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## The Business of Luxury Brands: Luxury Car Brand Relationship

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(Article begins on next page)

# Managing Globalization



# Managing Globalization:

*New Business Models,  
Strategies and Innovation*

Edited by

Demetris Vrontis,  
Stefano Bresciani  
and Matteo Rossi

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Managing Globalization: New Business Models,  
Strategies and Innovation

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# CHAPTER ONE

## NEW STRATEGIES IN ITALIAN AIRPORTS

GIOVANNI OSSOLA, GUIDO GIOVANDO  
AND CHIARA CROVINI

### **Introduction**

The following chapter deals with the impact of new international airport strategies on the business models adopted by Italian air management companies. It presents a qualitative study of the Italian airport system and its evolution over the past few decades. As this is a topical study, one of its aims is to understand why this system continues to expand, despite the economic crisis.

After a brief review of the literature on this topic and sectors of air transport, the study scrutinizes Italy's airport infrastructure and air management companies. This theoretical background aims to explain the structure of airports and the way they are managed. In addition, the chapter discusses the process of deregulation in the USA, Europe and Italy. In particular, we will concentrate on its effect in Italy, viz., the rise of low-cost airlines.

The study's most important aim is to monitor the effects of deregulation on airport business models and the associated strategies in Italy. Investigating the impact of these new laws and provisions on air management companies can help in gaining a better understanding of globalization's role and influence on business strategies.

Accordingly, the study attempts to answer the following research questions: i) How extensively has the air transport sector changed over the past few decades? ii) How have these changes influenced the Italian setting? And iii) What effects has globalization had on air transport companies, in terms of developing new strategies and business models?

The research presents some limitations: first of all, it should be emphasized that this is the first phase of a far deeper analysis that can also involve quantitative data. For example, this qualitative study can be combined with a financial analysis of the overall performance of full-service and low-cost airlines to quantify the value created by both groups.

In addition, what is happening in different countries can be compared in order to analyze the impact of deregulation and its effects.

## **Literature Review**

There are many studies on the airport sector. In particular, the business of airport management has been analyzed:

- Through the study of its functional areas as a whole (Doganis, 2000; Ossola, 1996, Pellicelli, 1996; Dominici, 1982), or of certain selected areas, such as marketing (Jarach, 2002; Corvi and Bonera, 2006; Starkie, 2005), organization (Ashford et al., 1997), finance (Ashford and Moore, 1992) and logistics (Rossi, 2006);
- Through quantitative analysis of samples of data from the financial statements of airport management companies, in order to ensure stable financial results and standing (Tsekeris, 2011; Teodori et al., 2006; Giannetti, 2006).

In recent decades, airport services have been liberalized to varying extents in all countries (de Neufville, 1999; Forsyth, 2002). This liberalization has broken up monopolies and created a more competitive system (Bertoli, 2006; Ponti, 2002; Read, 1994).

Many scholars have focused on corporate governance, particularly as regards government participation in the equity of airport management companies in many countries around the world (Vasigh and Erfani, 2009; Oum et al. 2008; Graham, 2003). As regards carriers, deregulation has led to the birth and growth of new airlines, the so-called low-cost companies (Morrell, 2008; Morrison and Winston, 1995).

Some scholars have pointed to the correlation between local development and the airport structure, which has indirect positive effects on the surrounding areas (Baccelli, 2001; Shearman, 1992), producing an increase in economic activity and an economic impact on the reference context (Bresciani and Oliveira, 2007; Brueckner, 2003; Senn and Zucchetti, 2001, Zucchetti et al. 2001; Button and Taylor, 2000). Some studies have focused on assessing these economic effects on individual

countries (Bresciani and Ferraris, 2012; Kim, 2007, Cooper and Smith, 2005; Ossola, 1996).

With particular reference to airport management companies, strategic behavior has been examined by several scholars (Bruni, 2004; Kleymann and Seristo, 2004; Grant, 2002; Bronzetti, 2002), as have the companies' business models (Rispoli, 1998). Several studies have analyzed the development of the strategies adopted by low-cost carriers (Pellicelli 2008, Falini, 2006 Binggeli and Pompeo, 2002). Other researchers have focused on airport hub management (Button, 2004; Kahn, 1993; Doganis and Dennis, 1989).

Our research combines several aspects contained in previous studies. Thus, though we do not employ quantitative data, our chapter offers an analysis of the impact of the worldwide deregulation of air transport on air management companies and consequently on their business models and strategies.

## **Research Methodology**

This chapter presents a qualitative study (Myers, 2013) of the evolution of the air traffic system. As mentioned in the introduction, there are three research questions:

- *RQ 1*: How extensively has the air transport sector changed over the past few decades?
- *RQ 2*: How have these changes influenced the Italian setting?
- *RQ 3*: What effects has globalization had on air transport companies, in terms of developing new strategies and business models?

As regards *RQ 1*, the first paragraphs are mainly theoretical and explain the background for our research. They deal with the sectors of air transport, airport infrastructure and air management companies. The crux of this question is addressed in the paragraphs about air transport deregulation and how it has spread throughout the world.

*RQ 2* and *RQ 3* should be analyzed together. By considering the impact of the new regulations, we focus on the advent of low-cost airlines and consequently on the evolution of the business models adopted by air management companies in Italy.

In addition, to assess the role of these new airlines, we concentrate on the traffic data provided by ENAC, the Italian Civil Aviation Authority, and on the respective market shares of the full-service and low-cost airlines between 2005 and 2013.

As the graphs resulting from an analysis of these data emphasize, low-cost airlines have been enormously successful. Consequently, it is necessary to understand how a large number of air management companies decided to change their business models to adapt to the market's new competitive balance and satisfy consumers' new preferences.

This is why the chapter concludes with an analysis of the situation in Italy in 2013, in terms of the number of airports which decided to base their business on low-cost carriers. Specifically, we decided to select those with a low-cost market share of over 35%.

## **Sectors of Air Transport**

Air transport has undergone a major transformation in recent years (Ossola and Giovando, 2012). Several sectors revolve around air transport. The main ones are (Pellicelli, 1996):

- Passenger air transport,
- Passenger services,
- Services to airlines or to airport management companies,
- Airport management.

## **The Airport Infrastructure**

In Italy, every airport is “licensed” to a company for management.

“The airport management company holds the exclusive right to manage the airport, performing its instrumental activity in fulfilling the ‘human need’ in the economic field (Ferrero, 1987) of the airline, to have an adequate and efficient structure to handle its aircraft and the passengers and cargo carried by it” (Giovando, 2012).

The airport is considered as the infrastructure that enables an aircraft to land or take off on a straight, level surface.

In the definition of “airport” given by the EC Directive<sup>1</sup>, we understand that there can be no separation of the land from the infrastructure for the flight. The Directive states that the airport is “any area of land especially adapted for the landing, taking-off and manoeuvres of aircraft, including the ancillary installations which these operations may involve for the requirements of aircraft traffic and services including the installations needed to assist commercial air services”.

The airport company’s main objective is to allow carriers to transfer goods and people using air routes from one place to another. Carriers thus have a crucial role in the economy of an airport management enterprise (Ossola, 1996).

Carriers are aircraft owners or leaseholders who provide a commercial air transport service to meet people’s mobility needs.

Carriers with their aircraft fly from one airport to another along routes. These flights may be:

- “Scheduled”, i.e., flying on predetermined routes at a particular time that is “scheduled” and published.
- “Unscheduled”, when the route is decided by the passenger, or anyone else who chooses the airport and time. This type is used in charter flights with travelers (or groups) who hire an aircraft.

The airport infrastructure can be divided into three areas (Giovando, 2012): landside, airside and terminal.

The landside area includes all the access routes to the airport. It provides access to the services of the airport company. These services can be both those of embarking and disembarking goods and passengers from the aircraft. All the spaces surrounding the landside area, defined as “commercial”, can be put to additional uses. Indeed, this exploitation of the surrounding areas can lead to new lines of business for airport management companies.

The airside area is reserved for aircraft. Its dimensions differ from country to country, according to local law. In addition, people, baggage and cargo must be screened in order to access this area, because it should be protected. In fact, this area is commonly referred to as “secure”.

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<sup>1</sup> Council Directive 96/67/EC of 15 October 1996 *on access to the groundhandling market at Community airports*, published in *O.J.* No. 272 of 25 October 1996.

The terminal includes the airport building. This structure is usually located between the landside and airside area.

The building features (Giovando, 2012):

- An area where passengers arrive at the airport or stop while waiting for a connecting flight.
- The departure area, where passengers and luggage are checked in, documents are controlled, and where the x-ray machines for security checks are located.
- The boarding area and waiting room, which are near the gate where passengers embark and disembark.
- The passenger waiting area.
- The concourse area with shops, restaurants, lounges and toilets.
- The storage area, where freight or luggage in transit are received and handled.

The airport has always been classified as a “natural monopoly” (Reed, 1994); first, because the business can satisfy market demand alone at the lowest cost, and second, because there are high entrance barriers, such as town planning and environmental restrictions (Sebastiani, 2009).

This view of airports as a natural monopoly has been expanded to include the notion of essential facility<sup>2</sup>. A structure is defined as being an essential facility when its characteristics make it essential to the community.

Several studies (Cavaliere, 2006) have led to the conclusion that in order to qualify as an essential facility<sup>3</sup>, an infrastructure must satisfy certain specific conditions, viz.:

- Dominance,
- Irreplaceability,
- Non-duplicability,
- Sharing by several operators.

When these conditions are attained, the legislature is required to regulate access to the infrastructure for any applicant and should define a complex

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<sup>2</sup> CERTeT – Centro di Economia Regionale, dei Trasporti e del Turismo Università Commerciale L. Bocconi. Il rapporto tra vettori ed aeroporti: analisi e valutazione del sistema di regolazione in Italia – *Final Report*, June 2006, p. 11, note 5.

<sup>3</sup> The legal basis of the doctrine of *essential facilities* is Section 1 of the Sherman Act – the United States antitrust law – and Articles 81-82 of the EC Treaty.

and varied system of prices that the companies apply to the final consumer (Giovando, 2012).

As many studies have shown, enterprises normally grow up around essential facilities (Graham, 1995). It has also been demonstrated that, as an essential facility, the airport (Ossola, 2006):

- Allows rapid movement of people and cargo, and
- Contributes to the development of the economic area around it.

Moreover, the airport infrastructure generates benefits in terms of:

- Wealth creation,
- Job creation,
- Creation of international industrial districts.

The airport, with its activity, has a direct economic impact, represented by the value of the activities of both carriers and airport management companies.

In addition, there is an indirect economic impact, represented by the group of activities performed outside the structure, which produce benefits for travel agencies, hotels and restaurants. Lastly, there is also the induced economic impact, represented by the spending of the revenues earned in the categories mentioned above.

In fact, the airport can encourage industrial development of companies operating in the area in which it stands. Through this development, simple industrial districts in the local area can be extended through the creation of international industrial clusters in areas far afield.

Companies operating near the airport can take advantage of a range of benefits, such as (Ossola, 1996):

- Fast distribution of goods worldwide.
- Ease in procurement, which can make it possible to apply just-in-time management techniques.
- Quick movements of people between companies located all over the world.
- The ability to reach new markets.

## **The Process of Deregulation in Air Transport**

Air transport has traditionally developed under the control of national authorities. In Europe, this approach resulted in the monopoly of national

carriers and the ownership / management of public airports. International air transport, based on bilateral agreements between states, has grown and was long characterized by the rigid control of carrier ownership structure and market access. This fragmentation in national markets and the absence of effective competition was less and less in line with the rise in living standards and the resulting increase in demand for air transport services. From the mid-Seventies, civil aviation moved from a managed to a market economy as economic and cultural exchanges led to an increase in mobility, which boosted transport demand. This obliged countries to come to grips with new demands.

