized in the period 2011-2013 a production value between 5 and 50 million euro;
- 17% of the German companies analyzed has recorded the production value between 50-100 million euro;
- the remaining 11% of the German companies analyzed has developed in 2013 a production value between 100-250 million euro.

By following, Table 2 shows the comparison between Italian and German companies, in terms of profitability, financial debt ratio and growth (Baginski and Hassel, 2004; Canals, 2001; Hart and Mellons, 1970; Goold, 1999; Grandinetti and Nassimbeni, 2007; Vause, 2001).

Table 2 - Comparison Italy/Germany

| <i>Categories of companies in the informative matrix</i> | <i>Profitability</i> | | <i>Financial Debt Ratio</i> | | <i>Growth</i> | |
|--|----------------------|--------------|-----------------------------|-------------|---------------|--------------|
| | Italy | Germany | Italy | Germany | Italy | Germany |
| 5-10 Million | 6.67% | 9.05% | 5.77 | 6.06 | 5.12% | 5.63% |
| 10-50 Million | 6.58% | 9.41% | 5.00 | 4.80 | -0.15% | 1.61% |
| 50-100 Million | 6.89% | 8.54% | 4.04 | 2.90 | -0.31% | 1.43% |
| 100-200 Million | 6.60% | 7.37% | 3.49 | 2.50 | -0.98% | 1.26% |
| 200-250 Million | 5.40% | 6.87% | 3.94 | 2.19 | -5.86% | -2.02% |
| Total | 6.61% | 8.30% | 4.63 | 3.47 | -0.17% | 0.52% |

Source: Own elaboration

According to the table presented above, it emerged that:

- In terms of profitability 12,219 German companies in the three-year period considered, have recorded on average 1.3% higher profitability than the Italian ones.

- German companies have a better ability to repay debts than the Italian companies of about 1.2 years.
- Regarding to the growth, in terms of average production value in the three-year period considered, German companies grow on average more than the Italian ones (0.52% for the German companies versus a negative growth of Italian ones equal to -0.17%).

In order to evaluate the correlation between companies' size and performance (Kumar, 1999; Yasuda, 2005; Vlachvei and Notta, 2008) between the two countries, the Pearson correlations between the production value cluster, country and the different dimensions of companies have been analysed (Table 3).

Table 3 – Correlation between production value cluster, CAGR and country

| Country | Production value cluster | CAGR | |
|---------|--------------------------|---------|--------------------------|
| 1 | -0.2868 | 0.2661 | Country |
| | 1 | -0.0875 | Production value cluster |
| | | 1 | CAGR |

Source: Own elaboration

It emerged that the correlation between CAGR and production value is negative (-0.0875), indicating that the growth decrease with increasing the companies' size. However, correlation mentioned before is weak, if compared to the correlation between CAGR and Country where the company operates.

In addition, if we don't take into consideration 25% of the lowest and 25% of the highest data of both countries, the Italian companies grow faster than the German ones. We can therefore say that changes in the production value in time are stronger for Italian companies than in case of German ones. Table 4 represents correlations between production value cluster and profitability.

Table 4 – Correlation between production value cluster and profitability

| Country | Production value cluster | EBITDA/Production value | |
|---------|--------------------------|-------------------------|--------------------------|
| 1 | -0.2843 | -0.2180 | Country |
| | 1 | 0.0698 | Production value cluster |
| | | 1 | EBITDA/Production value |

Source: Own elaboration

The correlation between the production value cluster and profitability (expressed by the ratio EBITDA/production value) is positive and is equal to 0.0894. However, comparing this result with correlation between indicator EBITDA/production value and the company's country, it seems to be weak (-0.0894 and -0.4131). It allows us to conclude, that differences between the two countries persist

and are mainly due to the country's factor rather than company's size factor (Table 5).

Table 5 –Correlation between the production value cluster and CAGR

| Country | Production value cluster | Fin. Debt/Ebitda | |
|---------|--------------------------|------------------|--------------------------|
| 1 | -0.2747 | -0.4308 | Country |
| | 1 | -0.1331 | Production value cluster |
| | | 1 | Fin. Debt/Ebitda |

Source: Own elaboration

The correlation between production value cluster and financial debt/EBITDA ratio (Remolona, 1990; Rajan and Zingalez, 1995; Shyam-Sunder and Myers, 1999) is negative and equal to -0.1331, indicating reduction of financial debt/EBITDA ratio with the growth of production value and therefore an increase of the companies' ability to repay their debts. In this case, we can see, how the ability to repay debts is correlated with both the country factor and company's size factor, although the intensity of the relationship is different.

Referring to *RQ*, and analysing correlations emerging from the survey conducted on the data between the first and third quartile, we can affirm that there is a weak relationship between the companies' performance (measured in terms of: profitability, growth and debt repayment capacity) and their size. This relationship shows that with increase of the company's size, it is observed decrease in the growth rate and an increase in the company's ability to repay debts. These results are in line with company life cycle: the companies in the early stage of their lives have significant growth rates (as in the case of the companies with low production value), which are more stable in their development and maturity phases.

For the German companies occurs the following observation: small companies are more indebted and large ones are less indebted than Italian companies. It would appear that once a high level of production value of the German companies is established, they meet their financial needs and fund new investments using the resources generated internally more frequently than Italian companies do. We can affirm that the relationship between the country and the company's performance is relevant, suggesting that the differences between the two countries are mainly due to the structural features of individual countries and only partly due to different size of the companies operating in the two countries.

CONCLUSIONS, IMPLICATIONS AND LIMITATIONS

The purpose of the research is to determine whether the differences between the performance of companies of Italy and Germany was not only due to their economic characteristics, but also to the size of each company (observed in relation to the production value of that company).

From the conducted analysis, it is possible to say that the German economy is different than Italian one, in terms of company's size (in terms of production value), although in both countries the majority of companies has a production value between 5 and 50 million euro (72% versus 91%)

The correlations among several variables (country, production value cluster, and financial indicators) shows that the country factor (considering its structural and economic characteristics that are different from the company's size) has a primary importance in determining the differences of performance between German and Italian companies. On the contrary, the company performance (measured by the indicators of growth, profitability and debt repayment capacity) and company's size (in terms of production value) are poorly correlated, meaning that the size factor is not one of the main factors that explains why the performance of the German companies is better than Italian ones.

It follows that the global differences between the two countries are mainly due to the structural and economic characteristics of each country and, in residual form, due to different size of the companies operating in those two countries.

The research is characterized by series of theoretical and practical implications.

a) With reference to the theoretical implications, the research can represent a contribution to the scientific debate, because it permits the company to understand, which factors of both internal nature (profitability, growth and ability of debt repayment) and external nature (depending on the structural and economic characteristics of the country) have impact on the companies' performance;

b) With reference to the practical implications: the research is characterized by series of practical implications, as it can represent a contribution for the company and for investors to help their decision making process:

- regarding to the companies, the ownership and/or the management has the possibility to assess degree of influence of a series of variables on the ongoing company's performance. In this way, the decision-making process is more knowledgeable, because the various management's actions have impact on the performances that are object of the evaluation;

- regarding to investors, this research permits to establish what kind of relation exists among a series of variables, that represents a decisional element in reference to the investment choice in a

company: the research findings permit to upgrade the quantitative information around which the investments choices took place.

The research is characterized by several limitations, which nonetheless do not affect significantly the conclusions and proposed observations. There are only three indicators used to assess the company's economic and financial condition (this choice is justified by important correlation between the indicators used and the company's condition). In addition, the different database used to obtain financial statements of the German and Italian companies. In this way the number of Italian and German companies is disproportionate. Lastly, the time horizon on which the survey is carried out didn't permit to assess persistence of the differences in performance of the companies in pre-crisis, during the crisis and post crisis phase.

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FOSTERING ENDURING CORPORATIONS AND ENABLING SUSTAINABLE GROWTH THROUGH RESPONSIBLE ENTREPRENEURSHIP

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ABSTRACT

This conceptual paper explores the responsible entrepreneurship notion – being responsible not only for oneself but also to others – in the context of the long-term growth and healthy survival of organizations. Continued healthy survival of organizations requires organizational renewal to face the ever-changing environment. Because renewal is a by-product of qualitative growth, and entrepreneurship a necessary process for growth to occur, this paper offers a typology of seven different modes of growth, which enables distinguishing different sources of entrepreneurial opportunities, a gap identified in the entrepreneurship literature. The typology contributes refinement to entrepreneurship and growth-related concepts such as imbalances – whose occurrence is mandatory for growth to occur. In addition, the paper departs from the widespread success-oriented bias commonly found in the entrepreneurship and growth literatures, maintaining that entrepreneurial initiatives may bring out entrepreneurship's far less divulged dark side. Actually, entrepreneurial choices may give rise to unsustainable business practices that eschew social responsibility and jeopardize the natural environment. Hence, responsible entrepreneurship comprises conceiving a business model that ensures genuine value creation to stakeholders and value capture to the organization; identifying the types and amount of resources and capabilities that would be required to implement a conceived expansion; assessing the likely implications of the entrepreneurial initiative for the organization, should a worst-case scenario materialize; checking on the spillover effects of the growth move on the surrounding environment and society; and assessing whether entrepreneurial aspirations and the drive to pursue them are not disproportionate, so as to avoid costly 'day-dreaming' perilous situations.

Keywords: *responsible entrepreneurship; long-term survival; sustainable growth and development; entrepreneurial opportunities; sources of opportunities; entrepreneurial services*

INTRODUCTION

Around the world, entrepreneurship has been trumpeted as an indisputable path towards growth, wealth creation and happiness. Moreover, the business world does not fall short of amazing entrepreneurs who set remarkable examples. On the other hand, the role entrepreneurs play in society may not be healthy from the society's viewpoint (Baumol, 1990), as entrepreneurial choices may give rise to unsustainable business practices that eschew social responsibility and jeopardize the natural environment. Namely, in addition to entrepreneurship's well-known bright side, entrepreneurial initiatives may bring out entrepreneurship's far less divulged dark side.

Interestingly, optimistic views of entrepreneurship have predominated in the research field. A literature review by Davidsson, Steffens and Fitzsimmons (2008) has identified not only that "growth is often used as sole or main indicator of 'success' in entrepreneurship research" but also "clear signs of a 'pro-growth bias' in that line of research" (p. 4). The perspective offered here suggests that continued responsible entrepreneurship plays a key role in the development of healthy, enduring corporations, and consequently, of healthy economic systems and societies. It draws on Shane and Venkataraman's (2000) definition of entrepreneurship, which has to do with the "identification, evaluation, and exploitation of opportunities (Shane, 2012: 12). According to Shane (2012:16), "little work has explored the sources of entrepreneurial opportunities", and "few authors have pursued the categorization of strong and weak forms of opportunities, representing the Schumpeterian and Kirznerian types, respectively". The paper addresses this gap by proposing a typology of sources of entrepreneurial opportunities, which may be exploited in a constructive or a harmful way. As a result, our perspective departs from the widespread success-oriented bias. In addition, the typology contributes refinement to entrepreneurship and growth-related concepts distinguishing different grades of uncertainty, renewal, as well as capabilities and resources, among others.

The growth process plays a central role in organizational long-term success (failure), since it may contribute different grades of renewal to the organization. Regarded as a change process that occurs over time, a depiction of the growth phenomenon includes both antecedents and consequences of organizational expansion. This paper scrutinizes two enterprising-related antecedents and discusses four likely organizational consequences of growth, whose adequate management enables organizational survival. Figure 1 depicts these elements.

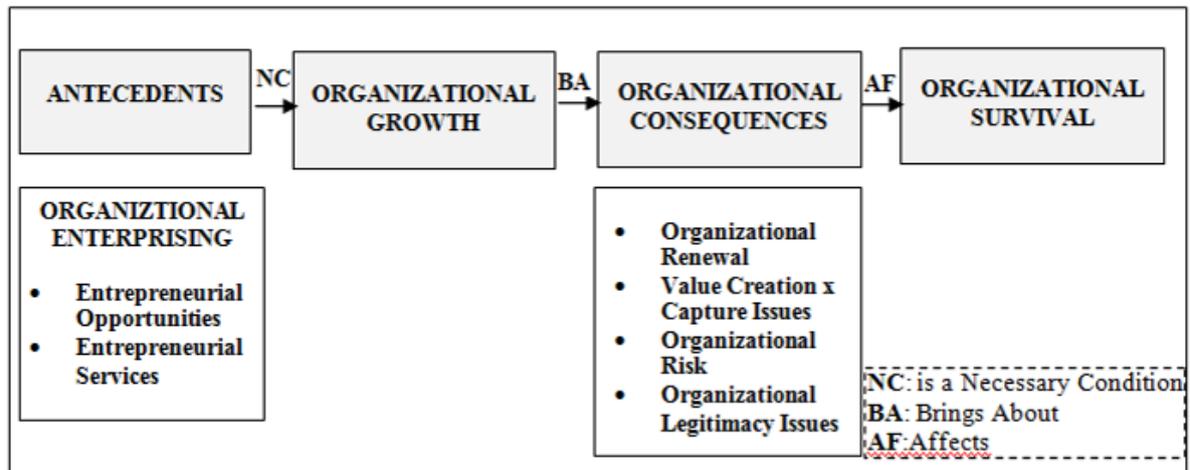


Figure 1. *Main Antecedents and Organizational Consequences of Growth*

In what follows, the next section scrutinizes the entrepreneurial opportunities notion, advancing a typology of sources of entrepreneurial opportunities. Subsequently, I explore entrepreneurship through the entrepreneurial services (Penrose, 1959) lenses. Finally, the responsible entrepreneurship section addresses four organizational consequences of growth, whose management is challenging if one is committed to fostering a long-term healthy organizational existence.

ENTREPRENEURIAL OPPORTUNITIES

Entrepreneurial opportunities, also called productive opportunities (Penrose, 1959), profitable opportunities (Kirzner, 2009) or simply opportunities (Venkataraman *et al.*, 2012), refer to those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production (Shane and Venkataraman, 2000). Interestingly, this widely diffused and adopted definition has prompted much debate in the entrepreneurship literature (Shane, 2012).

Two sorts of conjectures stand out. The first concerns whether “opportunities exist in the environment independent of the entrepreneur, waiting to be discovered” (Venkataraman *et al.*, 2012: 22). These *discovery* opportunities (Alvarez and Barney, 2010) correspond to a *Kirznerian* entrepreneur, who “is not seen as disturbing any existing or prospective states of equilibrium. Rather, he is seen as *driving the process of equilibrium*” (Kirzner, 2009: 147). From this perspective, opportunities are associated with discovering “imperfections that exist in a market or industry” (Alvarez and Barney, 2007: 13). Exogenous shocks form opportunities (Alvarez and Barney, 2007) that alert entrepreneurs (Kirzner, 2009) may detect and exploit.

The other conjecture regards whether opportunities “are enacted, depending upon the entrepreneur’s perception, interpretation and understanding” (Venkataraman *et al.*, 2012: 22). In this case, opportunities and entrepreneurs are interconnected, as opportunities do not exist independently of the entrepreneurs who create them (Alvarez and Barney, 2007). From this perspective, entrepreneurs bring about the new, rather than respond to some exogenous shock. As a result, entrepreneurs may produce shocks that disturb the environment (Schumpeter, 1934). Called *creation* opportunities (Alvarez and Barney, 2010), this type of opportunity is related to a *Schumpeterian* entrepreneur – an innovator who brings about radical changes.

Regarding the debate on entrepreneurial opportunities, Klein (2008) points out the confusion over the nature of opportunities and suggests dropping “the concept of *opportunity* altogether” (p. 183). In addition, he maintains, if one treats opportunities as a black box, “then the unit of analysis should not be opportunities, but rather action” (p. 183).

Instead of discarding the opportunity concept, this paper contends that entrepreneurial opportunities have to do with imbalances, whose scrutinizing may help turn a conceptual black box into a grey one. Because imbalances signal the need for and/or embeds a stimulus to change, they hold expansion opportunities for fixing or modifying the status quo. More fundamentally, I submit that *in the absence of some sort of imbalance, and unless one creates it, growth cannot come about, and that in the absence of individuals who can identify or create, and act upon imbalances, growth cannot occur*. These two necessary conditions respectively constitute ontological and epistemological instances of imbalance: ontologically imbalance must exist or come into existence, and epistemologically, it must be known in order for growth to develop.

Summing up, the study of the sources of opportunities for entrepreneurial growth has to do with investigating imbalances, and growth requires entrepreneurial services (Penrose, 1959) of individuals capable of identifying or creating opportunities, and of acting upon them. Penrose’s four dimensions of entrepreneurial services – versatility, judgment, fund raising, ambition – match the elements making up Shane and Venkataraman’s (2000) entrepreneurship notion. Opportunity discovery has to do with Penrose’s entrepreneurial versatility service, comprising imagination, creativity, innovation, environmental scanning and search processes. Opportunity evaluation corresponds to Penrose’s entrepreneurial judgment service regarding how sound the idea likely is. Finally, opportunity exploitation includes fund raising services, which involves engaging resources, sponsors and team members in the venture, and entrepreneurial ambition, which refers to having enough drive for action and applying it to expand one’s activities.

The next section puts forward a typology of sources of entrepreneurial opportunities, elaborating further on the nature of imbalances. Drawing on this typology, the paper subsequently explores entrepreneurship through the entrepreneurial services lenses.

A typology of sources of entrepreneurial opportunities

Imbalance may be found at different levels and take many different forms. At the individual level, for example, the minds of creative people can be a continuous source of imbalances by conceiving new ideas that challenge the current state of affairs. At the firm level, the identification of underutilized resources (imbalance) may give rise to firm growth as a result of management's efforts to make full use of firm resources (Penrose, 1959; Chandler, 1977). At the industry level, poor logistics services (imbalance) may inspire entrepreneurs to start-up distribution businesses to fulfil the noticed gap. At the macro-environment level, financial crises (imbalance) may bring about growth opportunities for some economic actors.

The first two modes of becoming bigger – inertial and dialectical – constitute extreme poles of the quantitative-qualitative continuum. The inertial path is about doing more of the same, bringing about scarcely any important innovation. Re-establishing balance does not require significant changes in business as usual. As a result, it holds opportunities for replicating and exploiting (March, 1991) ongoing activities, which will last for an uncertain amount of time. On the other hand, the dialectical path has to do with innovatively handling an antagonistic situation in a way that satisfies the seemingly incompatible elements. It re-establishes balance by introducing novelty that eliminates the existing mismatch.

Two other modes – interactional and structural – distinguish same level and multi-level growth processes, respectively. The interactional path regards expansion by means of competitive battles in the market place, combining competitive and cooperative behavior among players. Competitive advantage is the dominating type of imbalance, which opens windows of opportunity for introducing innovation that may allow one to keep or gain competitive advantage. The quest for fighting imbalance will not necessarily re-establish balance, but rather give rise to punctuated balance.

| Growth Formation Paths | Main Characteristics | Nature of Imbalance and Opportunity Type | Nature of Uncertainty |
|------------------------|--|---|---|
| Inertial | Growth happens by doing more of the same or by profiting from arbitrage. This mode introduces scarcely any innovation as one takes hold of an expansion opportunity. | Imbalance nature: Unattended demand for some product or service (business as usual dimension); overvalued or undervalued product, service, stock (arbitrage dimension). Opportunity type: replicative, exploitative, keeping the status quo; re-establishing market prices balance | Quantitative. How much and for how long will replication/arbitrage be likely sustained? |

| | | | |
|-----------------------------------|--|---|--|
| | | through arbitrage. | |
| Dialectical | Growth comes about by means of dialectical innovation on products, processes or services. | Imbalance nature: A trade-off; an EITHER-OR situation. Two desirable but incompatible qualities or conditions. Opportunity type: creative synthesis | Qualitative. What kind of novelty will emerge as a result of synthesizing antagonistic features? |
| Interactional | Growth is the result of battles in the market place that combine competition and cooperation among same level players, engendering a stream of short-lived innovations. | Imbalance nature: Competitive advantage acquired by an innovative rival firm (competitive dimension); collaborative arrangement to overcome a firm's competitive weakness (cooperative dimension). Opportunity type: short-term, competitive responsiveness. Introducing minor changes (competitive dimension); adding in some newly acquired capability (cooperative dimension). | Peer Responsiveness. What kind of reaction one's action will prompt in one's rivals and partners? How fast must one react in the competitive arena? |
| Structural | Growth of parts (e.g. firms; business units) depends on the growth of the whole (e.g. industry; firms) and vice-versa. For one, the development of standards, laws, rules, procedures by the parts is a requirement for eliminating obstacles to the growth of the whole (parts' convergence). In turn, standards will set the base on which the parts may grow through diversification by turning into productive their unused resources (parts' divergence). | Imbalance nature: Missing or multiple competing standards (parts' convergence dimension); underused productive resources (parts' divergence dimension). Opportunity type: structural change. Starting a new economic sector or metamorphosing an existent one (parts' convergence dimension); promoting a part's-related expansion by means of diversification (parts' divergence dimension). | Multilevel interdependency. Which standard will prevail, which kind of configuration will likely emerge, and what are the likely implications for parts' strategies? What kind of disintegrative pressures the whole will likely experience due to the growth-related strategic moves of its parts? |
| Externally-determined | Growth ensues by responding to changes in the environment. It results in an adaptive sort of innovation. | Imbalance nature: Elements of the macro environment get out of balance. Opportunity type: environmental change. New demands derived from environmental change. | External (environmental determination). To what extent will environmental change likely affect business as usual? How deep should the organization change its state of affairs? |
| Chance-led | Growth is accomplished by chance, i.e. it results from the joint action of independent or quasi-independent actors. By undertaking activities, whose successful outcomes have a probabilistic distribution, it may ensue breakthrough innovation. | Imbalance nature: statistical/ random. Multiple conceivable exploratory paths (towards success, goal achievement, problem solving). Opportunity type: placing bets within a high risk-return perspective | High unpredictability. What is the path to ground-breaking innovation? Which contender will likely succeed at contributing ground-breaking innovation? |
| Goal-directed (teleological mode) | The pursuit of growth goals set at the beginning of a period triggers other growth processes, producing different sorts of innovation. | Imbalance nature: unachieved goals, a vision of the future Opportunity type: Any of the above. | Which goals, targets visions should be pursued? |

Figure 2. *Typology of Sources of Entrepreneurial Opportunities*

The structural path, in turn, refers to processes occurring at more than one level of analysis, i.e. a whole and its parts. At the level of the whole, missing or multiple competing standards constitute the imbalance that hinders the growth of the whole. This condition embodies opportunities for parts to take part in shaping their environment and acquire some competitive advantage thereof. Re-establishing balance consists of instituting standards that will set the course of further action. At the level of the parts, imbalance has to do with excesses that keep unused and may constitute waste or become losses. Re-establishing balance consists of turning unproductive into productive elements. This gives rise to expansion through diversification, by incorporating new profitable activities. As a

consequence of the growth of parts, the whole will likely have to manage the outbreak of disintegrative pressures caused by diversification.

The next two modes – externally-determined and chance-led – constitute extreme poles of the causation continuum. This path has a deterministic nature, referring to growth stimulated by external factors (deterministic nature). Macro environmental imbalances prompt opportunities for expansion. Re-establishing the balance requires one to adapt business as usual to environmental changing demands. Chance-led, in turn, has a probabilistic nature, corresponding to expansion that results from the joint action of independent or quasi-independent entities. Growth efforts are not directed to re-establish balance, but rather to place bets on specific courses of action. If successful, it will generate expansion that likely has high payoff.

Finally the seventh mode – goal-oriented – refers to expansion processes triggered by goals and visions of the future. These, in turn, determine the means whereby the organization will grow, i.e. they determine which other modes will likely be triggered in order to achieve the goals and/or materialize the visions. Unachieved aspirations constitute the nature of imbalance. Re-establishing balance consists of attaining the established goals.

ENTREPRENEURSHIP AS SERVICES RENDERED TO THE ORGANIZATION

Edith Penrose (1959) views firms as collections of productive resources. Yet, when it comes to explaining how productive activities come about, she maintains that one must look beyond resources. Actually, the very inputs to productive activities are the services that resources can render. Moreover, when it comes to the growth process of firms, organizations require growth-enabling services. One such type of service is enterprising, also called entrepreneurship – a type of service human resources can provide.

Individuals who are endowed with the enterprising quality provide entrepreneurial services that are essential for the growth of firms. Penrose (2009) distinguishes four main dimensions of what she calls “the ‘temperamental’ aspects of the quality of entrepreneurial services. These are entrepreneurial versatility, entrepreneurial judgment, fund-raising ingenuity, and entrepreneurial ambition. As mentioned before, these services correspond to entrepreneurship, as Shane and Venkataraman (2000) have defined – opportunity discovery (versatility), opportunity evaluation (judgment) and opportunity exploitation (fund-raising and ambition).

Entrepreneurial versatility

Penrose (1959) distinguishes three sorts of versatility: technical, managerial and entrepreneurial. While the first refers to technical competence, the second is a matter of administrative competence, and the third is about imagination and vision.

Entrepreneurial versatility is about identifying and/or creating imbalances that may constitute opportunities for expansion. Imbalance identification or creation results from setting in motion search processes, which may contribute different kinds of innovation. The imbalance-search-innovation connection suggests that search and innovation may vary in accordance with the seven modes of becoming bigger.

Searching for markets in order to replicate ongoing activities (inertial search) is one of the most straightforward search forms in well-established businesses. It is conspicuous in those successful cases that experience unmet and/or increasing demand for a company's products/services. Search mechanisms seek to identify those markets likely to welcome the company's products and/or operations. Inertial expansion tends to produce more of the same things, introducing minor refinements and extensions of established designs.

Dialectical search chases after misfits, trade-offs and conflicts. The opportunity consists of turning inconsistencies into a synthesis of previously antagonistic features. New operating procedures reconcile opposing or conflicting objectives or properties requiring from organizational members the ability to handle a number of tensions.

In turn, competitive intelligence applies to interactional search. It includes initiatives like market research about own and rivals' products and services; follow-up procedures of actual sales and market share dynamics; taking part in events in the industry such as industrial expositions; improving the personal network of contacts. Growth materializes through the development of short run responsiveness to stakeholders, as well as to competitors' moves. The pair imitation-small improvements fuels innovation in the interactional mode.

Searching for waste (underutilized resources) as well as for bottlenecks that hinder the growth of a focal system (a firm, an industry, etc.) typifies the structural mode. As a result, growth brings about new structural elements to the whole. On the one hand, new elements generated by the productive elimination of waste enter the system. On the other, new standards enable expansion that was blocked.

In the externally-determined mode, searching for environmental trends lets firms become aware of environmental changes enabling them to react accordingly. Innovation is produced to cope with

environmental change. Searching for new, highly uncertain avenues is characteristic of the chance-led mode. Cutting-edge research fuels innovation that may ensue of those initiatives.

Finally, benchmarking as a way to establish goals is a search mechanism in the goal-directed mode. Operating procedures are conceived to achieve global goals of performance, or to implement features in existing products/services. Goal-directed complex projects generate several sorts of innovation that make up the project.

Entrepreneurial judgment

Distinguishing a vision from a 'mirage' is what entrepreneurial judgment is about. This dimension has to do with assessing the likelihood of value capture from seemingly value creating ideas generated by means of entrepreneurial versatility. This service comprises the ability of making sound judgments, while avoiding mistakes like overestimating the firm's abilities, wrongly guessing about how future events will develop in the future (Penrose, 1959: 41), and underestimating the risks involved, among other judgment-related flaws.

From the viewpoint of individuals, both technical versatility and managerial versatility may provide valuable contribution towards assessing new ideas. Technical versatility may help evaluate an idea's technical feasibility, while managerial versatility may contribute assessment about the economic and market-related issues, as well as about the organizing requirements for the successful carrying out of the innovative idea. In sum, these types of versatility may help assess an idea's potential for creating and capturing value.

Differentiating a sound vision from unrealizable, infeasible, inexecutable, unachievable fantasy is a matter of individual skills, as well as organizational capabilities. As Penrose (1959: 40) submits, "the quality of entrepreneurial judgment is only partly a question of the personal characteristics or temperament of the individual". In addition to individual qualities, such as providing "reasonably 'sound' judgments" (Penrose, 1959: 41), entrepreneurial judgment "is closely related to the organization of information-gathering and consulting facilities within the firm." (Penrose, 1959: 41) As a result, organizational capabilities to assess new productive opportunities may develop and improve as firms grow and age.

Finally, identifying the likely capabilities an expansion move will require to succeed can enhance entrepreneurial judgment quality. Figure 3 displays some of these capabilities associated with each mode of becoming bigger.

| Modes of Growth | Type of Opportunity | Required Capabilities and Resources |
|-----------------------|--|--|
| Inertial | Replication and Arbitrage | Efficiently replicating |
| Dialectical | Creative Synthesis | Creative handling of conflicts |
| Interactional | Competitive Responsiveness | Short-run flexibility. Knowledge exchange ability |
| Structural | Structural (involving parts and whole) | Coordination of external players and of internal parts |
| Externally-determined | Environmental change | Adaptiveness |
| Chance-led | High risk-return | Deep pockets. Patient money |
| Teleological | New or unachieved goals | Setting challenging, viable goals |

Figure 3 – Capabilities and Resources Required for Implementing Growth

Fund-raising ingenuity

More often than not, pursuing promising, seemingly viable ideas requires additional resources. Yet, most entrepreneurs fall short of resources to carry out their new ventures. Fund-raising ingenuity is, therefore, about persuading investors into backing new productive opportunities entrepreneurs have envisaged.

For a number of reasons, entrepreneurs may do without fund-raising. Some may own enough resources and wish not to share risks and outcomes of their new ventures. Others may wrongly estimate the nature and amount of resources, launch their ventures on their own, and end up facing resource shortage later on. Finally, more often than not financial backing shortage has been appointed as a major hindrance to pursuing new ventures. Notwithstanding the challenges that fund-raising poses to an entrepreneur, Penrose contends that rather than being an external problem, it should be viewed as an internal weakness. Penrose (1959: 37) maintains “there is a relation between entrepreneurial ability and the finance a firm can attract, and that difficulties attributed to lack of capital may often be just as well attributed to a lack of appropriate entrepreneurial services, in the sense that a different entrepreneur in the same circumstances might well achieve different results”.

Entrepreneurial ambition

While versatility enables one to spot possibilities for engaging in new profitable activities, a complementary aspect – ambition – is necessary for materializing/ implementing them. Penrose (1959: 35) associates entrepreneurial ambition with a *drive* to expand a firm’s operations “in an unending search for more profit, and perhaps greater prestige”. Drive, in turn, refers to the desire, feeling or

motivation that arouses one to action toward a desired goal. Such drive, however, may differ both quantitatively and qualitatively among those who provide entrepreneurial services.

From the qualitative view, several authors have identified different growth purposes among entrepreneurs. Chandler (1977) distinguishes *productive* and *defensive* expansion motives. The first seek “increased productivity by lowering unit costs” (p. 487) entailing a search for economies of scale and scope. Defensive moves, in turn, “stemmed from a desire for security” (p. 486), leading to vertical integration among other protective moves. Building on Chandler’s typology, Fleck (2009) has identified the *hybrid* mode, which combines the productive and defensive types, and the *nil* motives that include neither productive nor defensive purposes. Rindova *et al.* (2009) distinguishes *breaking free* and *breaking up* motives for engaging in entrepreneurial activities. Both types are associated with a search for autonomy. Both entail intent on releasing from what the entrepreneur perceives as an undesirable condition. A breaking free impetus seeks freedom from authority, while a breaking up initiative aims to eliminate perceived constraints by means of innovation. In sum, while breaking up motives necessarily entail some degree of innovation to enable breaking away with the status quo, breaking free don’t.

RESPONSIBLE ENTREPRENEURSHIP FEATURES

Developing and nurturing long-lived healthy organizations requires growth-fostered **organizational renewal**. Different types of imbalance contribute different amounts and/or kinds of renewal. Regarding *versatility services*, responsible entrepreneurship includes conceiving a steady stream of potentially renewing activities derived from envisaged entrepreneurial opportunities. With respect to *judgment services*, it is up to responsible entrepreneurship to check on the renewal potential (innovation and learning opportunities) as well as the long-term effects of the initiative’s strategic purpose (defensive, productive, hybrid or nil).

Depending on how expansion is carried out, entrepreneurial initiatives may (or may not) **create value and enable value capture** (Bowman and Ambrosini, 2000; Lepak *et al.*, 2007). Failure to create and capture value affects in a negative way organizational survival chances over the long run. Concerning *versatility services*, responsible entrepreneurship encompasses conceiving a business model (Magretta, 2002) that ensures continued value creation to stakeholders and value capture to the organization. The starting point of value creation lies in identifying (discovering or creating) some imbalance. Different types of imbalance correspond to different modes of growth, and different search mechanisms. Organizations, therefore, may differ on their growth orientation depending on the types of search their entrepreneurial versatility services employ. From a long-term perspective, making use of a combination of search mechanisms enhances an organization’s chances to spot opportunities for expansion. As to

judgment services, responsible entrepreneurship involves checking on the soundness of the conceived business model.

Assessing a likely value creating opportunity includes estimating **risks**, in order to evaluate the success chances of a prospective initiative. As regards *versatility services*, responsible entrepreneurship comprises identifying the resources and capabilities that are likely required for implementing the conceived expansion. With respect to *judgment services*, responsible entrepreneurship encompasses scrutinizing the types and amounts of required resources and capabilities, as well as assessing the likely implications for the organization, should a worst-case scenario materialize. As to *fund raising services*, responsible entrepreneurship comprises not only amassing the required resources, sponsors and team members, but also assessing the likely consequences of future demands on the organization, which may cause organizational fragmentation, or put excessive pressure on expansion speed, among others.

Finally, complementary analyses are required to assess the effects of expansion on organizational **legitimacy**. Concerning *versatility services*, responsible entrepreneurship emphasizes genuine value creation for stakeholders rather than offering some senseless, regulation-sponsored moneymaking scheme. Regarding *judgment services*, responsible entrepreneurship includes checking on the spillover effects of the growth move on the surrounding environment and society.

Interestingly, *ambition*, the entrepreneurial service that provides the required energy for an entrepreneurial initiative to materialize, poses a major challenge to responsible entrepreneurship. While ambition is determinant for execution, if not combined with the three other entrepreneurial services, ambition may give rise to unhealthy growth, which may endanger organizational survival and bring about harmful consequences to the surrounding environment and society. Thus, regarding *ambition*, responsible entrepreneurship involves assessing whether entrepreneurial aspirations and the drive to pursue them are not disproportionate, so as to avoid costly 'day-dreaming' perilous situations.

CONCLUSION

From a long-term perspective, responsible management has to do with the pursuit of organizational healthy survival over the long run. The scope of responsibility is broad including individuals, firms, industries, economic systems, societies, and the planet, since organizational survival depends on the survival of all those entities. Moreover, from a long-term perspective, responsibility transcends the concern with mere subsistence, focusing instead on the healthy survival of organizations and their members, as well as of the entities around them.

The changing environment keeps threatening organizational continued existence, unless the organization manages to renew over time, by expanding its capabilities set. This long-term survival

requirement can be fulfilled by means of the growth process, which may provide the organization with renewal seeds (Fleck, 2009). In addition to contributing renewal seeds, growth brings about three other sorts of consequences that affect organizational survival chances in different ways. First, healthy organizational survival requires a continuous stream of value creating activities from which the organization is required to capture value in order to sustain its operation over the long run. Second, expansion brings about additional risks to the continued existence of the organization. Third, expansion brings about changes in the organization's set of relationships with the entities in the environment, which gives rise to organizational legitimacy issues.

Because growth is not a spontaneous but deliberate process (Penrose, 1959), entrepreneurship is a required antecedent of growth. Entrepreneurship is about figuring out and acting upon opportunities for expanding ongoing activities or starting new ones. Because entrepreneurial opportunities reside in imbalances, understanding the nature of imbalances offers two main contributions. First, it allows addressing the call for exploring the sources of entrepreneurial opportunities (Shane, 2012). Second, it deepens our understanding about growth and its likely consequences on the organization. By distinguishing different sorts of imbalances, the typology advanced in this paper takes steps towards advancing knowledge on entrepreneurial phenomena and organizational growth. In fact, not only it identifies a range of expansion paths entrepreneurs may choose from in order to provide entrepreneurial services, but also provides a comprehensive framework for undertaking scrutinizing related constructs such as uncertainty, innovation, search mechanisms, imbalances, required resources and capabilities, among others.

Responsible entrepreneurship is an overarching notion that includes the organizational responsibility vis-à-vis genuine value creation for stakeholders, satisfactory value capture for the organization, systematic assessment of risks, and intensity of expansion speed, among others. This notion helps advance research and practice for those concerned with the long-term healthy survival of organizations, environmental sustainability, and society's robust development. This paper contributes a research road map offering a blueprint for performing fine-grained research on the responsible entrepreneurship topic. The notions put forward here can also help develop practitioners' awareness of the wide range of entrepreneurial opportunities there may be, as well as create practitioners' alertness to entrepreneurship's dark side so that unpleasant shortcomings may be avoided.

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**A CONCEPTUAL FRAMEWORK AND A PROJECT PROPOSITION 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 present a conceptual framework of ethical behaviour at the workplace applicable to the education system of Kuwait. More specifically, the paper will elaborate on the factors influencing ethical behaviour at the workplace in Kuwait. The proposed conceptual framework of ethical behaviour was developed by adapting several theories and models.

Design, Methodology, and approach: This research will utilize *sequential exploratory* mixed methods design; the research involves *two sequential stages*, qualitative and quantitative stages. The data will be collected by means of face-to-face and semi-structured interviews such as in depth interviews and group interviews, followed by a questionnaire survey. The respondents represent teachers working in the Kuwaiti schools.

Findings: The research expects to find a significant relationship between the independent variables and the dependent variable. Ethical behaviour is a huge topic, and a number of factors influence ethical behaviour.

The study reflects work in progress. At this stage, an initial model will be presented which is suggested to be validated in the following empirical research stages

Originality and Value of the Research : To the knowledge of the authors, this type of research is going to be conducted for the first time in the private and public schools in the state of Kuwait.

The empirical study is looking to differentiate conceptual ethical behavior model valid for education system in Kuwait and attempts to reinforce ethical behaviour and combat the widespread unethical behavior in Kuwait as *wasta*.