The instrument that was used to deal with this problem was deregulation, first adopted in the USA and then in Europe. This solution was intended to improve supply and make it more flexible in its ability to meet the demand for transport. In addition, deregulation led industrialized countries to compete in offering good value-for-money solutions.

### **Deregulation in the USA**

The liberalization process started in the United States in 1930, when the need to regulate the market emerged in order to avoid forms of competition that would bring negative results.

In 1938, however, the *Civil Aeronautics Act* (CAA) led to a price war, which did not allow the creation of a free competitive market (Mencik von Zebinsk A.A., 1995).

It was only with the *Airlines Deregulation Act* in 1978 that the US government tried to bring down prices for the benefit of consumers, to improve efficiency and encourage the creation of new businesses.

This initiated a second stage, which spurred the growth of the low-cost carriers that first appeared in the Sixties.

These companies began to gain market share by offering lower costs than mega national carriers.

Since 1984, traffic has increased, and carriers have begun to turn to mergers and acquisitions as a means of avoiding bankruptcy proceedings, as well as outright bankruptcy.

This is when *the hub and spoke system* was born. It consists of using large airports (*hubs*) as a clearinghouse for air traffic, from which routes (*spokes*) branch to peripheral destinations.

During the Nineties, new low cost airlines were founded, such as Kiwi Airlines, Western Pacific and Carnival Airlines.

## **Liberalization of Air Transport in Europe**

Since 1957, when the European Economic Community was created, there has been a need to establish a single market for air transport, to ensure proper operation and to include certain third countries<sup>4</sup>.

But the liberalization process began only in 1986 with the signing of the Single European Act in Paris, which delivered the first package, or Phase 1, implemented in 1987.

This group of laws eliminated the bilateral regime and enabled other carriers, the so-called “non-flag carriers”, to enter the market (Zunarelli S., 2008)<sup>5</sup>.

In 1989, the European Commission presented the Second Package of regulations to the Council. This package came into force in 1990. With Phase 2, airlines’ flexibility in fare setting was expanded. However, there were no substantial changes in the air transport field.

The system was effectively deregulated with the introduction of the Third Package in 1992. The goals to achieve with the Third Package were the elimination of the bilateral system and the establishment of a multilateral one, based on free market access and freedom in setting rates.

For cabotage, the Council of Transport Ministers of the EU had planned a complete liberalization of traffic only from January 1997.

As for tariff plans, carriers were granted full authority to decide what fares to charge. The EU institutions could interfere only when prices were either too high or too low, resulting in dumping (selling below cost).

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<sup>4</sup> *Treaty on the Functioning of the European Union*, Art. 100, paragraph 2.

<sup>5</sup> EU Parliament (2013), Overview of the air services agreement concluded by the EU.

The Third Package also established the requirements that air carriers must meet to start or continue operations, in particular:

- They must be owned by Member States and/or citizens of Member States that effectively control them, and their headquarters must be located in a country belonging to the European Community.
- They must have a solid financial position and be adequately insured against accidents.
- They must have the professional ability and organization to ensure safety in operations, in accordance with current regulations. This capacity is confirmed by a certificate.

Finally, in 1999, the Single European Sky initiative was launched<sup>6</sup>. It aimed at increasing the efficiency of air traffic management and air navigation services by reducing the fragmentation of European airspace.

In practice, the Single European Sky should reduce flight times (through shorter paths and fewer delays) and, consequently, decrease the cost of flights and aircraft emissions.

The effects of deregulation in America have been significant: traffic has increased, rates have been significantly reduced and the number of potential new competitors has grown rapidly. These effects have been less pronounced in Europe, but the entry of new operators, whose objectives and strategies differ from those of flag airlines, has changed the dynamics of competition within the industry.

In Europe as well as in America, airport facilities have been seriously undersized and saturated in recent times. Currently, the trend towards liberalization has been reversed, as the smaller airlines are not able to increase their networks of destinations, given the shortage of runways, airport terminals and slots.

### **Liberalization of the Air Transport System in Italy**

The Italian transport sector was long monopolized by the national carrier Alitalia.

Forms of regional air transport were difficult to create. For many years, the national airline's position of market dominance and the concentration of

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<sup>6</sup> Regulation EC 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky.

traffic at the airports in Rome and Milan limited penetration in new and unexplored markets. Partly thanks to the advent of deregulation, the country has seen the entry of new and aggressive competitors.

In the period from the early Sixties to the late Eighties, a new company called Alisarda was founded: it carried streams of tourists to and from Sardinia in the summer. Currently, the company is known by the name of Meridiana. Another carrier operating at that time was ATI (Aero Trasporti Italiani), a subsidiary of Alitalia, based in Naples. It covered domestic routes between North and South Italy.

In 1987, the regional company Avianova was founded as a joint venture between Alisarda and Alitalia. This alliance did not last, as Alisarda backed out of the operation and Alitalia acquired full control. Avianova began to serve the minor routes departing from airports in Milan and Rome, focusing both on the distribution of traffic from these hubs and on point-to-point connections on secondary routes that were not served by other operators.

Despite the enforcement of the EEC First Package, Alitalia's monopoly lasted uninterrupted until the Nineties (Rossi Dal Pozzo, 2008; Alderighi and Bacelli, 2006).

The table below shows the situation of the Italian air transport sector before deregulation.

**Table 1: Italian airlines before deregulation**

| <b>Airline Companies</b> |
|--------------------------|
| Alitalia                 |
| ATI                      |
| Alisarda – Meridiana     |
| Aertirrenia              |
| Avioligure               |
| Aligiulia                |
| Itavia                   |
| Alinord                  |
| Aliblu                   |

Source: Calculated from data provided by ENAC – [www.enac.gov.it](http://www.enac.gov.it)

Table 2 shows the situation as of January 2015, indicating the national airlines which are licensed to operate according to European JAR-OPS. These companies are allowed to use aircraft with more than nineteen seats.

Companies whose licenses have been suspended are not shown.

**Table 2: Italian airlines in 2015**

| <b>Airline Companies</b>        |
|---------------------------------|
| Air Dolomiti                    |
| Air Italy                       |
| Air Vallée                      |
| Alitalia Cityliner              |
| Alitalia Società Aerea Italiana |
| Blue Panorama                   |
| C.A.I. First                    |
| C.A.I. Second                   |
| Meridiana Fly                   |
| Mistral Air                     |
| Neos                            |

Source: Calculated from data provided by ENAC – [www.enac.gov.it](http://www.enac.gov.it)

As can be seen by comparing the two tables, deregulation in the air traffic system has changed the country's competitive scenario. One of the direct effects is the increase in the number of Italian airline companies.

Consequently, this is one of the possible answers to the second research question.

### **Airport Management Companies in Italy**

In Italy, airports, including all buildings or installations for air navigation services, are government property. These “essential facilities” are granted in concession.

There are three types of concession in Italy:

- Total concession, where the operator coordinates the entire airport and in return receives all revenues and airport charges.
- Partial concession, where the operator has the sole task of managing and maintaining passenger and freight terminals, and in return receives the revenues they generate.

- Direct concession, where the civil aviation administration constructs and maintains the airport infrastructure, while the airlines themselves usually take care of groundhandling.

In the past, the State granted total concessions to airport management companies through individual ad hoc<sup>7</sup> laws. As these laws were specific for each company, concession durations differed.

The table below lists six companies operating airports under total concessions, together with the term of the concession.

**Table 3: Italian airports in total concession and the associated term of concession**

| <b>Airport management companies</b> | <b>Airport</b>              | <b>Concession term</b> |
|-------------------------------------|-----------------------------|------------------------|
| <b>AdR S.p.a.</b>                   | Roma Fiumicino and Ciampino | Up to 2044             |
| <b>SEA S.p.a.</b>                   | Milano Linate and Malpensa  | Up to 2041             |
| <b>SAVE S.p.a.</b>                  | Venezia Tessera             | Up to 2027             |
| <b>SAGAT</b>                        | Torino Caselle              | Up to 2035             |
| <b>Aeroporto di Genova S.p.a.</b>   | Genova                      | Up to 2020             |
| <b>SACBO S.p.a.</b>                 | Bergamo                     | Up to 2042             |

Source: Data provided by Assaeroporti – “Regime giuridico dei principali aeroporti italiani” – [www.assaeroporti.com](http://www.assaeroporti.com)

Current legislation<sup>8</sup> has also extended total concession to other companies that meet certain requirements. Under the new rules, airport companies are allowed to manage the airport for forty years, after which time, the assets under concession revert to ENAC ownership. In order to receive such a

<sup>7</sup> Genova Sestri by Law 156/54 Art. 9; Milano-Linate and Malpensa by Law 194/62; Torino-Caselle by Law 914/65 Art. 1; Roma-Fiumicino and Ciampino by Law 755/73 Articles 1 and 2; Bergamo-Orio al Serio by Law 746/75; Venezia-Tessera by Law 938/86.

<sup>8</sup> Law 537/94. Legislative Decree 251/95, converted into Law 351/95, and Ministerial Decree 521/97 (Regulation).

concession, the current legislation requires the operator to enter into program contracts and agreements with the Civil Aviation Authority<sup>9</sup>.

Table 4 lists the airports for which a total concession was granted under the new legislation<sup>10</sup>, together the concession's term, which varies from case to case depending on the date it was originally granted.

**Table 4: Italian airports under management and total duration of the concession**

| <b>Airport management companies</b> | <b>Airport</b>       | <b>Concession term</b> |
|-------------------------------------|----------------------|------------------------|
| <b>SEAP S.p.a.</b>                  | Bari                 | Up to 2043             |
| <b>SEAP S.p.a.</b>                  | Brindisi             | Up to 2043             |
| <b>SEAP S.p.a.</b>                  | Foggia               | Up to 2043             |
| <b>SEAP S.p.a.</b>                  | Taranto              | Up to 2043             |
| <b>GESAC S.p.a.</b>                 | Napoli               | Up to 2043             |
| <b>AdF S.p.a.</b>                   | Firenze              | Up to 2043             |
| <b>GEASAR S.p.a.</b>                | Olbia                | Up to 2044             |
| <b>SAB S.p.a.</b>                   | Bologna              | Up to 2044             |
| <b>SAT S.p.a.</b>                   | Pisa                 | Up to 2044             |
| <b>SOGAER S.p.a.</b>                | Cagliari             | Up to 2047             |
| <b>SAC S.p.a.</b>                   | Catania              | Up to 2047             |
| <b>GESAP S.p.a.</b>                 | Palermo              | Up to 2047             |
| <b>Aeroporto FVG S.p.a.</b>         | Ronchi dei Legionari | Up to 2047             |
| <b>SOGEAAL S.p.a.</b>               | Alghero              | Up to 2047             |

Source: Data provided by Assaeroporti – “Regime giuridico dei principali aeroporti italiani” – [www.assaeroporti.com](http://www.assaeroporti.com)

There are thus fourteen Italian airports managed under total concessions, with terms that vary from airport to airport, according to when they were granted and the law concerned.

<sup>9</sup> Ministerial Decree 521/97, Art. 7, indent 3.

<sup>10</sup> Ministerial Decree 521/1997.

## **The Effects of the Liberalization of Italian Air Transport: the Rise of Low-Cost Airlines**

The introduction and implementation of European regulatory packages gradually replaced the previous regulatory regimes that protected the national airlines of each country, with effects that appeared in particular in the Noughties (Arrigo and Giuricin, 2006; Pellicelli, 1998).

In the Nineties, the effects of European legislation on liberalization were limited and competition was very modest.

Since the early years of the 21st century, this phenomenon has made itself felt mainly through the rise of low-cost airlines.

This type of company has developed thanks to certain characteristics which have provided competitive advantages in terms of cost and price. The most notable features can be summarized as follows (Cinosi and Rizzo, 2013):

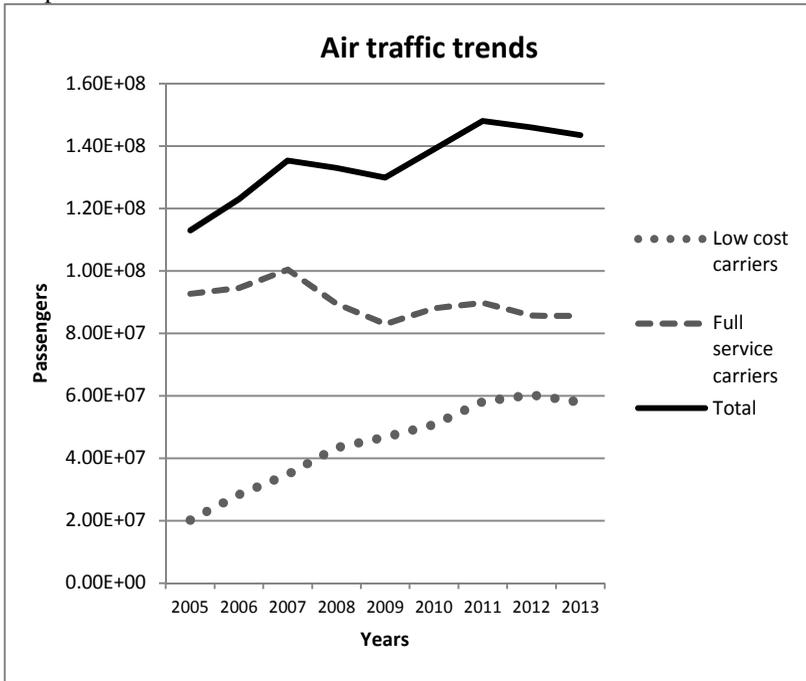
- Low-cost companies base their organization on “point-to-point” links between secondary airports.
- They use the Internet as the main channel for distributing and marketing tickets.
- They use aircraft with high seating density.
- There is a high level of aircraft utilization and standardization.
- No catering services are provided on board.
- Personnel management aims to maximize motivation, and forms of incentives-based compensation are preferred.

These features have allowed low-cost carriers to increase efficiency and reduce costs. They have thus been able to lower prices by developing a business model that allows passengers to save money by eliminating all of the services offered by traditional operators.

In Italy, this development has been under way since 2005, the first year in which ENAC published statistical data on the market shares of low-cost carriers compared with those of full-service carriers.

First, it is necessary to understand if deregulation has affected the number of passengers. For this analysis, we used traffic data provided by ENAC between 2005 and 2013. The trends that we have found are shown in Graph 1.

Graph 1: Air traffic trends between 2005 and 2013



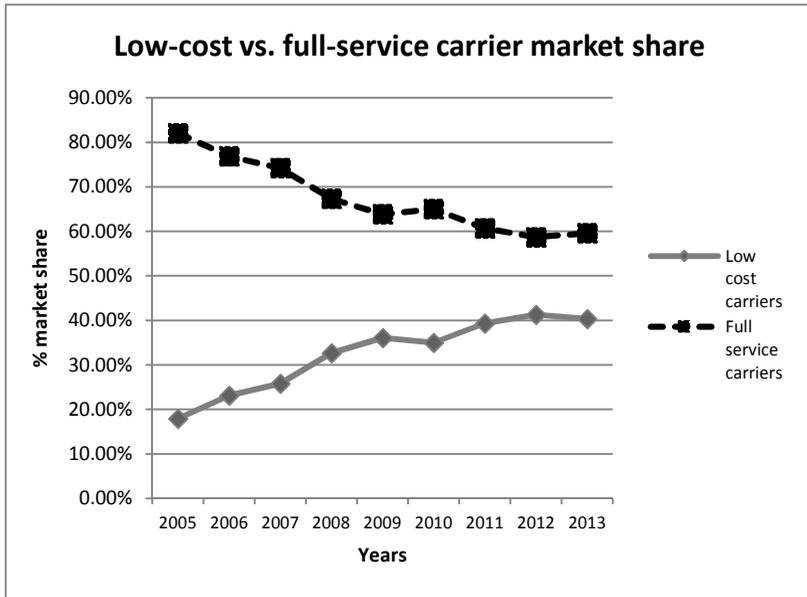
Source: Calculated from data provided by ENAC between 2005 and 2013 – [www.enac.gov.it](http://www.enac.gov.it)

As can be seen from the graph, the total number of passengers has increased, despite a slight decline in 2009. This growth is related to the rise in the market of low-cost carriers. Thanks to the policy mentioned above, these airlines were able to lower their ticket prices and attract more and more consumers.

By contrast, full-service carriers were adversely affected by market liberalization, despite the fact that larger numbers of passengers used their services than those of their competitors.

It is thus useful to analyze how the market changed with the entry of new competitors such as low-cost airline companies, as shown in the following graph.

Graph 2: Low-cost and full-service airline market share between 2005 and 2013



Source: Calculated from data provided by ENAC between 2005 and 2013 – [www.enac.gov.it](http://www.enac.gov.it)

Graph 2 shows trends in the market share held by flag carriers and by new players. As the graph makes clear, the former lost competitiveness over time. Their market share dropped from over 80% to 60%, while many low-cost airlines grew significantly compared to the competitors who had dominated the market in 2005.

This fact testifies to the Italian airline industry's passage from a managed economy to a market economy, as it went from a condition of monopoly to free competition. This phenomenon has had an impact on the airport system.

As mentioned above, low-cost airlines based their business strategy on point-to-point links, allowing the development of secondary airports.

The National Airport Plan drawn up by the Civil Aviation Authority in February 2012 emphasizes the importance of service airports<sup>11</sup>. This led to a reduction in airport charges, allowing these low-cost companies to pursue cost leadership strategies (Cotta Ramusino and Onetti, 2009; Ferrucci, 2002).

Through this development, the airport system tried to solve the problem of traffic congestion. The use of service airports made it possible to increase the number of flights, so that the infrastructures were able to satisfy consumer demand.

Several benefits of the airport infrastructure should also be stressed. For instance, the increase in the number of passengers led to the growth of a variety of economic activities closely related to aviation services, such as handling, catering and commercial services, parking and car rentals, as well as businesses in the area surrounding the airport.

Consequently, the airport infrastructure has gradually changed its business model over the past few years in order to attract low-cost airlines, leveraging their potential for growth.

Until the early years of the 21st century, the prevailing idea was that of the so-called main hub airport model, such as Roma Fiumicino and Milano Linate. Such a model is not compatible with the new players in the aviation market, as it relies on national airlines and has also reached a certain maturity.

Later, airports such as Milano Malpensa moved towards a model, called a multiservice hub, which opened the market to low-cost carriers, encouraging the development of non-aviation activities in order to take advantage of further opportunities for the structure.

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<sup>11</sup> The ENAC National Plan groups airports into principal and service airports. The former are divided into strategic (including intercontinental hubs) and primary airports.

There are three intercontinental airports: Milano Malpensa, Roma Fiumicino and Venezia Tessera.

The strategic airports include Bari, Bergamo, Bologna, Cagliari, Catania, Firenze, Genova, Lamezia Terme, Milano Linate, Napoli, Palermo, Pisa and Torino.

The primary airports are Alghero, Brindisi, Roma Ciampino, Olbia, Trapani, Treviso, Trieste and Verona.

Lastly, we come to the advanced spoke model, prevalent in regional or tourist airports, such as Pisa and Trapani. This particular business model is focused exclusively on low-cost airlines and on the growth opportunities afforded by marketing strategies for non-aviation activities.

The table below shows which Italian airports based their business primarily on low-cost airlines in 2013.

**Table 3: Principal airports which benefited from low-cost carriers in 2013**

| <b>AIRPORTS</b>        | <b>LCC market share</b> |
|------------------------|-------------------------|
| <b>Alghero</b>         | 69.90%                  |
| <b>Ancona</b>          | 72.50%                  |
| <b>Bari</b>            | 62.50%                  |
| <b>Bergamo</b>         | 90.70%                  |
| <b>Bologna</b>         | 47.90%                  |
| <b>Brindisi</b>        | 65.70%                  |
| <b>Cagliari</b>        | 55.60%                  |
| <b>Comiso</b>          | 93.60%                  |
| <b>Cuneo</b>           | 78.90%                  |
| <b>Elba</b>            | 75.60%                  |
| <b>Forlì</b>           | 98.90%                  |
| <b>Lamezia Terme</b>   | 52.60%                  |
| <b>Milano Malpensa</b> | 44.20%                  |
| <b>Perugia</b>         | 96.00%                  |
| <b>Pescara</b>         | 87.20%                  |
| <b>Pisa</b>            | 80.60%                  |
| <b>Roma Ciampino</b>   | 99.30%                  |
| <b>Trapani</b>         | 93.30%                  |
| <b>Treviso</b>         | 93.30%                  |
| <b>Trieste</b>         | 38.40%                  |

Source: Our calculations from low-cost traffic trends in 2013 provided by ENAC – [www.enac.gov.it](http://www.enac.gov.it)

We selected airports where low-cost airlines account for more than 35% of the total passenger market and we extracted a sample, emphasizing the growing importance that airports assign to these new companies.

It should also be noted that some airports, such as Comiso, were set up solely in order to base their business on low-cost airlines, while others, such as Cuneo and Milano Malpensa, changed their business models.

This analysis shows how globalization has profoundly influenced our country and an industry that is constantly expanding and growing, despite the global economic crisis.

## **Conclusion**

This qualitative study emphasizes how the airport system has changed thanks to the liberalization of air transport, which has led to the development of new business models (Mangia, 2006; Mercurio and Testa, 2000; Baker, 1992). Air management companies have shown and continue to show their ability to adapt to the needs of consumers, who are increasingly attentive to the services that the airport infrastructure offers. Indeed, the market has changed with the entry of new competitors such as low-cost airline companies, which have shown strong growth over the past few years because they were able to meet their customers' needs. They thus adopted a business model which attracted more and more consumers.

As stated in the manuals of business economics, the airline industry is so prosperous because airport management companies have found ways to provide goods and services which can satisfy all stakeholders with a smoothly organized system.

As mentioned in the introduction, this study is the first step towards a far deeper analysis that should also involve quantitative data.

For example, qualitative considerations stemming from this study can be combined with a financial analysis of the overall performance of full-service and low-cost airlines to quantify the value created by both groups.

In addition, this type of analysis can be extended to the airport system in different countries to assess the impact of deregulation and its effects.

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## CHAPTER TWO

# THE BUSINESS OF LUXURY BRANDS: LUXURY CAR BRAND RELATIONSHIP

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### **Introduction**

Luxury businesses represent an important market in several countries, such as Italy and France. For this reason, it is interesting to focus on this sector, looking at the many different company business models.

An analysis of luxury may reach two different interpretations: elitist connotations of luxury where the phenomenon is directed at specific individual targets; and luxury as a social value and a manifestation of the individual within the community.

The focus of this chapter is to provide scientific evidence of luxury businesses operating in a competitive global market, leading to further research opportunities within the involved companies. The aims of this chapter are to: (i) provide an overview of luxury brand businesses based on previous studies and secondary data; (ii) report on a study of the luxury car sector, which is a first attempt to explore how luxury values impact on brand relationships, using primary data gathered from owners and users of luxury cars.

The main motivation for this study is related to seeing profound recent changes in luxury businesses. Firstly, a sort of democratisation of luxury is coming, leading to an increase in the target audience. Secondly, new markets (such as Russia, India and China) represent additional business opportunities for companies. Therefore, exploring this topic has become

very interesting, providing opportunities to understand business prospects for luxury goods companies.

The chapter is structured as follows; first we present an overview of the luxury brand and its business characteristics. Then we present an exploratory study about how luxury values impact on car brand relationships. The exploratory study is composed of the background and hypotheses proposed, the method, and the findings. At the end of the chapter we set out the overall conclusions and implications.