Keywords: *Ethical behaviour, Organizational ethical culture, National culture, Personal ethical tendencies and wasta.*

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.

In addition, education system in Kuwait has its problems, teachers complain from the ministry of education about unfair treatment, the education level of the students is low and the plagiarism is widespread in the schools.

AIM

The aim of this research is fill the gap in the area of business ethics in the Arab region and to differentiate a conceptual framework of ethical behaviour at the workplace applicable to the education system of Kuwait.

OBJECTIVES

- 1- To identify the factors that affect ethical behaviour in schools in Kuwait.
- 2- To determine the factors associated with an organization's ethical cultural and national culture that affect ethical behaviour in schools in Kuwait.
- 3- To identify the extent of the influence of factors, such as ethical personal tendencies, on ethical behaviour in schools in Kuwait.
- 4- To determine the relationship between individual characteristics (age, gender, nationality, educational level, work experience, and work sector) and the ethical behaviour in Kuwaiti schools.
- 5- To develop a conceptual ethical behaviour framework at the workplace applicable to the education system of Kuwait.

RESEARCH QUESTION

What are the most important factors that create an ethical environment and lead to ethical behaviour in schools in Kuwait?

DETAILED QUESTIONS: (RELATED TO QUALITATIVE STAGE)

- 1) What are the most effective dimensions of the organizational ethical culture that affect ethical behaviour in schools in Kuwait?
- 2) What are the factors that associated with the national culture affect ethical behaviour in schools in Kuwait?
- 3) What are the factors that influence personal ethical tendencies in schools in Kuwait?
- 4) What are the factors that influence ethical behaviour in schools in Kuwait?
- 5) What differences exist between socio-demographic factors when investigating the effect of an organization's ethical cultural orientation, national culture, and personal ethical tendencies on ethical behaviour in schools in Kuwait?

Beauchamp and Bowie (2000) defined ethical behaviour as a behaviour that is assumed to be right or wrong and therefore guides what people should or should not do.

Dobrin (2009) indicates that ethics is concerning with good and bad, right and wrong, better or worse; the values you hold and how you achieve them, and states that ethical behaviour of individuals in business is important for well-being for others, and ethical behaviour of organizations leads to long-term success.

FINDINGS AND RESULTS

This study expects to have a significant relationship between the dependent variable and the independent variables. The study reflects the work in progress, at this stage, an initial framework will be presented that will be tested in the following empirical research stages. Moreover; the methodology of the research will be explained. Both the qualitative and quantitative data analyses have not been finished yet, but as i started with the qualitative stage, the interviews have been done with teachers and administrates working in Kuwaiti schools, and the interviews have emerged the factor of “wasta”. The complete results will be provided in the Euro-med conference that will be held in Poland, after the complete analyses are finished.

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 desiring 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.

SCHOOLS AND TEACHERS IN KUWAIT

As stated in the ALLAN online newspaper (2014), the Kuwaiti Professor Shamlan Al-Issa said that plagiarism is expanded in the schools in Kuwait as a result of the nature of the deterioration of ethics and values in the Kuwaiti society.

Al-Qatari (2010) claimed in the Kuwait Times newspaper that some teachers in schools in Kuwait suffer from unfair payment. They apparently informed the Kuwait Times newspaper that they did not receive a suitable salary, as promised them by the Ministry of Education in Kuwait. Others complained that among the most unjust of the Ministry of Education's acts in Kuwait letting teachers work overtime without extra payment.

Another teacher informed the Kuwait Times that some expat teachers have left Kuwait due to the Ministry of Education's bias regarding payments for expatriate teachers who receive less than Kuwaiti teachers.

Accordingly; this research will consider the teachers working in schools in Kuwait.

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 (2008) introduced a model of the organizational ethical culture that consisting of eight dimensions as clarity of ethical policy, sanctions, congruence of management, congruence of supervisors, transparency, feasibility, discussability and supportability which can be employed to understand and explain unethical behaviour in the workplace. Mayer et al. (2012) found a negative relationship between ethical leadership and unethical behaviour. Moreover, Kalshoven et al. (2011) highlighted dimensions of ethical leadership as fairness, integrity, ethical guidance and power sharing. In addition, Kaptein (2011) and Dorasamy (2012, 2013) suggested whistleblowing and code of ethics as an aspect of formal organizational ethical culture.

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. The cultural values that employees bring with them into an organization are crucial to their ethical behaviour within that organization. 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.

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. Islam is an official religion in Kuwait, it corresponds with the constitution, and it states that Islam is the source of the legislation, (Kuwait constitution, 1962).

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, Bowman (2010) and (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.

Ali and Al-kazemi (2007) indicated that the environment of Kuwait is not hospitable for hard work among Kuwaiti citizens, citizens employ expatriate to do hard work, and they found that Kuwaiti

managers scored lower than expatriate on both Islamic work ethics and loyalty and men scored relatively higher than women on Islamic work ethics.

Moreover, Fernando and Chowdhury (2010) suggested that 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 suggested that well-being affects ethical-decision making in the workplace.

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.

Personal ethical tendencies

Johari et al. (2012) found a significant relationship between determinants of personal ethical tendencies as idealism, relativism and utilitarianism and the dependent variable ethical behaviour.

In addition, many researchers as Alleyne et al. (2010), Al-Khatib et al. (2002) and Bass et al. (1999) investigated the relationship between the individual variables and organizational variables and ethical behaviour in the workplace.

Group ethical tendencies

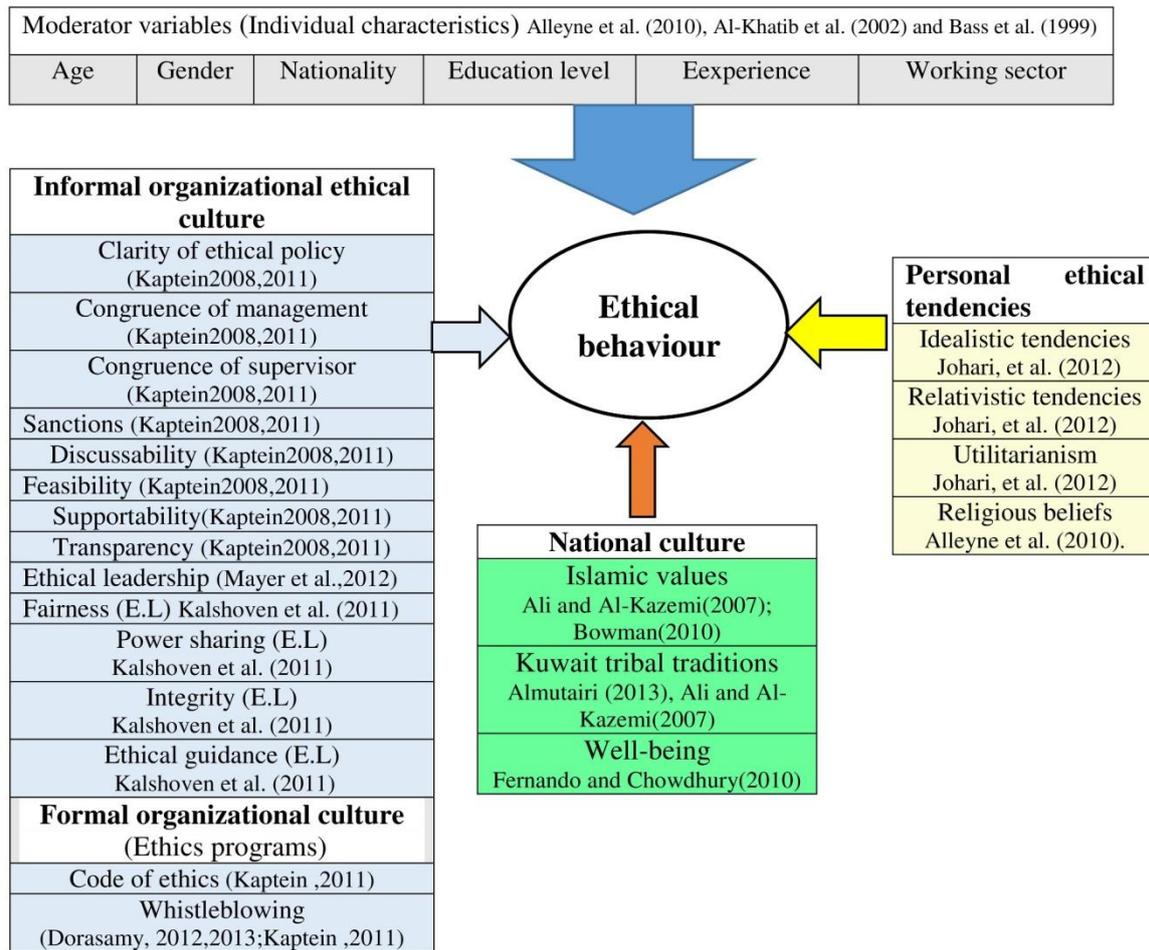
Wasta is an Arabic version related to favoritism or nepotism, and it is rooted in the Arabic culture.

Weir and Hutchings (2006) stated that China and the Arab world regarded as low context societies and they prefer to use the connections to build trust relationships before engaging in business.

Overall, various aspects of independent variables will be considered in this research as individual characteristics, organizational ethical culture, national culture and personal ethical tendencies.

Based on the previous review, the following conceptual ethical behaviour of ethical behavior is shown below:

A CONCEPTUAL FRAMEWORK OF ETHICAL BEHAVIOUR



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 factors affecting ethical behaviour in organizations, but it is not clear which factors affect ethical behaviour in Kuwaiti schools.

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, I will test variables from his model 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), indicated that national culture has a great impact on

all aspects of management behaviour; Hofstede (1993) also suggested 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 my philosophy, 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. Accordingly, the research will employ 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 table1.1:

| 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 |

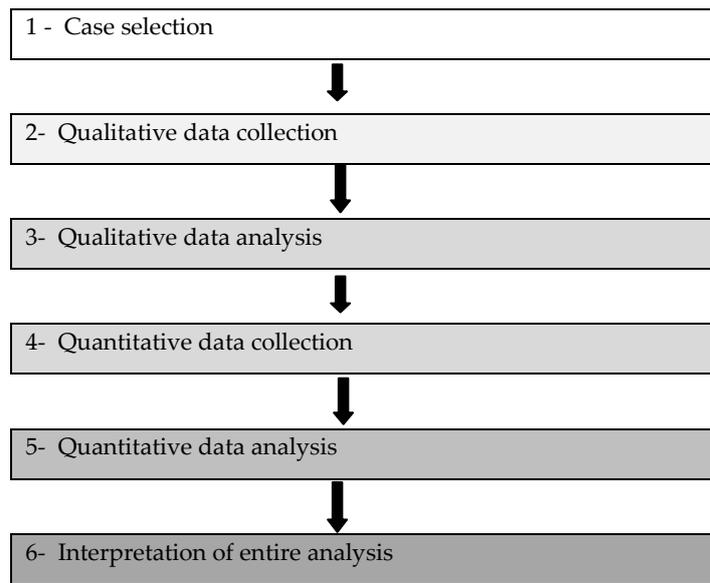
MIXED METHOD RESEARCH

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 in the figure 1.2

Figure1.2: Sequential Explanatory mixed methods design

TARGET POPULATION AND SAMPLE

- Kuwait's total population reached 3,996,899 in 2014, with immigrants accounting for almost 69% (July 2014 est.) [Source: The World Factbook, available at: (<https://www.cia.gov/library/publications/the-world-factbook>)].
- 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.
- The total number of teachers in Kuwait who are working in public and private schools is (67895) teachers. Of these (35040) are non-Kuwaiti teachers and (32855) are Kuwaiti teachers. (Source: Kuwait Central Statistical Bureau, available at: www.csb.gov.kw/Default_EN.aspx).

Qualitative stage: Seek 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 research is as an inductive researcher to build 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. The researcher can compare different groups of sample participants.
- Baxter and Jack (2008) argued that a researcher should use a case study once the boundaries do not seem to be clear between development and context. They also indicated that it prevents a researcher from manipulating the behavior of the study participants, and recommend that a multiple case studies provide flexibility to the researcher to explore variations among and between cases.
- 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 and group interview using open-ended questions. Non-probability sampling method, a *self-selection sampling technique will be employed* to select (22) participants; twelve (12) teachers and ten (10) directors as well as supervisors and administrative working in public and private schools in Kuwait.

DATA ANALYSES

MAXQDA software will be used to analyse the qualitative data.

Quantitative stage: Seek 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, 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 a way 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 by laws of cause and effect.

DATA COLLECTION

The research will employ the survey strategy to collect quantitative data. According to (Saunders et al., 2008), 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. I have contacted the Ministry of Education in the state of Kuwait, and asked them to provide me 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.

MEASUREMENT SCALING

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.

RESEARCH HYPOTHESES

Research hypotheses will be formulated according to the results of the qualitative stage.

MEASURING THE DEPENDENT VARIABLE (ETHICAL BEHAVIOUR)

Fraedrich (1993) argued that ethical behaviour in the workplace needs to be empirically measured by constructs that measure deviance from organizational standards. In addition, as summarized by Ludlum, Moskalionov and Ramachandran (2013), the dependent variable (ethical behaviour) will be measured by means of four items adopted from the scale of ethical behaviour verified by Deshpande, Joseph and Maximov (2006). Moreover, the questions of ethical behaviour, as shown in table 1.3, have been verified in many other projects including Ruch and Newstrom's ethics scale.

| | Table 1.3: Workplace ethical behaviour questions / Source: Fraedrich (1993). | SD | D | N | A | SA |
|------|---|----|---|---|---|----|
| Beh1 | Always I report the truth to my supervisor. | | | | | |
| Beh2 | I never break school policy to do what is necessary. | | | | | |
| Beh3 | My ethical behavior at work is mainly governed by my religious beliefs. | | | | | |
| Beh4 | I don't alter things as documents, time cards, etc. in order to please my school. | | | | | |

DATA ANALYSES

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.

RESEARCH CONTRIBUTION

- This type of research is being conducted for the first time in the Kuwaiti schools.
- Based on Treviño and Brown (2004); Robertson et al. (2002); Elsayed-Elkhouly and Buda (1997); and Ali and Schaupp (1992), as summarized by Sidani and Thornberry (2010) this research will fill the gap in the area of ethics especially in the Arabic region.
- 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.

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LINKING ENTREPRENEURIAL ORIENTATION TO REPUTATIONAL RESOURCES

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ABSTRACT

The main goal of this study is to analyze the influence of entrepreneurial orientation on reputational resources. Therefore, a quantitative methodological approach was used, conducting a descriptive, exploratory and transversal empirical study, having applied a questionnaire to a sample of Portuguese small and medium enterprises (SMEs).

Based on survey data from 42 firms, our empirical results indicate that globally entrepreneurial orientation have a positive and significant influence on reputational resources, and that the entrepreneurial orientation's dimension that most contribute to this is innovativeness.

Keywords: *entrepreneurial orientation, reputational resources, SMEs, Portuguese footwear industry.*

INTRODUCTION

Entrepreneurial orientation is a strategic orientation of a company that encompasses specific entrepreneurs aspects such as style, methods and decision-making practices (Frank, Kessler and Fink, 2010), constituting a capacity that can attract resources to exploit opportunities (Alvarez and Busenitz, 2001). On the other hand, literature in the field of strategic management has focused on the intangible assets of firms have attracted considerable interest in organizational and strategy research (Barney, 1991). In particular, scholars have focused a great deal of attention on a subclass of intangible assets that is called "social approval assets" because they develop their value from favorable collective perceptions (Pfarrer, Pollock and Rindova, 2010).

The important intangible resources studied in this research are the reputational resources, since it helps distinguish firms from competitors (Peteraf, 1993), reduces information asymmetry, consumer uncertainty and substitutes expensive governance mechanisms. Moreover, reputation has been linked to organizational performance. Therefore, it appears to be a key variable to understand why some organizations outperform others (Boyd, Bergh and Ketchen Jr, 2010).

Building on well established theories, our research aims at exploring the influence of entrepreneurial orientation in reputational resources of Portuguese SMEs exporting footwear.

THEORETICAL FRAMEWORK AND HYPOTHESES

Entrepreneurial orientation

Entrepreneurial orientation emerged from entrepreneurship definition which suggests that a company's entrepreneurial degree can be measured by how it take risks, innovate and act proactively (Miller, 1983). Entrepreneurship is connected to new business and entrepreneurial orientation relates to the process of undertaking, namely, methods, practices and decision-making styles used to act entrepreneurially. Thus, the focus is not on the person but in the process of undertake (Wiklund, 2006).

Companies can be regarded as entrepreneurial entities and entrepreneurial behaviour can be part of its activities (Covin and Slevin, 1991). Entrepreneurial orientation emerges from a deliberate strategic choice, where new business opportunities can be successfully undertaken (Lumpkin and Dess, 1996). Thus, there is an entrepreneurial attitude mediating the vision and operations of an organization (Covin and Miles, 1999).

Several empirical studies indicate a positive correlation between entrepreneurial orientation and organizational growth (e.g. Miller, 1983; Covin and Slevin, 1991; Lumpkin and Dess, 1996; Wiklund, 2006; Davis, Bell, Payne and Kreiser, 2010; Frank, Kessler and Fink, 2010). Similarly, other studies also confirm that entrepreneurial orientation has a positive correlation with export's performance, enhancing business growth (e.g. Zahra and Garvis, 2000; Okpara, 2009).

The underlying theory of entrepreneurial orientation scale is based on the assumption that the entrepreneurial companies are different from the remaining (Kreiser, Marino and Weaver, 2002), since such are likely to take more risks, act more proactive in seeking new businesses and opportunities (Khandwalla, 1977; Mintzberg, 1973).

Entrepreneurial orientation has been characterized by certain constructs that represent organization's behaviour. Starting from the Miller (1983) definition, three dimensions were identified: innovativeness, proactiveness and risk-taking, which collectively increase companies' capacity to recognize and exploit market opportunities well ahead of competitors (Zahra and Garvis, 2000). However, Lumpkin and Dess (1996) propose two more dimensions to characterize and distinguish entrepreneurial process: competitive aggressiveness and autonomy. In this study only innovation, risk-taking and proactiveness will be considered, as they are the most consensual and used dimensions to measure entrepreneurial orientation (e.g. Covin and Miller, 2014; Covin and Slevin,

1989, 1991; Davis et al, 2010; Frank et al, 2010; Kreiser et al, 2002; Lisboa, Skarmeas and Lages, 2011; Miller, 1983; Okpara, 2009; Wiklund and Shepherd, 2005; Zahra and Covin, 1995; Zahra and Garvis, 2000).

Reputational resources

The new paradigm of today's world economy is characterized by the mobility of production resources and the ability to combine them in an efficient way. The strategic management research has recognized the importance of studying the companies' resources and capabilities and its usefulness to achieve competitive advantage. This perspective is consistent with the Resource-Based View (RBV).

Scholars argue that resources form the basis of firm strategies (Barney, 1991). Therefore, firm resources and strategy cooperate to create positive returns. Firms employ both tangible resources (such as physical infrastructures and financial resources) and intangible resources (like knowledge and brand equity) in the development and implementation of strategies. However, intangible resources are more likely than tangible resources to produce a competitive advantage, since they are often rare and socially complex, thereby making them difficult to imitate (Hitt, Bierman, Shimizu and Kochhar, 2001). Thus, intangible resources are considered strategic resources (Amit and Schoemaker, 1993).

Intangibles resources have three intrinsic characteristics that distinguish them from tangible resources (Molloy et al., 2011). First, intangibles do not deteriorate with use, since these resources are expected to confer benefits for an indeterminate period of time (Cohen, 2005). Secondly, multiple managers can use the intangibles resources simultaneously, for example, the use of a brand is available for all managers. Finally, the intangibles resources are immaterial, making them difficult to exchange, as they often cannot be separated from its' owner (Marr and Roos, 2005).

The existing literature suggests six types of resources that are particularly important sources of export venture competitive advantage: reputational resources; access to financial resources; human resources; cultural resources; relational resources; and, informational resources (Morgan et al., 2006).

The RBV describes reputation as an intangible resource that is consequent from combinations of internal investments and external evaluations (Shamsie, 2003). This "social approval assets" can positively impact customer behavior, loyalty and consumption experience (Cretu and Brodie, 2007; Pfarrer et al., 2010).

Reputational resources concern intangible image-based assets available to the firm and can be a differentiation factor in the target market (Hall, 1992). These resources must be understood as a source of competitive advantage, since they are rare, difficult to imitate and transfer and permeate the company's activity (Barney, 1991).

The most important reputational asset relevant to export performance identified in the literature is brand equity. This concept is associated to a set of assets linked to the name and symbol of the brand that adds value to the initial value of the product or service, such brand name awareness, distinctiveness of brand image, appeal of brand 'personality' and strength of brand image (Morgan et al., 2006). This valuable intangible resource allows the company to build and protect its market share, enhance marketing investments and introduce new products in the export target market more easily (Aaker, 2010).

Aaker (1991) identifies brand awareness as the potential customer ability to recognize that a brand has certain category. This recognition helps a brand to distinguish from others. Brand associations consist of brand-related thoughts, feelings, perceptions, smells, colors, music, images, experiences, beliefs and attitudes (Kotler and Keller, 2011). Brand loyalty is defined as the attachment that a customer has to a brand. Perceived quality can be defined as customers' judgment about a product's overall excellence or superiority. Consequently, perceived quality is a overall feeling about a brand and does not imply the actual quality of a product (Aaker, 1991).

Resources that are valuable, unique, and difficult to imitate can provide competitive advantages (Amit and Schoemaker 1993; Barney 1991). In turn, these advantages provide positive returns (Peteraf 1993). Thus, firms need to continually analyze and interpret changing market trends and quickly recognize new opportunities in order to create competitive products (Tzokas, Kim, Akbar and Al-Dajani, 2015), since it increases the engagement with innovation, which contributes, for example, to creating new products and services, seeking new opportunities and new markets (Miller 1983; Lumpkin and Dess, 1996). Ultimately, the following hypotheses is tested:

H1: Entrepreneurial orientation influences positively reputational resources.

METHODOLOGY

Setting and Data Collection

To test the hypothesis a sample of Portuguese footwear companies was used, that meet the following criteria: companies in which at least 50% of income comes from exports of goods, or companies in which at least 10% of income comes from exports of goods and the export value is higher than 150.000 Euros (INE, 2011).

Data collection was implemented through electronic questionnaire, associating a link to the survey that was online. To reduce misunderstandings, the questionnaire was validated by the research department of Portuguese Footwear, Components and Leather Goods Association (APICCAPS).

We were provided with a database of 231 companies (company name, telephone contact, email, economic activity classification, export markets, export intensity and capital origin). Only 167 companies fulfilled the parameters, and were contacted by email by APICCAPS to respond to the questionnaire. Subsequently, all companies were contacted by the authors via e-mail and telephone, to ensure a higher rate of valid responses. The questionnaires began on April 22, 2014 and ended on July 22, 2014. After finishing the data collection period, 42 valid questionnaires were received, representing a 25% response rate (Table 1). This response rate is considered quite satisfactory, given that the average of top management survey response rates are in the range of 15%-20% (Menon, Bharadwaj, Adidam and Edison, 1999).

| |
|--|
| Universe of analysis - Portuguese SMEs of footwear |
| Sample - a non-probabilistic and convenient |
| Population - 367 firms |
| Sample - 167 firms |
| Response rate - 25% |
| Valid responses - 42 |
| Time period - April 22 to July 22 of 2014 |

Table 1. *Data summary*

In this investigation we chose a non-probabilistic and convenient sample since its respondents were chosen for being members of APICCAPS.

Measures

For assessment of entrepreneurial orientation was used Covin and Slevin's scale (1989), that consists in nine items: three for innovativeness, three for proactiveness and three for risk-taking, having been used a five point Likert scale, where 1 means "strongly disagree" and 5 "strongly agree".

To measure the reputational resources this study used the four items scale proposed by Morgan, Vorhies and Schlegelmilch (2006). A five point Likert scale was used to measure each item, where 1 means "strongly disagree" and 5 "strongly agree".

RESULTS

Reliability analysis

In order to verify the reliability of overall variables we estimated the stability and internal consistency through Cronbach's alpha (α). Generally, an instrument or test is classified with appropriate reliability when α is higher or equal to 0.70 (Nunnally, 1978). However, in some research scenarios in social sciences an α of 0.60 is considered acceptable, as long as the results are interpreted with caution and the context is taken into account (DeVellis, 2012). For the present study we used the scale proposed by Pestana and Gageiro (2008).

The result of 0.801 achieved for all of variables is considered very good, confirming the sample's internal consistency. It was also conducted an internal consistency test for all variables in each construct to assess their reliability (Table 2).

| Construct | Cronbach's α | Items Nr. | N | Analysis |
|-----------------------------|---------------------|-----------|----|-----------|
| Entrepreneurial orientation | .739 | 9 | 42 | Good |
| Reputational resources | .905 | 4 | 42 | Excellent |

Table 2. *Internal consistency test by construct (Cronbach's Alpha)*

We found that entrepreneurial orientation has good consistency and that reputational resources presents excellent reliability.

Exploratory factor analysis

We performed a factor analysis, with Varimax rotation, of entrepreneurial orientation construct items that comprise the scale, with the purpose of finding a solution that was more easily interpretable. Three factors were extracted and there was no need to delete items. Thus, we obtained a scale composed of 9 items, distributed over three factors that explain 77.09% of total variance, with 35.52% of variance explained by the first factor, *Proactiveness*, 27.48% for the second factor, *Innovativeness*, and 14.09% by the third factor, *Risk-taking*. Analyzing the internal consistency of the three factors, we found that Cronbach's Alphas have a good internal consistency. KMO test indicates that there is a reasonable correlation between the variables (0.695). Bartlett's sphericity test registered a value of $\chi^2(36, N=42)=171.176$, $p<0.05$, therefore is confirmed that $\chi^2 > \chi_{0.95}^2$, so the null hypothesis is rejected, i.e. the variables are correlated.

We performed a factor analysis, with Varimax rotation, of entrepreneurial orientation construct items that comprise the scale, with the purpose of finding a solution that was more easily interpretable. Three factors were extracted and there was no need to delete items. Thus, we obtained a scale composed of 4 items, distributed over one factor that explain 87.71% of total variance. The saturation of this factor varies between 0.695 e 0.819. Analyzing the internal consistency of these factor, we found that Cronbach's Alpha have an excellent internal consistency ($\alpha=0.931$). KMO test indicates that there is a reasonable correlation between the variables (0.796). Bartlett's

sphericity test registered a value of $\chi^2(210, N=42)=630.742$, $p<0.05$, therefore is confirmed that $\chi^2>\chi_{0.95}^2$, so the null hypothesis is rejected, i.e. the variables are correlated.

Multiple regression analysis

Multiple regression analysis is a statistical technique that is used to analyze the relationship between a single dependent (criterion) variable and several independent (predictor) variables. The objective of multiple regression analysis is to use the independent variables whose values are known to predict the single dependent value selected by the researcher. Each independent variable is weighted by the regression analysis procedure to ensure maximal prediction from the set of independent variables.

The most commonly used measure of predictive accuracy for the regression model is the coefficient of determination (R^2). This coefficient measures the proportion of total variability that can be explained by regression ($0 \leq R \leq 1$), measuring the effect of independent variables on the dependent variable. When $R^2=0$ the model clearly does not adjust to data and when $R^2=1$ the adjustment is perfect. In social sciences when $R^2>0.500$ the adjustment is considered acceptable (Marôco, 2011). In the Table 3 we present the results of the multiple regression analysis of our model.

| Model | R | R2 | Adj. R2 | Standard Error | F | Sig. |
|-------|-------|------|---------|----------------|-------|-------|
| 1 | .533a | .284 | .227 | .87902684 | 5.021 | .005* |

a. Predictors: (Constante), Entrepreneurial orientation.

b. Dependent variable: Reputational resources.

* $p<0.05$.

Table 3. *Summary and ANOVA of multiple regression analysis*^b

The previous table presents for model 1 a value of $F=5.021$, with $q\text{-value}<0.05$ (Sig.), so H_0 is rejected in favour of H_1 . Thus, this hypotheses is supported.

A mere comparison of the regression coefficients is not valid to evaluate the importance of each independent variable models, since these variables have different magnitudes. Thus, it is essential to use standard variables, known as Beta (β) coefficients, in the models adjustment so that the independent variables can be compared.

| Variables | Beta | Sig. |
|-----------------------------|------|-------|
| ENTREPRENEURIAL ORIENTATION | | |
| Proactiveness | .120 | n.s. |
| Innovativeness | .489 | .000* |
| Risk-taking | .174 | n.s. |

* $p < 0.001$.

n.s. – non significant.

a. Dependent variable: Reputational resources.

Table 4. *Standardized beta coefficient*^a

Beta coefficient allows a direct comparison between coefficients as to their relative explanatory power of the dependent variable. Table 4 shows that the variables that have higher contribution to reputational resources is *Innovativeness* ($\beta=0.489$).

DISCUSSION AND CONCLUSION

The main purpose of this study is to analyze the influence of entrepreneurial orientation on reputational resources. We conducted an empirical research based on a sample of 42 companies, which were applied a questionnaire in order to exploit data to test hypotheses, using proceedings and statistical techniques. It is important to note that companies evaluated entrepreneurial orientation and reputational resources relative to their major competitors in the export market(s), so the results should be interpreted based on these two aspects.

The Portuguese footwear industry faces considerable challenges, not only concerning the international markets crisis, but also regarding consumption patterns. The reduction of shoe design lifecycles has consequences on the offer. On one hand, the products have to be adapted to different segments specific needs and tastes (custom design, new models in small series, etc.), on the other hand, manufacture processes must be increasingly flexible, adopt just-in-time production, invest in the brand, qualified personnel, technology and innovation (APICCAPS, 2013).

This study demonstrated that the company's entrepreneurial orientation have a positive and significant influence on reputational resources, enhancing brand's notoriety, image distinctiveness, attractiveness of "personality" and image strength. These strong differentiation factors facilitate the development of existing products and/or introduce new products in foreign markets, thus following the market trends.

Theoretical and practical implications

It is known that strategy includes deliberate and emergent initiatives adopted by management, comprising resource and capabilities use to improve business performance (Nag, Hambrick and Chen, 2007). The findings are a contribution to clarify the influence of entrepreneurial orientation on the company's reputational resources. This study also enabled a thorough analysis of a highly important

industry for national exports, such as footwear industry, allowing understanding that entrepreneurial orientation, as an industry strategic determinant, enhancing reputational resources.

In addition, the results provide guidance to business practitioners; because they indicate entrepreneurial orientation as a predictor for reputational resources. Companies are a bundle of resources and capabilities (Peteraf, 1993), it is essential to understand and identify which resources are relevant to gain competitive advantage and superior performance. In this study it is obvious the importance of entrepreneurial orientation to the firms' reputational resources. Business owners must be able to interpret, integrate and apply external knowledge in order to systematically analyze the changes that arise in their target market(s) and to incorporate this knowledge into their processes, to identify the present and future needs and market trends, anticipate changes in demand and seek new business opportunities.

By building on the literature of entrepreneurial orientation, absorptive capacity and reputational resources, this study aims to support the strategic development of business management policies designed to increase firms' performance in foreign markets and add value to the current context of change.

Research limitations

The main limitation of this study is related to the sample size, since it was difficult to find companies with the willingness to collaborate in this type of research. The sample is non-probabilistic and convenience and cannot be used to infer to the general population. The study findings should therefore be analyzed with caution.

The fact that the research does not consider the effect of control variables such as size, age, location and target market of the respondents can be seen as a limitation.

Finally, the fact that this study considered only reputational resources as an intangible resources can also be appointed as a limitation.

Future Lines of Research

In future work, we suggest that the model is used in a sample with a higher number of observations to confirm these results.

We further suggest pursuing with the investigation of strategic management in Portugal, focusing in other sectors of national economy, so that in the future one can make a comparison with similar studies, allowing realizing and finding new factors that enhance absorptive capacity.

Finally, the moderating effect of strategic variables (e.g. competitive advantage) in the relationship between entrepreneurial orientation and reputational resources should be studied.

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FORMATION OF CORPORATE INTRAPRENEURSHIP SYSTEM AFTER COUNTRY'S TRANSITION TO MARKET ECONOMY: RUSSIAN CASE

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ABSTRACT

This paper is devoted to the problem of corporate entrepreneurship and intrapreneurship implementation in Russia in order to increase efficiency and labor productivity after the country's transition to the market economy. Existing definitions of corporate entrepreneurship and intrapreneurship, including Russian scientists' points of view, are systematized. New definitions and attitudes such as entrepreneurial potential and intrapreneurial unit (CI-unit) are offered. We assume that traditional business activity forms (with a high level of centralization in the former USSR) were not adequate to market economy conditions (with competitiveness, innovations, etc.). The purpose of the paper is to resolve this contradiction. In accordance with the author's concept the methodology of corporate intrapreneurship system (CI-system) formation (for building construction industry enterprises) under the market conditions is developed. The CI-system consists of some blocs, among them the mechanism of CI-unit creation, method of planning (balancing plan) between a head company and CI-units. The novelty of the methodology includes not only the general concept of internal corporate entrepreneurship system forming, but also such elements as analysis of entrepreneurial potential, formation of the economic, organizational and contractual relationship between a base company and the CI-units and some others. Its implementation will provide the gradual transformation of traditional enterprises into enterprises of an innovative-entrepreneurial type under the market conditions. Such system improves the efficiency of business activities and the level of competitiveness of enterprise and structural units within the enterprise. The Russian building construction business sector is taken as an example.

Keywords: *corporate entrepreneurship, intrapreneurship system, intrapreneurial unit (CI-unit), market economy, organizational structure transformation, competitiveness, Russian construction industry enterprises*

INTRODUCTION

At the end of XX and early XXI century the Russian economy became a market one. Significant changes occurred in the national economy after the disintegration of the USSR. One of the peculiarities of the market economy system is the emergence of global competitors and innovative forms of business activities. But as for Russian companies the forms of their business activity remain as they were before (Bagiev G. L. & Asaul A. N., 2001; Frolova, E. & Kuprina T., 2013; Gerchikova, I., 2002). The contradiction between modern market conditions on the one hand and old (Soviet system of total planning) forms of business activities on the other hand has to be eliminated. Conditions of market transformation of the country' economy required rapid creation (accelerated formation) and introduction of the newest methods and forms of management including at the intercompany' or corporation' level.

Our hypothesis is as follows. In the conditions of increasing competition the efficiency of the enterprise' activity depends on its organizational structure which corresponds to changing external market conditions. As we know, the main element of the market economy mechanism is competition. This mechanism operates at the level of global and national markets (outside the business). Customers choose competitive products, services. To be competitive means the ability to offer new products, services, new quality. This new product is primarily based on innovation. We have proposed to move the system of competition inside enterprises where internal units (sometimes with the same specialization) compete with each other. We developed to use the system of corporate entrepreneurship (CE-system) to be used in Russian companies.

However, we come to the following conclusions in this article. Features of the market economy development are due to the necessity of the corporate entrepreneurship system application. Corporate entrepreneurship is the initiative activity for the production and sale of products, goods and services based on innovation. But it is not enough. In management literature, scientists are paying increased attention to the topic of «corporate entrepreneurship» (CE) but not «corporate (firm') intrapreneurship» (CI). CI-system is based on the integration of the resources of head (parent) company, on one hand, and leadership and innovative ideas of an entrepreneur, on the other hand. The CI-system objective is to increase the level of competition and efficiency within the enterprise. At the same time, the CI-system will function effectively only under certain conditions: the presence of a contract and balanced (coordinated) plan, allocation of resources, responsibility, etc. For the development of new forms of corporate entrepreneurship it is necessary to rethink and systematize the existing approaches to corporate entrepreneurship through the prism of creating an internal competitive environment within an enterprise.

The purpose of this article is to clarify the interpretation of the term "corporate intrapreneurship" and compare with the term «corporate entrepreneurship» and offer a new methodology of the CI-system formation and demonstrate national experience. As for practical applications it is necessary to develop an algorithm of CI-system and CI-units creation and offer recommendations for companies.

CORPORATE ENTREPRENEURSHIP AND INTRAPRENEURSHIP: THEORETICAL ASPECT

Entrepreneurship is a global complex phenomenon and paradox. The Schumpeter' definition is well known but there is no universally acceptable definition of entrepreneurship yet. In wide essence, it is understood as any attempt of starting-up a new business in the form of self-employment, the expansion of an existing business by an individual, teams or existing company, etc.

This paper focuses on the corporate entrepreneurship (CE). Corporate entrepreneurship is a developing area of research and there are many definitions of CE (Baierl, R. & Gross, U. (2015); Ferreira, J. (2002); Satle, V. (2003); Suhartanto, E.; Shukla, S. etc.). Ferreira J. (2002) emphasizes that authors use many terms such as: «intrapreneurship», «internal corporate entrepreneurship», «corporate ventures», «venture management», «internal corporate venturing». A lot of scientific articles (Branchet, B. & Kruzikova, A., 2015; SME in Russia, 2013; Ferreira, J., 2002; Mirzanti, R. & Simatupang, T. & Larso D., 2015; Poorva, R., 2010 Ration, J. etc.) focus on the different aspects of corporate entrepreneurship, among them: relationship between corporate entrepreneurship and strategic management; distinction between the concepts of corporate entrepreneurship and an entrepreneurial strategy; magnitude of entrepreneurship influence across countries and regions; small and medium-sized enterprise (SME) sector; entrepreneurship capital; entrepreneurship policy implementation model in different countries, including Russia; financial aspect etc.

After literature analysis we can conclude that there are a lot of types of CE. Some of new definitions contradict with each other but we do not consider some of them as incorrect. All proposals reflect the author's concept and clarify the essence of corporate entrepreneurship from new perspectives under the new market conditions.

For example, corporate entrepreneurship activities can be internally¹ or externally²

¹ Internal activities are typified as the development within a large organization of internal markets and relatively small and independent units designed to create internal test-markets or expand improved or innovative staff services, technologies, or production methods within the organization (Ferreira, J., 2002)

² External entrepreneurship can be defined as the first phenomenon that consists of the process of combining resources dispersed in the environment by individual entrepreneurs with his/her own unique resources to create a new resource combination independent of all others. External efforts entail mergers, joint ventures, corporate venture, venture nurturing, venture spin-off and others (Ferreira, J., 2002)

oriented, independent (Satle, V., 2003). According to Ferreira, J. (2002); there are three types of corporate entrepreneurship:

- first is the creation of new business within an existing organization (intrapreneurship);
- second is the more pervasive activity associated with the transformation or renewal of existing organizations;
- third is the enterprise changing the rules of competition for its industry.