## **Overview of the Business of Luxury Brands**

To reach the research objective, it was necessary to establish the context for luxury businesses, using various previous studies. For a better understanding of luxury business, the different interpretations of the term “luxury” must be defined. For this investigation, we used a dual interpretation of luxury (Casaburi, 2011; Catry, 2003; Giacosa, 2012; Fionda and Moore, 2009; Lipovetsky and Roux, 2003; Mason, 2001; O’Cass and Frost, 2002; Truong, Simmons, McColl and Kitchen, 2008; Tsai, 2005; Vickers and F. Renand, 2003):

- Firstly, the elitist connotations of luxury. In this sense, it is considered a phenomenon directed at specific individuals with high financial potential: they perceive those items of clothing and accessories as status symbols in terms of their intrinsic quality, price, rarity and creative content. More precisely, luxury businesses will later be divided into non-affordable luxury and affordable luxury, since the target audience changes depending on the financial potential of its members;
- Secondly, luxury has a social value, as it is a manifestation of the individual within the community. Possession of a luxury product leads to certain individual benefits (Vigneron and Johnson, 1999; Vigneron and Johnson, 2004): it expresses the extent to which one belongs to a certain social class, it symbolises the attainment of status, and it generates a trend effect due to imitation by individuals who do not yet possess that object (Bearden, Netemeyer and Teel, 1989; Burnkrant and Cousineau, 1975; Deutsch and Gerard, 1955; Kapferer and Bastien, 2009; Kapferer and Bastien, 2012; Kelman, 1961; McGuire, 1968). The social value of luxury thus contributes to differentiating the individual from the masses, creating a sort of “snob effect” (individuals often act in self-interested and, arguably, unethical ways). In addition, it expresses membership of a

particular social class with a sort of “bandwagon effect”, and the hedonism and perfectionism that stems from having good taste (Chua and Zou, 2009; Dubois and Duquesne, 1993; Leibenstein, 1950; Vickers and Renand, 2003). It is the brand that gives them a particular social value. This sometimes leads to a conflict between the economic sphere and the symbolic one (Bourdieu, 1977; Carcano, Corbetta and Minichilli, 2011; Schwimmer, 1972), where the economic sphere is related to the functionality of the product and is simpler to define and measure, while the symbolic is highly subjective and difficult to govern. The social value of luxury justifies some business communication decisions, whereby companies are driven to invest thousands and thousands of Euros in a fashion show in order to get a return in terms of symbolic capital, through increased visibility and exposure for their brand.

The definition of luxury business would not be complete without specifying the type of sectors in which the companies could operate (Chevalier and Mazzalovo, 2008; Corbellini and Saviolo, 2009; Giacosa, 2012; Jackson, 2004; Bresciani et al., 2015):

- a) Core luxury sectors: these are traditional luxury sectors, such as:
  - Clothing: the luxury clothing offering is based on different commercial choices characterised by a high level of creativity in terms of models, designs and choice of materials. Firstly there is the non-affordable luxury of haute couture, which developed in nineteenth-century Paris. Hand-crafted by designers, commissioned by private customers and involving a small group of around two thousand customers across the world (Armani Haute Couture, Chanel, Dior and others); next comes the intermediate luxury of demi-couture (Riccardo Tisci for Givenchy, Stefano Pilati when he was working for Yves Saint Laurent and Oscar de la Renta), handmade and much less expensive than haute couture (up to ten times so) and dedicated to a high-end clientele who demand limited models that can be shown off as rare (often only one item is available per boutique); behind these comes the most affordable luxuries in the form of prêt-à-porter brands marketed selectively and promoted through large advertising investments (such as prêt-à-porter collection of Armani, Versace, Gucci, Prada), characterised by high but more affordable prices, more exclusive style content, tailoring (although articles are not unique as is the case with haute couture), whose target is both men and women who are affluent consumers with a strong love of fashion;

- Accessories: like clothing, consumers use accessories to adorn their bodies and demonstrate their status and social rank. Bags, leather goods, shoes, belts, eyewear, ties, lighters, pens all have fashion status and become objects that create trends in their own right. Thanks to a differentiation in price, the market offers non-affordable accessories (often in limited editions) and objects that are more affordable, which cater to those customers who are taking their first steps in the world of luxury, often with occasional purchases and who could not afford a more expensive item. This price differentiation, which has closed the gap between consumer desires and needs, has created growing revenues, today accounting for a major share of total turnover for fashion labels. This is also helped by the fact that the price of an accessory is much lower than that of an item of clothing and hence, the target audience is wider. Brands of international renown such as Louis Vuitton, Gucci, Hermès and Burberry are the most representative of the sector. This sector is also seen in the massive presence of products in the parallel counterfeit market (Cappellari, 2008; Eisend and Schuchert-Güler, 2006; Grossman and Shapiro, 1988; Hoe, Hogg and Hart, 2003; Nia and Zaichkowsky, 2002; Trinh and Phau, 2012; Wall and Large, 2010; Wilcox, Kim and Sen, 2009). There is a directly proportionate relationship between the desirability of an object and the supply of counterfeit goods, which sees the Louis Vuitton Speedy, Gucci handbags and wallets and Burberry belts as the most counterfeited articles. Luxury brands, especially luxury accessories, are particularly prone to being counterfeited because they are very popular with consumers. Progress in production techniques makes it possible to replicate whole ranges of original products (complete with their characteristic colours and design, packaging, labelling and trademarks) for which there is a demand, thus meaning prices are a mere fraction of the original (Ang, Cheng, Lim and Tambyah, 2001; Chow, 2000; Gentry, Putrevu and Shultz II, 2006; Phau, Teah and Lee, 2009; Shultz II and Soporito, 1996; Teah and Phau, 2009). The result is that counterfeit goods have become an alternative to the original products;
- Jewellery and watches: the most creatively designed jewellery and watches are sold in highly select boutiques. This sector is dominated by large groups with a historic presence, such as Richemont, which owns historic brands such as Cartier, Rolex and Tiffany, and other companies within the affordable luxury category, like Damiani, Vacheron Constantin and Pateck Philippe.

Despite the crisis that has affected this industry since the 2000s, the emerging markets have driven sales and assisted recovery;

- Perfumes and cosmetics: in order to extend their reach into the market, labels have also expanded their product ranges to include perfumes and cosmetics, differentiating their offer according to the target audience. Alongside the non-affordable luxuries of some highly exclusive, expensive brands distributed selectively by Carita Paris and Sisley, we find the affordable luxuries of other brands, which are easily recognisable and highly desirable, such as Chanel, Dior, Gucci, Prada, Armani and others. Operationally labels have adopted licence agreements, which have enabled the global spread of their brands in this category, even in different product categories than the products originally associated with them (such as Chanel clothing, watches, perfumes and cosmetics), through a distribution network that is extensive for affordable luxuries and more exclusive for non-affordable luxuries. As with accessories, turnover from this sector accounts for a significant portion of total luxury goods sales for the companies concerned;
  - Cars: Rolls Royce, Ferrari, Mercedes, BMW, Audi, Bentley, Maserati and Porsche are the most striking examples in the luxury car industry, where brands are positioned and distributed exclusively, quality and technology justify differences in price and there is a distinction between affordable and non-affordable luxury;
- b) New luxury sectors: in addition to the core luxury sectors, a number of sectors have begun to enter the luxury market, expanding their horizons of commercial opportunities to draw closer to the world of luxury. Among these are the following areas:
- Wines, spirits and other gourmet products: the food and wine sector is the new emerging luxury market, often involving companies which generate a limited volume of sales (for example Roederer Chistal or Dom Perignon champagne). Connoisseurs of refined products buy chic commodities in specialist shops, paying high prices that are considered justifiable because of the high quality of the products. Although some products are sold in non-selective shops and stores (or even in some supermarket chains), their high prices make them luxury items. In such cases, it is price that bestows status on the luxury item (and not the chosen distribution venue). In the last decade, natural food has moved into the sector, with zero-miles foods linked to tradition, free of harmful ingredients, fat, salt and sugar, minimally processed, ambassadors

of unique values and with strong links to local regions when it comes to niche, rather than international, brands. When the brand has an international reach on the other hand, chic commodities are able to attract the attention of customers worldwide, who are highly informed and eager to satisfy all their senses with high quality products, with packaging that uses innovative materials to keep food safe and preferably fresh;

- Tourism and catering: luxury hotels, ultra-comfortable flights, cruises, private yachts and cultural trips are the new frontier in luxury, where tourism and catering products are enhanced by the combination of quality and creativity. Companies have different price points, ranging from the non-affordable luxury of the Azimut-Benetti and Ferretti Groups in yachting, with the creation of exorbitantly priced private super-luxury yachts and the super-luxury hotels of Armani, Versace, Ferragamo and Bulgari. Affordable luxury is offered by tour operators and restaurants all over the world, all the way to seven-stars hotels with outstanding quality and comfort in rooms and service;
- Furniture and household items: Versace, Armani, Blumarine, Fendi are just some of the names offering loyal customers the opportunity to enjoy an all-round brand experience. Customers can decorate their homes with interiors and household items whose style and creative content reflect the essential features of the brand.

In relation to the affordability of a brand, it's possible to separate different types of luxury into several categories, and this classification is useful to better define the luxury car industry (Chevalier and Mazzalovo, 2008; Chevalier and Mazzalovo, 2011; Giacosa, 2012; Okonkwo, 2007):

- Non-affordable luxury: a non-affordable price (Bruce and Hines, 2007; Kapferer, 2004) is justified by high quality and creativity. This luxury gives a high status to the consumer, as these characteristics make a brand unique in the eyes of the consumers (Dubois and Duquesne, 1993; Giacosa, 2012; Phau and Prendergast, 2000; Vigneron and Johnson, 2004; Wiedmann, Hennings and Siebels, 2007). Non-affordable products are characterized by limited editions or one-off pieces, handmade or semi-handcrafted. The Hermès Kelly, Ferrari Testarossa, Moët & Chandon are some examples: when the consumer chooses it, he is not only buying an item but is entering into the legendary world of these brands, which means elegance, sophistication and style. The limited availability of items increases desirability and ensures

- accurate production levels;
- Affordable luxury: it represents a luxury directed at the middle classes who are attracted by luxury goods but are not particularly affluent (Dubois, Laurent and Czellar, 2005; Giacosa, 2011; Giacosa, 2012; Peterson and Kern, 1996; Silverstein and Fiske, 2003a, 2003b; Thomas, 2007; Yeoman, 2011). The price is more affordable, creating a sort of democratisation of luxury, increasing its accessibility (Wetlaufer, 2001; Wiedmann, Hennings and Siebels, 2007).

There is competition between companies operating in different sectors to attract consumers: this is due to the fact that consumers are unable to buy everything and ultimately have to make a choice (Bresciani et al., 2014 and 2015; Amatulli and Guido, 2011; Ferrero, 1987; Husic and Cicic, 2009; Mosca, 2010), sort of “trading up” (Silverstein and Fiske, 2003b). In terms of price, the lower price is more affordable and is frequently involved in seasonal sales: consumers go on a kind of treasure hunt, taking advantage of incredible opportunities (Cappellari, 2008; Tartaglia and Marinozzi, 2006). The availability of items increases; where once we had boutiques and exclusive shops, now there are added outlets (Okonkwo, 2007 and 2010) and franchises, unlike non-affordable luxury, which is sold in exclusive stores. It emerged that the targets are varied: habitual consumers and day trippers (Dubois and Laurent, 1995).

Many companies operate in both the affordable and the non-affordable luxury markets. For example, Versace operates in the non-affordable luxury sector of haute couture (which represents its core business), but also in the affordable luxury sector, thanks to Versus jeans which are part of a popular pret-à-porter collection. Affordable luxury creates opportunities for increasing revenues, and represents 98% of the business created from luxury.