It is important for us to understand any differences between different types of entrepreneurship because Russia has revived the system of entrepreneurship at the beginning of XXI century (table 1), but old methods do not contribute to the further development of the country.

Table 1 – Small business in Russia (fragment)

| | 1999 | 2000 | 2001 | 2009 | 2011 |
|--|--------|--------|--------|---------|---------|
| Number of small business, thousand units | 868,0 | 890,6 | 879,3 | 1602,5 | 1836,4 |
| Average number of employees, thousand people | 6485,8 | 6596,8 | 6483,5 | 11192,9 | 11480,5 |
| Revenues, bln rubles | 423,7 | 613,7 | 852,7 | 22546,4 | 22617,1 |

Cit. by (Frolova, E. & Kuprina T., 2013)

Russia is in the process of transition to a postindustrial society. The strategy of the socio-economic development of Russia until 2020 provides the transition of the country's economy based on the raw materials trend to the development innovation. We have to develop new competitive sectors. We need new methods for further development of entrepreneurship and business (Bagiev G. L. & Asaul A. N. , 2001; Frolova, E. et al., 2004). As we could see, CE includes the actions of internal entrepreneurs (intrapreneurship). Especially, we are interested in «corporate entrepreneurship» and «corporate intrapreneurship». We have accumulated the scholars' opinions in table 2.

Table 2 – The key characteristics of definitions «corporate entrepreneurship» and «corporate intrapreneurship»: comparative analysis (fragment)

| Notion | Corporate entrepreneurship and managers | Corporate intrapreneurship and intrapreneur |
|--|---|--|
| Essence of notion and skills of managers | It can be describes as any attempt to implement innovation and refers to the process of creating new business within established firms to improve organizational profitability and enhance a firm's competitive position or the strategic renewal of existing business (redefinition of the | It is integration of entrepreneurial skills (local initiative) and firm' recourses' opportunity (central synthesis) Interpreneurial managers. Intrapreneur: - is a person who focuses on innovation and who transforms a dream or an idea into a profitable venture within the existing company; - is both employee, valuable worker and leader; |

| | | |
|---|--|---|
| | business concept, reorganization, introduction of system-wide changes for innovation, refocusing a business competitiveness). Traditional managers. Managers consider more risks than uncertainty and often work within established patterns | - is also dreamer, thinker, doer, planner; - focuses on innovation and creativity, and transforms an idea into a profitable venture; - is who take hands-on responsibility for creating innovation of any kind, within a business; -is a person within a large corporation who takes direct responsibility for turning an idea into a profitable finished product through assertive risk-taking and innovation (according to the American Heritage Dictionary) Strong leadership skills are needed to strengthen teams and execute their ideas. Leadership skills are also important to support rapid decision making under uncertainty |
| Organizational aspect of implementation | New business (firm, venture, department) creation as usual | It is a project which operates within established organizations (organizational environment) as well as having a certain economic independence. Analogue to new business creation by individual entrepreneurs, |
| Recourses | Special equipment | Intrapreneur typically finds a ready source of «free» recourses and capabilities within the organization |
| Limits | It acts according to legislation and law (external limits) | Intrapreneur should ask for permission before acting according to internal rules (internal limits) |
| Competition | External competition | Internal competition |
| Common peculiarities | Companies support intrapreneurs with finance and access to corporate resources, while he/she creates innovation for companies. The basis of development is innovations of different kinds. It is transformation of the firm from the old to the new one. It is integration of risk-taking and innovation approaches | |

Compiled by authors according to: Sekliuckiene, J. & Morkertaite, R. & Kumpikaite, V., 2015; Shukla, S., 2013; Suhartanto, E.; Satle, V., 2003; Ramachandran, K. & Devarajan, T. & Ray. S; Raheel, A., 2009; Ration, J., 2009; Poorva, R., 2010;

Thus, internal entrepreneurship is an activity for the production and sale of goods and services through the integration of entrepreneurial opportunities and the individual resources of the enterprise. Based on the above-mentioned, we offer the author's interpretation of basic concepts (Frolova, E. et al., 2004; Vlasova, M. et al., 2014).

1. Intrapreneurship is a special form of corporate entrepreneurial activity which operates in the framework of the existing enterprise (small or large) and its resource base, on the one hand, and actively uses the initiative and creative potential of employees, on the other hand. Intrapreneurship aims to accelerate the implementation of innovation, the creation of an internal competitive environment, generating additional revenue, the creation and effective usage of intellectual property. It allows us to increase the value and competitiveness of the enterprise.

2. The enterprise in which the entrepreneurial activity takes place is the base or head company (HC) to the inner intrapreneur and is the innovative one in the relation to the external environment
3. CI-unit is a structural subdivision of an enterprise, temporary or permanent, acting on the basis of internal regulations of the unit and performing a specific entrepreneurial idea, as well as having a certain economic independence
4. Entrepreneurial potential is a complex of resource, organizational, methodological, socio-psychological and economic prerequisites and conditions for the formation of the system of entrepreneurship in the company

METHODOLOGY OF THE CORPORATE INTRAPRENEURSHIP SYSTEM FORMATION IN THE MARKET CONDITIONS FOR THE CONSTRUCTION INDUSTRY ENTERPRISES

The author's algorithm of the corporate intrapreneurship system (CI-system) formation is shown in figure 1. Its implementation in the enterprises will provide the gradual transformation of traditional enterprises into the enterprise of innovative-entrepreneurial type under the market conditions. Such system improves the efficiency of business activities and the level of competitiveness of enterprise and structural units within the enterprise. The methodology includes not only the general concept of internal corporate entrepreneurship system forming, but also such elements as analysis of the entrepreneurial potential, formation of the economic, organizational and contractual relationship between the base company and the internal corporate intrapreneurial units (CI-units) and some others.

| | |
|--|--|
| Phase 1: intrapreneurial potential analysis of enterprise | Step 1.1: to analyze recourses' prerequisites and conditions (labor recourses, information recourses, financial recourses etc.) in the market conditions |
| | Step 1.2: to analyze economic and organizational prerequisites and conditions |
| | Step 1.3: to analyze methodical prerequisites and conditions |
| | Step 1.4: to analyze socio-psychological prerequisites and conditions |
| Phase 2: formation of economic, organizational and contractual relationship between intrapreneurial units (CI-units) and head company (HC) | Step 2.1: to establish the procedure of recourses providing and payment between CI-units and HC for their using |
| | Step 2.2: to determine the prices of products, services manufactured by CI-units |
| | Step 2.3: to determine the price for management and administrative services, accounting, engineering etc., providing by HC' departments |
| | Step 2.4: to develop the (re)distribution of revenue, profit, payment of taxes of CI-units |
| | Step 2.5: to develop a stimulation system of HC' managers for the support of CI-units activities, innovative ideas and results |
| Phase 3: realization | Step 3.1: to improve the organizational structure of HC |
| | Step 3.2: to establish the centre of internal entrepreneurship (for consulting and |

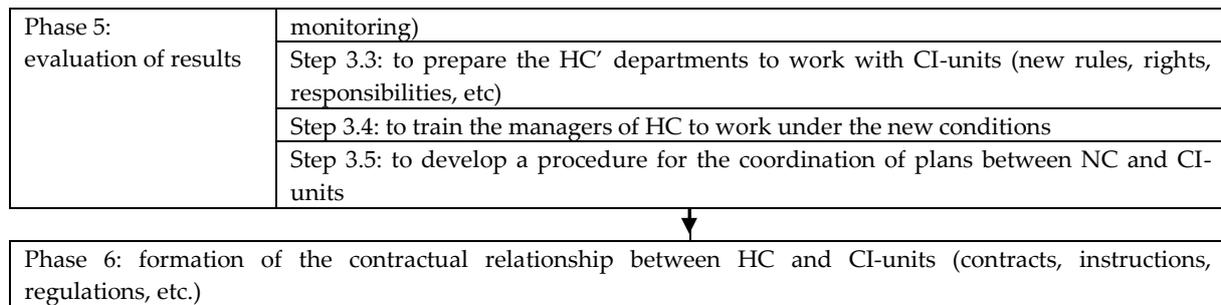


Fig. 1. Algorithm of internal corporate entrepreneurship system formation for construction industry enterprises

There is a necessity to clarify some phases (Vlasova, M. et al., 2014). *Firstly*, according to the model of recourses providing there are three options of CI-unit (step 2.1): autonomous organization (resources belong only to the CI-unit); joint organization (HC and CI-unit use resources together according to the contract); the lack of fixed resources on a permanent basis in constant use (an entrepreneur is a single permanent element of an CI-unit and he/she sells labor recourses with «know-how»). *Secondly*, as for the stimulation system of HC' managers (step 2.5) it depends on additional hours or performs additional functions and is determined in percentage from the amount of income of the company and contribution from the manager. *Thirdly*, the main objectives of ICE-units activities are accelerated development, introduction of innovations, strengthening the competitive advantages of the company, in these conditions the most suitable organizational structures (step 3.1) are matrix or project management ones. In addition, it is proposed to establish a special engineering and consulting unit - the centre of intrapreneurship which will assist in the organization of the entrepreneurial process, business planning, etc. *Fourthly*, some words about the methods of the CI-units creation. It consists of several steps (fig. 2), including generation of the innovative entrepreneurial idea, analysis of the possibility of its realization, development of organizational and business plans.

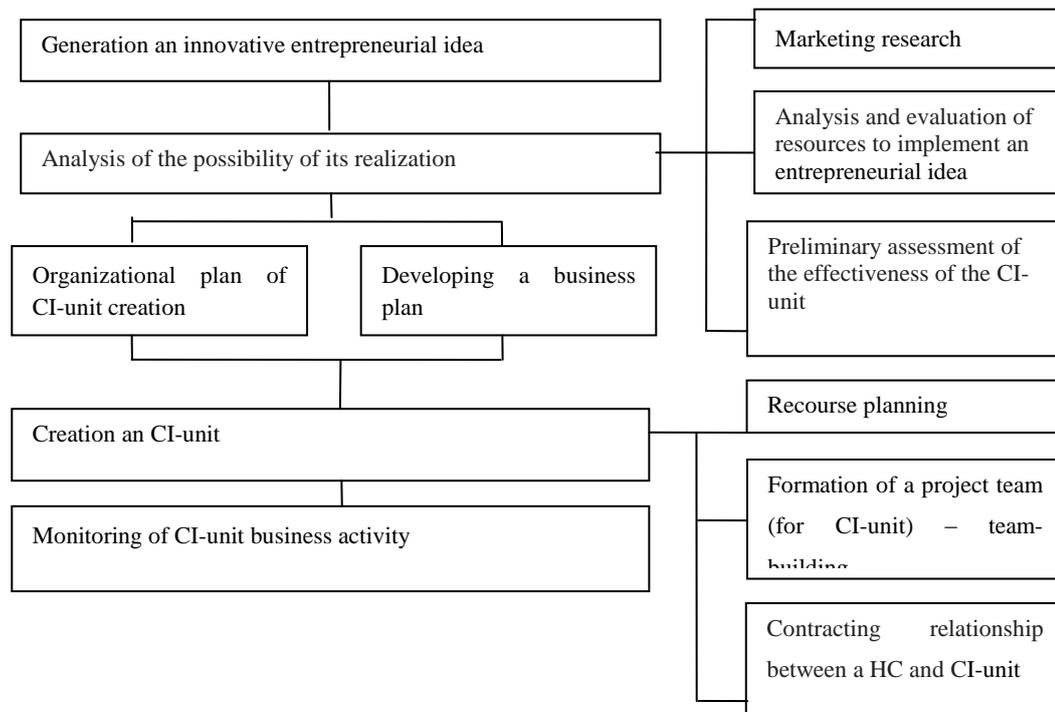


Fig. 2. Mechanism of CE-unit) creation

Finally, about planning between HC and CI-units. The plans of the HC and each CI-unit must be aligned with each other (as well as the plans between CI-units). Methodical difficulty lies in the fact that, on the one hand, each CI-unit must have operational independence, and, on the other hand, be coordinated with all decisions taken by the HC. There is a need to design a two-level system. The upper level is the level of HC (general management, overall allocation of resources). The lower level is the level of individual CI-units (planning business activities). For optimal planning model we propose to use the Kornai-Liptak (Cit. by Vlasova, M. et al. 2014) decomposition method. It allows us to link the particular solutions (CI-unit level) with the overall optimum position

THE RESULTS OF IMPLEMENTATION OF CI-UNITS CREATION METHODOLOGY

The author's methodology of CI-system creation was implemented in building construction company "Premier-Stroy" (HC). On the base of HC' recourses there was established two CI-units. In accordance with the main stages of the methodology the following results were obtained (on example of one CI-unit).

Analysis of an entrepreneurial idea. The essence of an entrepreneurial idea is to produce new building construction materials.

Analysis and assessment of the resources needed to implement this idea. The analysis showed that HC has the equipment, workers and managers' staff, office, warehouses, etc. However, these resources are not used at maximum capacity or are not used, including a reserve of 400 sq. m.

Resources providing. In order to give resources to the CI-units a combined method was approved:

- during the first year some resources were provided to HC free of charge;
- HC provided the CI-unit a loan of 1,5 mln. rubles for the purchase of equipment;
- as for machinery complex HC and CI-units used it together on the basis of the lease contract.

Team-building:

- the number of full-time employees (staff) of the CI-unit was 18;
- annual Wage Fund of the CI-unit' staff was 3,3 mln. Rubles;
- head of the CI-unit is entrepreneur himself

Organizational design. For the contractual relationship between HC and CI-unit the following model was adopted:

- project management (matrix) organizational structure;
- CI-unit is an independent entity with a stable staff;
- HC' departments of supply and sales of the company performed supply and sales function

for the CI-unit

Finally, a business plan was developed. The results and planned indicators were identical (table. 3). In accordance with the signed contracts the CI-unit paid for HC' managerial services and a part of the profits (as dividends)

Table 3 - Final financial results of CI-unit's activity

| Indicators | Indicators (prices of 2005) |
|--|-----------------------------|
| Output per year without VAT (RBL, mln) | 50,1 |
| Costs of production (RBL, mln) | 37,9 |
| Profit (RBL, mln) | 12,2 |
| Tax on profit (RBL, mln) | 2,9 |
| Net profit (RBL, mln) | 9,3 |

The company has received the following results (table. 3) by CI-system' creating (табл. 4).

Table 4 - Economic indicators of activity at the enterprise after the CI-system' implementation

| Indicators | HC | CI-unit |
|--|-------|---------|
| Capital productivity (rbl/rbl) | 16,4 | 20,1 |
| Labor productivity (RBL per employee) | 2,205 | 2,780 |
| Profitability of output (%) | 19,0 | 32,1 |
| Profitability of sales (%) | 16,0 | 24,3 |
| Employee turnover | 0.334 | 0.055 |
| Average annual wage (RBL per employee) | 157,2 | 182,3 |

In addition to these indicators, the increase of the production volume of the HC through the establishment of two CI-units was 32.9%, a reduction of the material was 17%. In this case, both quantitative and qualitative indicators have changed (table.5).

Table 5 - The main effects of the CI-system' implementation

| Effect | HC | CI-unit |
|-----------------|--|--|
| Social effect | <ul style="list-style-type: none"> - consolidation of staff with creative potential - improvement of socio-psychological climate at the enterprise - improvement of the external image of the company | <ul style="list-style-type: none"> Improvement of the social status of the entrepreneur Improvement of the social status of the entrepreneurial team |
| Economic effect | <ul style="list-style-type: none"> - growth of business value - generation of additional profit - emergence and usage of intellectual property | Revenue from innovations and an entrepreneurial idea |

CONCLUSIONS

In the post-Soviet era Russian enterprises began to operate under the market conditions. Old methods of business were not suitable for new conditions. In spite of world economy decreasing large corporations and small firms demonstrated the new strategy of business development: they said «innovation or death» and called new methodology as an entrepreneurship. Much has been written about entrepreneurship, new business creation, «new business product» orientation, competitiveness, etc. A lot of types of corporate entrepreneurship were offered by scholars and managers.

In this article we have clarified the essence of the term "corporate intrapreneurship" and «corporate entrepreneurship». It could be concluded that some small and large companies used and use just now in transition economy such type of entrepreneurship as corporate intrapreneurship. We conclude that the CI-system is based on the integration of the resources of head company, on the one hand, and leadership and innovative ideas of an entrepreneur, on the other hand.

Intrapreneurship is a special form of corporate entrepreneurial activity which operates in the framework of the existing enterprise (small or large) and its resource base, on the one hand, and actively uses the initiative and creative potential of employees, on the other hand. Intrapreneurship aims to accelerate the implementation of innovation, the creation of an internal competitive environment, generating additional revenue, the creation and effective usage of intellectual property. The author's methodology of CI-system creation for building construction business consists of some blocs, among them the mechanism of CI-unit creation, method of planning (balanced plan) between a HC company and CI-units, method of motivation. Our methodology includes general concept of internal corporate entrepreneurship (intrapreneurship) system forming, analysis of entrepreneurial

potential, formation of the economic, organizational and contractual relationships between a HC and the CI-unit and some others.

Implementation of this methodology will provide the gradual transformation of traditional enterprises into enterprises of an innovative-entrepreneurial type under the market conditions. As for practical applications the two Russian building construction companies improved the efficiency of their business activities and the level of competitiveness of the enterprise due to implementation of the CI-system.

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PROFITABILITY OF ITALIAN COOPERATIVES: THE IMPACT OF GEOGRAPHICAL AREA AND BUSINESS SECTORS¹

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ABSTRACT

This paper focuses on the situation in Italy with specific reference to cooperatives. It aims to analyse their economic situation - represented by two profitability ratios (ROI, ROE) - during the decade 2004-2013, that is before, during and after the crisis. Specifically, after an exploratory study, it wants to verify if there are statistically significant differences caused by geographical area and/or belonging business sector. With these aims and starting from secondary data on AIDA database (at the end 1,446 cooperatives), the trend analysis and analysis of variance (ANOVA) have been used. The findings show, at first, that the profitability of cooperatives has a very negative trend in any geographic area and business sector. So it is strongly affected by crisis. Secondly, only the business sector affects the level of profitability. The analysis is interesting because income, in cooperatives, has a special meaning: it should in fact be added to benefiting members that are accounted for as “peculiar” management costs.

Keywords: *Italian Cooperatives; Global Crisis; Return on equity; Return on investment; Profitability ratios.*

INTRODUCTION AND MOTIVATION: AIMS AND STRUCTURE OF THE PAPER

The study aims to analyse the economic situation - represented by two profitability ratios (ROI, ROE) - of the Italian cooperatives during the decade 2004-2013. The choice of period is not accidental, nor is irrelevant, given that it includes the previous years, concurrent or subsequent to the 2008 crisis. Although there are significant and widespread signs of economic recovery, the global crisis still affects many geographical areas. For this reason, a large number of studies are still related to the general economic crisis and its implications on companies. Using an extensive data set on corporate bond defaults in the US from 1866 to 2010, Giesecke et al. (2014) study the macroeconomic effects of bond market crises and contrast them with those resulting from banking crises. Even Gonzalez (2015) study

¹The paper is the result of a collaborative work. However it is possible to attribute to Floriana Fusco: research methodology, results and discussion. The other sections are of Guido Migliaccio.

the financial crisis and corporate debt maturity. De Fiore and Uhlig (2015) present a model explaining the evolving composition of corporate debt during the financial crisis of 2008-09. The topic of CSR and ethics in the economy is tackled by Simola (2014), Pirson and Turnbull (2015), Janssen et al. (2015). With regard to crisis management issue, Morel and Chauvin (2016) identify four methodological challenges. Topper and Lagadec (2013) aim to clarify why the crisis management world has profoundly changed and how the current understanding of crises and theoretical frameworks is becoming increasingly less adequate.

The crisis has had diversified effects, accordingly studies of business administration must necessarily orient themselves with analysis about individual geographical contexts, specific production sectors and different social forms (see, for example, Iwasaki, 2014; Jim and Shinde, 2015; Apostol et al., 2015; Cimini, 2015; Yang and Jiang, 2015). Looking at cooperatives, recent literature has stressed their higher resilience rather than others enterprise (Birchall and Ketilson, 2009; Allen and Maghimbi, 2009; Bajo and Roelants, 2011; Boone and Özcan, 2014; Roelants et al., 2012; Carini and Carpita, 2014).

As said, this study focuses on Italian cooperatives, first investigating, with an exploratory study, the trend, then verifying if there are statistically significant differences caused by geographical area and/or belonging business sector. In summary, two are the main research questions:

- 1) What was the trend of profitability in the last decade in the various Italian geographic areas and business sectors?
- 2) Are there differences statistically significant between groups? Or, in other terms, geographical areas and/or business sectors can affect the level of profitability?

In the following sections is presented a review of literature on cooperatives, highlighting especially the typical problems of management resulting from cooperative principles. Thereafter the methodology, results and implications are discussed.

THEORETICAL BACKGROUND

Cooperative is a company tending to profit, albeit with 'social' objectives (Tessitore, 1968, 1973 and 1998; Zan, 1990).

Some authors emphasize above all the features of sociability of cooperative company that is preferable to the capitalist company (Matacena, 1990; Jossa, 2008).

Members cooperate if they have affordability that adds up to extra economic opportunities that have characterized the history of the Italian cooperative movement.

A recent line of research, still little explored and where this study fits, focuses on the resilience of cooperatives business model to the crisis (Birchall and Ketilson, 2009; Allen and Maghimbi, 2009;

Accornero and Marini, 2011; Bajo and Roelants, 2011; Boone and Özcan, 2014; Roelants et al., 2012; Carini and Carpita, 2014).

The principles on cooperative and their effects on the management. Hint about Italian laws.

The first principles were established in 1844 in Rochdale cooperative. Subsequently they were updated. The current principles were set up by the International Cooperative Alliance in 1995 (Vella, 2012; Migliaccio, 2012; Fusco and Migliaccio, 2015): free and voluntary membership, open to all individuals (principle of “open door”); democratic control of the members, who actively participate in decisions with equal rights, regardless of the capital injection and / or contribution (principle: one head, one vote) (Matacena, 1990; Jossa, 2008); member economic participation, contributing equally to the capital with a share that must be compensated with a limited interest (Pacciani, 1979 and 1982¹⁻²); autonomy and independence of the organization; cooperation among cooperatives, to strengthen the movement (Panati, 1984; Roncaccioli, 1984; Zan, 1990; Rosa, 1982); interest in the local community (localism) (Percoco, 2012). The annual financial statements of cooperative societies has unique characteristics, especially because it must clearly indicate the relationship between members and society (Melis, 1983 and 1990; Mari, 1994; Congiu, 2009; Giordano, 2011; Belbello and Dili, 2010; Benni et al., 2005). Even the analysis of their financial statements must be conducted with specific criteria and indexes derived must be interpreted wisely (Matacena, 1991; Krasachat and Chimkul, 2009; Hong and Dong-Hyun, 2012; Chalomklang, 2010; Arimany, 2014; Kyriakopoulos et al., 2004).

General principles of cooperative societies have greatly influenced the civil and tax law of individual countries that, together with the possible availability of soft loans, have affected directly or indirectly the management of cooperatives.

Art. 45, first paragraph, of Italian constitution state: “the Republic recognizes the social function of cooperation of a mutuality nature and without purposes of private speculation. The law promotes and encourages them through the appropriate means and secures, through appropriate controls, the character and purposes”.

Numerous special laws encourage the formation of cooperatives.

The civil law is in the legislative decree No. 6 of 01.17.2003. The rationale of the law characterizes the “management service” to members who get better conditions than those of the market, eliminating the intermediary of other entrepreneurs and its profit.

Art. 2511 state that the definition of cooperative company is such only if with variable capital and mutual purpose (Ferri, 2011). In the law, the distinction between “mutually prevalent cooperatives” and other cooperatives: first enjoy all the facilities, with the remainder being excluded from tax advantages (Di Sabato, 2011)

The prevalent mutuality is characterized (art. 2512) to operate mainly to members (consumers or users) and using mainly the work performance of members and / or their contributions of goods or services. Companies must provide in the statutes (art. 2524) prohibiting the distribution of dividends and remuneration of financial instruments offered to the co-operators beyond certain limits. It is also enshrined in prohibiting the distribution of reserves between the shareholders and the obligation to devolution, the dissolution, the assets to mutual benefit funds for the promotion and development of cooperation.

THE ECONOMIC DYNAMIC OF COOPERATIVES: REBATES AND PROFIT

The cooperative carries out an economic activity to satisfy the needs of its entrepreneur.

The entrepreneur can be any stakeholder.

The different nature of the entrepreneur changes the system cost-benefit: what is an “external” cost in the capitalist companies, in the cooperative is often the contribution of a member.

In it, there are distinctions between values obtained by customary exchanges and mutual. Among the items characteristics: the rebates, indivisible reserves and social loans.

First, the rebates that assume different characteristics (Bagnoli, 2008) the consumer cooperatives is the repayment of part of the price paid; in the productive integration is the remuneration the conferment. The cooperative acquires the goods/services of the member liquidating a deposit, unless the price paid to integrate with an adjustment payment at year end. The rebate is an economic benefit to the members who deliver. It is proportional to the contribution and not the paid-up capital. It is paid only when there is distributable income.

The distribution of income is therefore limited by one of the fundamental principles of cooperation which also prohibits the distribution of self-financing at the time of dissolution.

The laws of various states apply this general principle by reducing the supply of profits. They often state that a portion must be allocated to a reserve and also to a dedicated mutual fund to be disbursed to other cooperatives. special tax breaks are also sometimes obtained only by limiting the distribution of current profits and reserves at the time of dissolution.

Laws that prevent the subscription of capital are elements of discrimination between members. The richest members may prevail: the capital must instead keep the same instrumental function of external funding. Then the capital must be paid as loans: the profit has to be almost equal to the interest on the current market. The members then subscribe little capital. Financial contributions to public entities are therefore required to start up. Passed the start-up phase, unfortunately, the cooperative is often financially weak because the members do not want self-financing for the obligation to allocate the company's assets to third parties, once the company will be dissolved. This ban was imposed because

the interest of the shareholders must be linked exclusively to the use of cooperative's services and not to its assets.

In capitalist societies the annual income is considered the first indicator of the economy of the company and therefore of its concrete ability to last over time. In cooperative societies, however, income in the financial statements provides very different guidance. In capitalist society the ROE is a key index often compared with that of fair remuneration in order to establish the convenience to start or to prolong the life of a company. In cooperative societies, the Roe, however, may not have the same indicative power: Net income is not the actual profit, because a part of it may have been already attributed to members and therefore accounted for as cost. properly, It has much more to deal with the current cost of borrowing in the market because many laws engage the cooperative income at that level.

The Roi has a very different indicative function in various types of society: in the cooperative, in fact, the cost of acquisition of goods, materials and / or services from members includes part of the profit. Its interpretation must therefore also consider the odds added that rebate to members.

Aware of these limits, however, it is advisable to check the earnings performance of the Italian cooperatives in the period considered. Further research will facilitate, in the future, a more complete interpretation of the phenomenon.

RESEARCH METHODOLOGY

Data collection and sample characteristics

The study fits into quantitative research, based on secondary data sourced by AIDA database. It replies the methodology of a previous work on financial structure of Italian cooperatives (Fusco and Migliaccio, 2015), with the aim to assessing if the discriminating factors chosen also affect the economic performance. The economic situation is represented by two ratios, Return On Investment (ROI) - that is *operating income/investment* - and Return On Equity (ROE), i.e. *net income/equity*. The choice is because they surely are the most relevant and widespread economic, or better profitability, ratios. Initially, the entire population of Italian cooperatives in the AIDA database (14,065 cooperative firms) was considered.

The period considered was the last decade, i.e. 2004-2013.

Therefore, the subsequent analysis was restricted to the cooperatives where both ratios over ten-year period were available.

The final sample was therefore made up of 1,446 cooperatives.

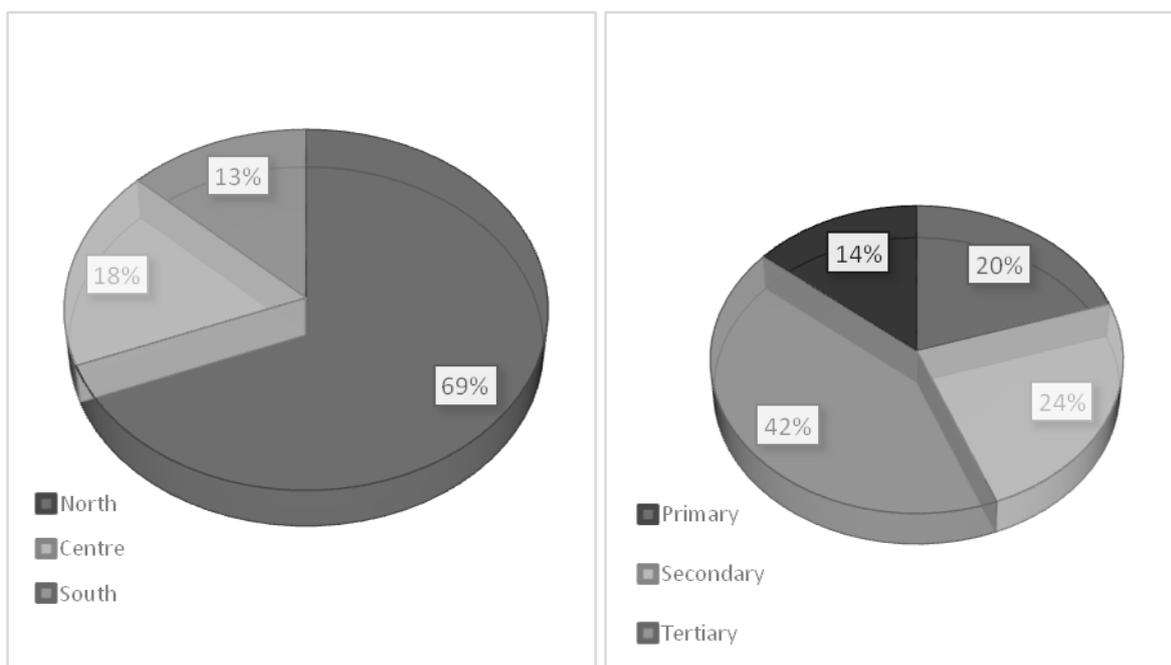
The geographic site of headquarters has been used as proxy to represent the belonging geographic area; while the statistical classification of economic activities in the European Community (NACE Rev.

2 codes) has been used to identifying the belonging business sector. Then three groups (North, Centre and South) are identified according to first factor and four groups (Primary, Secondary, Tertiary and Advanced tertiary) according to the second one. According to conventional classification, the northern Italian regions are Valle d'Aosta, Piemonte, Liguria, Emilia-Romagna, Lombardia, Trentino-Alto Adige, Veneto and Friuli-Venezia Giulia; the central ones are Toscana, Umbria, Marche and Lazio and the southern ones are Campania, Abruzzo, Molise, Puglia, Basilica and the islands Sicilia and Sardegna. With The regard to business sectors, this allocation is used:

- Primary sector: agriculture, forestry and fishing; Mining and quarrying;
- Secondary sector: manufacturing and construction;
- Tertiary sector: Electricity, gas, steam and air conditioning supply; Water supply, sewerage, waste management and remediation activities; Wholesale and retail trade; repair of motor vehicles and motorcycles; Accommodation and food service activities; Transportation and storage; Education; Human health and social work activities; Arts, entertainment and recreation; Other service activities.
- Advanced Tertiary sector: Information and communication; Financial and insurance activities; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities.

The characteristics of the sample are shown in Figures 1a and 1b.

Figures 1a and 1b: sample characteristics



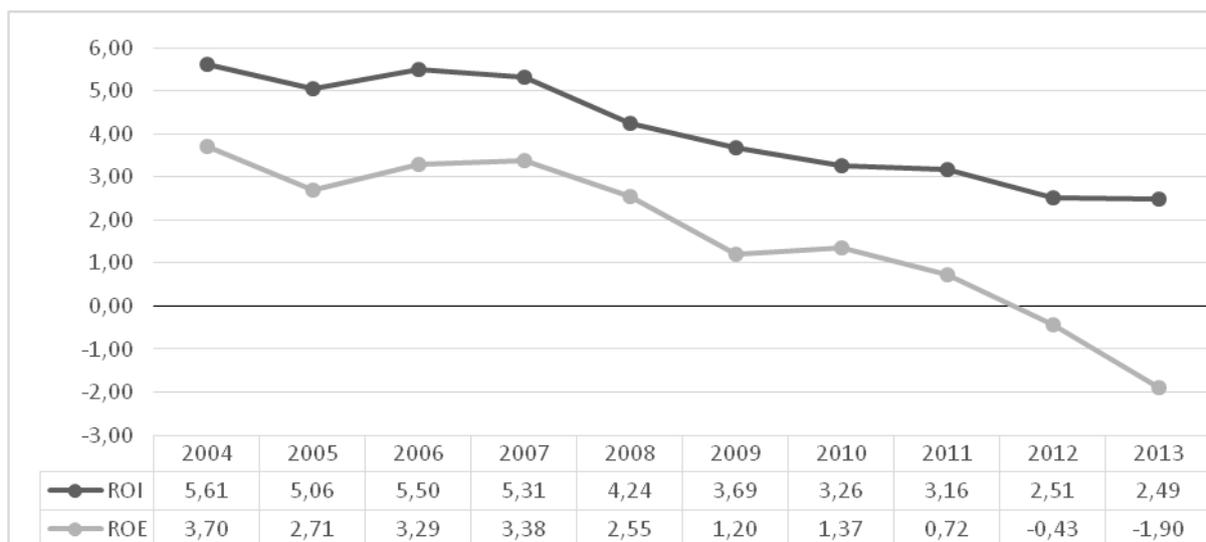
Method

First, ratios trends are analysed, according to descriptive and exploratory approach. Successfully the analysis of variance (ANOVA) is used to verify how the two discriminating factor affect the profitability or, in other words, if the observed differences are statistically significant. In fact, ANOVA tests hypothesis that the means of two or more populations are equal. ANOVAs assess the importance of one or more factors by comparing 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 dependent variables were the ratios considered and factors or independent variables were the geographic localization and the business sector. In this work, the two factors are considered separately, so ANOVA one-way has been chosen.

RESULTS AND DISCUSSION

The analysis of the overall trend - which takes into account the annual average of the sample - reveals a rather negative situation. Both ratios have a declining path and almost parallel with the ROI is always kept at about + 2 percentage points above the ROE. The gap is expanding in the last period in which the return on equity falls to peak and becomes negative, while the ROI, although with modest values, try a slight recovery. The smaller ROE as well as its largest decrease could be found among the leading causes partial ban on the distribution of profits established by law (art. 2524 cc) of profits.

Figure 2: Overall ratios trend between 2004 and 2013



A similar situation can be found in the figures relating to different groups (see fig. 3-6). The trend is for each one falling, albeit with different intensities. However, it is not surprising, given that in the decade considered there was (and it is not totally finished) a global economic and financial crisis. With regard to the ROI, it is possible to verify that the groups with a higher rate have suffered, generally, a larger decline in the decade. Table 3, indeed, marks a clear decrease for the North and for the Centre (respectively 63% and 45%) and a smaller reduction for the South (26%), with the obvious

consequence of a thinning of the gap between groups. The first two groups are similar trends, with strong peaks downward since 2008 as a result of the crisis and the subsequent recession. Only in the last two years, the gap is more evident because of an abnormal reduction of 30% in the North. A more "independent" and fluctuating trend is to the third group, the South, marked by different peaks, both positive and negative.

Looking at the different businesses, table 4 shows an almost constant trend of ROI relative to the primary sector, with a decrease of about 12%, while there is a decrease of 62% in the advanced tertiary. Disaggregate data highlight that the businesses mainly negatively affect the trend are the financial and insurance activities and construction sector, with a decrease of 80% and 83%, but also the ICT sector, usually considering one of the most profitability, has a strong reduction (about 48%). Anyway, the downward trend is widespread, only the accommodation and food service business and utilities record an increase.

Figure 3: Trend of Return on Investment (ROI) according to geographic localization

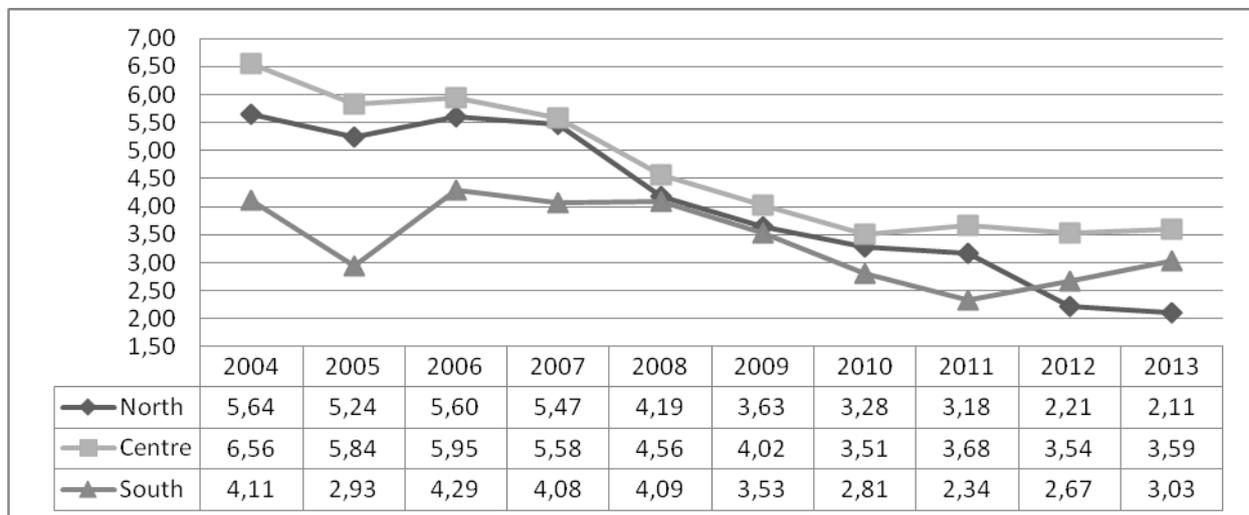
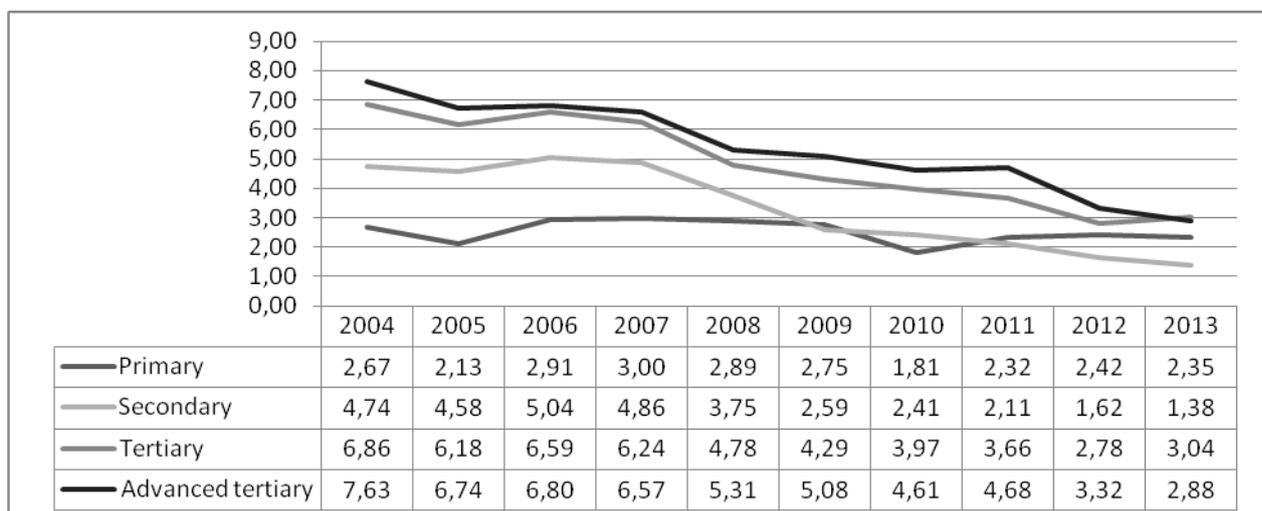


Figure 4: Trend of Return on Investment per business sector



With regard to the ROE, the condition is even more dramatic. Starting with lower rates compared to the ROI and a steady descent, the values are negative for all groups. Looking at the figure 5, all three groups have a negative percentage variation of more than 100%. Even in this case, the gaps between the different groups attenuate, namely those who had a higher profitability, they have, in absolute values, suffered a greater loss. The South, with an already very low rate, has decreased by 268%, that is -3.8 percentage points, while the North and the Centre each have lost about 5 percentage points (that is, respectively, -146% and -144%).

Figure 5: Trend of Return on Equity (ROE) according to geographic localization

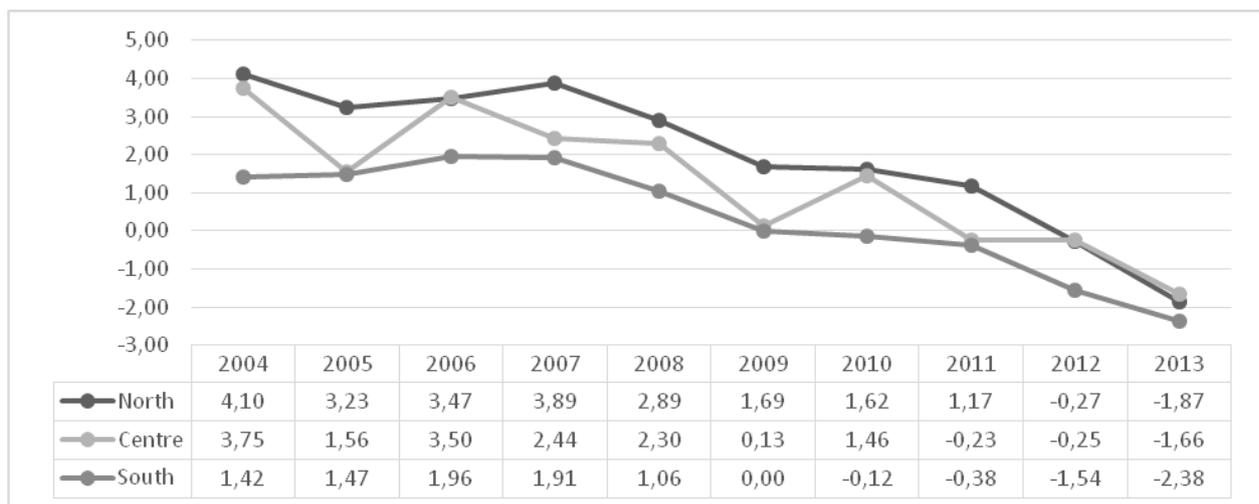


Figure 6: Trend of Return on Equity (ROE) according to business sector

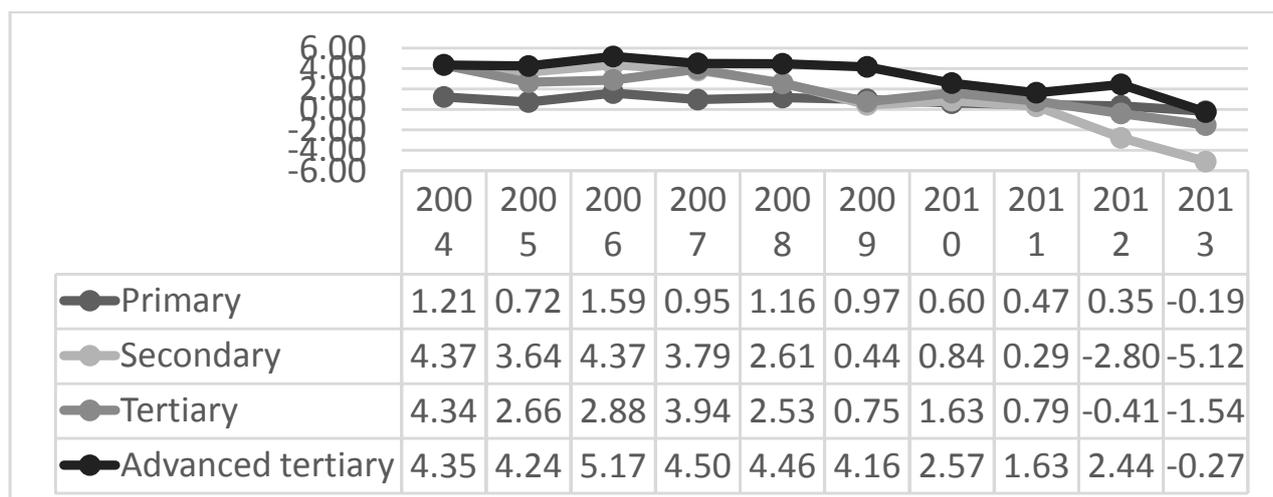


Table 6 shows the trend of different businesses. Consistently with Roi trends, the business with the worst performance is the secondary, with a decrease of 217% (more than 9 percentage point, in absolute), while the primary one maintains more constant values (however, considering the very low values, constancy should be defined stagnation). It is interesting to underline that, as expected, the major collapse of the Roe value is in 2008/2009 for all groups, except for the advanced tertiary, which has the major reduction in 2010. As said, the study wants not only to explore the economic situation of Italian cooperatives, but also to check if the found differences between independent groups,

discriminating according to belonging geographical area and business sector, are statistically significant. In other words, if these factors affect the profitability of cooperatives. At this end, ANOVA has been used. Specifically, the one-way ANOVA compares the means between groups discriminating by one factor (or independent variable) and determines whether any of those means are significantly different from each other. It is important to underline, again, that this method only indicates that at least two groups are different, but not which groups are significantly different from each other. The results show that the null hypothesis must be accepted when geographical localization is taken as discriminating factor for both ROI and ROE. In fact, as reported in tables 1 and 2, ($F(2,27) = 3.29$, $p = 0.52304$), with $F < F_{crit}$ ($p \text{ value} > 0.05$), if ROI is the dependent variable and ($F(2,27) = 2.28$, $p = 0.12171$), with $F < F_{crit}$ ($p \text{ value} > 0.05$), if ROE is the dependent variable. It means that belonging to a geographical area or to another does not involve any significant differences in the level of profitability.

Table 1: ROI - Analysis of variance with geographical localization as independent variable

| Source of variation | SQ | gf | MQ | F | Sig | F crit |
|---------------------|------------|----|------------|------------|------------|------------|
| Between groups | 8.37662115 | 2 | 4.18831058 | 3.29798586 | 0.05230383 | 3.35413083 |
| Within groups | 34.2889238 | 27 | 1.26996014 | | | |
| Total | 42.6655449 | 29 | | | | |

Significant level at 0.05

Table 2: ROE - Analysis of variance with geographical localization as independent variable

| Source of variation | SQ | gf | MQ | F | Sig | F crit |
|---------------------|------------|----|------------|------------|------------|------------|
| Between groups | 13.7658738 | 2 | 6.88293692 | 2.27924402 | 0.12171449 | 3.35413083 |
| Within groups | 81.5354983 | 27 | 3.01983327 | | | |
| Total | 95.3013721 | 29 | | | | |

Significant level at 0.05

The situation is the opposite if the business sector is considered as discriminating factor. Table 3 shows that $F(3,36) = 9.97$, $p = 6.3464E-05$, with $F > F_{crit}$ ($p \text{ value} < 0.05$), so the null hypothesis must be rejected and the alternative one must be accepted. In other words, the groups are statistically different. The same if ROE is taken into account (see table 4), the alternative hypothesis is accepted because $F(3,36) = 2.90$, $p = 0.04836619$, with $F > F_{crit}$ ($p \text{ value} < 0.05$). Therefore, the business sector seems to affect the level of ROI and ROE.

Table 3: ROI - Analysis of variance with business sector as independent variable

| Source of variation | SQ | gf | MQ | F | Sig | F crit |
|---------------------|------------|----|------------|------------|------------|------------|
| Between groups | 52.1375831 | 3 | 17.3791944 | 9.97108325 | 6.3464E-05 | 2.86626556 |
| Within groups | 62.7465424 | 36 | 1.74295951 | | | |
| Total | 114.884125 | 39 | | | | |

Significant level at 0.05

Table 4: ROE - Analysis of variance with business sector as independent variable

| <i>Source of variation</i> | <i>SQ</i> | <i>gf</i> | <i>MQ</i> | <i>F</i> | <i>Sig</i> | <i>F crit</i> |
|----------------------------|------------|-----------|------------|------------|------------|---------------|
| Between groups | 36.6676505 | 3 | 12.2225502 | 2.89649368 | 0,04836619 | 2.86626555 |
| Within groups | 151.911882 | 36 | 4.2197745 | | | |
| Total | 188.579532 | 39 | | | | |

Significant level at 0.05

CONCLUSIVE REMARKS, LIMITATIONS AND FUTURE RESEARCH

The trend of all indices is downward. The tendency of Roe and Roi is similar. The differences between North, Central and Southern Italy, though present, does not express statistically significant differences. On the contrary, there are significant differences between the sectors of the Italian economy. Therefore, it is possible to assume that only the latter is able to affect the cooperatives profitability. The result shown by analysis are consistent with the whole economy. Specifically, there are negative peaks in correspondence of the two periods of recession, that are 2008 and 2011 and the most affected businesses appear to be those of the secondary and, as part of the advanced tertiary, the financial and insurance business. Indeed, the crisis started in 2007 as a financial has had especially economic repercussions.

Therefore, the study reveals that the crisis has had a general impact and has substantially eroded the profitability of the cooperatives located anywhere regardless of their activity. "Resilience" that should characterize the Italian and international mutual societies (Fontanari and Borzaga, 2014; Fusco and Migliaccio, 2015) and that would take more resistant than the capitalist enterprises, especially in times of crisis, unfortunately, is not evident from the trend in profitability indicators.

However, the search result must necessarily consider the different area code power of the profit indicators of cooperatives: the Italian legislation imposes limits to the profits for the reasons described that characterize these companies.

It is, therefore, possible to conclude definitively on their lower profitability, without considering the trend of benefiting members who also represent part of the accrued profit. Future investigations on the same budgets will, therefore, find a different dimension of the profit that is not limited to the final income shown in the annual accounts. To it, you must add the greater value accorded to cooperative members compared to the market prices of what they have given to the society of which they are members.

From these additional future investigations the findings could also be the opposite of those seemingly obvious from this research. If, in fact, the members had held constant a rebate worth more than the market price, the smaller company's profitability could also be caused only by a lower average interest intended to remunerate external funding. In some laws, in fact, the income in the financial statements

relates to the cost of money. During the years of the crisis, European monetary authorities have progressively reduced the applicable interest rates as a necessary measure to tackle the crisis and to boost the economy, encouraging investment.

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HOW THE EUROPEAN FUNDING HELPS PUSHING FORWARD THE RESEARCH AND ENVIRONMENT SECTORS

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ABSTRACT

The European Union's main objectives are focused on reducing the disparities between the member states, to support them to reach a level of development that will allow them to obtain a high rate of employment, productivity and not at last a high level of social cohesion. In order to become a smart, sustainable and favorable economy for the inclusion, the EU has set targets for the coming years, leading to economic growth.

Although the European Union has financed each member state to reach its assumed targets and attain its foreseen indicators, these have not been entirely achieved. A comparative analysis of the way in which the European funds have been spent during the 2007-2013 programming period revealed that the member states with the higher rate of absorption were Estonia, Portugal, Lithuania, Finland, Sweden, Poland, Romania occupying the 27th place. Nevertheless, analysing the country report for each member state and the level of targets achievement on every area of interest, Romania takes the 4th place in IT&C sector. Seeking to improve the current state of facts, Europe 2020 Strategy comes with immediate measures and sets new initiatives for a 10 years period.

The present paper gives some understandings based on a comparative analysis of the influence of the European funds allocated over the 2007-2013 programming period in the area of research and innovation and how it changed the public institutions, business and the society as a whole, as well as the new trends and opportunities emerged for the next programming period and the measures assigned by the Europe 2020 Strategy.

Keywords: *European funds, comparative analysis, targets, indicators, research and innovation, society.*

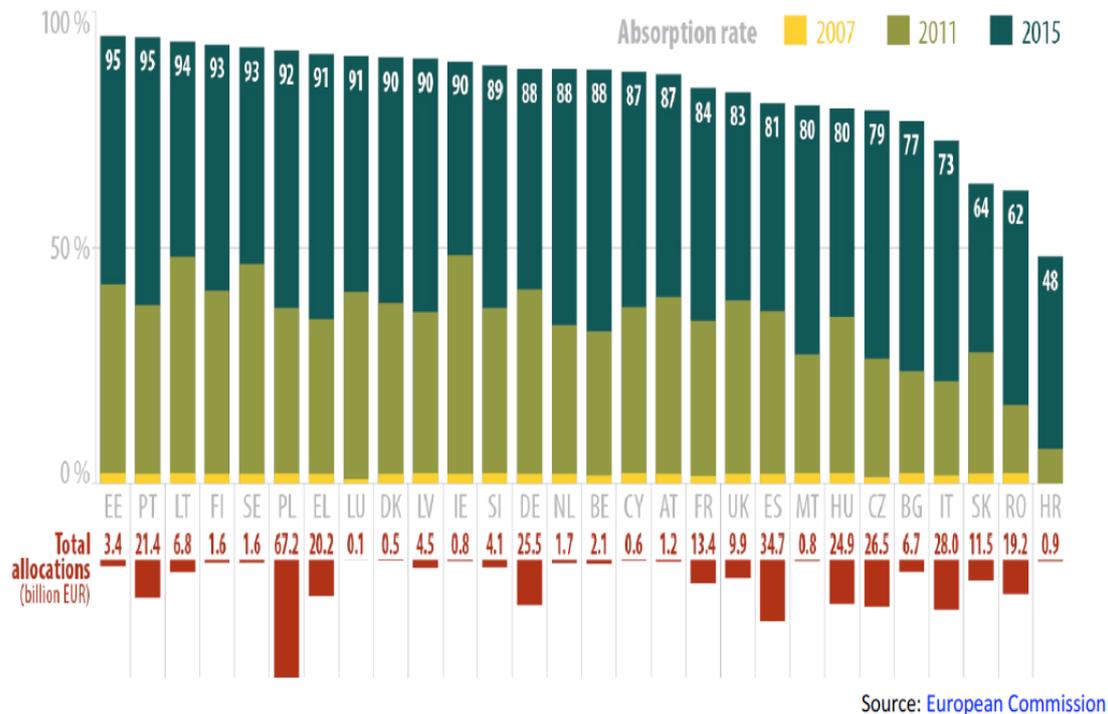
INTRODUCING THE EUROPEAN UNION POLITICAL CONCERNS AND ECONOMIC TARGETS

The European Union aims to reduce the disparities between the member states, to support them to reach a level of development that will allow them to obtain a high rate of employment, productivity and not, at last, a high level of social cohesion. For the next years to come, important objectives have

been set by the European Union in order to become smart, sustainable and open to inclusion economy that could achieve a steady growth.

Although the European Union financed each member state to reach its assumed targets and attain its foreseen indicators, these have not been entirely achieved.

A comparative analysis of the way in which the European funds have been spent during the 2007-2013 programming period revealed that the member states with the higher rate of absorption were Estonia, Portugal, Lithuania, Finland, Sweden, Poland, Romania occupying the 27th place.



Scheme 1. The Evolution of EU Funds Absorption Rate during 2007-2015

Nevertheless, analysing the country report for each member state and the level of targets achievement on every area of interest, Romania takes the 4th place in IT&C sector.

The country report analyses the evolution of Romania during the last 3 years, both in terms of economic growth, fluctuation of public finances due to rising costs and a reduction of certain taxes and the VAT, labour market development, legislative initiatives, efficiency and effectiveness of public administration, social protection system and health system, the evolution of the business environment and R & D.

In this respect, a comparative analysis of the indicators achieved by Romania (RO), Portugal (PT), and Poland (PL), during 2014, in key areas, is presented below, namely:

Table 1 The Macroeconomic Imbalance Procedure (MIP) for Romania, Portugal and Poland in 2014

| | | | Thresholds | PT 2014 | PL 2014 | RO2014 |
|---|--|---------------------|----------------|---------|---------|--------|
| External imbalances and competitiveness | Current account balance (% of GDP) | 3 years average | -4 %/6 % | 0.0 | -2,3 | -2,1 |
| | Net international investment position (% of GDP) | | -35 % | -113.3 | -68,3 | -57,2 |
| | The real effective exchange rate – 42 trading partners, HICP deflator | 3 years % variation | ±5 % and ±11 % | -1.8 | -1,3 | -1,1 |
| | Market share of exports – % in world exports | 5 years % variation | -6 % | -4.7 | 4,8 | 21,5 |
| | Nominal unit labour cost index (2010=100) | 3 years % variation | 9 % and 12 % | -2,3 e | 2,5 w | 2,3 p |
| Internal imbalances | Housing prices which have been subject to inflation (% variation from year to year) | | 6 % | 3.6 | 1,1 | -3,6 p |
| | Credit flow to the private sector % of GDP, consolidated data | | 14 % | -8.7 | 4,7 | -2,4 |
| | Private sector debt as % of GDP, consolidated data | | 133 % | 189.6 | 77,9 | 62,2 |
| | Public sector debt as % of GDP | | 60 % | 130.2 | 50,4 | 39,9 |
| | Unemployment rate | 3 years average | 10 % | 15.4 | 9,8 | 6,9 |
| | Total liabilities of the financial sector (% variation from year to year) | | 16,5 % | -6.1 | 0,6 | 1,1 |
| New indicators on employment | Activity rate – % of total population aged 15 to 64 years (3 years variation in percentage points) | | -0,2 % | -0.4 | 2,2 | 1,6 |
| | Long-term unemployment rate – % of total population aged 15 to 74 years (3 years variation in percentage points) | | 0,5 % | 2.2 | 0,2 | -0,1 |
| | Unemployment rate for youth – % of the active population aged between 15 and 24 years (3 years variation in percentage points) | | 2 % | 4.5 | -1,9 | 0,1 |

Source: European Commission

Analysing the thresholds, it appears that Romania enjoyed a significant economic growth these past 3 years, the current account balance was improved in the last three years. It is estimated that it will record a slight increase in 2016 but will remain under control standing at 3% of GDP.

“The significantly negative Net International Investment Position (NIIP) has improved since 2012 and is expected to maintain this trend in the coming years. The main drivers of this improvement were a strong growth in nominal GDP and a reduction in current account deficits. In the future, the net international investment position should improve further.”

It was also noted an increase in exports and an increase in domestic consumption. Housing prices have been declining in recent years but 2014 saw a slight increase. After several years of decline, we see a

recovery in credit flow. This was caused by "a decrease of interest rates for consumer loans and a certain relaxation of credit standards."

"Conditions on the labour market were generally stable, but the employment rate is still below target objectives. Increasing employment is particularly focused in sectors with high added value. "

"The potential for long-term employment of the unemployed, older workers, Rom(any) and people with disabilities is largely unmined. Long-term unemployment rate is 2.8%, about half of the EU average. "

Table 2. The Financial Market Indicators

| | PT 2015 | PL 2015 | RO 2015 |
|--|---------|---------|---------|
| Total assets of the banking sector (% of GDP) | 253.7 | 92,6 | 58,5 |
| Financial soundness indicators: | | | |
| – non-performing loans (% of total loans)1) | 12.6 | 4,7 | 12,8 |
| – capital adequacy ratio (%)1) | 12.4 | 15,3 | 18,1 |
| – ROE (%)1) | 6.0 | 11,2 | 6,4 |
| Bank loans to the private sector (% variation from year to year) | -2.5 | 5,8 | 4,5 |
| Loans to purchase dwellings ((% variation from year to year) | -3.8 | 4,3 | 15,5 |
| Loans/deposits ratio | 99.6 | 97,2 | 85,4 |
| Central bank liquidity as % of debt 2) | 7.1 | 0,0 | 0,0 |
| Private debt (% of GDP) | - | - | - |
| Gross foreign debt (% of GDP)3) | 93.0 | 29,0 | 19,1 |
| – public | 45.8 | 28,9 | 27,6 |
| – private | | | |
| Long-term interest rates versus Bund margin (basic points) | 192.8 | 220,6 | 297,8 |
| Swaps margins on credit risk of sovereign debts (5 years) | 137.4 | 61,1 | 110,0 |

Source: IMF (financial soundness indicators); European Commission (long-term interest rates; private debt); World Bank (gross external debt); ECB (all other indicators).

"Implementation of the National Bank of Romania's 2014 Plan on the resolution of bad loans led to a significant decrease in the rate of bad loans at system level, that rate decreased from 22.6% in February 2014 to 11.6% in November 2015. After the unfavourable developments in 2014, banking sector profitability was restored in 2015. It shows a decrease in the share of foreign currency loans. New legislative changes may have an adverse influence on the banking sector and consequently on economic stability. Loans to households returned to growth rates being supported by consumer loans in local currency and an increase in housing loans."

"The growth rate of housing loans, which currently represent about 47% of total loans to households, also recorded a steady growth since the second half of 2014 (16.5% in nominal terms for the full year 2015). Approximately 60% of total mortgage loans in local currency were guaranteed under the state guarantee scheme "first house" to support first home purchases. The increase of loans to non-financial companies remains negative. Lending activity of enterprises began to fall from mid-2013 and since then it has not recovered."

Table 3. The Labour Market and Social Indicators¹

| | PT 2015 | PL 2015 | RO 2015 |
|--|---------|---------|---------|
| Employment rate (% of population aged between 20 and 64 years) | 69.0 | 67,5 | 66,0 |
| Employment rate increase (% variation compared to the previous year) | 1.2 | 1,3 | -0,6 |
| Employment rate among women (% of female population aged between 20 and 64 years) | 65.8 | 60,7 | 57,3 |
| Employment rate among men (%of male population aged between 20 and 64 years) | 72.4 | 74,4 | 74,6 |
| Employment rate of older workers (%of population aged between 55 and 64 years) | 49.7 | 43,7 | 41,0 |
| Part-time employment rate (% of total employment, aged at least 15 years) | 12.5 | 7,4 | 10,1 |
| Employment rate for fixed-term labour contracts (% of employees with fixed-term contracts, aged at least 15 years) | 21.9 | 28,0 | 1,5 |
| In transition from fixed-term contracts to permanent contracts | - | - | - |
| Unemployment rate (1) (% of active population, age range 15-74 years) | 12.7 | 7,6 | 6,8 |
| Long-term unemployment rate (2) (% of labour force) | 7.3 | 3,1 | 3,0 |
| Unemployment rate for youth (% of active population aged between 15 and 24 years) | 31.9 | 20,9 | 22,3 |
| People at risk of poverty or social exclusion (1) (% of total population) | 27.5 | 24,7 | 40,2 |
| Children at risk of poverty or social exclusion (% of people aged 0 to 17 years) | 31.4 | 28,2 | 51,0 |
| Poverty risk rate (2) (% of total population) | 19.5 | 17,0 | 25,4 |
| Severe material deprivation rate (3) (%of total population) | 10.6 | 10,4 | 26,3 |
| Percentage of population living in households with low labour intensity (4) (% of population aged 0 to 59 years) | 12.2 | 7,3 | 6,4 |
| Risk of poverty rate of people employed (% of people employed) | 10.7 | 10,6 | 19,6 |
| Social transfers impact (excluding pensions) on poverty reduction | 27.0 | 26,4 | 10,9 |
| Poverty threshold expressed in local currency at constant prices(5) | 4372 | 10848 | 4067 |
| Gross income available (households; increase %) | 0.8 | 3,8 | -0,2 |
| Inequality od income distribution (ratio between the top and bottom quintile S80/S20) | 6.2 | 4,9 | 7,2 |

¹ [(1) People at risk of poverty or social exclusion (AROPE): persons who are at risk of poverty (AROP) and / or are affected by extremely poor material condition and / or living in households with labor intensity equal to zero or very low. (2) Poverty risk rate (AROP): the proportion of people with available income per adult -equivalent of less than 60% of median national income per adult-equivalent. (3) The proportion of people who are in at least four of the following forms of insecurity: cannot afford i) to pay their rent r bills for utilities, ii) to maintain the dwelling at an appropriate heating level, iii) to face unexpected expenses, iv) to eat meat, fish or equivalent protein more often than every two days, v) to spend a week from the annual vacation away from home, vi) to have a car, vii) to have a washing machine, viii) to have a color TV or ix) to have a telephone. (4) Percentage of population living in households with low labor intensity: the proportion of people aged between 0 and 59 years who live in households where adults (except for dependent children) worked less than 20% of their total work potential during the preceding 12 months. (5) For EE, CY, MT, SI, SK, thresholds represent nominal values expressed in euro; Harmonized Index of Consumer Prices (HICP) = 100 in 2006 (2007 survey refers to revenue from 2006)]

Source: for expenditure for social protection benefits - SESPROS; for social inclusion - EU-SILC.

ⁱ [(1) People at risk of poverty or social exclusion (AROPE): people who are at risk of poverty (AROP) and / or are affected by extremely poor material condition and / or living in households with labor intensity equal to zero or very low. (2) Poverty risk rate (AROP): the proportion of people with available income per adult -equivalent of less than 60% of median national income per adult-equivalent. (3) The proportion of people who are in at least four of the following forms of insecurity: cannot afford i) to pay their rent or bills for utilities, ii) to maintain the dwelling at an appropriate heating level, iii) to face unexpected expenses, iv) to eat meat, fish or equivalent protein more often than every two days, v) to spend a week from the annual vacation away from home, vi) to have a car, vii) to have a washing machine, viii) to have a color TV or ix) to have a telephone. (4) Percentage of population living in households with low labor intensity: the proportion of people aged between 0 and 59 years who live in households where adults (except for dependent children) worked less than 20% of their total work potential during the preceding 12 months. (5) For EE, CY, MT, SI, SK, thresholds represent nominal values expressed in euro; Harmonized Index of Consumer Prices (HICP) = 100 in 2006 (2007 survey refers to revenue from 2006)]

The employment rate experienced an increasing trend in the last 3 years, but remains below the EU average and below the stability target objective of Europe 2020 Strategy. The employment occupancy has increased in sectors with high added value such as: ICT, professional, scientific and technical activities, as well as in industry and construction. It is estimated that the share of highly skilled people in the workforce will experience considerable growth.

“The integration of young people into the labour market remains a challenge. In 2015, youth unemployment decreased to 22%, but the level remains slightly above the EU average. The proportion of unemployed young people or not attending any education or training program (NEET) (Chart 3.2.3) is well above the EU average (17% vs. 12%). A more integrated approach that provides opportunities to young people who are not employed or attending any education or training program, and which focuses on employment in public services, is being developed with support from EU funds. The potential for long-term employment of the unemployed, older workers, Roms and people with disabilities is largely unmined. Long-term unemployment rate is 2.8%, about half the EU average. Its share in total unemployment fell from 45% in 2013 to 41% in 2014. However, only 15% of the people who have been unemployed between one and two years found a job in 2014. The unemployment rate among older workers has increased gradually in 2011-2014. It has reached the level of 43% before the crisis due to the adoption of support measures, but remains below the EU average of 52%. The law to equalize retirement ages for men and women has reached the Parliament since 2013. Without this law, the participation of older women in the labour market will continue to fall significantly, contributing to differences between the pensions of men and women and increasing women’s risk of being affected by poverty in old age. The employment rate of Roms is estimated at 30% (57). Discrimination, limited employment opportunities, reduced physical accessibility and deterrence of fiscal measures (58) affect the employment rate of people with disabilities (38.8% in 2013).”

Table 4. Indicators of Structural Policy and Business Environment¹

| Key performance indicators | PT 2014 | PL 2014 | RO 2014 |
|---|---------|---------|---------|
| Labour productivity (real, per person employed, yoy) | | | |
| Labour productivity in industry | -1.58 | 2,71 | -5,69 |
| Labour productivity in the construction sector | 2.73 | 5,78 | -8,49 |
| Labour productivity in market services | -2.29 | -0,51 | 2,21 |
| Unit labour costs (whole economy, yoy) | | | |
| Unit labour costs in industry | 3.07 | -0,12 | 11,32 |
| Unit labour costs in the construction sector | -3.00 | -16,41 | 4,39 |
| Unit labour costs in market services | 1.20 | 3,87 | -1,31 |
| Business environment | | | |
| The time required for the execution of contracts (1) (days) | 547 | 685 | 512 |
| The time required to start a business (1) (days) | 2.5 | 30,0 | 8,5 |
| The result of bank loan applications of SMEs (2) | 0.68 | 0,75 | 0,94 |
| Research and innovation | | | |
| Expenditure intensity in R&D | 1.29 | 0,94 | 0,38 |
| Total public expenditure on education as % of GDP, for all levels of education combined | N/A | N/A | N/A |
| The number of people employed in science and technology as % of total employment | 33 | 41 | 24 |
| Population who completed tertiary education (3) | 20 | 24 | 14 |
| Young people who reached the upper cycle of secondary education (4) | 72 | 90 | 80 |
| The trade balance of high tech products as % of GDP | -1.60 | -1,50 | -1,65 |
| Markets for products and services and competition | PT 2013 | PL 2013 | RO 2013 |
| Product market regulation (OECD)(5), generally | 1.29 | 1,65 | 1,69 |
| Product market regulation (OECD)(5), retail | 1.83 | 2,55 | 1,80 |
| Product market regulation (OECD)(5), professional services | 2.92 | 3,24 | N/A |
| Product market regulation (OECD)(5), network industries(6) | 2.18 | 2,34 | 1,97 |

Source: European Commission; World Bank, „Doing Business“ (for the execution of contracts and the time required to start a business); OECD (for indicators on product market regulations); SAFE (for the outcome of SMEs' applications for bank loans).

ⁱⁱ [(1) Methodologies, including assumptions, for this indicator are presented in detail at this address: <http://www.doingbusiness.org/methodology>. (2) On average, the answer to question Q7B_a. „ [Bank loan]: If you applied for or tried to negotiate this type of funding in the last six months, what was the result?“ The answers were coded as follows: zero if all was received, one if the most part was received, two if only a limited amount was received, three if the application was denied or rejected and treated as missing values if the application is still pending or not known. (3) Percentage of population aged 15 to 64 years who completed their tertiary education. (4) Percentage of population aged 20 to 24 years who reached at least upper secondary education. (5) Index: 0 = not regulated; 6 = most regulated. Methodologies within OECD indicators on product markets regulations are detailed at:

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<http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

(6) OECD aggregated indicators on regulations in energy, transport and communication sectors.]

<http://www.oecd.org/competition/reform/indicatorsofproductmarketregulationhomepage.htm>

(6) OECD aggregated indicators on regulations in energy, transport and communication sectors.]

"The shortcomings of the governance structure and weak business environment in Romania create a climate of insecurity, hamper competitiveness and represent obstacles to investment. Romania made progress in several areas of interaction between businesses and public administration. Despite this progress, the burden of government regulation and legal uncertainty still affects competitiveness. Romania's business environment is negatively affected by the lack of a rescue culture in case of companies' insolvency.

The insufficient investment in research and development (R & D), the weak business environment and the limited number of highly qualified workers are among the factors contributing to the low share of exports of high technology products.

Romania lags far behind other EU countries in terms of resources invested in research and development. The insufficient funding and fragmented institutional framework affect the public policy on innovation and R&D. The basic transport infrastructure, which is underdeveloped, an unfavourable business environment, unstable regulatory framework, inefficient public administration and a shortage of highly qualified workers play a significant role in this context.

Table 5 The Green Growth

| Green growth performance | | PT 2014 | PL 2014 | RO 2014 |
|---|------------------------|---------|---------|---------|
| Energy intensity | kgep / EURO | - | - | - |
| CO2 emissions intensity | kg / EURO | - | - | - |
| Resource consumption intensity (peer to resource productivity) | kg / EURO | 0.96 | 1,92 | 4,25 |
| Waste intensity | kg / EURO | - | - | - |
| Trade balance in energy sector | % of GDP | -3.5 | -2,6 | -1,4 |
| The share of energy in HICP | % | 7.86 | 14,93 | 12,21 |
| The difference between the variation in energy prices and inflation | % | 1.7 | -0,1 | 0,1 |
| Real unit cost of energy | % of value added ratio | - | - | - |
| The ration of tax on labour revenue and environmental changes | % of GDP | 6.4 | 5,1 | 4,5 |
| Environmental taxes | | 2.3 | 2,5 | 2,4 |

| | | | | |
|---|------------------|------|------|------|
| Sectorial | kgep / EURO | | | |
| Energy intensity in industry | % of value added | - | - | - |
| Real unit cost of energy for the processing industry | % of GDP | - | - | - |
| The share of energy-intensive industries in the economy | EURO / kWh | - | - | - |
| Electricity prices for medium industrial users | EURO / kWh | 0,12 | 0,08 | 0,08 |
| Gas prices for medium industrial users | % of GDP | 0,04 | 0,04 | 0,03 |
| Public spending on R&D for energy | % of GDP | 0,02 | 0,01 | 0,02 |
| Public spending on R&D for the environment | % | 0,04 | 0,02 | 0,01 |
| Municipal waste recycling rate | % | - | - | - |
| The share of greenhouse effect gas emissions falling under ETS* | kgep / EURO | 37,9 | 50,8 | 38,7 |
| Energy intensity in transport | | - | - | - |
| CO2 emission intensity in the transport sector | | - | - | - |

Source: European Commission (Eurostat)

Since Romania is still confronting with a low absorption rate of EU funds, a business environment still in development, the need to intervene in the public investment and research – development sectors, the measures and interventions to mitigate the effects of these deficiencies are still a priority in the next programming period.

During the 2014-2020 programming period the funds granted by operational programs approved in Romania (OPLI, ROP, COP, HCOP, ACOP, TAOP) will support the revival of investments, continuation of reforms and economic stability by adopting responsible fiscal policies as follows:

- Operational Program for Large Infrastructure (OPLI) will mainly fund: the mobility improvement through the development of the TEN-T network, environmental infrastructure development under effective management conditions of resources and energy efficiency,
- Regional Operational Program (ROP) will fund: the technology transfer promotion, sustainable development of cultural heritage, tourism, health, social and educational infrastructure development,
- Competitiveness Operational Program (COP) will fund: investing in C&I, economic competitiveness, business development, ICT technology,
- Human Capital Operational Program (HCOP) will fund: the initiative "Jobs for Youth", improvement of the situation of young people under NEET, social inclusion and combating poverty, local development, education and skills,
- Administrative Capacity Operational Program (ACOP) shall fund: efficient, accessible and transparent initiatives for public administration and judicial system,
- Technical Assistance Operational Program (TAOP) will fund initiatives to: "strengthen the capacity of beneficiaries to prepare and implement projects financed by FESI and disseminating

information regarding these funds, support in coordination, management and control of FESI, increase efficiency of human resources involved in the coordination, management and control system of FESI in Romania."

CONCLUSION

This material comparatively presented the influence of forgivable funds allocated during the 2007-2014 programming period on key sectors, how they influenced the public institutions and society in general. In Romania, through the 2007-2013 programming period, there have been seven operational programs: Technical Assistance, Administrative Capacity Development, Transport, Environment, Human Resources Development, Economic Competitiveness Improvement, and Regional Operational Program [1,2,3]. It also presented the new trends and opportunities for the next 2014-2021 programming period. The analysis on the effect records, as a result of financial funds allocated in the main sectors of activity, shows that:

- Romania enjoyed an economic growth in the last 3 years. This was due to export growth, import growth, domestic consumption growth, increased wages, reduced inflation, increased investment achievement rates,
- unemployment rate fell and the employment rate increased
- it was tried a stabilization of public finances so that Romania has achieved its target of a deficit of 1% of GDP
- there has been limited progress in the area of tax compliance, equalizing the retirement age between men and women, reducing the phenomenon of early school leaving,
- there has been progress in terms of increasing the quality of education, in the field of greenhouse effect, gas emissions, energy efficiency in the social field by reducing the number of people at risk of poverty or social exclusion,
- there has been limited progress as regards the public administration, legislation, but the absorption rate of EU funds remains low,
- rural areas still face a low rate of employment, poverty, social exclusion, active aging, and health.