### **Exploring how Luxury Values impact on Car Brand Relationship**

Ricca (2014), Managing Director at Interbrand in their article “To Know What’s Next, Look to the Stars” alludes to the concept that luxury transcends the borders of any goods or service category. A luxury brand represents a relationship based on extremes, provides a sense of uncompromising pursuit and promises a state of conscious fulfilment. Luxury brands often point to the signs of tomorrow’s trends.

Luxury brands create experiences and stimulate consumer desires. Pine and Gilmore (1998, p. 98) mention that an experience occurs “when a company intentionally uses services as the stage, and goods as props, to engage with individual customers in a way that creates a memorable event”. Brand experience, which is created in response to stimuli related to the brand, may be conceptualized as individual and shared experiences. Individual experiences comprise sensing (aesthetics and sensory qualities), feeling (including moods and emotions) and thinking (convergent/analytical and divergent/imaginative thinking). By contrast, acting (motor actions and behavioural experiences) and relating (social experiences, such as relating to a reference group) are considered as shared experiences (Schmitt, 1999). Luxury brands provide immersive experiences that are staged with theatricality and consistency. Luxury brands realize that anonymity or privacy is particularly important for high-profile customers, as it shields them from continuous recognition and exposure, especially in the luxury car industry. Therefore, gaining access to luxury car owners in order to capture their perceptions isn’t an easy task.

The psychological value of luxury goods seems to be crucial in differentiating luxuries from commodities or counterfeits (Nia & Zaichkowsky, 2000). According to de Barnier et al. (2006) luxury consumers have a common need for values such as aesthetics, quality, product personal history and expensiveness. However, how do luxury values, as perceived by customers, influence brand relationships?

The consumer-brand relationship has been increasing in importance for researchers and brand managers. Understanding how consumers of luxury brands connect and relate to those luxury brands helps to create favourable experiences and establish long-term relationships. In this chapter we intend to contribute to the understanding of this phenomenon through an empirical study of luxury car owners who participate in luxury brand communities. In this study we look at car owners of brands considered representative of luxury car segments E, F and S, according to European Commission (1999), such as: BMW, Audi, Mercedes-Benz, Lexus, Porsche, Lamborghini, Aston Martin, and Ferrari. A luxury car is a stylish, high quality, luxurious automobile intended for the comfort and pleasure of its owner that is affordable only for the high income group. Luxury cars are unique and distinctive within the market in terms of brand, price, the number of extra accessories, engineering requirements, performance, technology and available options (Anurit, 2002).

### ***Consumer Luxury Values***

In order to understand the nature and drivers of consumer luxury values, it is necessary to come to a definition of luxury brands. However, as luxury is a subjective and multidimensional construct, defining luxury brands is not an easy task and must follow an integrative approach (Wiedmann, Hennings, & Siebels, 2009). Luxury brands are usually linked with brands of limited supply, high price, excellent quality, aesthetic beauty, rarity and exclusivity (Choo et al., 2012). Since they are related to objects of desire, luxury brands provide extra pleasure, being able to satisfy both the psychological and the functional needs of their owners (Vigneron & Johnson, 1999). Therefore, the strategic mission of luxury brands is built on the premise that they represent enough value to both the individual and significant others to justify the high product price.

The customer value of a luxury brand has been conceptualized by previous studies (e.g., Vigneron & Johnson, 1999; Smith & Colgate, 2007; Tynan et al., 2009; Wiedmann et al., 2009; Christodoulides et al., 2009; Choo et al., 2012). The question of what effectively adds luxury value to the consumer's perception of the brand was defined based on a hierarchical and multidimensional model that accommodates financial, functional, individual, and social aspects (Wiedmann et al., 2009). The financial dimension of luxury value encompasses both monetary elements such as price and what consumers sacrificed to benefit from the brand. In the present study only consumers who were part of a high income group that joined brand communities were targeted, thus the financial dimension was not considered. The functional dimension of luxury value refers to the core product benefits and utilities given by the brand to the consumer. Value includes usability, uniqueness, quality, reliability, and durability. The individual dimension addresses personal attitudes toward luxury consumption such as hedonism, materialism and self-identity. The social dimension focuses on the perceived utility consumers obtain from owning brands valued within their social groups such as conspicuousness and prestige.

### ***Brand Tribalism and Brand Reputation***

Brand tribalism is a relatively new concept, introduced by Cova and Cova (2002), that identifies a community of self-selected individuals formed on the basis of an emotional attachment to a product or a brand. Brand communities have become an increasingly important phenomenon in contemporary marketing (Muniz & O'Guinn, 2001). They were clearly stimulated by the emergence of Web 2.0 that provided an innovative

technological toolset for the coalescence of communities around brands (Cova & White, 2010). Brand communities are formed by individuals that share values, standards, representations, emotional links with the brand and a sense of belonging and obligation towards the community as a whole.

Brand communities allow customers to share experiences about brands and influence other group members (Swaminathan et al., 2007), revising the power of word-of-mouth communications (Pawle & Cooper, 2006). Veloutsou and Moutinho (2009) concluded that brand tribalism is an important predictor of the strength of brand relationships. Therefore, we postulate that when consumers of luxury brands identify themselves with the brands, feel pleasure acquiring and using the products, believe that the brand gives them prestige and perceive the usability and the uniqueness of such products (luxury values), then the same consumers will be more engaged in participating in communities of self-selected members emotionally attached to a brand (tribes).

Brands with good reputations fulfil their stated promises and marketing signals. Therefore, they are likely to succeed in the market by attracting more customers. However, developing brand reputation requires more than just meeting customer expectations. It is linked to the aggregate perception of various audiences towards the brand (Herbig & Milewicz, 1993). Brand reputation should be managed during the brand's lifetime and cannot be changed in the short term. De Chernatony (1999) points out the importance of the congruence between brand identity, understanding key beliefs and the brand's core values (Kapferer, 2008), and brand reputation. Thereby, luxury values should positively influence the reputation of a luxury brand. Based on the above discussions, the following hypotheses were proposed:

**H1:** Luxury values, social (H1a), individual (H1b) and functional (H1c), have positive impact on brand tribalism.

**H2:** Luxury values, social (H1a), individual (H1b) and functional (H1c), have positive impact on brand reputation

### ***Brand Relationship***

Developing and nurturing customer/brand relationships has become a central issue in both marketing research and practice (Aaker, Fournier, & Brasel, 2004), due to its strong influence on customer retention and profitability. Consumers develop relationships with brands based on brand characteristics and their own perceptions, experiences and behaviours.

Relationship marketing is a long-term process based on the concepts of connection and interaction between the active consumers and the brand. In this vein, a brand can be treated as an active contributing partner in a dyadic relationship that exists between the person and the brand (Aaker & Fournier, 1995). Schultz and Schultz (2004) maintained that brand relationships could be viewed as financial, physical or emotional bonds that bring brands and the customer together. Accordingly, the emotional exchange is recognized as an important measure of the strength of customers' attachment to a brand (Aaker et al., 2004).

Veloutsou and Moutinho (2009) included the emotional outcomes of the transactions that occur during the lifetime of a brand emotional exchange as a dimension of brand relationships and analysed the influence of the overall perceptions of the brands in the form of their reputation and the social influence they experience in terms of brand tribes as drivers of brand relationships. The good/service perceptions and its overall reputation could influence the quality of consumer relationship (Stuart-Menteth et al., 2006). Furthermore, the role of luxury brands as relationship builders is now acknowledged (Cailleux, Mignot, & Kapferer, 2009) and luxury brand managers are aware of the importance of the customer-brand relationship. Based on the reported research and above considerations, it is expected that beliefs about luxury values by customers can influence brand relationships through brand tribalism and brand reputation. Thus,

**H3:** Brand tribalism has a positive impact on the brand relationship.

**H4:** Brand reputation has a positive impact on the brand relationship.

## Method

We said that the purposes of this chapter are to: (i) provide an overview of luxury brand businesses based on previous studies and secondary data; (ii) report on a study of the luxury car sector, which is a first attempt to explore how luxury values impact upon the brand relationship, using primary data gathered from the owners and users of luxury cars.

Based on the above discussions about brand tribalism and brand reputation, the following hypotheses are proposed:

**H1:** Luxury values, social (H1a), individual (H1b) and functional (H1c), have a positive impact on brand tribalism;

**H2:** Luxury values, social (H1a), individual (H1b) and functional (H1c), have a positive impact on brand reputation.

Based on the reported research and the above considerations about brand relationships, it is expected that customer beliefs about luxury values can influence brand relationships through brand tribalism and brand reputation. Thus, the following hypotheses are proposed:

**H3:** Brand tribalism has a positive impact on the brand relationship.

**H4:** Brand reputation has a positive impact on the brand relationship.

To test these hypotheses, a questionnaire was created regarding the items of the constructs with a section for socio-demographic variables. The questionnaire was first written in English and then translated into Portuguese. Back-translation was then used to ensure that the questionnaire communicated similar information to all respondents (Sekaran, 1983). The questionnaire was then pre-tested by 10 individuals, managers and some members of the car brand communities. Then, the members of the communities were invited to participate using an online survey, during the period of February to March 2013.

We measured the constructs with multi-item scales. Luxury values were assessed using a scale presented by Wiedmann et al. (2009). Brand tribalism and brand relationships were measured based on Veloutsou & Moutinho (2009). Finally, brand reputation (corporate) was adapted from Loureiro & Kastenholz (2011). All items were measured by using a five-point Likert-type scale. At the time the survey started, a total of ten thousand members were registered. We received 201 responses. Of the overall participants from 8 car brand communities (Portuguese and UK), 82.4% are male which is representational of the total members of the communities contacted. Almost 80% (79.2%) range from 31 to 50 years of age.

## Findings

PLS (Partial Least Squares) was employed to treat data, using the repeated indicators method (Chin, Marcolin & Newsted, 2003; Kleijnen, de Ruyter & Wetzel, 2007). 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 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 & 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).

The PLS model is analysed and interpreted in two stages. First by the adequacy of the measurements, and then by the structural model. Item reliability was established by examining the loading of the measures on their corresponding construct. All items with loadings have values above 0.707, which indicates that more than 50% of the variance in the observed variable is explained by the construct (Carmines & Zeller, 1979; Hulland, 1999). Composite reliability was used to analyse the reliability of the constructs since it has been considered to be a more accurate measurement than Cronbach's alpha (Fornell & Larcker, 1981). Table 1 shows that all constructs are reliable since the composite reliability values exceeded the 0.7 threshold and even the strictest one of 0.8 (Nunnally, 1978).

The measures demonstrated convergent validity as the average variance of manifest variables extracted by constructs (AVE) was at least 0.5, indicating that more variance was explained than unexplained in the variables associated with a given construct. The criterion used to assess discriminant validity was proposed by Fornell and Larcker (1981), suggesting that the square root of AVE should be higher than the correlation between the two constructs in the model. This criterion was met.

**Table 1. Measurement Results.**

| Variables           | Mean | AVE   | Composite Reliability | Cronbach Alpha |
|---------------------|------|-------|-----------------------|----------------|
| Uniqueness value    | 4.6  | 0.770 | 0.930                 | 0.900          |
| Usability value     | 4.4  | 0.904 | 0.966                 | 0.947          |
| B. relationship     | 4.5  | 0.719 | 0.968                 | 0.964          |
| B. reputation       | 4.8  | 0.618 | 0.890                 | 0.846          |
| B. tribalism        | 4.4  | 0.738 | 0.978                 | 0.975          |
| Hedonic value       | 4.3  | 0.756 | 0.969                 | 0.964          |
| Materialistic value | 4.1  | 0.770 | 0.910                 | 0.851          |
| Self-identity value | 4.1  | 0.861 | 0.925                 | 0.838          |
| Social value        | 4.2  | 0.873 | 0.989                 | 0.988          |

AVE Average Variance Extracted.