To improve the actual situation through financial support from the EU budget through European structural and investment funds, Romania, as an EU member state, can benefit from a grant of up to 3 billion EURO during the 2014-2020 programming period.

The granted funds focus on priorities identified in accordance with specific recommendations and are allocated as follows:

- ERDF – 34,8%,
- EAFRD – 26,4%,

- CF – 22,5%,
- ESF – 15,5%,
- EMFF - 0,5%
- YEI - 0,3%

and they will respond to the following fields: Environment Protection & Resource Efficiency, Low-Carbon Economy, Social Inclusion, Competitiveness of SMEs, Sustainable & Quality Employment, Educational & Vocational Training, Climate Change Adaptation & Risk Prevention, Research & Innovation, Technical Assistance, Efficient Public Administration, Information & Communication Technologies, Network Infrastructures in Transport and Energy.

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THE VERSATILITY OF THE SUSTAINABLE DEVELOPMENT: A CONTINUING CHALLENGE

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ABSTRACT

Sustainable development remains a topic of global concern. No matter the field - economic, social or environment - the sustainable development concept and issues represent the core of the European Commission preoccupations. Romanian Government is always concerned about the best way to implement the European policy so that market and society on one hand and all individuals on the other hand benefit of extra funds for build a more sustainable economy, a better society.

In this paper it will be highlighted progress recorded by each activity sector compared to the absorption degree of the funds as well as the main factors that can lead to imbalances maintenance during the next programming period (2014-2020).

Due to socio-economic context that has affected the entire Europe during the 2010-2012 periods, Romania has not been the only Member State failing to fulfil its entire assumed targets. The causes are multiple and systemically complex. Therefore the EU considered necessary and appropriate to initiate immediate and corrective measures, adapted to the individual needs of each Member State. The Europe 2020 strategy is the framework document governing priorities and corrective actions per activity sectors for the next 10 years.

Keywords: *Sustainable development, absorption rate, sectors, progress, European funds*

INTRODUCING THE SUSTAINABLE DEVELOPMENT, EUROPEAN UNION POLITICAL CONCERNS AND ECONOMIC TARGETS

Sustainable development remains a topic of global concern. No matter the field - economic, social or environment - the sustainable development concept and issues represent the core of the European Commission preoccupations.

From this perspective, the development is perceived and analysed as an aggregate demand to implement environmental protection, pollution prevention, and society changes improvement. Romania's intention is to benefit of a higher ratio of allotted funds through the operational programs. Unfortunately the real situation is not as optimistic as the intentions. According to Country Report for

2016 that was including an *In-Depth Review on the prevention and correction of macroeconomic imbalances on the achieved indicators due to the use of allocated funds in the 2007-2014 programming period*, Romania has made some progresses in most sectors; however, the risk of maintaining medium term imbalances still persist.

Sustainable development can be seen as an overall goal of EU member countries, which can be achieved through international cooperation that aims at economic growth, social development and environmental protection. These targets have been assumed by all EU member states in proportion to the degree of development of each country.

Regarding the economic situation, Romania has recorded economic growth in the last 3 years, being one of the highest in the EU and it is estimated that this will continue in 2016 and 2017 as well. The increase was due, to strong exports due to massive industrial production on the one hand, and to domestic demand who gradually recovered on the other hand. GDP increased by 3.6% in 2015 due to increased consumption and investment recovery. In 2016, it is estimated that GDP will be 4.2% due to tax cuts and wage increases.

Private consumption grew by 4.8% in 2015, due to increased revenues and to value added tax reduction (VAT), which led to a sharp increase in imports. Investments increased in 2015 by 6.5% from the level in 2013.

Inflation has gradually declined in recent years, reaching a negative value of minus 1.7% at the end of 2015.

The labour market started to recover in recent years. In this regard, unemployment rate remained stable hovering at 6.7% in 2015 and it is estimated that it will reach 6.5% in 2017. Employment has experienced significant growth in ICT and professional, scientific and technical sector and in the industry and the construction sector. Youth unemployment has dropped to 22%. Nevertheless, the integration of young people not attending any training program (NEET), of long-term unemployed, older workers, Roma, persons with disabilities on the labour market remains a challenge. Key measures in order to ensure internships, professional development, certification of skills, are part of the employment strategy and of the national strategy for competitiveness to be largely financed by EU funds.

In terms of education, Romania is still confronted with the phenomenon of school dropout, especially in rural areas among vulnerable groups such as Roma and students from poor families. In addition, the rate of persons at risk of poverty or social exclusion in 2014 was one of the highest in the EU (40%).

Sustainable development aims distinctly the R&D sector, this area being insufficiently exploited in Romania. In this regard, expenditure in R & D and innovation has been reduced and experienced a reduced efficiency reaching a value of 0.38% of GDP in 2014. Europe 2020 strategy's objective is that

expenditure on R & D and innovation to reach 2% of GDP. EU structural funds accounted for 20% of public expenditure on R & D. Company's investment in R&D are developing; the share of company's expenditure on R & D was 0.16% of GDP in 2014. The low rate of attracting of investment in R & D and innovation affects the cooperation between the public and private sector on innovation research.

Information and communication technology sector (ICT) has made progress in recent years. ICT sector's share in GDP of 6% ranks Romania on the 4th place among the Member States and on the first place in the EU in relation to the use of ultrafast broadband access.

Europe 2020 strategy places the focus on the innovation research sector (I&R) as this sector plays an essential role in stimulating economic growth, in creating smart and sustainable jobs by acquiring new knowledge, in developing innovative and more environmentally friendly new products, in providing competitive and efficient services. Analysing the degree of exploitation of this sector, it was concluded that each Member State might face some obstacles that may impede full achievement of performance indicators proposed. Therefore, it is essential, on the one hand, to identify obstacles that impede R & D's full contribution to a sustainable, smart and inclusion friendly development, and on the other hand, to assess the adequacy of the policy response to the challenges identified.

Sustainable development mandatory aims the environmental sector. If during 2005-2014 emissions of greenhouse effect gas decreased by 9%, the Europe 2020 Strategy proposed a target of 4% for 2020. Regarding renewable energy, the target for 2020 is 24%. With a 24.9% share of energy from renewable sources in 2014, Romania has already reached its target for 2020. Regarding the share of energy from renewable sources in all means of transport, the goal is 10%. In 2014, the share of renewable energy in transport was 3.8%. In terms of energy efficiency, i.e. reducing the energy consumption, Romania's energy efficiency goal for 2020 is of 43 Mtep, expressed in primary energy consumption (30.3 Mtep expressed in final energy consumption).

Romania is heading towards the target set for 2020 in terms of energy efficiency. This is because the goal has allowed a substantial increase in energy consumption that exceeded both the previous and the current level.

CONCLUSION

According to "Romania's country report for 2016, including an in-depth review on the prevention and correction of macroeconomic imbalances on" EU's budget contribution to structural changes, Romania is a major beneficiary of structural funds and European investment funds (EIF) and may receive up to 31 billion euros over the period 2014-2020. This is equivalent to 2.6% of GDP per year and 53% of national public investments planned in the areas supported by EIF funds." There have been taken measures to accomplish the reforms proposed to ensure investments' success. However, reforms in

sectors like law, healthcare investments, railway transport, waste management and environment sector, employment, social inclusion, educations and public administration could not be accomplished.

Fund programming was distributed as a result of analysing priorities and challenges identified in recent years and transposed also in each country's recommendations. These recommendations are relevant for EIF's funds, including those on: strengthening labour market including specific measures for Roma integration in the labour market, reducing school dropout to increase school enrolment, increasing energy efficiency i.e. to reduce energy consumption, strengthening transport sector, providing an efficient and comprehensive management and control of EU funds.

Romania will also receive other EU funds to fulfil country-specific recommendations, i.e. funding granted by European Fund for Strategic Investment (EFSI) program, Horizon 2020 program and the Connecting Europe Facility. Following the first rounds of projects' applications under the Connecting Europe Facility, Romania has signed agreements worth 715 million euros for transportation projects.

At the same time, Romania shall benefit of support for unemployed young people of 106 million euros from the "Jobs for Youth" initiative for undertaking measures for young people who are unemployed, and who are not attending any education or training program (NEET).

On the Europe 2020 Strategy's objectives and progress made in addressing relevant structural reforms (especially in health, rail transport, research, development and innovation (RDI), employment, education and social inclusion) shall be ensured a regular monitoring of the degree of objectives' achievement, of progress made in order to capitalize EU funds at maximum.

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BUSINESS PROCESS MANAGEMENT IN THE PUBLIC SECTOR: EXPLORED AND FUTURE RESEARCH FIELDS

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ABSTRACT

The main aims of this paper are to identify trends and main issues of research conducted on Business Process Management (BPM) in the public sector, and, to recognize the common insights of the research development on BPM in this area. Business Process Management is an approach dedicated to process-centric organizations and focused on analyzing, improving and controlling processes, with the objective of integrating people, processes, and technology. Although BPM is frequently applied and verified in the private sector, it is still uncommon in the public sector.

Public administration institutions of today need to enhance effectiveness and to raise customer satisfaction. They are therefore turning to methods and techniques that have been used in the management of profit-based organizations. Effective process management not only reduces costs, but also translates into high quality of services provided to citizens, and the efficient use of resources, including information and communication systems supporting government operations.

To assess the scope of practical application of BPM in the public sector we conducted the first (to the best of our knowledge) literature review in this area. Findings of our research confirms that the use of BPM in the public sector is undergoing a similar evolution that has taken place in the private sector. Improving internal structures and processes of public institutions have become dominant issues in the discussion of BPM. However, we recognized the growing importance of BPM use in the implementation of t-Government, which is focussed on a technology-driven change of business process with the main aim of delivering innovating services for citizens and radical organizational changes.

Keywords: *Business Process Management, Business Process Reengineering, Public Sector, Public Administration, t-Government, Literature Review*

INTRODUCTION

Process approach and related management concepts such as Business Process Management (BPM) or Business Process Reengineering (BPR) have become dominant topics in management literature in the last twenty-five years. The creation of the process-oriented organization intensively raised in the early '90s with radical and fundamental reengineering of the organization's processes and technologies, and as a result of the evolution of process approach, BPR is considered as phase in the development of the BPM. Business Process Management focuses on analyzing, improving and controlling processes (Elzinga et al., 1995), emphasizes the transition from functional to process oriented organizational structures (Hammer and Champy, 1993), underlines the link between process and team-oriented structures and other management systems (DeToro and McCabe, 1997), and, involves employees, customers, and partners within and beyond enterprise boundaries (Swenson and von Rosing, 2015).

Research on methodologies, techniques and tools of BPR and BPM received much attention predominantly from the private sector. Little has been written about the use of these concepts in the public sector, although the requirement to continually improve performance and enhance effectiveness is imposed on public administration policies. Today's public administration institutions are seeking solutions that have thus far been used in the management of profit-based organizations. New public management requires public administration to use management methods and techniques typical of business, and introduces performance and effectiveness indicators as the public sector evaluation criteria (Kickert, 1997; Krukowski 2011). Improving performance for public administrations can be designed, modelled and measured with the help of BPM. Effective process management translates into a high quality of services provided to citizens, efficient use of human and other resources capacity, including existing IT systems supporting management. For these reasons, the literature mentions the BPM not only as a concept for reducing costs and improving the overall efficiency of public sector institutions, but also in the context of the digitization of this sector and the introduction of e-Government or t-Government (Weerakkody and Dhillon, 2008; Weerakkody et al., 2011; Janssen and Estevez, 2013).

Research on BPM is still uncommon in the public sector and has a limited degree of practical application. Thus it is perhaps unsurprising that we were unable to find literature reviews on BPR or BPM dedicated to research in this area. According to Fink (2014) a research literature review is a systematic, explicit and reproducible method for identifying, evaluating, and synthesizing the existing state of research works results. There are two main aims of literature reviews, first mapping, consolidating and evaluating research results in a certain field and second to identify knowledge gaps in an analysed knowledge domain. Thus, a literature review, allows both an evaluation of the current state of knowledge and the verification of trends, uncovering of gaps and opportunities for future

research (Webster and Watson, 2002, Schwarz et al., 2007). A literature review can also provide collective insights into the analyzed knowledge field through theoretical synthesis (Tranfield et al., 2003).

In this paper we acknowledged the gap in research and choose to develop a preliminary literature review on BPM (including BPR) in the public sector. The research questions we plan to address relating to this sector, are:

RQ1: What trends can be identified within BPM in the public sector?

RQ2: What are the main issues of the research conducted on BPM in the public sector?

RQ3: What are the common insights of research development on BPM in the public sector?

The paper has been structured as follows: the background provides the theoretical foundation, explains the evolution of Business Process Management, the need of managerial approach and development usage of ICT in the public sector. Afterwards, we describe the methodology of the research and analysis framework. In the next section, we summarize and discuss the findings. In the final part the limitations of the study and plans for future research are presented

BACKGROUND

The common ground for Business Process Reengineering and Business Process Management is a comprehensive, holistic, process-based management approach in an organization that uses information technology, and aligns with the needs and requirements of customers through the processes organizational objectives (Elzinga et al., 1995; Zairi and Sinclair, 1995; DeToro and McCabe, 1997; Smith and Fingar, 2003). BPR initiate a radical change in the entire organization or its processes, and is a methodical approach to radically overhaul and redesign a process, and to achieve business goals (Hammer and Champy, 1993). BPM has evolved from a scientific approach to one of management and BPR ideas (Smith and Fingar, 2003). BPM is a successor of BPR, focusing on a management-style “dedicated to a process-centric, customer-focused organization with goals of integrating management, people, process, and technology for both operational and strategic activities” (Antonucci and Goeke, 2011). Process-based management concepts are usually equated with the development of enterprises, but a number of private sector “countermeasures” such as BPR and BPM have also been applied in the public sector over the years (Macintosh, 2003).

Since the early 90's the public sector has been faced with new challenges and expectations. Increasing consumer demands, IT development, growing competitiveness of economies, which requires the effective and efficient operation of the state, and support for entrepreneurship are change drivers of public sector (Becker et al., 2006). The implementation of business practices is perceived by public administration as an opportunity to adapt to changing **patterns** and **economic tendencies**. Nutt and

Backoff (1993) argue that the public sector has obscure goals and operates based on the control of authority and management, while the private sector's goals are clear and based on market forces. Moreover, public organizations are tied to different kinds of regulatory connections (policies or legislation), budgetary rules, and represent "the culture of bureaucracy". Although there are differences, the field experiences from the implementation of BPM in the private sector could be perceived as a frame of reference for management changes in the public sector (Saxena, 1996, Halachmi and Bovaird, 1997; Rainey and Bozeman, 2000).

The common reform movement in the public sector has observed in recent years a focus on minimising administrative borders for citizens, increasing customer-centricity, reducing the cost of public administration, and improving efficiency and effectiveness (Weerakkody and Dhillon, 2008; Weerakkody et al., 2011). In order to achieve these objectives, examples of the most commonly implemented practices, models, and tools can point out: process modelling, improvements and standardization, the delivering of services online, open data, and general use of information and communication technologies (ICT). From the three main waves identified by Janssen and Estevez (2013) in the evolution of the usage ICT in the public sector: e-Government, t-Government, and l-Government, the second is strictly correlated to the processes of an organization. E-Government focused on providing online services and was often discussed solely from the technological perspective, ignoring the need for structural change (Nam, 2014). L-Government, with the leading slogan "doing more with less", is focused on reducing government complexity using the network of citizens (Janssen and Estevez, 2013). Transformational Government is the result of the evolution of e-Government and is defined as "ICT-enabled and organization-led transformation of government operations, internal and external processes and structures to enable the realization of citizen-centric services that are cost effective and efficient" (Weerakkody et al., 2011). Process reengineering in management is therefore an essential and integral part of t-Government implementation in the public sector. This is the leading reason why in the review of the literature on BPM in the public sector we took into account the relationship between BPR, BPM and e- and t-Government. Based on the literature, we conclude that there are two main fields of application of BPM in the public sector: the internal structures and processes of government institutions, and, the processes of service delivery to citizens and the interaction with them.

METHODOLOGY USED IN THE STUDY

Literature retrieval process

In the literature retrieval process we conducted a search of papers for our sample using the electronically accessible scientific databases which included: ACM Digital Library, EbscoHost, Google

Scholar, Emerald, IEEE *Xplore* Digital Library, ProQuest, ScienceDirect, and Web of Science. We used multiple combinations of the following search term: ("Business Process Management" or "Business Process Reengineering" or "Process Management" or "BPR" or "BPM"), AND, ("Public Sector" or "Public Administration" or "e-Government" or "t-Government"). Indicated terms and/or acronyms should appear in the title, and/or abstract, and/or keywords of the paper. We searched only journal peer-reviewed articles. This method of formulating selection criteria was adopted from Roztocki and Weistroffer (2015). As a result, we collected a sample of 32 papers from our literature retrieval process.

Literature classification process

We classified articles according to three perspectives: meta-perspective, content-based perspective, and methodical perspective. This approach has been adapted from Houy et al. (2010), and Roeser and Kern (2015). Within the meta-perspective we analyzed the year of publication to observe trends in the evolution of the examined BPM-related concepts. We assigned any article containing the keywords "process management" to the group of articles on BPR or BPM, depending on its content. The meta-perspective also includes review of the names of journals in order to observe their main focus. The content-based perspective includes an analysis of the research issues in the examined papers and has been carried out to identify the main focus of the research conducted on BPM in the public sector. The methodical perspective contains research methods used in the papers, countries and units of the public sector where the research was conducted. The characteristics of the collected papers will allow for systematic analysis and classification in order to answer the research questions.

ANALYSIS AND FINDINGS

Findings from the meta-perspective

The meta-perspective includes descriptive aspects concerning research on Business Process Management in the public sector. An overview of the 32 papers collected in our sample are classified according to the year of publication and presented in Table1. The complete list of 32 papers with references is available from the authors upon request.

| Year | Number of publications | Papers on BPM in public sector |
|------|------------------------|--|
| 1996 | 1 | Saxena (1996) |
| 1997 | 1 | Halachmi and Bovaird (1997) |
| 1999 | 1 | McAdam and Donaghy (1999) |
| 2000 | 1 | Thong et al. (2000) |
| 2002 | 1 | Gulledge and Sommer (2002) |
| 2003 | 2 | MacInstosh (2003); Papavassiliou et al. (2003) |
| 2004 | 1 | Ongaro (2004) |
| 2006 | 1 | Proctor and Grey (2006) |
| 2007 | 3 | Hesson and Al-Ameed (2007); Stemberger and Jaklic (2007); Stemberger et al. (2007) |
| 2008 | 2 | Sentanin et al. (2008); Weerakkody and Dhillon (2008) |
| 2009 | 1 | Helfert (2009) |
| 2010 | 2 | Niehaves (2010); Vuksic et al. (2010) |
| 2011 | 1 | Weerakkody et al. (2011) |
| 2012 | 4 | Candiello et al. (2012); Kassahun and Molla (2012); Ruzevicius et al. (2012); Sundberg (2012) |
| 2013 | 5 | Akkoyun and Erkan (2013); Niehaves et al. (2013); Polak (2013); Salkic and Bosnjovic (2013); Ziemba and Oblak (2013) |
| 2014 | 3 | de Waal and Batenburg (2014); Kamukama (2014); van Beest et al. (2014) |
| 2015 | 2 | Corradoni et al. (2015); Rinaldi et al. (2015) |

Table 1. Year classification of BPM in public sector related publications

Publications on BPR in the public sector began in 1996, three years later than the beginnings of the reengineering revolution launched by Hammer and Champy (1993). Taking into account the keywords from literature retrieval process and publication years we have can clearly see the evolution of the concept of BPM (Figure 1).

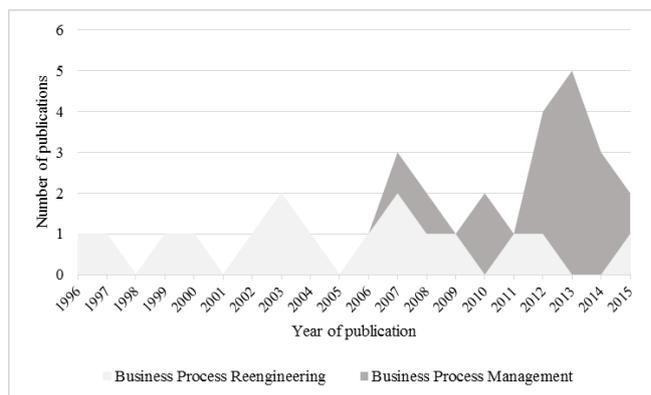


Figure 1. Number of published papers on BPR and BPM in public sector per year (from the sample)

We emphasize that BPR is treated as an initial development phase of BPM, its most radical. The first paper about BPR in public sector was published in 1996 (Saxena, 1996), and with the term BPM in 2007 (Stemberger et al., 2007).

Table 2 contains the classification of the journals where the papers from our sample were published. We checked indexing of journals to have an objective assessment of the quality of the publications

(Elsevier Science, 2016; Thomson Reuters, 2016).

| Indexed | Number of journals | Number of publications | Journal name (Number of publications in the journal) |
|----------------|--------------------|------------------------|--|
| Web of Science | 7 | 18 | Business Process Management Journal (11), Government Information Quarterly (2), EuroMed Journal of Business (1), Information Systems (1), International Journal of Operations & Production Management (1), Long Range Planning (1), Technovation (1) |
| Scopus | 12 | 24 | Business Process Management Journal (11), Government Information Quarterly (2), Interdisciplinary Journal of Information, Knowledge, and Management (2), EuroMed Journal of Business (1), Information Systems (1), International Journal of Electronic Government Research (1), International Journal of Information Management (1), International Journal of Operations & Production Management (1), Journal of Management Information Systems (1), Knowledge and Process Management (1), Technovation (1), Transforming Government: People, Process and Policy (1) |
| Non indexed | 7 | 7 | Business Systems Research (1), Current Issues of Business and Law (1), Procedia - Social and Behavioral Sciences (1), The International Journal of Public Sector Management (1), Uporabna Informatika (1), World Journal of Entrepreneurship, Management and Sustainable Development (1), Zarządzanie i Finanse (1) |

Table 2. *Journal classification of BPM in public sector related publications*

Findings from a content-based perspective

By summarizing papers according to their content, particularly the research aim and conclusions, we recognized six main research issues undertaken in the analyzed sample. They are presented in Table 3 with reference to the relevant papers.

The vast majority of reviewed papers concern the issues of process modelling and frameworks for BPM implementation. Furthermore, the articles present the role and results of BPM usage for increasing the efficiency of public organizations. The critical success factors of BPM implementation are also widely discussed.

Subsequently, in examining of the content-based perspective we have analyzed the focus of research on BPM in the public sector and the contribution of research in our sample. The research focus is divided into two main topics related to the objectives of BPM implementation in the public sector. The first research focus is the use of BPM to improve the efficiency effectiveness of operations inside an organization and to reengineer internal structures and processes. This approach advocates a comprehensive, market-oriented system of public administration transformation towards a cost-effective organization. The second involves the use of BPM to improve internal and external processes and structures to enable the realization of citizen-centric services that are cost effective and efficient as a result of increased consumer satisfaction.

| Research issues | Number of papers | Papers |
|--|------------------|--|
| Business Process Modelling | 8 | Corradoni et al. (2015); Gulledge and Sommer (2002); Kamukama (2014); MacIntosh (2003); Niehaves (2010); Papavassiliou et al. (2003); Sundberg (2012); van Beest et al. (2014) |
| Framework for BPM implementation | 7 | Helfert (2009); Kassahun and Molla (2012); Niehaves et al. (2013); Saxena (1996); Sentanin et al. (2008); Stemberger and Jaklic (2007); Stemberger et al. (2007) |
| Increasing the efficiency of an organization | 6 | Akkoyun and Erkan (2013); Hesson and Al-Ameed (2007); Ongaro (2004); Proctor and Grey (2006); Rinaldi et al. (2015); Salkic and Bosnjovic (2013) |
| Critical Success Factors of BPM implementation | 5 | Halachmi and Bovaird (1997); McAdam and Donaghy (1999); Ruzevicius et al. (2012); Thong et al. (2000); Vuksic et al. (2010) |
| BPM in IT systems implementation | 3 | de Waal and Batenburg (2014); Polak (2013); Ziemba and Oblak (2013) |
| Applying BPM to implement e-Government or t-Government | 3 | Candiello et al. (2012); Weerakkody and Dhillon (2008); Weerakkody et al. (2011) |

Table 3. *Key research issues classification of BPM in public sector related publications*

Table 4. presents the results of the analysis which, of the two main research focuses of BPM implementations, is more frequent in the papers from our sample.

| Research focus | Number of papers | Papers |
|--|------------------|---|
| Use of BPM to introduce a comprehensive, market-oriented system of public administration transformation towards a cost-effective organization | 28 | Akkoyun and Erkan (2013); de Waal and Batenburg (2014); Gulledge and Sommer (2002); Halachmi and Bovaird (1997); Helfert (2009); Kamukama (2014); Kassahun and Molla (2012); MacIntosh (2003); McAdam and Donaghy (1999); Niehaves (2010); Niehaves et al. (2013); Ongaro (2004); Papavassiliou et al. (2003); Polak (2013); Proctor and Grey (2006); Rinaldi et al. (2015); Ruzevicius et al. (2012); Salkic and Bosnjovic (2013); Saxena (1996); Sentanin et al. (2008); Stemberger and Jaklic (2007); Stemberger et al. (2007); Sundberg (2012); Thong et al. (2000); Vuksic et al. (2010); Weerakkody and Dhillon (2008); Weerakkody et al. (2011); Ziemba and Oblak (2013) |
| Use of BPM to enable the realization of citizen-centric services that are cost effective and efficient as a result increase the satisfaction of citizens | 14 | Candiello et al. (2012); Corradoni et al. (2015); Hesson and Al-Ameed (2007); Kassahun and Molla (2012); MacIntosh (2003); Ongaro (2004); Papavassiliou et al. (2003); Polak (2013); Rinaldi et al. (2015); Stemberger and Jaklic (2007); Stemberger et al. (2007); van Beest et al. (2014); Weerakkody and Dhillon (2008); Weerakkody et al. (2011) |

Table 4. *Research focus on BPM in public sector related publications*

As can be seen in Table 4, the vast majority of research in the field of BPM in the public sector, covers the issue of reducing costs and improving the overall efficiency of public sector institutions (28 from 32 papers in the sample). We recognized in 14 of 32 investigated papers that the primary reason in using BPM was to deliver cost effective and efficient services to the public. This is more related to the later advent of the e-Government and t-Government concepts than the process-related concepts in the public sector. From another perspective, it is worth mentioning that a *decisive majority* of the articles concern

organizational aspects of BPM implementation (81%). Only 19% of reviewed papers describe issues related to information technology in the public sector.

Findings from methodical perspective

The papers review from the methodical perspective focused on the identification methods used by the researchers. The use of this perspective also allow researchers to indicate whether they concentrate on theoretical or empirical aspects of implementation of BPM in the public sector.

| Authors | Methods and unit of public sector | Country |
|-------------------------------|--|-------------------------------|
| Akkoyun and Erkan (2013) | Case study in the Turkish Social Security Institution | Turkey |
| Candiello et al. (2012) | Case study in the regional e-Government | Italy |
| Corradoni et al. (2015) | Case studies of e-government public services | Italy |
| de Waal and Batenburg (2014) | Multimethod approach in social insurance organization | Netherlands |
| Gulledge and Sommer (2002) | Case studies from US government | United States |
| Halachmi and Bovaird (1997) | Examples from the public sector in the UK | United Kingdom |
| Helfert (2009) | Case study from Irish healthcare sector | Ireland |
| Hesson and Al-Ameed (2007) | Case study from public sector organization | United Arab Emirates |
| Kamukama (2014) | Survey in government institutions and service providers | Uganda |
| Kassahun and Molla (2012) | Multimethod approach in public sector organizations | Ethiopia |
| MacIntosh (2003) | Case studies on three BPR projects from UK | United Kingdom |
| McAdam and Donaghy (1999) | Survey in public sector organization | United Kingdom |
| Niehaves (2010) | Multimethod approach in public sector organizations | Germany |
| Niehaves et al. (2013) | Multimethod approach in German large federal states | Germany |
| Ongaro (2004) | Case study in the public sector in Italy | Italy |
| Papavassiliou et al. (2003) | Case study in the Greek Social Security | Greece |
| Polak (2013) | Examples from the public sector in Poland | Poland |
| Proctor and Grey (2006) | Multimethod approach in the local government | United Kingdom |
| Rinaldi et al. (2015) | Case study of the municipality | Italy |
| Ruzevicius et al. (2012) | Survey in public sector organizations | Lithuania |
| Salkic and Bosnjovic (2013) | Survey in public administration institutions | Bosnia and Herzegovina |
| Saxena (1996) | Case studies from public administration institutions | India |
| Sentanin et al. (2008) | Case study of Brazilian public reserach centre | Brazilia |
| Stemberger and Jaklic (2007) | Case study of Slovene ministry | Slovenia |
| Stemberger et al. (2007) | Case study of Slovene ministry | Slovenia |
| Sundberg (2012) | Multimethod, in municipalities and governmental agencies | Sweden |
| Thong et al. (2000) | Case study of public institution in Singapore | Singapore |
| van Beest et al. (2014) | Case study of Dutch e-Government | Netherlands |
| Vuksic et al. (2010) | Case studies from Public Institutes | Croatia, Slovenia |
| Weerakkody and Dhillon (2008) | Case studies of public institution in the UK and municipality in Netherlands | United Kingdom Netherlands |
| Weerakkody et al. (2011) | Case study in the Turkish Social Security Institution | Turkey |
| Ziamba and Oblak (2013) | Case study in the government agency | Poland |

Table 5. *Major research methods and country of investigations used in BPM in public sector related publications*

The research methodology in the sample of papers was based on a descriptive and/or a normative approach. A case study is a most frequent research method used in the sample of analyzed papers (62%). This method generally attempts to catch and present the reality of a particular phenomena at a point in time. The multimethod (i.e., a survey and case study, or surveys and interviews) for the analysis of a public sector in the context of BPM was used in six articles. The survey was applied by the authors of four papers. The multimethod was used in the papers which focused mainly on IT systems, frameworks for BPM implementation and Business Process Modelling. The surveys were based on structured or semi-structured questionnaires and were conducted within public administration staff in the context of culture, best practices and an organization's maturity in this sector.

The sample includes studies conducted in 21 countries including developed (56%), developing (24%) and transition countries (21%). The results of the analysis indicate that the most intense work on the BPM in the public sector was conducted in the developed countries: United Kingdom and Italy. The development of the public sector in the context of BPM implementation in the United Kingdom is broadly discussed in the sample of papers.

DISCUSSION AND CONCLUSIONS

This paper is the first systematic literature review on Business Process Management in the public sector. The findings indicate a number of significant contributions to the body of knowledge on this topic. The study shows that the development of research BPM in the public sector is following the same evolution from the BPR-like process-oriented concept implemented in the private sector. The delay in noticing the possibility of utilizing BPM in the public sector was several years in comparison with the private sector: radical BPR started in the early '90s (Davenport and Short, 1990; Hammer and Champy, 1993), the first article with the term "BPM" we noticed in 1995 (Elzinga et al., 1995), the first paper about BPR in the public sector was published in 1996 (Saxena, 1996), and another with the term BPM in 2007 (Stemberger et al., 2007). Over the years, we have observed an increasing number of publications on this research subject, most commonly in the years 2012-13, although this conclusion weakens the small study sample. Based on the analysis of the journal list, we conclude that 11 papers were published in the *Business Process Management Journal* - the most recognized journal in the business process-oriented field. Only four journals of 20 overall focused on research in the public sector, i.e. "*Government Information Quarterly*", "*International Journal of Electronic Government Research*", "*The International Journal of Public Sector Management*", and "*Transforming Government: People, Process and Policy*". Thirteen of 20 journals are high indexed in Web of Science and also in Scopus, which may suggest an elevated quality not only reserved for those publications, but also high ranking issues concerning management in the public sector.

The dominant area of interest in the public sector, owing to the results of the analysis of the content of the reviewed articles, is the business processes modelling. This may suggest that the majority of organizations from the public sector are still in the initial phase of their Business Process Management Life Cycle. On this stage of BPM implementation, organizations are focused on process design, including models used for a better understanding of the organization's operational processes and capabilities (Van der Aalst, 2004). This fact may additionally confirm the strong interest in the framework for BPM implementation. Furthermore, a large number of papers considering this research problem suggest a necessity in developing a BPM framework for the public sector (Niehaves et al., 2013). The initial level of BPM implementation in this sector can sustain a small number of studies on the requirements and implementation of IT systems and tools supporting BPM activity in public administration, particularly those of e-Government and t-Government. Taking into account that the success rate of BPM projects is relatively low (from 50% to 20%) (Iqbal et al., 2015), Critical Success Factors (CSFs) should be identified and evaluated for reducing the failure rate of BPM implementation. The high level of interest in CSFs in the group of reviewed articles highlights the importance of this issue for the process-oriented development of the public sector (Ariyachandra and Frolick, 2008; Ram and Corkindale, 2014). A large number of research issues dedicated to improving the current performance/cost-effectiveness and process-based transformation of a public organizations can attest to the fact that research focuses on the inside of the organization and not on the needs of consumers. BPM is also seen as a method enabling the realization of consumer-centric services that are cost effective and efficient as a result of an increase the customer satisfaction. Linking BPM and e-government and t-government proves this (Weerakkody et al., 2011).

From a methodical perspective, we conclude that almost all analyzed papers are research papers and there is a lack of conceptual papers based on theories. Even those articles that attempt to create a framework do not contain references to any theory. The most commonly are used qualitative research methods, of which is featured case study. According to Yin (2013), this kind of research copes with technically distinctive situations and is aimed at illustrating certain topics in an easy-to-understand way preserving the most important advantage – they present real-life context. However, the case study allows, to a limited extent, the generalization of conclusions. It is also significant that research on BPM in the public sector mainly engages authors from developed countries, which is consistent with the fact that they are the leaders in the development of new management concepts. Finally, the results of this study show that research on BPM in the public sector is not as developed as that of the private sector. The differences between sectors pointed out by the authors in our sample (Saxena, 1996; Halachmi and Bovaird, 1997) require some modifications in BPM ascertained in the private sector before it could be applied to the public sector.

In summary, based on the results of our research, we can undoubtedly conclude that the public sector use of BPM is primarily in the area of improving efficiency within the administration institutions. However, in addition, our research confirms that the use of BPM is becoming increasingly important in improving services for consumers and enhancing their satisfaction.

The results of our study can contribute to the existing body of knowledge on Business Process Management in the public sector by systematizing explored fields in this domain and identifying the well-founded research trends and gaps related to implementation of BPM in this sector. Based on the study we can see an analogy between an implementation of BPM in public institutions and a development of BPR research in the private sector. Moreover, we can conclude that there is a need for research of BPM in the public sector in a context of grounded scientific theories. We contribute to the practice by indicating the key role of Business Process Management in the digital transformation of the public sector. Based on the literature study we indicate, that the process-based approach is able to facilitate efficient and effective e-government.

LIMITATIONS OF THE STUDY AND FUTURE RESEARCH

A small number of revised papers aiming at BPM implementation in the public sector is the main limitation of our research. Taking into account the status of BPM implementation, particularly in developing and transition countries, and the publication frequency of printed and online media, we should extend our sample on papers sourced from indexed conference proceedings. This could provide a wider and more comprehensive analysis of the phenomenon in future research. To improve the quality in the literature retrieval process, we should expand the search terms including additional keywords related to other process-based frameworks and other approaches in management in public organizations (e.g. Business Process Orientation, Business Process Change, Business Process Redesign, Lean Government).

We believe that this initial literature review on BPM in the public sector fills, to some extent, the research gap and will contribute to the development of knowledge concerned with improving the efficiency and effectiveness of public administration.

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EXPORT PERFORMANCE AND ORGANISATIONAL MODELS: AN EMPIRICAL ANALYSIS BASED ON THE RBV APPROACH

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ABSTRACT

Resource based view approach is proposed as theoretical framework in order to identify the existence of similar organizational models in a sample of firms operating in the Sicilian wine industry, and the key success factors for superior export success. The findings of this research show that managers' age and wineries' export experience in export success are the key organizational capabilities, that explain a firm's strategic advantage over its competitors. The importance of these capabilities is further uncovered through the main characteristics of the clusters. The result informs strategy design at the firm level; wineries need to incorporate significant capabilities associated with managerial experience in exports into their organization.

Keywords: *Resource Based View Approach, Wine industry, Organisational Models, Italy.*

INTRODUCTION

Export is a fundamental strategy from a microeconomic perspective because it represents a firms' traditional way to access foreign markets by helping leverage production capacity, enhance product and operational innovation and improve the bottom line (Piercy et al., 1998), then, ensuring the overall firm's performance and, indeed, longevity (Majocchi et al., 2005; Navarro et al., 2010; Navarro-García et al., 2016). Numerous studies have been carried out in different sectors, regions and countries to explain the main factors affecting the export performance, related both to the business characteristics and to the multiple, diverse, and idiosyncratic nature of foreign environments that affect firms' survival, expansion and their success in export markets (Samiee and Walters, 1990; Czinkota and Ronkainen, 1998). There is growing evidence that internationalization has become a key requirement for small and medium enterprises (SMEs) to gain competitive advantage, which, moreover, results in an increasing effort in managing the companies' internationalization processes (Schweizer, 2012; Dutot et al., 2014).

For wine firms, the internationalization process is sometimes the only option available in order to remain competitive in the market. Wine markets have been deeply transformed, particularly due to the

entry of new producer countries, which has led to an overall geographical reconfiguration of the productive scenario and, at the same time, a growing trend in several key markets toward quality wine consumption (Vrontis et al., 2011; Rossi et al., 2012; Crescimanno and Galati, 2014). Consequently, a number of wine firms realized that they needed to identify effective strategies in order to face severe challenges in all markets (Rastoin et al., 2006).

Research into the main determinants of export success of wine firms has been carried out in different contexts and regions. Some of these studies analyse the effects of internal and external factors on the propensity to export (Suárez-Ortega and Álamo-Vera, 2005; Duarte Alonso, 2009–2010; Parish and Freeman, 2011; Fernandez Olmos, 2011; Serra et al., 2012), on the export intensity (López Rodríguez and García Rodríguez, 2005), and on the export performance (Leonidou et al., 2002; Calantone et al., 2006; Maurel, 2009; Carneiro Zen et al., 2012).

With this in mind, the main objectives of the paper are to identify 1) the existence of similar organizational models in a sample of firms operating in the Sicilian wine industry, and 2) the key success factors for superior export success. Our theoretical framework is based on key insights of the resource-based view of the firm and focuses primarily on key organizational resources. The paper contributes empirical evidence on the export performance by focusing on firms operating in the Sicilian wine industry. The Sicilian wine industry is an economically important sector, in terms of added value it generates and the number of people employed; it represents the main agri-food activity and contributes significantly to the promotion and enhancement of the territory and its resources (D'Amico et al., 2005; Galati et al., 2015; Giacomarra et al., 2016). In fact, it covers 3.4% of the Sicilian agricultural production at basic prices (ISTAT, 2016) and 8.7% of agri-food exports in 2012, ranking among the top four agri-food products exported from the same region (INEA, 2014). This success is due to numerous wineries that have recently implemented modernization processes and are paying increased attention to improving product quality, packaging, and marketing (Galati et al., 2015).

This paper is structured as follows. In section 2, the theoretical framework is presented and the hypotheses are derived. The methodological approach used is described in section 3. Then, the main findings of the empirical research are presented and discussed in section 4. The last section concludes the paper.

THEORETICAL FRAMEWORK

The resource-based view of the firm (RBV) is one of the most widely accepted theoretical perspectives in the strategic management field. According to this approach, the key resources that an organization owns determine its competitive advantage. Such key resources are valuable, rare, imperfectly imitable, and non-substitutable (Barney, 1991). Makadok (2001) makes a distinction between a firm's resources

and its capabilities: a resource is an observable but not necessarily tangible asset that can be independently valued and traded, while a capability is unobservable and hence necessarily intangible, cannot be independently valued, and changes hands only as part of its entire unit. Therefore, the identification of these factors that can affect the performance of firms in export markets can have an immediate impact on marketing strategy decisions. In fact, it is not uncommon, as suggested by Lages and Montgomery (2003), the firms' reactive behaviour to be based on its past results.

In this study we focus our attention on the impact of firms' and managers' characteristics, and of organizational resources on the export performance of wine firms. Concerning the firms' characteristics, Leonidou and Katsikeas (1996) assert that the role played by firms' structural factors is that of background forces facilitating or inhibiting the effective activation of the latent export stimuli. The physical size of the company is one of the main factors that influence firm performance in exports markets. Numerous studies reveal that firms with a higher number of employees and higher sales have a greater ability to expand resources and, consequently, absorb risk and are more likely to export activity than smaller ones (Erramilli and Rao, 1993; Suárez-Ortega and Álamo-Vera, 2005; Maurel, 2009). Majocchi et al. (2005), in their study on the Italian manufacturing firms, and Suárez-Ortega and Álamo-Vera (2005), in the Spanish wine industry, found that a firm's experience can be considered another potent explanatory variables of the export performance since it is related to a firm's maturity in the field of management, international transactions, and business partnerships. Some authors find that the amount of a firm's investments in advertising is, among the main factors that affect a firm's performance in export market, one of the main determinants that can contribute to increase the degree of firms' internationalization (Kotabe et al., 2002; Fernandez Olmos, 2011).

Managerial characteristics also have a relevant influence on the firms' internationalization process and on its choice of organizational model. In particular, the age of the entrepreneurs and their level of education are explanatory variables of the firms' export performance. For example, younger entrepreneurs are more risk-oriented and more associated with policies of corporate growth than older managers (Suárez-Ortega and Álamo-Vera, 2005; Serra et al., 2012). Furthermore, as asserted by Tihanyi et al. (2000) and by Wieserma and Bantel (1992), entrepreneurs with a high degree of education can create the opportunity of exploring new context and tend to favour greater access into new international markets. As suggested by various authors also professional experiences abroad and proficient use of foreign languages, affect a firm's performance in export markets because they facilitate social contacts, assist in understanding the business practices of a market, and improve communication to and from markets (Turnbull and Welham, 1985; Zou and Stan, 1998; Osland et al., 2001; Suárez-Ortega and Álamo-Vera, 2005; Serra et al., 2012; Alaoui and Makrini, 2013).

Concerning the organizational resources, a very important tool is the adoption of quality and environmental management systems. In the last few decades, a multitude of quality and environmental management standards have been developed so that they can be grouped into different categories, depending on their scope, sector coverage, regional application, and potential recognition by others initiative as being equivalent or similar in scope (von Hagen et al., 2014). In the agri-food sector the main quality and environmental management system globally recognized is the International Organization for Standardization (ISO) class, which includes a multitude of voluntary codes. Numerous studies that examine the benefits of voluntary standards show that the implementation of quality and environmental management standards have a positive influence on the firm's performance (He et al., 2015; Heras-Saizarbitoria et al., 2011; Kafel and Sikora, 2012; Sharma, 2005), supporting small farmers to enhance their integration into the global food market (Aggelogiannopoulos et al., 2007; Subervie and Vagneron, 2013).

METHODOLOGICAL APPROACH

Questionnaire

In order to analyse the key factors affecting the export success and the different organisational models of Sicilian wineries a questionnaire was constructed based on the RBV approach. The questionnaire was grouped in four thematic sections, each of which is aimed at capturing information necessary to explain the influence of internal resources to the enterprise internationalization process. The first section collects general information on wineries with specific reference to the starting year of wineries activity and sales in foreign markets, number of employees engaged in the export activity, and presence of qualified figures. The second section includes information about the managers (age, years of experience in the wine sector, education level, proficiency foreign languages, work experience abroad). In the third section we collect information about wine production (in value and in volume) and end market (domestic and foreign markets), sales channels, investments in advertising and promotion, participation to national and international fairs, presence in the web, product and process innovations, and finally, quality aspects related to the production solded.

Sample

The sample used in the empirical research comprises wineries located in Sicily, one of the most important geographical regions of Italy. Our sample was composed of 102 wineries selected using a proportional stratified sampling method on 500 wineries according to the data that have been made available by the Regione Siciliana. The information was collected through personal interviews with the owners or managers that have been contacted by telephone and the questionnaire was sent to each

of them via e-mail. Our sample reflects the distribution of wineries in the region of Sicily. Wineries are mainly investor-oriented firms (IOFs) and farmer-owned cooperatives (69.6%), while sole proprietorship firms account for only 30.4% of the cases. Table 1 shows the main characteristics of the sample in terms of size, year of foundation, volumes commercialized, and export performance.

Table 1 – Sample characteristics

| Variables | | No. of wineries | % |
|----------------------------|--|-----------------|------|
| Years | Until 10 | 20 | 19.6 |
| | More than 10 | 82 | 80.4 |
| Size (employees) | Less than 10 | 90 | 88.2 |
| | More than 10 | 12 | 11.8 |
| Number of bottles marketed | Less than 50,000 (small wineries) | 35 | 34.3 |
| | 50,000-100,000 (small-medium wineries) | 25 | 24.5 |
| | 100,001-200,000 (medium wineries) | 11 | 10.8 |
| | 200,000-500,000 (medium-big wineries) | 16 | 15.7 |
| | More than 500,000 (big wineries) | 15 | 14.7 |
| Export performance | Until 10% | 28 | 27.5 |
| | 10-25% | 12 | 11.7 |
| | 25-50% | 31 | 30.4 |
| | More than 50% | 31 | 30.4 |

Method

A cluster analysis was performed in order to group the Sicilian wine firms into homogeneous categories, in terms of internal resources, using the software SPSS version 19. The variables considered are export experience, number of employees, age of manager, educational level of the manager, proficiency in the foreign languages, fair's participation, and the adoption both of quality voluntary certification and environmental certifications. Based on the variables identified, we performed a hierarchical cluster analysis in order to group the companies into a number of categories, by maximizing both within-group homogeneity (small within-cluster variance) and among-group heterogeneity (large between-cluster variance). A set of clustering criteria was considered carefully in order to select the most appropriate clustering method. Ward's method was identified as the more effective for differentiation scopes, both in order to maximize within-cluster homogeneity and between-cluster heterogeneity, and taking into account that the number of observations in each cluster was expected to be approximately equal and that no outliers were present among the variables included in the clustering procedures. The distances among clusters were measured using the squared Euclidean distance. The criteria adopted in order to select the most appropriate number of clusters are both statistical and conceptual. First, we analyzed the dendrogram, which graphically illustrated how the Sicilian wineries firms are grouped into the clusters. Second, we performed three iterations of Ward's method with the number of clusters set at two, three, and four. Third, we identified the clusters that provide simple interpretations of the organizational models.

RESULTS AND DISCUSSION

In order to identify similar organisational models among the sample of wineries operating in Sicily and identify key success factors for superior export success we performed a cluster analysis. The abscissa reports the squared Euclidean distance between clusters, while ordinate reports the identification number of each winery grouped to the Ward's linkage method. Cluster analysis has enabled us to identify three clusters, which include 46, 43 and 13 wineries, respectively. Table 2 shows the three clusters and the average values for each variable studied. One-way analysis of variance (ANOVA) was used to test the differences in the variable means among the clusters.

Table 2 - The cluster obtained and average values of variables

| Cluster | No. of cases | Export experience | Employees | Age of manager | Educational level of manager | Languages | Fair | QM | EM |
|---------|--------------|-------------------|-----------|----------------|------------------------------|-----------|------|-----|-----|
| 1 | 43 | 8.65 | 2.18 | 40.93 | 2.55 | 1.09 | 2.09 | .27 | .16 |
| 2 | 13 | 50.38 | 15.84 | 50.15 | 2.46 | 1.46 | 4.30 | .30 | .46 |
| 3 | 46 | 12.56 | 4.63 | 61.69 | 2.60 | 1.06 | 2.93 | .28 | .32 |
| Total | 102 | 15.73 | 5.02 | 51.47 | 2.56 | 1.12 | 2.75 | .28 | .27 |

Table 3 shows the analysis of variance between clusters and within clusters (a cluster refers to square and error mean square), F value and significance. Results show that three clusters are statistically different and most of the variables are statistically significant at the 0.95% level. In particular, as can be seen in Table 3, the variable "Age of manager" is the most influential variable ($F= 85.209$) on the profile of the clusters, while the Quality Management standards is the least influential variable ($F= 0.020$).

Table 3 - Analysis of variance (ANOVA) between and within clusters

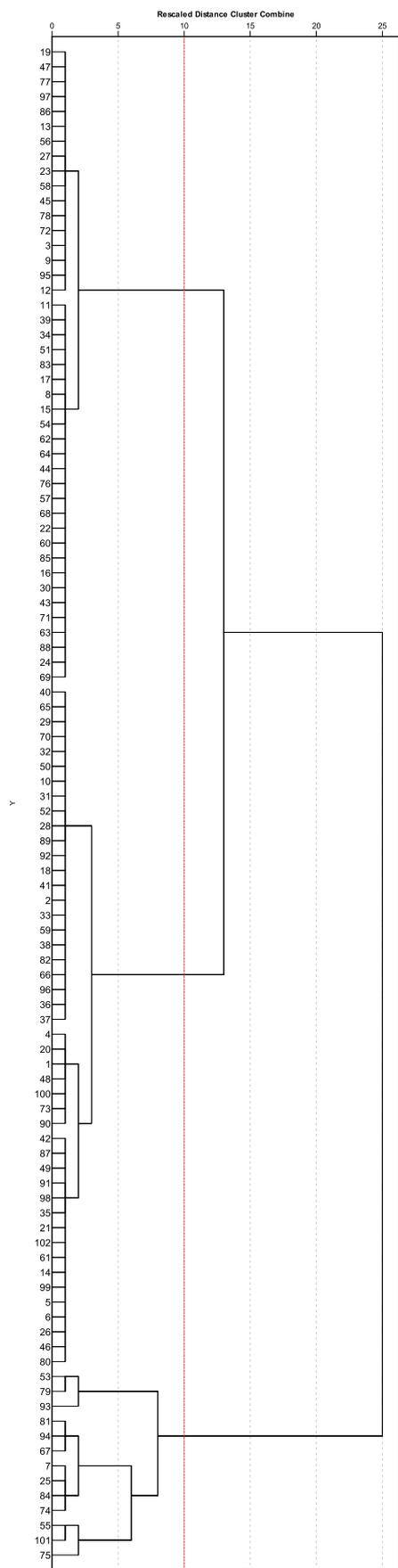
| | Cluster | | | Error | | | F | Sig. |
|-------------------------------------|----------------|--------|----|---------------|--------|----|--------|------|
| | Mean | square | df | Mean | square | df | | |
| | between groups | | | within groups | | | | |
| Export experience | 9113.852 | | 2 | 120.628 | | 99 | 75.554 | .000 |
| Employees | 937.995 | | 2 | 63.363 | | 99 | 14.804 | .000 |
| Age of manager | 4804.595 | | 2 | 56.386 | | 99 | 85.209 | .000 |
| Educational level of manager | .144 | | 2 | .331 | | 99 | .344 | .710 |
| Languages | .840 | | 2 | .704 | | 99 | 1.194 | .307 |
| Fair | 25.836 | | 2 | 5.498 | | 99 | 5.498 | .005 |
| QM (Quality Management codes) | .004 | | 2 | .210 | | 99 | .020 | .980 |
| EM (Environmental Management codes) | .557 | | 2 | .194 | | 99 | 2.872 | .061 |

Wineries belonging to cluster 1 are small firms both in terms of size, as emerges from the average number of permanent employees, who are 2.19, both on the economic level, with an average business revenue of 380.6 thousand Euros, the lowest among the three clusters. These wineries, mostly younger

and with limited experience in trading in overseas markets, are managed by younger entrepreneurs, with an average age of just over 40 years, and with limited experience in the wine sector. This result is in contrast with findings by other authors (Serra et al., 2012; Suárez-Ortega and Álamo-Vera, 2005) according to which younger entrepreneurs are more risk-oriented and adopt market-oriented strategies. These characteristics, along with the almost total absence, among these wineries, of internal figures involved in the foreign trade relations, contribute to the low market orientation of the wineries, for which there is an export intensity, which stood at 34% and in any case not greater than 50% for almost all of the cluster wineries. In addition, it comes to wineries to a limited extent adopt quality and environmental management systems, only 12 of them implement quality certifications and 7 adopt certification of environmental management systems..

Wineries in cluster 2 include mainly older wineries with a long experience in the wine sector and in the activity of export. They are large wineries with a high number of permanent employees, which amounted on average to about 16, and average business revenue of more than 5 million of Euros. This result is in line with the findings of Maurel (2009) and Suárez-Ortega and Álamo-Vera (2005) according to which the greater firms size, in terms of number of employee and revenue, is correlated to a greater market orientation. These wineries are managed by entrepreneurs with an average age of just over 50 years and with the highest level of knowledge of foreign languages.

Figure 1. - Dendrogram obtained from the hierarchical cluster analysis using the Whard's linkage's method



As revealed by Turnbull and Welham (1985), Osland et al. (2001), Serra et al. (2012), among others, the employment of personnel with experience in foreign sales, contributes, along with the above features, to the market orientation with an export intensity, which amounted, on average, to around 50% and higher values to 60 % in more than half of the wineries that are part of this cluster. The wineries included in cluster 2 have also the highest number of quality and environmental certifications, also characterized by a high participation in national and international trade fairs. In fact, as shown by He et al. (2015), Kafel and Sikora (2012) adoption of voluntary certifications helps to improve the firms performance.

Cluster 3 has the largest number of wineries which have average values of the characteristics studied than the previous two clusters, both in physical and economic terms, distinguishing itself however to be managed by older entrepreneurs, with an average age above 60 years, with the longest experience in the wine industry, with an higher level of training but a limited knowledge of foreign languages. The limited knowledge of foreign languages, and at the same time, the lack of employees experienced in foreign sales, could explain the modest propensity to export of the wineries included into this cluster. Over 1/3 of the cellars have no employees experienced in foreign sales, which explains the modest propensity to export of the wineries included into his cluster.

CONCLUDING REMARKS

Our paper is one of the few studies that is focused at the same time on the role that internal and organisational resources have on the organizational models in a sample of firms operating in the Sicilian wine industry. The findings of this research confirm the main hypothesis suggested by the resource-based approach, namely, that valuable, rare, imperfectly imitable, and non-substitutable resources and capabilities might explain a firm's strategic advantage over its competitors. This is especially reflected in the importance of the managers' age and wineries' export experience in export success. These two variables represent key organizational capabilities seamlessly incorporated into the everyday life of the studied firms. The importance of these capabilities is further uncovered through the main characteristics of the clusters. It seems that what makes cluster 2 the most successful in exports are the aforementioned organizational capabilities. This result informs strategy design at the firm level; wineries need to incorporate significant capabilities associated with managerial experience in exports into their organization. The originality of this work is to shed some wider light on practical insights addressed to winery managers looking for better assess competitive advantages for wine business, a matter still few analyzed, and that needs a multi-approach effort of resources impact of voluntary certifications on the profitability of those firms operating in one of the most dynamic sectors in the agri-food industry, while providing useful results to allow firms to improve their operational

strategies. The findings of the study need to be interpreted within the context for which this research was designed (Sicilian wineries) and cannot be applied generally to all businesses. Taking into account this limitation, future studies in this field could be focused on testing this model in other wine regions in order to verify the influence of internal and organisational resources on the organizational models in the wine industry.

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- Zucchella A., Palamara G., and Denicolai, S. (2007), "The drivers of the early internationalization of the firm", *Journal of World Business*, Vol. 42, No. 3, pp. 268-280 Retaining Specifications.

ASSESSING THE DYNAMIC OF AGRI-FOOD EXPORT TRENDS BEFORE AND AFTER THE EU EASTERN ENLARGEMENT

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ABSTRACT

This study examines the evolution in development of Intra-European Union agri-food export during the period 2000-2011. By using Data Envelopment Window Analysis, this paper at first provides a more comprehensive picture on agri-food trade performance of sampled New Member States, focusing the attention on the pre and post phase of the enlargement process. Two specific country case studies will be released, revealing different patterns of performance among New EU Member States. The majority of New EU Member States differed in their approach in benefiting from the opportunity to enter into the EU enlarged market, not only according to their initial agricultural structural conditions, but also as a consequence of pre-and post-accession political and economic trade agreements. A lot of countries preferred to strengthen the established trade relations with past group of partner countries, as defined by already in force agreements. In the future, the increase in the export flows of quality products together with the ability to enter new end-markets within the EU will largely depend on the agri-food sector units' abilities to efficiently compete and sustain competitiveness in the European and global markets. In the years coming, the overall performance could be improved by strengthening the quality side of exported goods, to better comply with EU quality standards and to acquire a more competitive advantage in the single market. A challenge that NMS are able to deal with also thanks to the recent increase in employment and education levels.

Keywords: *Economic efficiency, EU enlargement, Agri-food export.*

INTRODUCTION

One of the most important political and economic challenges faced by the European Union (EU) in the last decade has been the enlargement to the Central and Eastern European Countries (CEECs). Two historical events marked this process: first, in 2004, during which the biggest enlargement took place

with the entry of Czech Republic, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia; and second, after three years, in 2007, with the accession of Romania and Bulgaria.

In the enlargement process as well as in the framework of the EU's bilateral relations with third countries (Crescimanno et al., 2013a, 2013b), the agricultural sector has played a central role, owing to its importance at the EU level and its strategic role in the economic and political life of the Eastern candidate countries (European Commission, Directorate-General for Agriculture, 2002). For these reasons, the bilateral European agreements signed since 1991 between the EU and the candidate countries, as part of the EU's pre-accession strategy, were aimed at eliminating barriers to trade, initially including only part of the agri-foods that would be subject to reciprocal tariff concessions. Later, owing to the double-zero agreement subscribed since 2000, there has been more intense trade liberalization, which affected, at that time, about two-thirds of agricultural products traditionally traded (European Commission, Directorate-General for Agriculture, 2002), to achieve total elimination of tariff protection in 2004.

Numerous studies have attempted to assess the impact of the EU enlargement on the dynamics and changes that occurred in the agri-food trade structure, primarily focusing on the pre-accession period. The results reveal an overall increase in trade between the old and new Member States, which has strengthened the economic role of the EU in the world agri-food market (Gavrilescu, 2013). However, there exists a significant asymmetry of the dynamics individually recorded by each new Member State, with regard to their initial conditions. This study contributes to the enrichment of the existing literature on the impact of EU enlargement on agri-food exports of the new Members States in the European common market, by extending the reference period to twelve years, in order to detect variations in the economic efficiency of agri-food exports during the enlargement process. In particular, it aims to assess the economic gains/losses resulting from the EU adhesion, by comparing the efficiency scores of CEECs during the period 2000-11.

LITERATURE REVIEW

Research on the impact of EU enlargement to the CEECs primarily focused on the pre-accession period. The results suggest that this process has largely been beneficial for the economies of the New Member States (NMS), due to the comparative advantage of candidate countries related to low labor costs and the gradual increase in price level (Rollo, 1995; Forslid et al., 2002; Halkos and Tzeremes, 2009). In particular, as suggested by Bartošová et al. (2008) NMS have gained from free access to the EU market, increasing the exports of dairy products and sugar up to four and eight times, respectively, although the net effect (exports minus imports) has been much lower, particularly for these products.

The impact of EU enlargement has also been studied in relation to the direct effects of the preferential treatments granted to the candidate countries during the pre-accession period. In this regard, results reveal that the process of integration and trade liberalization has contributed to the growing of the agri-food trade between the old and new Member States. On the other hand, this process has had a negative impact, owing to a permanent and significant resistance to the agri-food exports from the CEECs in the European market (Bartošová et al., 2008; Chevassus-Lozza et al., 2008), due to the unsatisfactory level of export quality, insufficient sanitary and phytosanitary arrangements, lack of competitiveness in the food processing industry, insufficient export surplus availability and insufficient marketing are the main constraints to export growth (Frohberg and Hartmann, 1997; Duponcel, 1998; Chevassus-Lozza et al., 2008). As can be seen, a substantial literature exists on the impact of the EU enlargement in the pre-accession phase. However, little attention has been paid to the changes registered during the entire enlargement process (pre- and post-accession phases). With reference to the agricultural sector, some studies show a significant impact of the enlargement on agricultural dynamics (Zemeckis and Drozd, 2009; Csaki and Jambor, 2013). While on one hand, the integration process has led to a reduction in both the contribution of the agricultural sector to GDP and the rate of employment in agriculture, on the other hand, this process has brought about an increase in the income of farmers -related to the increase in prices, production, the EU direct payments, and the financial support of EU structural funds- and agri-food trade. The results, however, show significantly different behaviors of the NMS in relation to the pre-accession conditions and the policies adopted in the post-accession phase (Csaki and Jambor, 2013). With specific reference to the dynamics and changes in the agri-food trade structure, Bojnec and Fertő (2009) analyze the effects of EU enlargement in the pre- and post-accession phases on the level, composition, and differences in the advantages/disadvantages of agri-food trade for eight central European and Balkan countries in the EU market and their implications for food policy. They found that the enlargement has had an overall negative impact on these countries, but this is different in relation to the countries characteristics among which natural factor endowments and agricultural structures, labor input costs for horticultural products, food processing and food supply marketing chains (Bojnec and Fertő, 2009 a). In a more recent study, the same authors (Bojnec and Fertő, 2012) analyze the impact of EU enlargement on the agri-food exports of 12 NMS during the period 1999-2007 and confirm that these countries stood to gain from the EU eastward enlargement, with an increase in exports of primarily higher value-added, consumer-ready, and more competitive niche agri-food products. However, Fogarasi (2008), referring to the dynamics of agri-food exports to Hungary and Romania from the EU market, shows that the improvement in performance should not be viewed in terms of competitiveness, but from the EU market demand side, in this manner, explaining the

improvement in competitiveness of some sectors (meat, fruit, and vegetables and beverages, in particular).

This brief literature review represents the starting point of our work, where the main hypothesis we would like to verify is whether all the new Member States experienced a growth in their exports of agricultural and food products. If so, in what terms, this growth occurred. Namely, did all NMS follow the same trade pattern during the pre-accession and post-adhesion periods? Did specific past trade agreements affect internal dynamic?

DATA AND METHODS

Data

With the final aim to investigate the performance of CEECs, which entered the EU during the enlargement process that occurred in 2004 and 2007, we implemented a DEA window analysis. As reported in Table 1, data originate from different sources and socio-economic indicators were chosen to measure the economic efficiency of agri-food exports. Countries included in the analysis are Bulgaria (BL), Czech Republic (CZ), Estonia (EE), Hungary (HU), Latvia (LV), Lithuania (LT), Poland (PL), Romania (RO), Slovakia (SK), and Slovenia (SI). We had to exclude Cyprus and Malta from our sample because of missing data.

Table 1: Indicators used in the analysis.

| Indicator | Unit of measure | Source |
|---|-------------------------|---|
| Mean Labour cost levels (including Business economy, Industry (except construction), Services of the business economy) | Units of currency, Euro | EUROSTAT - [lc_lci_lev] |
| Percentage of graduates from tertiary education graduating from Agriculture programmes, Social Sciences, Business and Law programmes, Engineering, Manufacturing and Construction programmes (both sexes) | Percentage (%) | UNESCO – Institute for Statistics – Education (ISCED) |
| Employment by sex, age and economic activity (1983-2008, NACE Rev. 1 and from 2008 onwards, NACE Rev. 2). From 15 to 64 years. Agriculture, forestry and fishing Manufacturing | 1 000 | EUROSTAT - [lfsa_egan2] |
| Employment by sex, age and economic activity (1983-2008, NACE Rev. 1.1 and from 2008 onwards, NACE Rev. 2). From 15 to 64 years All NACE sectors. | 1 000 | EUROSTAT - [lfsa_egana] |
| Export flows – n. 24 Commodities | Dollar (\$) | United Nations – Department of Economic and Social Affairs – Statistics Division – Trade Statistics |

The time period (2000-11) was motivated by the need to accurately capture the starting points of each country as well as any consequences that occurred after the EU adhesion.

Some preliminary specifications regarding the indicators are necessary. As for labor cost levels, we used the average values of three sectors in our analysis such as Business economy, Industry (except construction), and Services of the business economy. This classification prevented us from excluding important information and made the context description complete. The same procedure was followed for the three International Standard Classification of Education indicators (ISCED) and for the Employment levels. Moreover, as for Employment, after calculating the average values of the three economic sectors of our interest, by using the total employment value of each country (that includes all NACE sectors), we calculated the percentage of employees in Agriculture and Manufacturing sectors in the total number of employees. All these modifications were made to collect a good level of features of the export economic branch, including any satellite activities/skills.

Regarding Export commodities, we followed the classification of the UN Comtrade database, using the codes related to the agri-food products. According to the trade partners of our sample, data on export flows were collected after examining the exports towards the 27 EU partners (excluding Croatia, as it is too recent to adhesion).

The Labor cost input represents a strategic indicator characterizing the labor market of Eastern countries, in particular, since the adhesion moment, as these countries had the lowest labor costs in Europe, such that even if these costs increased during the twelve-year period, they certainly did not reach the average of those of old Member States.

Method

To evaluate the efficiency scores of 10 NMS during the period 2000-11, a DEA window analysis has been applied. DEA is a non-parametric technique, measuring the relative efficiency of Decision-Making Units (DMUs), with multiple inputs and outputs, assuming neither a specific functional form for the production function nor the inefficiency distribution. The method, first proposed by Charnes et al. (1978), aims at measuring the relative efficiency of DMUs that are similar to each other in terms of products and services. As originally developed by Debreu (1951) and Farrell (1957), this method is based on the concept of productivity, defined as the ratio between a single output and a single input. Assuming n DMUs, each with m inputs and s outputs, the efficiency score of a test DMU p is obtained by solving the following model (Charnes et al., 1978):

$$\max h_o = \frac{\sum_{k=1}^s v_k y_{ki}}{\sum_{j=1}^m u_j x_{ji}} \quad k = 1, \dots, s; \quad j = 1, \dots, m; \quad i = 1, \dots, n$$

$$\frac{\sum_{k=1}^S v_k y_{ki}}{\sum_{j=1}^m u_j x_{ji}} \leq 1 \forall i \text{ and}$$

$$u_j, v_k \geq \forall k, i$$

where y_{ki} is the amount of output k of DMU i and x_{ki} is the amount of j -th inputs by the DMU i ; $u_j, v_k \geq 0$ are the weights that are applied to inputs and outputs to maximise the efficiency ratio.

Differently from the DEA basic approach, through which it is possible to carry out analysis by including observations only from one time period, the Window formulation (Charnes and Cooper, 1985) is able to measure efficiency in cross-sectional and time-varying data, allowing a dynamic effects study (Hartman and Storbeck, 1996; Webb, 2003; Asmild et al., 2004; Cooper et al., 2007; Halkos and Tzeremes, 2008; Halkos and Tzeremes, 2009; Adler and Golany, 2011; Halkos and Tzeremes, 2011; Bono and Giacomarra, 2014).

This approach can indicate efficiency trends over a specified period of time, while simultaneously examining the stability and other properties of the efficiency evaluations within the specified windows. It operates on the principle of moving averages (Charnes et al., 1985; Yue, 1992; Charnes et al., 1994a) and establishes efficiency measures by treating each DMU in different years as a separate unit. The performance of a DMU in a period can be compared against its own performance in other periods as well as against the performance of other DMUs (Asmild et al., 2004 through a sequence of overlapping windows (Webb, 2003; Hartman and Storbeck, 1996). Once the window is defined, the observations within that window are viewed in an inter-temporal manner, and therefore, the analysis is better referred to as locally inter-temporal (Tulkens and Vanden Eeckaut, 1995). Adopting the formulation of Asmild et al. (2004), let us consider n DMUs $n=1,2,\dots,N$ observed in T periods of time ($t=1, 2,\dots,T$) producing m outputs and using s inputs. We create a sample of observations, where an observation n in period t () has an s -dimensional input vector and an m -dimensional output vector. Then a window with observations is denoted starting at time $k, 1 < k < T$ with width w . So the matrix of inputs is given as:

$$X_{kw} = (X_k^1, X_k^2, \dots, X_k^N, X_{k+1}^1, X_{k+1}^2, \dots, X_{k+1}^N, \dots, X_{k+w}^1, X_{k+w}^2, \dots, X_{k+w}^N)$$

and the matrix of output is given as

$$Y_{kw} = (Y_k^1, Y_k^2, \dots, Y_k^N, Y_{k+1}^1, Y_{k+1}^2, \dots, Y_{k+1}^N, \dots, Y_{k+w}^1, Y_{k+w}^2, \dots, Y_{k+w}^N)$$

In our case, the DMUs represent the 10 NMS ($n = 10$) over a twelve-year period ($p = 12$), producing m output (Export flows in \$), using s inputs (Labour cost, ISCED, and Employment level). DEA window analysis implicitly assumes that there are no technical changes during the period under analysis within each window (Zhang et al., 2011). Similar to other scientific contributions in this methodological field (Halkos and Tzeremes, 2009; Zhang et al., 2011; Wang et al., 2013), a window width of three years ($w = 3$) has been decided. Starting from the year 2000, it has been possible to include the years 2004 and 2007 in separate windows, respectively, representing the two EU accession years.

RESULTS AND DISCUSSION

Table 2 reports the DEA window results implemented using Frontier Analyst software.

| % | BG | RO | CZ | SK | SI | HU | EE | LV | LT | PL |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 2000 | 79.7 | 85.3 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2001 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 99.1 | 100.0 | 100.0 | 100.0 |
| 2002 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 96.4 | 100.0 | 100.0 | 99.6 | 100.0 |
| 2003 | 94.8 | 96.3 | 92.0 | 95.5 | 100.0 | 94.7 | 100.0 | 100.0 | 96.0 | 100.0 |
| 2004 | 87.5 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2005 | 89.0 | 88.6 | 96.0 | 100.0 | 100.0 | 83.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2006 | 100.0 | 91.7 | 91.2 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2007 | 94.9 | 78.6 | 97.8 | 100.0 | 100.0 | 100.0 | 95.3 | 87.3 | 90.9 | 100.0 |
| 2008 | 84.7 | 91.2 | 100.0 | 92.7 | 100.0 | 100.0 | 100.0 | 98.6 | 100.0 | 100.0 |
| 2009 | 91.8 | 90.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 97.8 | 100.0 | 100.0 |
| 2010 | 100.0 | 94.6 | 96.6 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2011 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Table 2: DEA Window results (%).

The performance of each DMU during the twelve-year period considered has been quite stable and, on average, characterized by high efficiency scores. This indicates that the EU enlargement to the CEECs has not led to an overall improvement in the latter's economic efficiency of the agri-food exports, despite an increase in absolute value, as already estimated in previous studies (Bartošová et al., 2008; Chevassus-Lozza et al., 2008; Fogarasi, 2008). Through the DEA window analysis, a country-wise comparison is possible, allowing the interpretation of data in terms of the efficiency of a DMU against itself (column view) or against other DMUs (row view). As other studies emphasize (Bojnec and Fertó, 2009; Csaki and Jambor, 2013), the performances vary among the NMS, owing to their pre-accession conditions and post-accession policies. Our sample has been therefore divided in three different groups (Table 3), characterized by different levels of performance (ranged between 93 and 100 per cent) and dissimilar variation coefficients (ranged between 0.0 and 7.5 per cent).

Table 3: Groups of countries according to their average efficiency scores.

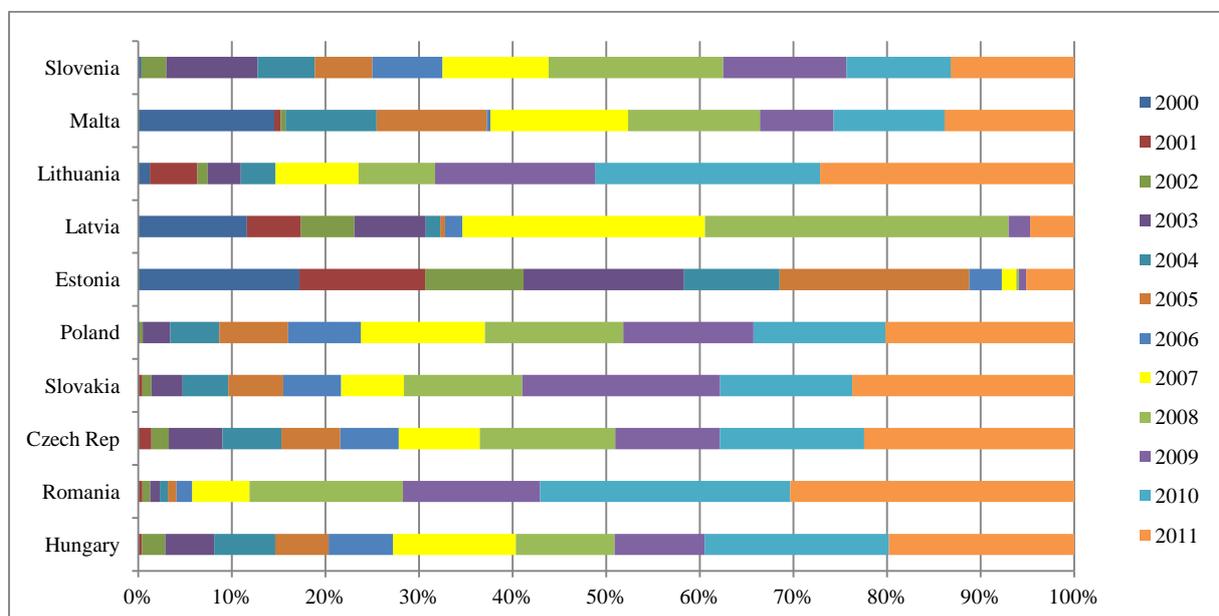
| | Countries (DMUs) | Average values of efficiency scores (%) | Variation coefficient (%) |
|----------------|------------------|---|---------------------------|
| Group 1 | BG | 93.5 | 7.5 |
| | RO | 93.0 | 7.3 |
| | CZ | 97.8 | 3.3 |
| | HU | 97.8 | 5.1 |
| Group 2 | PL | 100.0 | 0.0 |
| | SI | 100.0 | 0.0 |
| | LT | 98.9 | 2.8 |
| | SK | 99.0 | 2.4 |
| | EE | 99.5 | 1.4 |
| Group 3 | LV | 98.6 | 3.7 |

Overall, our results suggest that NMS recorded high performance scores during the period 2000–2011, some of them followed a more constant growth pace (Group 2), while others experienced transition in their trade relationships, translating in wide alternation of peaks and troughs on their exports flows (Groups 1 and 3). An in depth analysis through case study of specific countries belonging to the first and third group allow a further interpretation.