The structural results are presented in Table 2. All path coefficients are found to be significant at the 0.001, 0.01 or 0.05 levels, except the causal order individual value->b. reputation. All values of  $Q^2$  are positive, so the relations in the model have predictive relevance. The model also demonstrated a good level of predictive power ( $R^2$ ) as the modelled constructs explained 88.2% of the variance in b. Relationship, 77.2% in b. Reputation and 94.2% in b. Tribalism. In fact, the good value of GoF and the good level of predictive power ( $R^2$ ) revealed a good overall fit of the structural model.

**Table 2. Structural results.**

| Path                                   | Coefficient Beta (t-value) | Hypothesis                    |                         |
|--|----------------------------|-------------------------------|-------------------------|
| Social Value-> Brand tribalism         | 0.591***(11.479)           | H1a supported                 | H1: fully supported     |
| Individual Value -> Brand tribalism    | 0.187* (1.969)             | H1b supported                 |                         |
| Functional Value -> Brand tribalism    | 0.213** (2.586)            | H1c supported                 |                         |
| Social Value-> Brand reputation        | 0.463***(11.329)           | H2a supported                 | H2: partially supported |
| Individual Value -> Brand reputation   | -0.009 ns (1.349)          | H2b not supported             |                         |
| Functional Value-> Brand reputation    | 0.413***(10.311)           | H2c supported                 |                         |
| Brand tribalism -> Brand relationship  | 0.792***(14.241)           | H3: supported                 |                         |
| Brand reputation -> Brand relationship | 0.166* (1.968)             | H4: supported                 |                         |
| $R^2_{B.tribalism} = 0.942$            |                            | $Q^2_{B.tribalism} = 0.69$    |                         |
| $R^2_{B.reputation} = 0.772$           |                            | $Q^2_{B.reputation} = 0.45$   |                         |
| $R^2_{B.relationship} = 0.882$         |                            | $Q^2_{B.relationship} = 0.63$ |                         |
| GoF = 0.83                             |                            |                               |                         |
| Second order formative factors         | std. estimate (t-value)    |                               |                         |
| Uniqueness -> Functional Value         | 0.612*** (16.750)          |                               |                         |
| Usability -> Functional Value          | 0.509*** (15.490)          |                               |                         |
| Hedonic -> Individual Value            | 0.766*** (31.291)          |                               |                         |
| Materialistic -> Individual Value      | 0.189* (1.968)             |                               |                         |
| Self-identity -> Individual Value      | 0.125* (1.966)             |                               |                         |

Note: significant at \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ ; ns- not significant

The findings reveal that social values and functional values are important predictors of brand tribalism and brand reputation. However, the

functional values, usability, and uniqueness of the cars are more effective in creating brand reputation than in improving brand tribalism. Social values have more influence on brand tribalism than on brand reputation. Individual values have a significant effect on brand tribalism and this, in turn, has an important role in brand relationships. The three dimensions of individual values do not have the same strength. Hedonic values are the most impactful in building individual values. Moreover, consumer's personal orientation on luxury consumption which addresses personal matters, such as materialism, hedonistic and self-identity, seems not be a key factor in improving the reputation of a luxury car brand.

### **Conclusion, Implications and Limitations**

Luxury products are a union of tangible and intangible elements deriving from the item's style, design, quality and packaging. Consequently, the search for status and social acceptance is among consumers' expectations. Each product must satisfy the individual preferences and needs of each customer, as the luxury product is a means of communication. In particular, a product reveals its own utility, satisfying material and immaterial needs.

To attract consumers, a luxury company should offer a personalised range of products, with a combination of quality, price and style. In this context, the brand has an important role as it is a measure of luxury: the luxury brand gives a product luxury status.

This study on luxury car brands allows us to understand that luxury values do not act alone in the development of relationships between brands and consumers. In accordance with the Veloutsou and Moutinho study (2009) for non-luxury brands, in the luxury car context brand tribalism is more important than brand reputation in forming relationships.

Managers of luxury car brands should be aware that the core benefits and basic utilities of a luxury car (such as uniqueness and usability) and the perceived benefit individuals acquire by having a car with a brand recognized within their own social group(s), such as prestige, contribute to positively reinforce brand reputation and may significantly affect the evaluation of, and the propensity to purchase or consume, luxury car brands.

Social aspects of displaying status, success, distinction and the human desire to impress other people can positively contribute to the emotional

life of the consumer, brand liking and having a sense of belonging by buying and using the same car brand as community friends.

A collective memory of consumers in a luxury car brand community can reflect group cohesion, improve consumers' lives and their sense of emotional authenticity, which, in turn, enhances the consumer/consumer and brand/consumer relationships.

This study has some overall managerial implications. Firstly, in relation to luxury businesses, this research allows the kinds of needs that an individual can satisfy with luxury products to be better defined. They are related to all those needs that are satisfied through acquiring non-necessary products. Such needs drive the person to a certain behaviour when shopping, which shows that person's cravings, priorities, perceptions and the other variables that characterise each choice. It's important to observe that, when satisfying a need for luxury, a product is chosen because it is recognised as a superlative one. Consequently, the luxury company is not simply product-oriented, as it focuses on other distinctive elements such as quality, exclusivity, style, service, rarity, post-sales assistance, etc.

Secondly, the luxury car sector represents an interesting area of opportunity for companies and many sub-sectors are involved. Some specific features of the luxury car businesses can produce competitive advantages as they better define the optimal brand relationship strategy. In particular, this chapter provides evidence of how luxury values impact on brand relationships, through brand tribalism and brand reputation, improving customer retention and also company performance. It has been shown that the luxury car sector is a potential area for companies to increase their competitive advantage and find opportunities. This importance is duly acknowledged in the economic and social framework and, consequently, this topic could not be excluded from the literature.

Lastly, the role of the political and legislative environment should be analysed: a strong political and legislative system has to protect domestic production, but should also support good inputs and innovation in the production process. In these circumstances, the legislative system could impact on businesses through restrictions and opportunities: a series of standards and regulations could protect the "Made in" in their production, representing a means for domestic development. This protection is not in conflict with market globalization, which allows for wider production and selling ranges.

Thanks to the above managerial implications, business studies need to be increased in this field: in recent years, while the world crisis has meant a decrease in consumption, the luxury sector has tended towards an increase. Consequently, future studies should analyse how to attract new resources to invest in this field, with the aim of facing and overcoming the crisis situation in market demand.

With regard to the limitations of the exploratory study, some points should be considered, which may be avenues for further research: (i) more data should be collected in other product categories and luxury brand communities: (ii) explore the role of other factors as drivers to brand tribalism and brand relationships or explore how consumers engaging in a brand community can influence positive word-of-mouth and consumer commitment.

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## CHAPTER THREE

# THE RELEVANCE OF CULTURAL ASPECTS IN CROSS CULTURAL MANAGEMENT IN MULTINATIONAL COMPANIES

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### Introduction

A willingness to work abroad has become the new normal, at least among people looking for new job opportunities. The 21st-century workforce is global, highly connected, technology-savvy, and demanding. Its employees are youthful, ambitious, and filled with passion and purpose.

This is confirmed by some data regarding big multinational firms such as<sup>1</sup>:

- FCA GROUP has 225,000 employees (62,000 in Italy, 163,000 internationally).
- GENERAL ELECTRIC has 307,000 employees (135,000 in the U.S., 172,000 internationally).
- MICROSOFT has 128,000 employees (62,000 in the U.S. and 66,000 internationally).
- ERIKSSON has 114,000 employees (18,000 in Sweden and 96,000 internationally).

This means that these international companies have a global workforce since their activities are spread all over the world. Thus, in this context, multinational firms have to handle very carefully the cross cultural diversity dimension of their employees in order to achieve an organizational efficiency and effectiveness (Bresciani et al., 2012; 2014).

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<sup>1</sup> Data collected from the annual report of 2013 of each firm.

So, the meaning of culture, particularly its manifestation in the business environment, is the key factor to understand the complex topic of Cross Cultural Management. Understanding culture has become fundamental in order to comprehend how companies really implement Cross Cultural Management practices.

The aim of this chapter is to explain the relevance of the topic of Cross Cultural Management for multinational companies whose global workforce plays a crucial role in achieving organizational efficiency and effectiveness (Bresciani et al., 2015; Bresciani and Ferraris, 2012; 2014; Dias and Bresciani, 2006).

This chapter is structured as follows: the first part deals with the concept of culture, highlighting the core elements affecting people's behaviour in the business context. We focused on the concept of culture to provide the readers the basic knowledge in order to comprehend Cross Cultural Management issues. Moreover, the level of analysis is the single manager with the aim at proposing key characteristics to successfully manage culture within an organization. The second part, instead, defines and explains Cross Cultural Management at the organization level, individuating the main features arising when cross cultural diversity management is applied by multinational firms and, at the same time, proposing concrete experiences of two multinational firms.

## **The Concept of Culture**

Understanding the concept of culture and its impact on the way people think, feel and behave forms the basis of successful Cross Cultural Management. The former relates to a definition and an explanation of culture, the latter to its expressions and manifestations. Referring to Kluckhohn (1951, 86) culture can generally be defined as the following:

*“Culture consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artefacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values.”*

According to Hodgetts and Luthans (2000, 108), applied to the context of business management culture can be explained as “acquired knowledge that people use to interpret experience and generate social behaviour”.

Additionally, Hodgetts and Luthans (2000) provide the following main characteristics of culture:

- Culture is *learned*. It is acquired by experience, not genetically determined.
- It is *shared*. Culture is shared by groups of people, it is not specific to a single individual.
- Culture is *transgenerational*. It is not specific for one generation (though it can be altered in a specific way during one generation).
- Culture is *symbolic*. Symbols are manifestations and expressions of deeper cultural aspects, like underlying values.
- It is *patterned*. Culture is an integrated concept, comprising lots of different aspects, which are interconnected.
- Culture is *adaptive*. It can change.

So, culture is a broad concept which relates to the societal level, but thereby also influences the single individual. It has an impact on thoughts and feelings and is manifested in various ways, such as concrete behaviour, and artefacts. It originated in the past, it can outlast a whole generation and is passed on to the next one. The aspect of the different elements of culture can be further illustrated by using the *Iceberg Model of Culture* (Hall, 1976). In this model culture is compared to an iceberg with a visible tip including the aspects of culture, that can be concretely observed (e.g. music, way of life, behaviour) and an invisible tip (e.g. norms, values, attitudes, philosophy), whereby the invisible aspects help to explain and understand the visible ones.

Applied to the context of Cross Cultural Management, this for example means that it is not only important to know that subordinates from Rumania might expect their supervisor to be much more directive than German subordinates do. Additionally, it might also be helpful to be aware of this being an expression of a cultural value, which is not only expressed in this single expectation, but in many other ways, like certain forms of behaviour (this example refers to a cultural value called *Power Distance* and will be dealt with in greater detail later). Trompenaars and Hampden-Turner (2012, 4) commented on this as follows: “[...] the essence of culture is not what is visible on the surface. It is the shared ways groups of people understand and interpret the world.” Comprehending this essence is important for employees and managers of organizations which operate in an international environment.

## Comparing Cultural Differences

To be relevant in the business context and especially with regard to management, it is necessary to focus on specific aspects of culture, instead of the overall concept (Schwartz, 1994). Consequently, many researchers have focused on cultural dimensions which consist mainly of cultural values and related behaviour. This research provides empirical data about how people from different cultures behave, e.g. subordinates a manager has to work with, “think about their world” (Thomas & Peterson, 2015, 43) and behave in certain ways. In the following, two models are introduced, which aim to explore cultural differences in detail, and which are of high importance with regard to their implications to Cross Cultural Management.

### The Model of Geert Hofstede

Meanwhile, the work of Prof. Dr. Geert Hofstede in the context of work related values can be regarded as a “classic study” (Thomas & Peterson, 2000, 44). Hofstede used data from over 116,000 employees of marketing and service departments of the American company IBM. The data was collected during an internal company survey program between 1967 and 1973 and respondents were from 72 different countries. From this initial study, four cultural dimensions resulted, named Power Distance, Uncertainty Avoidance, Individualism - Collectivism, and Masculinity - Femininity. In the 1980s, Hofstede added a fifth dimension based on the Chinese Value Survey by Michael Harris Bond, which was first called Confucian Work Dynamism but then renamed to Long-Term Orientation (Hofstede, 2001).