Bulgaria case-study (Group 1)

Bulgaria, during the pre-accession phase (2004–07), registered a decline in the share of its agri-food exports on the total products exported by NMS in the European market, with a recovery after the adhesion. As emphasized by Antimiani et al. (2012), NMS belonging to other trade agreements, like Central European Free Trade Agreement (CEFTA), registered positive trend in the post-accession period, with an agri-food export-oriented preference towards goods whose sophistication is decreasing due to their re-localisation of production process and export flows towards countries with a lower GDP per capita. Figure 1 confirms this finding, providing more interesting insights:

Figure 1: Bulgaria. Agri-food export dynamic towards NMS (2000-2011)

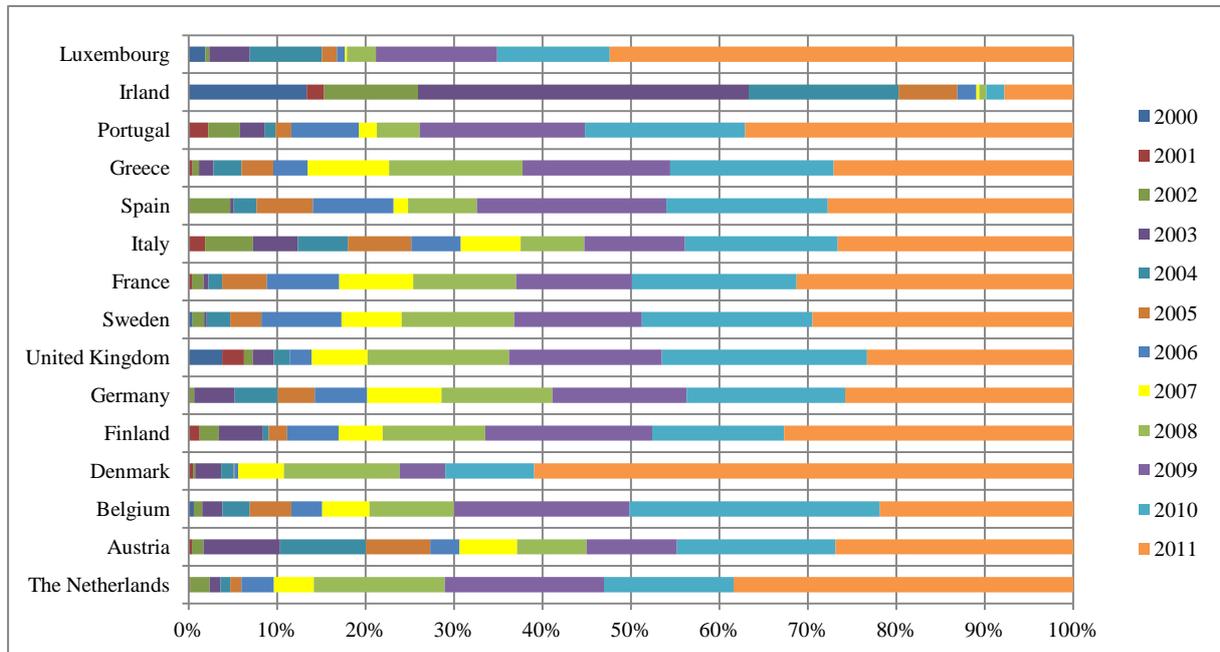


In fact, Bulgaria, immediately after the EU accession, maintained an almost stable agri-food export flow with historical trade partners, such as: Hungary, Czech Republic, Slovakia, Slovenia. This was due to the CEFTA trade agreement (lasting from 1997-2003) that facilitated the increase in trade flows among partner countries. Indeed, in 2004, with the accession to the EU, Czech Republic, Poland, Hungary, Slovenia and Slovakia left CEFTA, but the past trade relations were preserved. As regard the relationship with Romania, the country increased its export flow towards this last, doubling and tripling its economic value (almost inexistent during the 2000-2006 period). In 2007, when Romania and Bulgaria joined the EU, they left as well CEFTA. As regard the Baltic Region, a very particular attitude characterized Bulgaria, above all having a look to the trade relations with Estonia that, after the

Bulgarian adhesion, have been widely reduced, together with an instable trade paths also with Lithuania and Latvia.

An interesting export dynamic has been also recorded as regard Old Member States (OMS) (Figure 2)

Figure 2 – Bulgaria. Agri-food export dynamic towards OMS (2000-2011 period)



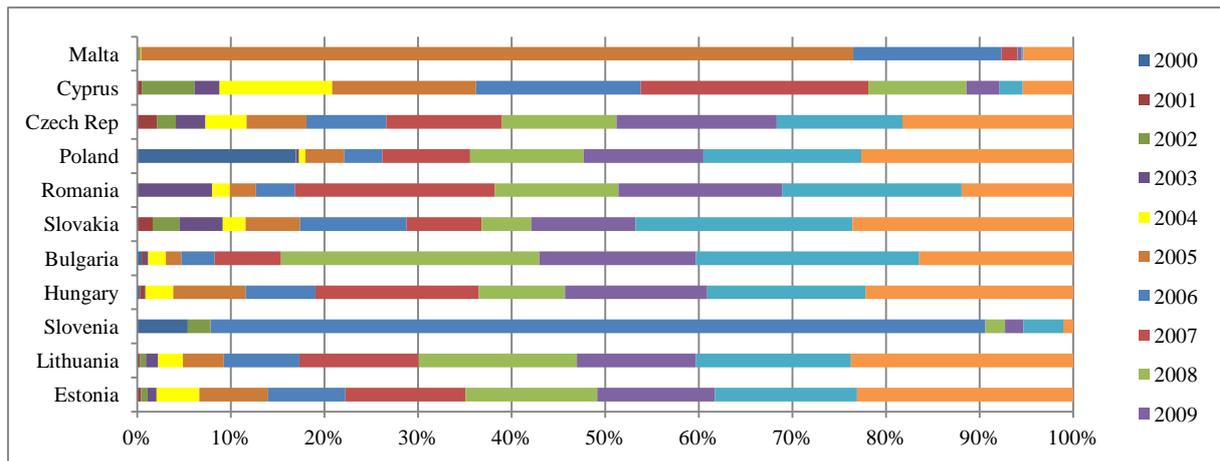
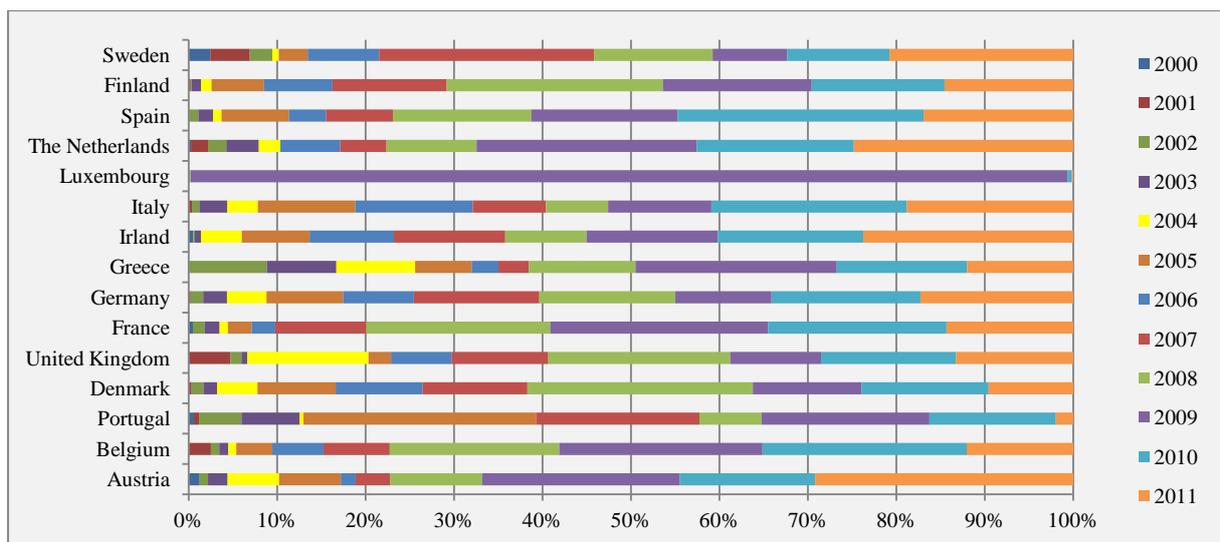
Since the year 2007 (yellow colour), Bulgaria increased economic relations (following a stable and growing path) with the majority of NMS. In particular, the trade relations with Denmark, Belgium and The Netherlands experimented a significant increase. The singular event translated in a relevant reduction in the agri-food exports recorded from Bulgaria to Estonia, this time has occurred towards Ireland. Indeed, the two countries characterized by historical agri-food intense flows, almost stopped this trend near the adhesion period, with a timid recovery only from 2011.

Latvia case-study (Group 2)

From Group 3, and with the lower efficiency scores of the sample (98.6 per cent), Latvia showed a general and growing trend of its export flows immediately after the adhesion, towards almost the totality of the NMS (Figure 3).

A growing trend only interrupted by the instable flow towards Slovenia and Malta.

A similar growing trend has been identified for Latvia agri-food exports towards the OMS (Figure 4), with an exception for Luxembourg that has seemed to be not so interested in the adhesion added value.

Figure 3 - --Latvia. Agri-food export dynamic towards NMS (2000-2011 period)**Figure 4 - Latvia. Agri-food export dynamic towards OMS (2000-2011 period)**

CONCLUSIONS

This paper provides new insights in the trade dynamics analysis of the agri-food sector for the enlarged EU by expanding the time period to include both pre- and post-accession phases. Results emphasize that, apart from an overall positive performance, NMSs have significantly differed in their approach in utilising the opportunity of entry into the EU enlarged market, as outlined in the country studies for Bulgaria and Latvia. A lot of countries shows differences because they preferred to strengthen the established trade relations with past group of partner countries, as defined by already in force agreements (as Bulgaria with CEFTA). This was partially due to their initial conditions, particularly referring to the structure of the agricultural sector and food industry of each single NMS, as well as to speed of reaction to pre-accession policies and post-adhesion strategies. In particular, many countries have not had the ability to take a net advantage from the EU entry, particularly owing to the pre-accession EU financial support that was specifically addressed to restructure the farming sector and

would have made the same even more competitive through investments in agricultural holdings and in the improvements to the processing and marketing of agricultural and fishery products. Financial support was intended to support the creation of greater synergies between the production and processing systems of the EU Member States, contributing, at the same time, to provide growing opportunities in an enlarged market. In the future, the increase in the export flows of quality products together with the ability to enter new end-markets within the EU common framework will largely depend on the agri-food sector units' abilities to efficiently compete and sustain competitiveness in the European and global markets. In the years coming, NMSs overall performance could be improved by strengthening the quality side of exported goods, to better comply with EU quality standards and to acquire a more competitive advantage in the single market. A challenge that NMS are able to deal with also thanks to the recent increase in employment and education levels.

Future research must focus on an in-depth analysis, with specific reference to country study, to investigate changes in the different segments of products marketed, analyzing the trend achieved as regard quality certifications (both voluntary and regulated one), as well as specific country to country trade internal arrangements.

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THE LEADERSHIP IN THE MULTICULTURAL CONTEXT

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ABSTRACT

In the actual context of economic globalization adapting to different cultures is the essential characteristic that not only the leaders must show but also the employees; cultural diversity emits a greater number of ideas than a homogeneous group, generating a larger number of solutions that are coming from different perspectives.

The main challenge for a leader as a coordinator of a mixt team, from a multicultural point of view, is the fast adaptability when interacting with another culture that implies principles, different habits that can be partially or even totally opposite to those considered self-evident. The main factor that can favourably influence the integration of all members of a mixt multicultural team is the open mind attitude of a leader when encountering new elements.

As a coordinator of a mix team it's important not to apply the logic of a single culture but to create a median between them, the leader having the role of protector of each culture. The essential trait that a leader must prove is flexibility and informal communication as being the main element of an open attitude towards the employees.

Keywords: *leadership, multiculturalism, performance, adaptability.*

INTRODUCTION

The success of a business it's conditioned by putting into practice an efficient system of management, leadership being the ability to determine the involvement of other team members in the project itself. Management decision quality and performance of an organization depend on the leaders and the managers of an entity; they are the key pawns in design strategy, defining organizational culture and building the management system of an economic entity. Leaders are those who exercise continuously functions of organization, coordination, forecast and assessment against operational employees.

"The basis of leadership in a mix team is to create the team spirit also known as harmonization strategy that reflects the thinking capacity of individuals, acting and applying the same idea in order to achieve their goals." [Nicolescu O., 2007].

Team spirit is formed by combining four distinct processes: building mutual trust between team members, the exposure of clear goals that need to be achieved, strong motivation both in terms as a group and as an individual and the implementation of participative decision process. Leadership is

regarded as non-existent without the idea of team spirit and its concretization requires the leader to be followed, willingly, by the other team members in order to obtain the best of results. Although the national cultures may be different or even opposing within a mixed team it's important that its own organizational culture to develop which can be represented by all beliefs, values, aspirations prevailing within the group that are accepted by all of the team members, which will influence the performance of the group in a direct manner.

Managers, leaders and employees must be able to realize changes and to implement a long-term process, minimizing as such the idea of "opposition" to change; the availability to continuous learning is again a key element that needs to be applied every time when the company arrives at a situation as "Crisis".

It's important to notice that the companies who have the ability to adjust her standard rules according to employees are able to achieve competitive advantage through performance making added value with the condition of a good management and an open mind attitude when is encouraged the entrance of new elements regarding the different opinions, ideas or values that the employees have.

METHODOLOGY STAGES OF INTEGRATING MEMBERS IN A MIXED TEAM

In the multiculturalism concept adopting a symbiotic leadership style is the concept that favours the most when it comes to the integration of team members bringing many benefits from the increased mutual trust between the coordinator, the team and the other people in the organization, creating and incentive system that implements transparency to employees will avoid problems caused by ethnic, religious and cultural differences, therefore achieving an equitable share of the rewards offered by the entity.

Symbiotic leadership ensures the existence of a strong team spirit aiming to the identification of any member with the group to which it belongs, the trust in the group generating new heights in the levels of effectiveness. According to the concepts of organizational culture there are four addressed categories which include: organizational, economic, national culture and the branching of activities. Particular attention is paid to national culture – the distinct trait of different ways and habits being the key measurement element of each of them.

Organizational culture reflects a new approach on issues related to human resource management. Interest in organizational culture has become one of the braches of modern management, practiced almost in all of the world's organizations, considered a key component in efficient management standards; therefore the organizational culture of a mixed team it's presented like an unitary whole forming an unitary structure with common and divided symbolic and processing elements adopted

by individuals within a group on three levels: beliefs, values but also the type of conduct adopted by individuals within the group.

It's a major impact for a leader of a mixed team the harmonization of the activities first in order to improve teamwork, the great attention is brought to the adaptability capacity to the work environment through efforts submitted by the employee in order to flatten and to fit within the organization, secondly, the leader as the prime holder of responsibility, and thirdly, the team, viewed as a whole, in the position to assimilate one or more newcomers. Redesigning the organization is a common practice in large companies due to certain factors that might threaten its existence: the increasing number of competitive businesses and companies, fewer customer numbers, geopolitical changes etc. Respecting this, the necessity of change interferes within the organization which impacts directly the system the managerial strategy but also the organizational culture of a mixed team. Most often it involves organizational transformation and redesigning the whole organization. In this situation, every coordinator has to lead the team to accept the idea of change as an event that cannot be postponed being the main factor that can transform the company into a more productive organization, generating performance.

CONTINUOUS IMPROVEMENT OF LEADER'S BEHAVIOUR - THE MAIN OBJECTIVE OF A SUCCESSFUL COMPANY

The general objective of a company is to determine accurately the goals, sharing them with the employees that are key elements in grounding the team and its behaviour as a whole, in this situation the team members are no longer focused on cultural differences but to achieve the objectives and the potential differences are regarded as positive elements in finding the best solutions for the entity. The leaders play an essential role because the approach is based on the chemistry between the leader and the team, the mutual trust and also on the collegiality, regardless the hierarchical level at which member is situated on the entity; the client will be seen, first of all, as a person with requirements who needs to be accomplished.

Nowadays it's important to assume leadership in the context of fundamental emphasis on both of the formally and the informally. The informal part will consolidate in time as a direct result of knowing the personality of each team member. The formal fundament it's represented by the knowledge acquired over time and by the default status given to their position obtained when assigned to a management position.

While in the past the emphasis was on the formal fundament, with the passage of time the conception on the leadership style has changed so that the informal fundament linked to the human side began to be placed in the same position with the formal fundament in the characteristics rankings that

determine a successful leader; only together the formal and informal sides can provide the necessary basis of an efficient and effective leadership.

It is considered essential that a leader must possess charisma, being a native trait; charisma is seen as the capacity to determine the involvement of other people in carrying out certain activities. Management training is based on the enhancement of the qualities that the leader was gifted with and the capacity of influence he possesses on other people. "The overall result of these processes is the training of social skills, technical knowledge, communication and the ability of decision making.

The internationalization of economic activity is one of the most current trends in the contemporary economy. In such circumstances the differences between the organizational and the national culture become most spread issues in most of the entities. The main solution is the existence of an organizational culture capable to accept new exogenous cultural elements; the most efficient method is the co-optation of all members through common elements but also a new approach of participative management style.

ESTIMATED RESULTS

Well known variables that any organization has are those such as the company's history - the longer is the history the greater influence has on the company. In a favourable case, the history can be seen as source of continuity, stability and prestige.

Another element that has a high impact is the business owner - it can be represented either by one person or a small group of people either by an organization or a group of members much larger. The main difference is when the owner is unique the general influence on the group has a major impact. If exist a greater number of owners their influence is much lower than the initial case, increasing the direct influence exercised by managers.

The main functions that a leader must adopt in order to harmonize the team are first of all, directing employees in order to achieve common objectives - that is the function with the greatest degree of complexity meant also to generate performing activities in order to achieve the objectives contained in the company's strategies where the decisions taken by the leader are closely related to human resources management.

The company size represented symbolically by turnover, number of employees and capital value has also a major impact on the cultural diversity. A larger organization presents a diversified cultural sphere that is more difficult to coordinate and modelled by the leader. Instead, a smaller company usually does not have a special budget created for team building so it prefer to have employees who come from the same cultural sphere because they are much easier to harmonize .Now the trend is to

reduce the large companies due to the effects of automation, manpower losing more and more ground in front of the technology evolution.

The economic situation of an entity has its own sphere of influence due to the accessibility of financial resources that the company has for its employees. If the resources are restrained and appear certain restrictions on the economic facilities with a direct impact of the professional training is possible to cause stress that doesn't help to integrate all the members of a team.

CONCLUSION

We must start from the premise that there's no successful leader without having a team, meant to follow him, composed of quality members. "The leader's ability to listen, to consider and to put into practice the ideas proposed by the members it presents a multitude of advantages; the first being that it is perceived by the team as interested by their views, giving them feelings such as trust, group affiliation and recognition"[William M., 2005]. The second advantage is represented by the amplification of success generating ideas which reduces the amount of work submitted by the leader in finding the best solutions but also reducing the adjustment period to the new enacted decision, being proposed even within the operational team.

It's important for a leader to be connected of employees and vice versa and if the case of conflicting opinions finding some plausible assumptions that are made for the purpose of persuading the team and not forcing it to apply certain rules that was not supported in the initial phase. Presentations of tasks list that must be performed with the purpose of letting the team come to terms in order to delegate a suitable person for its execution. Also, in the case of process improvement, the purpose of transmitting the information is to raise awareness and not to raise threat.

A mixed team implies a democratic style of leadership with certain dimensions as: cooperation – default teamwork, flexibility given to employees from both of the work program and decision taking as a team point of view. Transparent communication regardless of the hierarchical level both horizontally from employee to employee and vertically, information being propagated from the leading person to the team plus encouraging the vertically upward communication, suggestions coming from employees to managers, leaders encouraging the participative approach.

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THE ROLE OF SOCIAL MEDIA IN CULTURAL DIGITAL MARKETING: THE CASE OF TURIN'S MUSEUMS

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ABSTRACT

The article proposes to verify how the museums that operate in Turin's cultural sector use social media marketing strategies to attract visitors.

The research method was arranged into the following two phases: the first was focused on international and Italian literature on cultural marketing, and particularly social media marketing; the second analysed the digital performances of four museums in Turin: Gam (Modern Art Gallery), La Venaria Reale, Museo Egizio (Egyptian Museum) and Museo Nazionale del Cinema (National Film Museum).

For each of the four museums, we are going to look at the following three aspects: change in fan base, number and change in persons engaged, engagement rate: $[(\text{number of likes} + \text{number of comments} + \text{number of shares}) / \text{total fans or followers on a given day}] * 100$. This third aspect derives from the ratio of the first two and is a more precise indicator than the others, because it allows us to gain a clearer understanding of how many people are active within the community.

Our analysis will look particularly at two of the most famous social networks: Facebook and Twitter, in which we are going to analyse the data gathered during a given period of time (seven days), to prevent alteration of our reference sample.

The results linked to the efficiency of use of these levers confirm that we are in a position which is not yet the one we would like to be in, as the efforts currently being made by the museums still have a modest influence on real users and these tools, while being appreciated, are still poorly structured in relation to the public, failing to generate the active participation hoped for. Nevertheless, there are some national museums, such as La Venaria Reale, with much better digital activity than others, succeeding in achieving significant results in terms of user engagement.

Keywords: *cultural digital marketing, social media marketing, museum sector.*

1. INTRODUCTION

This article looks at social media and innovative and digital marketing tools in the cultural and museum sector. We are going to try and identify the effectiveness and method of use of these tools by the cultural organisations, also analysing the degree of engagement of social users and how they interact with the content published on social networks or the web.

This research project is helpful in order to understand whether technology and digitalisation are useful if used in a cultural sphere or if culture is still seen as an element of a certain weight and level, so much so as to be kept separate from this digitalisation that is affecting every market sector.

We are going to analyse the current markets and settings within which culture moves, with all the variables that can influence it more or less directly and with which it has to relate.

The article will be structured as follows:

- Introduction;
- Analysis of literature: cultural marketing and social media marketing;
- Research method;
- Analysis of four of Turin's museums: GAM, Museo Egizio, Museo Nazionale del Cinema e La Venaria Reale;
- Conclusions and limits of the research.

The real aim of the article however is to identify the strategies implemented by the museums on the social networks, and how effective they are. To measure this, we are going to use certain aspects identified in the digital sphere, analysing the cultural situation in Piedmont, also making a comparison at national level, focussing particularly on four of the most important museums in Turin: GAM, Museo Egizio, Museo Nazionale del Cinema and La Venaria Reale.

According to the data collected in the last annual report of the OCP (Piedmont Cultural Observatory, 2013) on the state of culture in Piedmont, the reduction in consumption seems to be general, covering all areas of cultural fruition, from live entertainment, to museums and reading.

In general, analysing the data collected in recent surveys, in Piedmont there is a constant reduction in participation in the cultural offering presented, because the needs of the public are being met less and less, despite an increase in the consideration of culture as a decisive factor for future economic and territorial development. However, the OCP supplies more detailed analyses, showing us that not everything is negative when it comes to Piedmont's museums. 2011, for example, was a year of great growth, but this development was followed by a physiological drop in 2012 and then another significant increase in 2013 (twice the growth of the national figure). Turin and the region of Piedmont have become important cultural tourism destinations and, against drops in visitors from within the region, there has been an increase in visits from outside Piedmont.

2. ANALYSIS OF LITERATURE: CULTURAL MARKETING AND SOCIAL MEDIA MARKETING

2.1 *Cultural marketing*

The concept of marketing might seem inappropriate if associated with culture and cultural products, but in actual fact, we can, without doubt, state that believing that marketing is a function that tends to diminish or somehow reduce the role of culture to a mere business operation is wrong and counterproductive. On the contrary, it becomes an essential means with which to grow a cultural organisation and, also considering the difficulties present on the market and encountered by the cultural offering, going without it would lead to certain failure (Foglio A., 2005). Various authors have conceptualised the aims and spheres of action of cultural marketing, systemising the tools and models that should be applied to pair the “products” with the markets of art and culture, and the pioneers of everything that we still remember today are definitely Diggle, Mokwa, Dawson and Prieve. According to Diggle, in his first book on the subject, the main aim of cultural marketing and marketing of the arts is to bring as many people as possible into contact with the artist or the creating organisation and, in this way, obtain the best financial result possible (Diggle K., 1976). A very similar definition is supplied by the literature of Mokwa, Dawson and Prieve, who claim that marketing consists in pairing the creations and interpretations of the artist with the right audience (Mokwa M. & Dawson W. & Prieve A., 1980). Other attempts at defining cultural marketing are supplied by Francois Colbert and Dominique Bourgeon-Renault. The first sustains that: “marketing is the art of reaching those market segments that can be potentially interested in the product, adapting the commercial variables, such as price, distribution and promotion, to the product, to put the latter in touch with a sufficient number of consumers and to achieve the goals coherent with the mission of the cultural enterprise” (Colbert, 2000). The second, on the other hand, defines marketing as: “the combination of tools available to an organisation to arouse behaviour by the public that is favourable to the achievement of institutional goals, all independently of the more or less commercial orientation of the cultural enterprise” (Dominique Bourgeon-Renault, 1995). A more innovative definition is supplied by Giampaolo Fabris and various other authors, who highlight the evolution that the whole of marketing, including cultural marketing, is undergoing, sustaining that we are passing from a “to the market” philosophy, in which consumers are identified and targeted, playing a passive role, to a “with the market philosophy”, in which consumers cooperate within the production process (Fabris G., 2009). Marketing is that combination of methods and philosophies, according to Kotler and Keller, that aims to promote a certain product or service with clients/consumers and, to obtain what it requires, acts in compliance with certain directives:

- the preparation of a project to promote and enhance the value of the cultural product, with a

“to the market” philosophy;

- the planning of a cultural offer based on clearly defined client targets;
- placement of the client/consumer at the centre of attention, trying to meet his expectations and fulfil his desires, denoting a certain orientation towards the client.

This last point is the most critical in the cultural sphere, because a cultural product cannot respond absolutely to the client’s needs during its creation and planning, but has to comprise a series of values and ideas of the producer (Colbert F., 2000).

Cultural marketing has the task not only of trying to meet the needs expressed by the clientele, but also of creating new needs, which are not perceived and, consequently, those who work in cultural marketing cannot follow user needs to the full, but must try to promote culture while sustaining its own values. Cultural marketing has to know how to approach the user/client, but knowing that its activity cannot end there, because culture cannot be reduced to a mere calculation of immediate utility (Rosco M., 2011).

The economic literature on marketing has highlighted growing interest in all that combination of techniques that can also be applied in an artistic and cultural sphere.

In particular, attention has been focused on an in-depth study of the public and public habits, in order to try and understanding what makes people approach cultural institutions and what could have the opposite effect. On this matter, the challenges faced by cultural marketing in recent years have mainly concerned the ability to stimulate the public, the expansion of the public (both in numeric terms and with regard to the differentiation of the range of users), the development of proposals and projects that encourage the associative activity of users of culture and everything that concerns or can in some way be traced back to fund raising¹ (Chong, 2000).

In order to survive, an artistic organisation or a cultural institution has to focus on satisfying the needs expressed by the public, but at the same time it has to perform an active role in “training” that same public, in order to ensure that, in time, consumers will respond to an offer which is closer and closer to the organisation’s vision (Kotler P. and Scheff J., 1997).

A considerable point of weakness in the cultural sphere is represented by the fact that many organisations, especially in Italy, find it hard to accept the idea of cultural marketing oriented towards the consumer, despite the need to pay maximum attention to the public (both real and potential) becoming more and more evident and pressing (Dennehy, 1999). The role played by marketing in this sense should enable cultural organisations to further the knowledge of existing clients and identify

¹ "Fundraising or fund raising is the process of gathering voluntary contributions of money or other resources, by requesting donations from individuals, businesses, charitable foundations, or governmental agencies (see also crowd funding). Although fundraising typically refers to efforts to gather money for non-profit organizations, it is sometimes used to refer to the identification and solicitation of investors or other sources of capital for for-profit enterprises.", www.wikipedia.org

potential new ones, conquering new market segments (Hill E. & O'Sullivan C., 1995).

Cultural marketing is a creative process which accompanies a cultural product/service in all its initial phases, from its concept and construction to its sale, advertising and promotion, through to its final acceptance by the target to which it is aimed. It isn't enough to have a good product to be successful, and in this sense the presence of a marketing activity/plan which allows the cultural enterprise to arrive at the final demand in a satisfactory manner, respecting the company mission, is essential. In short, thanks to marketing, a cultural organisation has to create a process that envisages an approach by the product/service to its user, and, at the same time, an approach by the end user to the product/service offered.

Lastly, cultural marketing carried out the following functions: analysis and research, aimed at understanding the cultural market, the public of users and their needs and preferences; promotion, to stimulate and orient not only cultural demand but also real and potential donors and sponsors; persuasion, in order to gain the consensus of demand and the financiers of the cultural organisation; control, in that control over and regular checks on the work carried out and, more generally, on the process and renewal underway are necessary for marketing to be helpful for the renewal of the offer, often "accused" of covering excessively traditional and conservative positions (Severino F., 2011).

2.2 Social Media Marketing

Marketing has used a variety of media to keep clients loyal to the brand, including the brand elements, the classic marketing mix variable and new marketing methods, such as events, sponsorships, one-to-one marketing activities, internet marketing and social media marketing (Erdogmus & Cicek 2012). Social Media have changed the power structure on the market, thanks to the birth of a new generation of clients with greater and more sophisticated power, who are hard to influence, persuade and keep in time (Costantinides 2014). The managers of the twenty-first century need to consider the numerous opportunities and threats that the Web 2.0, social media and creative consumers offer. "Creative consumers" are the new allocation of value in the Web 2.0 and the engine of the new media world; they are involved in the promotion or demolition of brands through the creation of advertising videos (Berthon, Pitt & Campbell 2008), in the alteration of the ownership of products and services and in the distribution of these innovations (Berthon et. al. 2007; Mollick 2005).

Berthon et al. (2012) propose five axioms:

- a. social media are often a function of the technology, culture and management of a particular country or area;
- b. local events rarely remain local;
- c. global events are likely to be reinterpreted locally;

- d. the actions and creations of creative consumers depend on technology, culture and governance;
- e. technology is historically dependent.

The proliferation of media, the globalisation of the markets and the emerging of a new generation of information and communication technologies (Internet being the most important), are changing the rules of commercialisation and market dynamics, weakening the competitive position of enterprises (Porter 2001), giving people lots of new opportunities and power (Christopher 1989; Wind & Mahajan 1997; Rha et al. 2002; Bush 2004; Urban 2005). In the change in the marketing sphere, the role of internet and particularly the development of the Web 2.0, like the role of social media, become essential. For marketing strategies, the message is simple: surviving at a time when the consumer holds the greatest power requires less dependence on traditional mass marketing strategies, knowledge of the role of technology in the formation of the market and, even more importantly, involvement of social media as a marketing tool becomes a strategic imperative (Constantinides 2014).

3. RESEARCH METHOD

HP: the aim of this research project is to understand how and with what results digitalisation and social media marketing are used in the cultural sector.

The research method has been structured into the following two phases:

- a first phase is focused on international and national literature on cultural marketing and specifically social media marketing;
- in the second phase, the digital performances of four of Turin's museums - Gam, La Venaria Reale, Museo Egizio and Museo Nazionale del Cinema – were analysed.

For each of the four museums, we are going to look at the following three aspects:

- Change in Fan Base: by fan base we mean the extension of the community of a brand in a particular social network, so the number of fans in the case of Facebook and of followers in the case of Twitter, Google Plus or other social networks. In terms of brand awareness, the change in fan base, in particular its growth, is an important index of the increase in dissemination and knowledge of the brand, as well as the effectiveness of specific advertising campaigns that pursue said aim;
- Number of and change in persons engaged: this represents those who perform an action in relation to the company, in particular interacting with it via likes, comments or shares. Reasoning in terms of persons engaged instead of simple terms of fans or followers, increases the quality of the metric analysis performed. It is also useful to compare these two figures, as well as their reciprocal change in time;

- Engagement rate: $[(\text{number of likes} + \text{number of comments} + \text{number of shares}) / \text{total fans or followers on a given day}] * 100$. This third aspect derives from the ratio of the first two and is a more precise indicator than the others, because it allows us to gain a clearer understanding of how many people are active within the community.

Our analysis will look particularly at two of the most famous social networks: Facebook and Twitter, in which we are going to analyse the data gathered during a given period of time (seven days), to prevent alteration of our reference sample.

The main characteristics, strengths and weaknesses of the two social networks used for our analysis are shown below (table no. 1).

Table no. 1

| Strengths | | Weaknesses | |
|--|---|---|---|
| Facebook | Twitter | Facebook | Twitter |
| Versatility | Excellent for talking to enthusiasts, colleagues and other institutions | Requires a constant presence, especially if users are allowed to post content on the page | Required capacity of synthesis |
| High capacity to visualise content (important in the case of successful posts) | Essentiality | High capacity to visualise content (negative in the case of errors, known in jargon as fails) | Need to learn and recognise influencers and communicate with them |
| The advertising campaign costs adapt to any budget | | Necessary to create posts regularly to maintain visibility | Need to know how to manage crises and provocations |
| Very high number of registered and active users | | Avoid making too many posts because the spam effects causes followers to unlike the page | |
| Makes data available for public profiling | | | |

Source: Fondazione Fitcarraldo, report.....

4. ANALYSIS AND RESULTS ACHIEVED BY TURIN'S MAJOR MUSEUMS: GAM, LA VENARIA REALE, MUSEO EGIZIO AND MUSEO NAZIONALE DEL CINEMA

Now let's carry out a more direct and tangible analysis of the three aspects mentioned earlier, which enable us to understand how the most important museum's in Turin move on the social networks and try to attract as many people on-line as possible. In particular, we are going to concentrate on the following museums: GAM (Modern Art Gallery), Museo Egizio (Egyptian Museum), Museo Nazionale del Cinema (National Film Museum) and La Venaria Reale.

GAM

TABLE 2: FACEBOOK/TWITTER

(week from 08/12/2015 to 14/12/2015)

| Date | N. Post/N. Tweet | | Fan/Follower Base Change | | Changes people involved | | | | | | Engagement Rate | |
|------------|------------------|------|--------------------------|-------|-------------------------|---------|----------|------------|----------|----------|-----------------|-------|
| | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR |
| | | | | | n. like | n. like | n. share | n. retweet | commenti | risposte | | |
| 08/12/2015 | 0 | 0 | 21288 | 17200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09/12/2015 | 0 | 0 | 21301 | 17215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10/12/2015 | 0 | 0 | 21316 | 17228 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11/12/2015 | 1 | 4 | 21328 | 17242 | 101 | 25 | 2 | 35 | 13 | 3 | 0,54% | 0,36% |
| 12/12/2015 | 0 | 0 | 21348 | 17266 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13/12/2015 | 0 | 0 | 21367 | 17292 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14/12/2015 | 1 | 3 | 21380 | 17300 | 10 | 19 | 0 | 11 | 0 | 0 | 0,05% | 0,17% |
| Totale | 2 | 7 | 21380 | 17300 | 111 | 44 | 2 | 46 | 13 | 3 | 0,60% | 0,54% |
| Media | 0,28 | 1,00 | 21333 | 17249 | 15,86 | 6,28 | 0,28 | 6,57 | 1,86 | 0,43 | 0,08% | 0,07% |

The figure show how the activity of the GAM on this social network during the reference period lacked continuity. Only two posts were published in a week and this was possibly too few to achieve significant results in terms of engagement and interaction with users. On average, the engagement rate was 0.08 %, less than 1%, our reference value. However we must specify that on most days, it was 0 due to the absence of content published on a daily basis. In terms of total and on the 11th of December, it reached a good result of 0.6% and, considering the value of the fan base of reference, this was in line with that expected in theory. Also in reference to the fan base, we can notice a slight increase, but another less positive note regards the number of interactions, which has a significant effect, again only on the 11th of December.

The figures relating to Twitter are much more encouraging than those for Facebook. The weekly tweets were higher in number than the posts published on the other social network and, on average, equal to one, but in the space of just two days. Their acknowledgement by the follower base of reference is relatively low compared to the theoretic benchmark but is better than other institutions analysed later. The average daily engagement rate is a modest 0.07%. Only the total reaches a good result, of 0.54 %, similar to the previous situation. The follower base of reference increases daily, setting at a value of around 17,300 units, and is the highest here on Twitter among the four museums considered.

LA VENARIA REALE

TABLE 3: FACEBOOK/TWITTER

(week from 08/12/2015 to 14/12/2015)

| Date | N. Post/N. Tweet | | Fan/Follower Change | | Base Changes people involved | | | | | | Engagement Rate | |
|------------|------------------|------|---------------------|--------|------------------------------|---------|----------|------------|----------|----------|-----------------|-------|
| | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR |
| | | | | | n. like | n. like | n. share | n. retweet | commenti | risposte | | |
| 08/12/2015 | 2 | 1 | 104.886 | 11.900 | 395 | 2 | 75 | 4 | 4 | 0 | 0,45% | 0,05% |
| 09/12/2015 | 1 | 3 | 104.995 | 11.913 | 220 | 13 | 60 | 18 | 0 | 0 | 0,26% | 0,26% |
| 10/12/2015 | 1 | 1 | 105.099 | 11.931 | 63 | 14 | 11 | 12 | 1 | 0 | 0,07% | 0,22% |
| 11/12/2015 | 2 | 2 | 105.192 | 11.955 | 520 | 12 | 60 | 4 | 8 | 0 | 0,55% | 0,13% |
| 12/12/2015 | 1 | 1 | 105.348 | 11.984 | 623 | 6 | 52 | 4 | 95 | 0 | 0,76% | 0,08% |
| 13/12/2015 | 1 | 1 | 105.491 | 11.997 | 1.716 | 4 | 244 | 5 | 18 | 0 | 1,87% | 0,07% |
| 14/12/2015 | 2 | 1 | 105.654 | 12.008 | 413 | 7 | 40 | 4 | 6 | 0 | 0,43% | 0,09% |
| Totale | 11 | 10 | 105.654 | 12.008 | 395 | 58 | 542 | 51 | 132 | 0 | 4,37% | 0,91% |
| Media | 1,57 | 1,43 | 105.238 | 11.955 | 5.642 | 8,29 | 77,43 | 7,29 | 18,86 | 0,00 | 0,63% | 0,13% |

As regards La Venaria Reale, the Facebook figures definitely highlight a more structured activity than that of the previous museum. The posts are published daily, with a daily average of 1.5, and the fan base is high – the largest of all four museums analysed. But the most interesting thing, is the considerable change in persons engaged. We can see how they interact constantly with the posts published on the fan page, reaching interesting figures, such as 1,716 “likes” and 244 “shares” on 13/12/2015. The average engagement rate is in line with expectations and is the best of all four cases analysed, reaching an optimum result overall, settling at around 5%.

On Twitter too, the social activity performed by La Venaria Reale is daily, with the publication of at least 1.5 tweets a day during a week. In this case, unlike the previous museum, the follower base is smaller than that on Facebook, but only slightly lower than for the previous museum. The average engagement of users is lower than the 1% threshold, as with all the museums on this social network, while the total almost reaches the benchmark expected. The average number of interactions is second only to the National Film Museum.

MUSEO EGIZIO

TABLE 4: FACEBOOK/TWITTER

(week from 08/12/2015 to 14/12/2015)

| Date | N. Post/N. Tweet | | Fan/Follower Change | | Base Changes people involved | | | | | | Engagement Rate | |
|------------|------------------|------|---------------------|-------|------------------------------|---------|----------|------------|----------|----------|-----------------|-------|
| | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR |
| | | | | | n. like | n. like | n. share | n. retweet | commenti | risposte | | |
| 08/12/2015 | 0 | 0 | 81.993 | 9.479 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00% | 0,00% |
| 09/12/2015 | 1 | 1 | 82.153 | 9.485 | 480 | 11 | 97 | 11 | 5 | 0 | 0,71% | 0,23% |
| 10/12/2015 | 1 | 1 | 82.214 | 9.499 | 319 | 3 | 93 | 3 | 10 | 0 | 0,51% | 0,06% |
| 11/12/2015 | 0 | 0 | 82.318 | 9.508 | 0 | 0 | 0 | 0 | 0 | 0 | 0,00% | 0,00% |
| 12/12/2015 | 0 | 1 | 82.496 | 9.517 | 0 | 1 | 0 | 2 | 0 | 0 | 0,00% | 0,03% |
| 13/12/2015 | 0 | 1 | 82.646 | 9.529 | 0 | 1 | 0 | 0 | 0 | 0 | 0,00% | 0,01% |
| 14/12/2015 | 0 | 1 | 82.835 | 9.543 | 0 | 18 | 0 | 16 | 0 | 2 | 0,00% | 0,38% |
| Totale | 2 | 5 | 82.835 | 9.543 | 732 | 34 | 190 | 32 | 15 | 2 | 1,13% | 0,71% |
| Media | 0,28 | 0,71 | 82379 | 9509 | 104,57 | 4,86 | 27,14 | 4,57 | 2,14 | 0,29 | 0,16% | 0,10% |

As regards the Museo Egizio, the figures for Facebook highlight a considerable engagement and interaction by fans with the posts published on the museum's official page, despite the activity being occasional and not daily. All this is different to what happened before, because the contents are appreciated much more than those published by other museums. Consequently, much more satisfactory results could be achieved if this activity was more structured, having a greater influence also on the Engagement rate, the total and daily value of which is perfectly in line with the benchmark identified. The fan base is the second highest among the four examples analysed and increases very quickly during the week, adding another thousand units to the initial value. This is further proof that the users of Facebook find the Museum's official account interesting, also considering the importance and prestige at international level.

The Museum's official Twitter account is definitely busier than its Facebook page, because approximately one Tweet a day is published. The recurring problem continues to concern the low daily engagement and the low interaction of followers with the tweets published. The only exceptions are the 9th and 14th of December, when the values were better than the weekly average. The follower base settled at a rather low value compared with all four museums considered.

MUSEO NAZIONALE DEL CINEMA

TABLE 5: FACEBOOK/TWITTER

(week from 08/12/2015 to 14/12/2015)

| Date | N. Post/N. Tweet | | Fan/Follower Change | | Changes people involved | | | | | | Engagement Rate | |
|------------|------------------|------|---------------------|-------|-------------------------|--------|---------|-----------|----------|----------|-----------------|-------|
| | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR | FB | TWTR |
| | | | | | n like | n like | n share | n retweet | commenti | risposte | | |
| 08/12/2015 | 0 | 2 | 20.585 | 8.124 | 0 | 2 | 0 | 7 | 0 | 0 | 0,00% | 0,11% |
| 09/12/2015 | 0 | 3 | 20.587 | 8.126 | 0 | 6 | 0 | 14 | 0 | 1 | 0,00% | 0,26% |
| 10/12/2015 | 0 | 3 | 20.591 | 8.128 | 0 | 1 | 0 | 5 | 0 | 0 | 0,00% | 0,07% |
| 11/12/2015 | 1 | 2 | 20.604 | 8.139 | 85 | 4 | 1 | 5 | 1 | 0 | 0,42% | 0,11% |
| 12/12/2015 | 2* | 4 | 20.625 | 8.146 | 1 | 21 | 0 | 27 | 0 | 0 | ~0 | 0,60% |
| 13/12/2015 | 1* | 3 | 20.661 | 8.154 | 0 | 3 | 0 | 6 | 0 | 0 | 0,00% | 0,11% |
| 14/12/2015 | 1* | 3 | 20.692 | 816 | 0 | 14 | 0 | 14 | 0 | 0 | 0,00% | 0,34% |
| Totale | 5* | 20 | 20.692 | 816 | 86 | 51 | 1 | 78 | 1 | 1 | 0,42% | 1,60% |
| Media | 0,71* | 2,86 | 20.621 | 8.140 | 12,28 | 7,29 | 0,14 | 11,14 | 0,14 | 0,14 | 0,06% | 0,23% |

The data taken from Facebook shows something particular about the posts published. During the period between 11/12/2015 and 14/12/2015 no new posts were published. The same one is reposed constantly, containing a photo album which is updated every day with new pictures, referring to a particular topic. In short, this activity makes it possible to update the content published on the museum's fan page but does not generate new interactions with users, apart from those earned with the first publication. All this is highlighted by the value of the daily engagement rate, which is 0.42% on the day the photo album is published for the first time, then falling to 0 because the post proposed is always the same and captures no new interaction, engaging no new users. All this negatively influences the average engagement rate. The fan base, on the other hand, is quite similar to that of the Gam but is the lowest of all four museums analysed.

Of the four museum's analysed, the Museo Nazionale del Cinema is the most active on Twitter, having published a total of 20 tweets, with an average of almost three daily tweets. The number of persons involved is the highest among all four museums. This rewards the social activity performed by this organisation, also proved by the result achieved by the engagement rate at overall level (approximately 2%), and at daily level. The average is the highest in our analysis. Much less encouraging results come from the value of the follower base, the final value of which sits modestly at 8,160, the lowest of all.

5. RESULTS AND CONCLUSIONS

Comparing the four museums analysed earlier, we can see how the best results on the social network Facebook are reached by La Venaria Reale, both in terms of engagement rate and in terms of number of interactions and persons engaged with the posts published. This organisation definitely shows that it has a more consolidated digital strategy than the other three, because also on the second social network analysed (Twitter), it shows a continuity and a daily engagement of its followers. Another particularly positive aspect regards the results obtained on Twitter by the Museo Nazionale del Cinema. Despite its limited follower base, it manages to obtain interesting results in terms of user engagement in its community. On the other hand, it seems to lack continuity in terms of content published on Facebook.

Things for the Museo Egizio are exactly the opposite. Its posts on Facebook are considered very attractive and always engage a fair number of users, with excellent engagement rates comparable to those of La Venaria Reale. Although it does not publish posts on a daily basis, the potential of this organisation is very high, also considering the fan base, second in size among all four cases analysed. On the other social network of reference, the Museo Egizio obtains less brilliant results, but they are still in line with those achieved by the other three museums.

Lastly, for the GAM, we can definitely see how the digital strategy implemented by this organisation is less constant at daily level than the other organisations analysed before. Despite this limit, on both social networks, the community is similar in size and reaches a value which can be described as “average” in relation to the four cases examined. The same can be said for the values achieved in terms of change in persons engaged and engagement rate, results for which the weekly average is distant from the theoretic average identified.

From the analysis of the results obtained, we can see that, also in the cultural sphere, we use digital technologies to improve communication, as operators have realised that the new technologies and new digital media can be very helpful in divulging information, building and positioning brand image, developing identity and generating new clients.

Users also show their appreciation of the fact that these innovations are now also engaging the “highbrow” and “sophisticated” world of museum culture.

Unfortunately however, despite this appreciation by the public, the analyses performed still highlight certain problems for museums in this sense, as the social and digital side of things does not always manage to achieve the best results or is not monitored constantly and daily. Consequently, users are unable to make complete use of these tools to gain information on what’s on offer. This highlights the fact that something is still not working properly, and that the efforts made by the museums are still not entirely sufficient. More has to be done in this sense to ensure that users really see what the museums are trying to communicate.

Undoubtedly, the right road has been taken, in that it allows the museums to “keep up with progress”, to interact with users directly and without placing themselves too “high” and too “far” from them, to reach a very large number of users and do all this within a fairly restricted budget. In terms of effective use of these levers, we can say that we are not yet in the position we would like to be in, because the efforts being made by the organisations still have a modest effect on real users, and these tools, while being appreciated, are still poorly structured in relation to the public, failing to make people participate actively. Nevertheless, there are some national museums, such as La Venaria Reale, with much better digital activity than others, succeeding in achieving significant results in terms of user engagement.

The positive aspect that we would like to highlight regards the results achieved on a daily basis, because every one of the four museums analysed shows prospects of growing interaction by users in relation to the content published and, consequently, a growing involvement of every member of the community.

INNOVATION THROUGH ACQUISITION IN FOOD INDUSTRY: A CASE STUDY

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ABSTRACT

Recent studies on innovation in food industry have emphasized the importance of external sources of knowledge and collaboration in the innovation development process, in line with the open innovation paradigm. In particular, they highlight the key role of acquiring knowledge and building strategic networks with external sources in order to compete and grow. Nevertheless, literature has not thoroughly investigated the effects of acquiring another firm on firm's innovation structure, and on both product and process innovation, even if management literature recognised its strategic role. Indeed, the effects of acquiring another firm are fairly investigated, but not in the food industry. In this context, the paper aims at filling this gap by studying the effects of an acquisition in food industry with particular emphasis on the benefits and synergies in terms of product and process innovation. To reach this goal, we employ a qualitative methodology, focused on a single case study. The case study is relevant as it indicates that acquisition in food industry can be a strategic path in order to enhance innovativeness and sustaining competitiveness.

Keywords: *innovation, acquisition, external knowledge, food industry.*

INTRODUCTION

The food industry is one of the most important engine for growth in the Italian and European economic environment, with a significant contribution in terms of employment and economic output (Avermaete, 2002; Menrad, 2004; Bigliardi and Galati, 2013; FoodDrinkEurope, 2014). In this context, innovation in food industry is recognized as a key strategy to sustain competitive advantages and satisfy consumer needs, in the current scenario of characterized by uncertainty, globalization and increasing competition.

Literature on the food industry is rich and has deeply investigated the presence of various types of innovation (Capitanio et al., 2010) and the changes taking place in business models (Baregheh et al., 2012). Some recent studies on innovation in food industry have emphasized the importance of external sources of knowledge and technology in the innovation development process (Sarkar and Costa, 2008; Enzing et al., 2011), in line with the open innovation paradigm (Chesbrough, 2003). In

particular, they point out the key role of acquiring knowledge and building strategic networks with market-based and technology-based external sources in order to compete and growth. Nevertheless, literature has not thoroughly investigated the effects of acquiring another firm on firm's innovation structure (Gerpott, 1995), and on both product and process innovation, even if management literature recognised its strategic role (Bower, 2001). Indeed, the effects of acquiring another firm are fairly investigated, but focused on other industry (Ahuja and Katira, 2001).

In this context, the paper aims at filling this gap by studying the effects of an acquisition in food industry with particular emphasis on the benefits and synergies in terms of product and process innovation. To reach this goal, we employ a qualitative methodology, focused on a single case study.

The article is structured as follows: first, we provide a literature review on innovation in food industry and innovation through an acquisition, identifying the gap. The research method is then delineated. Next, the findings of the case study are presented and discussed. Finally, the conclusions and implications of the study are set out, along with the limitations of the research.

LITERATURE REVIEW

Innovation in Food Industry

In many sectors, innovation is the key strategy for the search and development of competitive advantages (Bresciani and Ferraris, 2014). Innovative firms build and maintain competitive advantage by developing products that can allow to achieve a sustainable position on a market that is characterised by international competition and increasing customer demands. In this view, innovation is understood as the activity through which new ideas developed allow to generate output such as new products, new services and new processes (Tidd et al., 2005). Product and process innovations are the result of an interactive process in which actors within the firms together with actors from external organisations translate knowledge and techniques into new products and processes (McKelvey, 1996). Moreover, Damanpour (2009) suggests that innovation is often driven by pressure from external environment, including factors such as competition, deregulation, isomorphism, resource scarcity, and customer demand (Baregheh et al., 2012).

In such a framework, innovation in food industry is deemed particularly important. The food industry is one of the most important engine of growth in the Italian and European economic environment, with a significant contribution in terms of employment and economic output (Avermaete, 2002; Menrad, 2004; Bigliardi and Galati, 2013; FoodDrinkEurope, 2014). Although the food industry is recognized as low R&D intensity, mature and slow growing industry (Sandven and Smith, 1993; Costa and Jongen, 2006; Rama, 2008), products and process innovation are recognized as an important strategic key to sustain competition in the food high-competitive environment and satisfy consumer

needs (Menrad, 2004). In fact, consumers are increasingly demanding products variety, with different tastes and dietary products (Costa and Jongen, 2006). This requires the introduction of new products, more customized, focused to the needs of consumers that are changing rapidly. Furthermore, it encourages firms to develop process innovations in order to reduce costs associated with the development and production of new products and increasing efficiency.

Empirical studies on type of innovation in the food sector show different results. Grunert et al. (1997) propose that successful firms have a mix of process orientation, product orientation and market orientation. In a similar vein, Menrad (2004) noted that two-thirds of their sample were engaged in both product and process innovations and Brewin et al. (2009) identify an interrelationship between product and process innovation. Conversely, Avermaete (2002) points out that food firms are mainly engaged with incremental product and process innovations with a low rate of radical process innovations. Likewise, Capitanio et al. (2010), studying the innovation process on a sample of Italian firms, show that food firms develop more process innovations than product innovations, and that a large part of product innovations are incremental. Finally, some scholar underline the importance of packaging, within product innovation, in the relationship with the final customer (Gellynck and Vermeire, 2009).

Moreover, the food industry has been facing technical and economic changes both in society and in the manufacturing and food processing. This has led to a relevant impact on the food value chain, and forced firms to pay high attention in food products that meet the consumers' demand for a healthy lifestyle (Bigliardi and Galati, 2013).

These factors have changed the innovation approach of firms from the food industry, which must increasingly take into account both internal and external sources for innovation (Chesbrough, 2006; Sarkar and Costa, 2009). Nevertheless, although the literature shows that acquiring knowledge and technology from external sources in the food industry is positively associated with innovation, it has not thoroughly investigated the effects of an acquisition of another firm on innovation of the acquiring firm.

Innovation through acquisition

Innovation is traditionally driven by internal activities and capabilities (Cohen and Levinthal, 1990) and external factors and pressures of the market (Arora et al., 2001). Success and competitive advantage depend on the ability of the company to integrate, build and reconfigure internal and external resources to address rapidly changing environments (Cohen and Levinthal, 1990; Chesbrough, 2003). In fact, innovation and knowledge management literature agree that product and process innovation performance increase with a larger internal knowledge base (Chesbrough, 2003).

For this reason, external knowledge can be seen as complementary of the internal one (Chesbrough and Crowther, 2006).

In this context, the growth of firms is indicated by scholars, experts and policy makers as one of the main strategic levers in order to enhance innovative capacity and to sustain competitive advantages. Often, acquisition of another firm is the more quickly and effective strategy to get firm growth (Ahuja and Katila, 2001). This operation can lead to several advantages including a better propensity for innovation, in terms of process and product (Adner and Levinthal, 2001). As for process innovation, acquisition can help achieving economies of scale and scope by reducing the average cost of production and creating synergies between complementary assets (Singh and Montgomery, 1987). Moreover, it can foster new organizational models and accessing the research and innovation capacity, a greater knowledge base and technology to introduce new products and services. According to Bower (2001), acquisitions occur for five reasons: to deal with overcapacity through consolidation in mature industry; to roll-up competitors in geographically fragmented industries; to extend into new products or markets; as a substitute for R&D; and to exploit industry boundaries by inventing an industry. Thus, the last three highlight that the acquisition of another firm is a strategic key to accelerate innovation, having access to new products, acquiring resource, technology and knowledge (Shuen et al., 2014).

More in particular, obtaining technological know-how and developing technical capabilities are increasingly important motives for acquisitions (Wysocki, 1997).

Some scholar proved evidence of positive effect of an acquisition on firm's innovativeness. In detail, an acquisition of a firm is viewed as an absorption of the acquired firm's knowledge base (Ahuja and Katira, 2001). Furthermore, such a process can potentially expand the acquirer's knowledge base and increase its innovation output by providing economies of scale and scope in research and by enhancing the acquirer's potential for inventive recombination (Fleming, 1999). Conversely, other scholars agree that acquisition can lead to negative effects on firm's innovativeness. Specifically, acquisition involves managerial issues, integration problems and transaction costs (Zollo and Singh, 2004). More specifically, Ahuja and Katira (2001) found that technological acquisitions enhance innovation performance while non-technological acquisition do not have a significant effect on subsequent innovation output. Certainly, the success of an acquisition also depends on the complementarity of the firms, but also on the approach to innovation and state of the firm's culture. In this context, the combination of tradition and innovation often plays a key role (Tushman and Nadler, 1986; Festa et al., 2015). In addition, culture and attachment to the land can foster the integration of two different realities, promoting the values of entrepreneurial tradition of a certain place and the

satisfaction of customers' perceptions about local cultures and natural elements and traditions (Vrontis and Thrassou, 2011).

The combination between tradition and innovation is often moderated by the factor "familiness" (Arregle et al., 2007; Carnes and Ireland, 2013; Sirmon and Hitt, 2003). In particular, family businesses have a strong sense of long-term investment and vision and tend to invest domestic resources in developing new products or improving processes, building competitive advantage based on the strong link between the traditional and innovation (Giacosa, 2012). This combination further enhances the brand identity of firm (De Chernatony, 2001). According to the resource-based view, acquisition helps in redeploying resources into a more productive uses and improve efficiency of the process combining strategic assets (Capron et al., 1998). In particular, the acquisition of another firm helps to promote integration between various tangible and intangible resources (Bruce and Hines, 2007) promoting the brand awareness and the exclusivity of the goods (Kapferer, 2002). In a market-oriented perspective, the intangible elements attract attention of the customers by playing on the five senses (Giacosa, 2012), and allow to involve them more and more in the buying experience (Flynn and Goldsmith, 1993).

Despite this rich background, innovation through acquisitions in the food industry remains neglected.

METHODOLOGY AND CASE STUDY

As the proposed model has to represent best practice behaviour for the company in making innovation, our proposition is the following:

For a full consideration of innovation, the model should be a combination of two critical factors: i) a combination between tradition and innovation; ii) a combination between several skills owned by Boella and Sorrisi before the acquisition.

The methodology has been structured as follows:

- the first phase has been focused on a literature review, paying particular attention on innovation strategy in food sector, as well as a study of innovative strategies through acquisition;
- in the second phase we made a case study. The case study method permits to investigate and understand the phenomenon under investigation, avoiding a purely descriptive approach. In addition, the case study method permits to analyze the theories identified in the literature review in a real-life context (Yin, 2009).

We appreciated the case study method for several reasons. Firstly, the observed phenomenon is rather specific and determined by the specific features of the company and its context (Merriam, 1988). Secondly, the phenomenon under investigation has been analyzed in its real-life context, although a strong theoretical basis doesn't support it (Siggelkow, 2007). Thirdly, innovation in family business is

a phenomenon with a great relevance, in Europe and worldwide (Yin, 1984). Fourthly, thanks to the use of a “variety of lenses” in the case study, the way single variables act within the context could be understood (Eisenhardt, 1989), in addition to the multiple aspects of the phenomenon under investigation (De Massis and Kotlar, 2014). Lastly, the case study method permits to generate and test theories on the given topic (Siggelkow, 2007), creating relevant facts and improving the managerial field with new and interesting intuitions (Amabile et al., 2001).

Several source of information has been used (Eisenhardt, 1989). The main source of information was represented by semi-structured interviews (Corbetta, 2003) with Stefano Silvola (SS), the CEO of the company, in 2015 and 2016. He is involved in innovation-related decisions. We interviewed him two times to clarify some important topics. Each interview lasted about 2 hours and was conducted by two of the authors of the research. The answers were transcribed, and then autonomously analysed by three authors (Jönssön and Lukka, 2005), with the purpose to reduce the subjectivity of data interpretation. A comparison between individual interpretation of the results has been then made.

We used direct observations, for making a data triangulation (Yin, 1984). These were carried out in some shops in which the products are sold. Documentation was lifted from the company website, and interviews in economic, financial, and marketing magazines and websites with other family members (in particular, with Elena Boella (EB)— who represents the third generation of Boella and she’s involved in the management of the company.

The case study: history

Boella & Sorrisi is the result of the marriage between two historic artisan food family businesses: Boella has produced panettone since its beginnings in 1885, when the first **panettone and pastry workshop** was set up and is now in the third generation. Sorrisi was founded in 1960 by the historic Piedmontese family of chocolate makers, who delighted customers with **artisan products**, never compromising their production methods.

In October 2014, Boella stopped trading and Boella & Sorrisi was born after the acquisition of Sorrisi, which owned some excellent machinery.

The merger of the two companies was also marked by the marriage of Elena Boella from the third generation of the Boella family, to Stefano Silvola, master chocolatier and owner of Sorrisi.

Boella & Sorrisi is a small family business operating in the food sector, with about a dozen permanent employees and twenty or so specialised seasonal staff. With sales of around 2.5 million Euros, the company offers a wide and varied selection of Italian-made products and specialities, such as Boella Panettone, Easter eggs, Easter dove cake and various forms of chocolate. Turnover is equal distributed between baked goods, on one side, and chocolate, on the other.

The foreign market accounts for around 30% of the company's overall sales. Its main foreign market is Switzerland, with customers knowledgeable about both chocolate and panettone: a third of the company's panettoni are sold in Switzerland. Other important markets are France, Germany and Ireland, with strong growth in Australia, the United Arab Emirates and other countries.

THE EFFECTS OF ACQUISITION ON INNOVATION

Boella & Sorrisi is the product of the merger of two already established family-owned manufacturers operating within niche segments of the food industry. The companies chose to "combine long-standing traditions to obtain a wide range of products" (EB). "The birth of Boella & Sorrisi has allowed us to achieve significant economies of scale, in terms of both product and process" (SS).

Below, is an analysis of the most salient effects of the birth of Boella & Sorrisi on products and processes. The format has been borrowed from a wealth of literature used to distinguish products from processes.

A) Effects on products

Stemming from the marriage of two historic family-owned artisan food companies, the resulting product range is somewhat varied, "suitable to meet the different needs of consumers in panettoni, Easter dove cakes and chocolate" (EB):

- Boella panettone and Easter dove cakes: our panettoni "are from long-standing Boella family recipes, which are a guarantee of quality and unique flavour" (SS), in keeping with traditional artisan panettone. Panettone begins with a sourdough created from a natural leavening process and the packaged product is absolutely natural. This enables consumers to appreciate the final product. Panettoni are the company's hallmark and are made in an assortment of flavours from gianduja to chocolate and pear, etc. At Easter, traditional Easter dove cakes are another example of goodness available in classic, pear and chocolate, muscat, chocolate, crème pâtissière, sabayon and the uniquely fruity fig and pear. They are "one of the house specials from family recipes dating back to 1885, which are a guarantee of high quality and unique flavour" (SS). In addition to the product, "the handmade packaging is also beautifully detailed" (EB). The resulting product is perfect in every respect. Customers can obtain special packaging on request;
- chocolate: "the experience of our master chocolatiers along with the enthusiasm of our staff are our strengths when it comes to creating artisan products that are perfect in every respect" (SS), in particular, the famous Sorrisi di Torino, Gianduiotti, minigianduiotti, gourmet hand-decorated bars of chocolate, treats, pralines, praline, dragées, cremini, tartufi, hazelnut

creams. Within the production range, the Sorrisi di Torino was the first chocolate created by pastry chef Valerio Basso in 1949: "a delicious praline with rum cream enclosed in two of dark chocolate wafers and further covered with dark chocolate" (SS). The Sorrisi di Torino are produced in several tastes, such as coffee, orange-nut, rum, hazelnut, amaretto and limoncello flavours. Considered an excellent product, it has been awarded as "Artisan Excellence for the Piedmont region" and is available in the best-known cafés, confectionery shops and patisseries in Turin and Milan and in Harrods of London. Chocolate products are offered in all possible varieties, in order to meet different needs of customers: milk, dark chocolate, white chocolate, with Piedmont hazelnuts, spiced, with different compositions of cocoa to meet the demands of connoisseurs, with freeze-dried red fruits, Cyprus salt, Smarties for children, candied 70% to bring out the best in flavour;

- Ice cream: the sales outlet has a corner dedicated to gelato, everyone's favourite treat. It is an artisan product made from high quality, carefully selected raw materials - the same used for the delicious chocolates and Easter eggs, such as **dark chocolate**, **gianduja** and Langa **hazelnuts**. The typical flavours of creams are accompanied by the traditional flavours of fresh fruit, which are combined with semifreddo in winter. Sorrisi di Torino were the first chocolates in the product range to be created by pastry chef Valerio Basso in 1949. They are **delicious pralines** with rum cream enclosed in two dark chocolate wafers in turn **covered in chocolate**
- cosmetic line: the product range includes a line of chocolate-aroma cosmetics for the body. Thanks to its special characteristics and unique aroma, chocolate is great even for use in beauty products and cosmetics, making skin smooth and soft.

"This is a very varied range of products, which has allowed the company to offer customers a wide choice in confectionery: whether its panettone or chocolate. Although this has not doubled turnover, it has enabled customers to receive their supplies from a single source, thus facilitating the purchasing process" (SS).

Even after the birth of Boella & Sorrisi, tradition has been maintained in the selection of raw materials. These are carefully chosen and only the highest quality is selected (e.g. PGI Piedmont hazelnuts are much sought after by all chocolate manufacturers) and emulsifiers are not used. In keeping with standards of high quality, the product is not changed for different target markets (except for customised products). Discounts may be applied to the basic list price, depending on the customer.

Thanks to a highly flexible production structure, the company gives customers the chance to customise their orders. Private label production was created, which, for many years now, has also specialised in third party services for corporate events, weddings and birthdays, created from

customers' own recipes. In this sense, flexibility is a competitive advantage. Even though recipes differ from the brand's own products, private label production in no way tarnishes the company's image" (SS). This is a very interesting business stream, which enables systematic use of machinery for a certain period of time and yields a good turnover.

"We continue to produce for end consumers, even with Boella & Sorrisi" (SS). This is demonstrated by the focus on the choice of raw materials, which is a fundamental aspect that has always characterised the company's activities. This is how products for diabetics and weight-conscious foodies were born, in the shape of sugar-free products (which include innovative ingredients like sevitol).

With a vast assortment of niche products at their disposal, the company's main competitors are themselves niche companies. Competitors in the panettone sector are all Italian. The company has a competitive edge in the fact that Piedmont panettone is the best loved the world over, thanks to a strong presence of Italian immigrants on different continents, especially in Latin America. For example, in Brazil, panettone is eaten all year round, meaning consumption is high for twelve months. Its competitors in the chocolate sector are mainly in Belgium. Belgian companies have been fully industrialised for many years, but their products are still perceived as being handmade. Naturally, there is a big difference in price compared with an artisan company like Boella & Sorrisi, with industrialisation reducing production costs considerably. Swiss manufacturers are also competitors, although the company's products are very popular in Switzerland, which is a major market for it.

B) Effects on processes

After the birth of Boella & Sorrisi, production processes were improved by the reinforcement of skills and by several economies of scale resulting from the combining of the strengths and expertise of the two companies.

Research and development are mainly conducted internally. The encounter between the respective knowhow of Boella and Sorrisi made it possible for research and development to be carried out internally. In particular, the knowledge and skills of Stefano Silvola were boosted by the sales packaging knowhow of Elena Boella. In addition to this, "the production and sales skills of the family members were reinforced by and combined with a series of external stimuli" (SS). These include suppliers of equipment, who are a source of innovation and improvement in productivity, customers, who may suggest an idea related to a new product or to revise of an existing product, consultants, especially on very technical aspects, such as labelling and food safety standards.

In terms of production, the strength of Boella & Sorrisi has been maintaining traditional values, albeit in an industrialised context. Beginning with carefully selected raw materials, "the company has maintained its artisan processing, but has industrialised the more basic stages of production. For

example, chocolate bars are decorated and filled by hand, but are poured by machine. This has led to the mechanisation of production, with a thousand bars produced per hour, while three people decorate by hand"(SS). Furthermore, certain production techniques have been kept, such as the manual processing of chocolate, "by modelling it on the old marble table used by the previous generation, which has been incorporated into a steel frame" (SS). This means that a niche product can be made, with the advantage of a good production capacity (e.g. 80 kg of gianduja are produced per hour). The final result is that of a "hand-produced product where every detail has been considered, which could not be achieved by a confectioner without the aid of a production line" (SS).

Furthermore, by strengthening the soundness of the company, Boella & Sorrisi have been able to create a modern plant of over 1,000 square metres in Turin (a city renowned for its time-honoured production of panettone and chocolate), opened in 2014, where all production takes place and "the traditional techniques are combined with modern machinery" (SS).

Moreover, a sounder organisation has enabled the continuous renewal of production plants. "Continuous study and research into new production methods has required new machinery" (SS). These include investments in machines that produce creams, removing palm oil (not recommended for a healthy diet). For example, through a partnership with a manufacturer of hydrolysed proteins, the company has been able to use casein (which is more readily available to the body and easy to digest) as a viable alternative to emulsifiers.

The heady scent of vanilla, almonds, toasted hazelnuts and chocolate permeate the factory. As you cross the threshold of the workshop you are met by a warm and elegant atmosphere, which seems unchanged since the nineteenth century. The contribution made by human resources is important: "the experience of our Master Chocolatiers along with the enthusiasm of our staff are our strengths when it comes to creating artisan products that are perfect in every respect" (SS). For baked products, too, the specialised staff are critical to ensuring a quality end product and respecting family traditions. Boella & Sorrisi invests heavily in packaging, so that the product is a combination of both tangible and intangible factors. In the past, "Sorrisi did not pay so much attention to packaging: the knowhow of Boella has certainly facilitated this marketing approach" (SS).

The focus on packaging is possible thanks both to the dedication and the contribution of family members (in particular, Elena Boella and Stefano Silvola) and to a series of partnerships with some suppliers of materials, as well as the company's attendance of the most important international packaging fairs. The suppliers in close contact with the family have enabled the creation of a series of packaging alternatives, using new and alternative materials that are safe for the consumer. "Packaging is thus designed to achieve a high level of usability in relation to the consumer's needs" (SS).

The company creates an “attractive product” for packaging-conscious consumers (EB), using colour to convey the image of an event combined with a product for consumption. An example of this is panettone wrapped in gold packaging designed for the Swiss market, where customers can taste and enjoy fine Piedmontese panettone and recognise its value. Or hand-decorated chocolate pralines wrapped in elegant packaging.

The resulting packaging has considerable advantages compared to traditional presentation, in terms of functionality and a reduction in production costs (it is less expensive and is more lightweight for transportation purposes). At the same time, the beauty of the packaging makes it highly appealing to the public, as a result of the feasibility study of the product on different targets: colourful packaging for children's chocolate, practical jars for chocolates to be kept at home and within the reach of children and sophisticated panettone for a more discerning adult target.

In terms of sales, “the birth of Boella & Sorrisi has brought considerable advantages, since all sales channels apply to the entire product range”. Wholesalers, shopkeepers, the company’s own outlets all supply customers with baked goods and chocolate products alike.

After the birth of Boella & Sorrisi, the company shop was expanded. In an area of 180 square metres, customers can taste the company’s products, along with other regional specialties, sweet truffles, Piedmont hazelnut cakes, tarts, artisan croissants, soft and crumbly amaretti biscuits, torcetti, sponge fingers, zwieback rusks, gianduja cri-cri, drop sweets, lollipops, herbal teas and infusions. They can also directly observe the activities of the production workshop. As you walk amongst the shelves, you can watch the careful pastry workers busy in the production and packaging of each product. You can visit the production area in the company of an expert and passionate guide: adults and children alike will be fascinated.

The entire product range is exhibited at trade fairs (both baked goods and chocolate). The choice is highly selective: “requiring a large investment, the company selects a number of important events to increase visibility and growth” (SS). Although the idea is not to sell products during the fair, but to be present, the company has chosen two highly visible international exhibitions: Cibus and Tutto Food.

The sales network is coordinated by family members, each with specific skills. Stefano Silvola is responsible for getting contacting customers after the fairs, while Elena Boella manages the entire sales process. A network of agents and distributors is involved in the marketing and sale of the entire product range, offering customers a wide selection of confectionery. “This makes it easier to supply a wide range of products from a single source, facilitating and simplifying the order process” (SS). Furthermore, when important customers are invited to the company premises, they can learn close-up the art of artisan confectionery for baked goods and chocolate. “The company brand is enhanced thanks to knowhow in many areas brought together by the birth of Boella & Sorrisi”. It certainly

benefits from the reputation of Italian food, which "is well recognised throughout the world, especially by more discerning consumers. This factor increases the interest of foreigners in high quality Italian products, which act as a driver for the sale of our products "(SS).

DISCUSSION AND CONCLUSIONS

The Boella & Sorrisi business model is a combination of several ingredients:

- a strong blend of tradition and innovation;
- a combination of various skills held by Boella and Sorrisi individually.

Even after the set-up of Boella & Sorrisi, the company held on to a strong mix of tradition and innovation (Festa et al., 2015). Its manufacturing is based on traditional methods involving a balance of tradition and innovation. This is seen in the attention devoted to new technologies applied to a traditional approach, with a focus on combining product/process (Adner and Levinthal, 2001):

- tradition comes from the experience of the two families and a brand (Boella) dating back to 1885. Tradition means the respect of family values, for generations (Giacosa, 2012; Tushman and Nadler, 1986): this choice is respectful of its DNA from the beginning (Festa *et al.*, 2015). Tradition is a value that is recognised by consumers, who stayed loyal to the company even after the merger of the two names. Strong local roots are also a key factor in tradition. Turin is renowned for its chocolate heritage (along with Perugia and Modica), and is the birthplace of chocolate. Local roots are a key aspect in the safeguard of a number of values relating to the business tradition of a place, handed down through the generations, and facilitating the satisfaction of customers' perceptions about local culture and natural elements and traditions (Vrontis and Thrassou, 2011);
- innovation is seen in the various stages of the production and distribution chain. In particular, in its selection of raw materials, the company has opted for innovative materials, which can meet the needs of consumers and safeguard their well-being (e.g. by using casein as an emulsifier and steviol instead of sucrose), for a healthy lifestyle (Bigliardi and Galati, 2013). Innovation is seen in the mechanisation of the production process: the most basic stages of the chocolate production process have been industrialised to achieve high productivity. Innovation means a close approach to the dual concept of "product/process" (Giacosa, 2012). The end result is an attention to detail that a traditional confectioner cannot achieve at the same rate of production. Even in commercial choices, innovation is seen in the process of customisation: the adoption of private labels, created from customers' own recipes and requiring good levels of production flexibility, is a competitive advantage, which increases revenue without tarnishing the company brand. Innovative strategy is primarily conducted

internally (Chesbrough, 2003), as usually in small and medium-sized family firms where R&D activities are not typically formalized (Dyer and Handler, 1994): on one side, in carrying out R&D activities, family members respect tradition and corporate values; on the other, a comparison to external individuals helps the company to reach the goal, behind the times. It permits a generation and diffusion of creativity (Bresciani and Ferraris, 2014; Dias and Bresciani, 2006).

The combination between tradition and innovation is typical connected to the “familiness” factor (Arregle et al., 2007; Carnes and Ireland, 2013; Sirmon and Hitt, 2003), which is a set of unique, distinctive and tacit abilities and resources deriving both from the interaction of family members and the family’s involvement in the business. The familiness may be considered as a key factor influencing the competitive advantage.

Secondly, with the birth of Boella & Sorrisi, the combining of various skills possessed individually by the companies brought several benefits:

- significant economies of scale and scope were achieved in production, sales and administration (Fleming, 1999), thanks to the complementariness of Boella and Sorrisi (Ahuja and Katira, 2001; Bower, 2001). These economies of scale and scope have increased their competitiveness on that market. In terms of research and development, the combining of their knowhow has led to a strong degree of internal innovation, albeit with the aid of external outside stimuli (Arora et al., 2001). Indeed, Boella & Sorrisi has shown a certain competitive advantage in integrating, building and reconfiguring the resources previously owned by the two companies (Ahuja and Katira, 2001). This is doubtless due to a great wealth of internal knowhow (Cohen and Levinthal, 1990; Chesbrough, 2003). Of course, the acquisition of Sorrisi by Boella & Sorrisi accelerated the innovation process (Birkinshaw et al., 2000; Shuen et al., 2014). In terms of production, some human resources are able to operate on both the panettone line and on the chocolate line, if needed. In terms of sales, promotion is managed as a whole, with the focus on the entire product range. The leading character is good Italian food in all its varieties and this is enhanced by the brand’s identity (De Chernatony, 2001), which is closely linked to the family identity. In terms of administration, the creation of Boella & Sorrisi has encouraged significant economies of scale, since combined company accounts and the merging of several administrative aspects has led to significant cost reductions;
- the brand and market visibility have been strengthened: the previously held production and commercial knowhow has affected consumer perception, creating the image of a company operating in a broad and competitive manner within the confectionery sector. Consumer perception has certainly been influenced by the combination of tangible and intangible

elements (Bruce and Hines, 2007) which have favoured the success of its product range. The high quality of raw materials is one of these factors and has in no way been compromised. Even when the price of raw materials has increased sharply (e.g. PGI Piedmont hazelnuts and cocoa), the quality of raw materials has remained high and the company has not changed its traditional recipe, at the cost of accepting a smaller profit margin. Hence, the sale price is justified by the intrinsic content of the product and the manual labour involved. Furthermore, the variety of confectionery products is representative of the reputation of the vast range of Italian local products. Intangible elements attract the consumer's attention by playing on the five senses (Giacosa, 2012). This is achieved not only by the historic brand, but also the local factor, which, in the food industry, is synonymous with tradition. The high quality packaging is very appealing to consumers and engages them in the shopping experience (Flynn and Goldsmith, 1993). Intangible elements are, hence, strongly enhanced by a multi-sensorial strategy. The combination of tangible and intangible aspects fosters and enhances long-term authenticity and prestige, as well as brand awareness, thereby increasing the exclusivity of the product and its regional identity (Kapferer, 2002).

This study has some limitations. First, we presented only a single acquisition, thus we are mindful of the representativeness of this case study. Therefore, it could be useful to widen the scope of the research in order to also compare how change the management of innovation strategies through an acquisition. Future development of this research will focus on other representative case studies in the food sector. Second, we focused to only certain aspects, namely product and process innovation. Third, in relation to the interview technique, we would set out to increase the number of interviews, by also questioning managers and employees working in the company, and not only the CEO, even if he gave us relevant and detailed information.

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