#### Power Distance

This first dimension identified by Hofstede (2001) refers to the degree of acceptance of power inequality between individuals (e.g. supervisor and subordinate). It is operationalized by the *Power Distance Index* (PDI) which includes questions like “How frequently, in your experience, does the following problem occur: Employees being afraid to express disagreement with their managers?”, measured on a 5-point answer scale from *very frequently* to *very seldom* (Hofstede, 2001). The extent to which power inequality is accepted in a country, has a huge impact on the structure of an organization, as well as the relationship and interactions between supervisors and subordinates. In countries with a low PDI (i.e.

low power inequality), decision structures are more decentralized, organizational hierarchies are flat, and there is less supervisory personnel. Managers highly rely on the expertise and experience of their subordinates, and the latter expect consultation before a decision is made (Hofstede, 2001). This reflects the low difference in terms of power between supervisors and subordinates: both are almost equal, supervisors are not regarded as superiors, who have to closely manage their subordinates. In countries with a high PDI, though, the opposite applies. Decisions are made by central authorities, organizational hierarchies are tall, and supervisors manage their subordinates closely, leaving them only little room for actions and responsibilities (Hofstede, 2001). What has to be added is, that in countries with high Power Distance, such paternalistic behaviour is not regarded as negative, but even expected by employees. Table 1 provides additional differences between countries with high and low Power Distance with reference to the organizational context.

**Table 1: Differences between countries with low and high PDI (from Hofstede, 2001)**

| <b>Low Power Distance</b>   | <b>High Power Distance</b>   |
|---|--|
| The ideal manager is a democrat, providing resources for his employees.                     | The ideal manager is a benevolent autocrat, making decisions on his own.                 |
| A consultative leadership style increases productivity, performance, and work satisfaction. | An authoritative leadership style increases productivity, performance, and satisfaction. |
| The relations between managers and employees are based on pragmatism.                       | The relation between managers and employees is polarized, and often emotional.           |
| Status symbols and privileges for managers are disfavoured.                                 | Status symbols and privileges for managers are accepted and popular.                     |

According to Hofstede and Hofstede (2011) examples of countries with low Power Distance are Israel, New Zealand, the German speaking countries and Scandinavia. In contrast, Malaysia, Slovakia, the Philippines, Russia, and Rumania score very high on the PDI. The USA and Great Britain also score relatively low on Power Distance.

### **Uncertainty Avoidance**

The central aspect of Uncertainty Avoidance as a cultural dimension is to minimize ambiguity. People from uncertainty-avoiding cultures prefer reliable structures and clear rules to avoid situations, in which they have to

make decisions under uncertain conditions without being capable of predicting the consequences of such decisions. Operationalized by the *Uncertainty Avoidance Index* (UAI), Uncertainty Avoidance is measured, for example, by the item “Company rules should not be broken - even when the employee thinks it is in the company’s best interest”, while strong agreement indicates high Uncertainty Avoidance (Hofstede, 2001). In the business context, Uncertainty Avoidance plays an important role with regards to the structure of organizations. In high uncertainty-avoiding cultures, organizations have clearly defined structures and strict rules, which have to be obeyed under almost any circumstances by their employees. What has to be noticed is that Uncertainty Avoidance is not equal to the avoidance of risk. This is the case, since while the latter relates to a specific risk in a specific situation, the former does not, but it is a “diffuse feeling [...]” (Hofstede, 2001, 148) instead. Table 2 gives some examples of differences between high uncertainty-avoiding societies and low uncertainty-avoiding societies in business.

Countries with low Uncertainty Avoidance are for example, Singapore, Denmark, Sweden, Hong Kong, and China, while Greece, Portugal, Russia, Japan, and Rumania are highly uncertainty-avoiding countries (Hofstede & Hofstede, 2011).

**Table 2: Differences between countries with low and high UAI (from Hofstede & Hofstede, 2011; Weidmann, 1995)**

| <b>Low Uncertainty Avoidance</b>                           | <b>High Uncertainty Avoidance</b>                                       |
|--|---|
| Communication not hindered by hierarchical boundaries.     | Hierarchical structure requires top-down and vice -versa communication. |
| Lower Tendency to stay with the same employer.             | Tendency to stay with the same employer.                                |
| Flexible organizational structures, lesser need for rules. | Processes standardized and formalized, high need for rules.             |
| High willingness to innovate.                              | Opposition to change.   |

### **Individualism – Collectivism**

This bipolar dimension relates to the *self-concept* of the people living in a society and influences the relationship between the individual and the collectivity (Hofstede, 2001). In collectivistic cultures, people define themselves not only in terms of individual characteristics (e.g. societal status, occupation, personality traits), but also in terms of the collective

they belong to (e.g. company, culture, family), which implies a high orientation of the individual towards this collective. However, in individualistic cultures there is a strong focus on the individual, and the collective is much less important for the single person. A society's orientation towards individualism or collectivism also influences the importance of individual interests compared to group interests. One item of the *Individualism Index* (IDV) by which this cultural dimension is measured, is "How important is it to you to fully use your skills and abilities on the job?", whereby high importance indicates high individualism (Hofstede, 2001).

The extent to which a society is more individualistic, or more collectivistic does not only influence the relationship between people, but also the relationship between organizations and their members. Using the relatively modern concept of *organizational commitment* (Allen & Meyer, 1990), one could assume, that in collectivistic cultures, members of an organization are more affectively and normatively committed to their organization which means, that they stay within the organization due to emotional and moral reasons, and get greater care in return. By contrast, in individualistic cultures, personnel investments in the organization, career opportunities, and the number of attractive alternative jobs (*calculative commitment*) might be more important.

There are also important differences between individualistic and collectivistic cultures with regard to management. In individualistic cultures, a manager has to manage individuals, including individual rewards and recognition for individual performances. In collectivistic cultures, though, a manager needs to manage groups instead of individuals, including group rewards, since rewards for a single person would irritate the other group members (Hofstede & Hofstede, 2011). An overview of other correlates of a society's orientation is provided in Table 3.

**Table 3: Differences between individualistic and collectivistic countries (from Hofstede & Hofstede, 2011)**

| <b>Individualism</b>  | <b>Collectivism</b>  |
|---|--|
| Skills and abilities form the basis of decisions on hiring and promotion. | Employees' in-group is taken into account when decisions on hiring and promotion are made. |
| The task is more important than the relationship.                         | The relationship is more important than the task.  |

|  |   |
|--|---|
| Individual decisions are regarded as more effective. | Group decisions are regarded as more effective.   |
| Employees act in the interest of their in-group.     | Employees act in the interest of their employer, if those interests are congruent with own interests. |

According to Hofstede and Hofstede (2011), countries with a high orientation towards individualism include most of the wealthy countries, like the USA, Australia, Great Britain, and Canada, whereas most less wealthy countries are collectivistic, like Guatemala, Ecuador, Panama, and Venezuela.

### **Masculinity – Femininity**

This dimension includes mainly two aspects: The first one is which work goals are prevailing in a society, social goals (e.g. care for living environment, friendly atmosphere), or ego goals (e.g. pursuing one's career, earning money, being assertive). The second one is the degree of distinction between gender roles. In societies with a high *Masculinity Index* (MAS), there is a clear distinction between gender roles, and ego goals are more important. In societies with a low MAS (i.e. feminine societies) the gender roles overlap, and both, men and women, are supposed to be concerned with social goals (Hofstede, 2001).

A culture's orientation towards masculinity or femininity has a lot of influence on the workplace. Firstly, the importance of work in general differs between masculine and feminine cultures. Hofstede and Hofstede (2011, 188) put it this way: In masculine cultures people "Live in order to work", whereas in feminine cultures people "Work in order to live". Furthermore, in masculine cultures employees are rewarded in accordance with their accomplishments, while in feminine cultures they are more rewarded in accordance with their needs (ibid). Table 4 shows some additional differences between high and low MAS cultures in the work context.

**Table 4: Differences between feminine and masculine countries (from Hofstede, 2001)**

| <b>Femininity</b>   | <b>Masculinity</b>  |
|---|---|
| Successful managers are attributed both, male and female characteristics. | Successful managers are attributed only male characteristics. |
| Preference for smaller companies and for less hours worked.               | Preference for larger companies and higher wages.             |
| Career is adapted to the family.  | Family is adapted to the career.                              |
| More women in management.   | Less women in management.                                     |

All Scandinavian countries score very low on MAS (i.e. are feminine cultures), whereby Sweden has the lowest score of all countries. Countries with the highest scores are Slovakia, Japan, Hungary, Austria, and Venezuela, while the USA has a medium score (Hofstede & Hofstede, 2011).

### **Long-Term Orientation – Short-Term Orientation**

As noted above, this fifth cultural dimension was not derived from Hofstede's initial IBM study, but was added on the basis of answers of students from 23 countries on the *Chinese Value Survey*, an instrument developed by Michael Harris Bond from the University of Hong Kong in 1985 (Hofstede, 2001). Originally called *Confucian Work Dynamism* due to its close relation to Confucian teachings, but later renamed Long-Term Orientation by Hofstede, this dimension relates to different virtues, which prevail in a culture. In long-term oriented cultures, long-term success is very important, and thus virtues like thrift and perseverance are prevailing. In short-term oriented cultures, virtues which are oriented towards the past and the present prevail, like respecting traditions, and fulfilling one's social duties (Hofstede & Hofstede, 2011).

Depending on their orientation being focused on the long- or on the short-term, cultures differ in the economic context regarding two major aspects: The first one is business strategy. In long-term oriented cultures, business strategy is focused on building up a strong market position, which implies, that immediate results are not expected. Thus, managers get resources and time to make their contribution. By contrast, in short-term oriented cultures past outcomes are the basis for the assessment of managers, e.g. if quarterly targets have been met. Even if those outcomes resulted from decisions made by their predecessors, managers are still held responsible

for them (Hofstede, 2001). The second one is economic growth. Following the argumentation of Hofstede and Hofstede (2011), their long-term orientation is one possible explanation for the economic growth of the tiger states (Taiwan, Singapore, South Korea, Hong Kong, and Japan) between 1970 and 2000, since virtues like thrift and perseverance promote entrepreneurship. In Table 5 additional examples are given concerning correlates of Long- and Short-Term Orientation.

**Table 5: Differences between long- and short-term oriented cultures (from Hofstede & Hofstede, 2011)**

| <b>Long-Term Orientation</b>                         | <b>Short-Term Orientation</b>   |
|--|---|
| Managers and employees share the same goals.         | There is a great psychological divide between managers and employees. |
| Long-term investments in personnel network.          | Loyalty subject to business issues.                                   |
| Payment related to performance and skills.           | Social and economic inequality should not be too high.                |
| Traditions can be adapted to changing circumstances. | Traditions must be preserved.   |

The top-six countries with the highest scores on Long-Term Orientation are China, Hong Kong, Taiwan, Japan, Vietnam, and South Korea. Short-term oriented countries are for example the Czech Republic, Spain, Canada, Great Britain, and the USA (Hofstede & Hofstede, 2011).

### **The GLOBE Study**

The second empirical investigation of cultural values that is dealt with here is referred to as *The Globe Study*, which was part of the Global Leadership and Organizational Behaviour Effectiveness Program (GLOBE) (House et al., 2002). In the framework of the study, 170 researchers collected data from 17,000 middle managers from 951 organizations in 62 countries during the 1990s. Similar to previous research, the GLOBE study also revealed nine dimensions of different cultural orientations which will be presented shortly in the following list. But in contrast to especially Hofstede and Trompenaars, the focus was also on different leadership styles across cultures, which makes this study particularly valuable. This aspect will also be dealt with in greater detail in the following.

## The GLOBE Cultural Dimensions

The nine cultural dimensions identified in the GLOBE study are conceptually similar to previous research, especially to the work of Geert Hofstede (House et al., 2004), and thus will only be described shortly in this work.

- *Uncertainty Avoidance*: Despite differences concerning measurement, this first dimension is very similar to Hofstede's *Uncertainty Avoidance* dimension. It also refers to a society's tendency to attempt to avoid the unpredictability of future events by establishing rules, social norms and formal procedures (Thomas & Peterson, 2015).
- *Power Distance*: Closely linked to Hofstede's eponymous dimension, Power Distance is the degree to which members of a society or organization accept that power is distributed unequally.
- *Collectivism*: This dimension is related to the work of many other researchers besides Hofstede and Trompenaars (e.g. Schwartz, 1994; Triandis, 1995), but in contrast to the former two, it is subdivided: *Collectivism I*, or *Institutional Collectivism* is the degree to which individual contributions to the collective well-being are encouraged and rewarded (House et al., 2004). The second form of collectivism, named *Collectivism II*, or *In-Group Collectivism* is more similar to Hofstede's Individualism – Collectivism dimension, and describes the degree to which people are proud of, and loyal to the group they belong to.
- *Gender Egalitarianism and Assertiveness*: These two dimensions directly relate to Hofstede's Masculinity – Femininity dimension (House et al., 2004), while Gender Egalitarianism covers the second aspect of Hofstede's dimension (distinction between gender roles), whereas Assertiveness covers its first aspect (prevailing work goals).
- *Future Orientation*: This dimension describes whether individuals, organizations or societies are oriented towards the future in terms of planning, investing in the future, or delaying gratification. It is based on the work of Kluckhohn and Strodtbeck (1961) concerning *time orientation* and it is also theoretically similar to, but statistically independent from Hofstede's *Long-Term Orientation* (House et al., 2004).
- *Humane Orientation*: The degree to which interpersonal values like fairness, generosity, altruism, or kindness are promoted in an organization or society is named *Humane Orientation*. Although

there is no direct equivalent in Hofstede's or Trompenaars' work to this dimension, it also originated in the work of Kluckhohn and Strodtbeck (1961) on *the nature of people* (Thomas & Peterson, 2015).

- *Performance Orientation*: According to House, Hanges, Javidan, Dorfman and Gupta (2004), this dimension has its origins in the classical work of David McClelland on the achievement motive (McClelland, 1961). Its core is the degree to which individual performance and strive for excellence are rewarded and promoted in an organization or society (Thomas & Peterson, 2015).

## Culture and Leadership

The second major contribution to cross-cultural research of this study was the empirical investigation of different beliefs about effective leadership between different cultures. Extending *Implicit Leadership Theory* (ILT) which proposes that individuals have different ideas about attributes, skills, personal traits and behaviours of an effective leader (Lord & Maher, 1991). Dorfman, Hanges and Brodbeck (2004) formulated the *Culturally Endorsed Leadership Theory* (CLT) which focuses, in contrast to ILT, on the organizational and societal level, instead of the individual level. This theory is comprised of two main aspects which are empirically supported by the results of the GLOBE project: The first aspect is that cultures develop specific leadership-prototypes which differ from culture to culture. The second aspect is the idea that there are at least some leader-attributes which are regarded as characteristics of an effective leader in most cultures, and other leader-attributes which are generally regarded as impeding effective leadership in most cultures (House et al., 2002). Six leadership-dimensions could be identified which can be generalized over all investigated cultures (Dorfman et al., 2004):

- *Charismatic/Value based*: This first leadership-dimension characterizes a leader as visionary, inspirational, self-sacrificing, integer, decisive, and performance oriented.
- *Team oriented*: This dimension focuses team-aspects as being central for a leader. A leader characterized as *team oriented* shows a collaborative team orientation, is a team integrator, behaves diplomatically, is not malevolent (reverse coded), and administratively competent.
- *Participative*: This dimension refers to the degree to which a leader involves his employees in decision processes and thus, enables them to participate.

- *Humane Oriented*: A *humane oriented* leader is supportive, considerate, generous, compassionate, and modest.
- *Autonomous*: An autonomous leader is characterized as being independent and individualistic.
- *Self-Protective*: A self-protective leader focuses on security and safety of individuals and group members. Thereby he is self-centered, and status conscious, and emphasizes procedural, and face-saving behaviour.

Most characteristics which are generally regarded as contributing to effective leadership, relate to charismatic/value based leadership, while some also relate to team-oriented leadership. Examples of these characteristics are trustworthiness, justice, honesty (integrity as part of charismatic/value based leadership), foresight and planning ahead (visionary as part of charismatic/value based leadership), as well as being positive, encouraging, motivating, and a confidence builder (inspirational as part of charismatic/value based leadership). Examples referring to aspects of team oriented leadership are being communicative, a coordinator, and a team builder. So, over all cultures investigated, an effective leader is a charismatic, visionary, and integer team-builder (Dorfman et al., 2004).

Characteristics which are regarded as impeding effective leadership mostly relate to *self-protective* and *team-oriented* leadership dimensions. Examples are being lone, and asocial for the former, and uncooperative and irritable for the latter (referring to *malevolent* as a reverse coded subdimension of team-oriented leadership). Higher variation has been found concerning the other dimensions, while humane-oriented and participative leadership is still generally regarded as positive, while self-protective and autonomous leadership is regarded as neutral to negative. For a complete overview of all leader attributes and leadership dimensions assigned to cultural clusters see Dorfman et al. (2004).

### **What Change for Managers?**

Based on the previous sections, there are some conclusions which can be drawn for managers in an international and cross-cultural environment. As has been illustrated, cultures differ not only in terms of values and related behavioural patterns, but also with regard to prototypes of effective leadership. So, while some behaviours might be absolutely “normal” and usual in one culture, they might be regarded as a sign of disrespect or

aggression in another culture (e.g. interrupting someone), or while some business practices encourage performance and motivate employees in one culture, they may lead to a decrease of performance in another culture (e.g. *Management by Objectives*).

Similarly, there are attributes of a leader which might be effective in one culture, but ineffective in another (e.g. participative leadership). So, there is no universally applicable management theory or business practice (Bresciani and Oliveira, 2007; Trompenaars & Hampden-Turner, 2012). Nevertheless, there are aspects which can facilitate managerial success even in a foreign culture. A basis for dealing successfully with employees or customers from a different culture is obviously *awareness*. This includes pure awareness of the fact that cultures are different, as well as knowledge about concrete cultural differences, e.g. concerning values and related behaviours.

However, awareness is necessary but not sufficient. Another necessary aspect is *self-reflexivity*. This means, that one has to reflect not only on specific cultural values of the culture that one will have to deal with when sent to another country, but also on own cultural values and behavioural expressions, as well as own leader attributes. Only distinct knowledge of one's own behaviours which might be reflecting cultural values makes it possible to interact effectively and successfully with members of other cultures. The same applies for leadership attributes: For being effective in another culture, a manager has to compare his own leadership-style to what is preferred or regarded as effective leader behaviour in another culture, and it might be necessary to adjust his own behaviour in some ways. And to be able to do that he has to be aware of both. Unfortunately, awareness and reflexivity are still not sufficient because the applicability of research about cultural values is limited.

As Thomas and Peterson (2015) also point out, cultural values are only average scores of societies. What cannot be taken into account are individual values which are, however, very important for individual behaviour. Thus, average cultural values can be regarded as a general guideline for successfully dealing with members of a different culture, or a "starting point" (Thomas & Peterson, 2015, 65) for understanding a different culture more deeply and the values and behaviours of members of that culture one has to deal with. However, they must not be used to develop overgeneralized cultural stereotypes (ibid). Following the recommendations of Adler (1997) one should use knowledge about different cultural values as a general basis, and then gather information

about individual values of the people one interacts with and modify one's knowledge making observations and personnel experiences.

### **Cross Cultural Management at a Glance**

Globalization, over the last decades, has raised an increasing interest in cross-cultural management issues and, particularly, in comparing management across different cultures and nations.

From the 1960s onwards, management researches have shown greater interest in the concept of culture. This is because it was believed that culture has an influence on managerial behaviour and firms' performance (Sekaran, 1983).

Thus, Cross Cultural Management has developed rapidly over the 1990s and 2000s, reflecting the shift "from curiosity to achieving an enlightened understanding of how management and organizational phenomena relate to cultural and national characteristics" (Earley and Singh, 1995, 329).

An often-quoted definition of cross-cultural management identifies the field as follows:

*"Cross-cultural management is the study of the behaviour of people in organizations located in cultures and nations around the world. It focuses on the description of organizational behaviour within countries and cultures, on the comparison of organizational behaviour across countries and cultures, and, perhaps most importantly, on the interaction of people from different countries working within the same organization or within the same working environment."* (Adler, 1983, 226)

Nowadays, the labor markets of most developed as well as comparatively dynamic emerging countries are becoming increasingly multicultural and multiethnic (Sultana et al, 2013).

Performance factors in terms of legal, moral and economic values become the new organizational goals that can be achieved by managing diversity (Cox, 1993).

In these circumstances, many companies have developed and implemented a set of strategies for managing diversity in order to be more efficient and competitive in the global marketplace as well as in multi-cultural markets in manpower importing countries (Sultana et al, 2013:133).

## **Cross Cultural Management in Organization**

Organizations which foster diversity are predisposed to better integrate the global dynamics of the labour market which is increasingly multiethnic and multicultural (Jain & Verma, 1996).

The concept of “managing diversity in the workforce” has recently emerged mainly to accomplish the goal of “equal opportunities” for all (Sultana et al, 2013). Nevertheless, it is now accepted that the heterogeneity provided by the cultural diversity can be an engine of growth for the efficiency of the organization in this competitive world (Nkomo & Cox, 1996; Jackson & Ruderman, 1995).

Then, international firms that promote diversity as a strength of their organization are likely to attract the best talented staff (Carrel & Everett, 1995). Diversity in this sense is seen as a planned commitment of organization to recruit, retain, reward, and promote a heterogeneous mix of employees (Gilbert et al., 1999).

In concrete terms, cultural diversity in the workplace is exercised through the coexistence of workers who have different backgrounds. The management of cultural diversity requires, therefore, a type of organization culture in which every employee’s career is not affected by age, gender, race, religion or other factors not related to performance (Bryan, 1999) and therefore no group is privileged over another (Torres & Brussels, 1992). Moreover, the management of cultural diversity is often related to *competitive advantage*.

### **Areas of Competitive Advantages**

Nowadays the current trends of globalization and the increasing ethnic and cultural diversity are catching the manager’s attention on cultural differences. Competitiveness is affected by the need (because of national and cross-national workforce demographic trends) to hire more women, minorities, and foreign nationals (Cox et al, 1991).

The link between managing diversity and organizational competitiveness is very close. Moreover, in the organizations, there are some areas that are more sensible to this issue. According to Cox and Blake (1991), these areas are: cost, resource acquisition, marketing, creativity, problem solving and system flexibility.

### **1. Cost Argument**

As organizations become more diverse, the cost of a poor job in integrating workers will increase. Those who handle this well, will thus create cost advantages over those who don't.

### **2. Resource acquisition argument**

Companies develop reputations on favourability as prospective employers for women and ethnic minorities. Those with the best reputations for managing diversity will win the competition for the best personnel. As the labour pool shrinks and changes composition, this edge will become increasingly important.

### **3. Marketing Argument**

For multi-national organizations, the insight and cultural sensitivity that members with roots in other countries bring to the marketing effort should improve these efforts in important ways. The same rationale applies to marketing to subpopulations within domestic operations.

### **4. Creativity Argument**

Diversity of perspectives and less emphasis on conformity to norms of the past (which characterize the modern approach to management of diversity) should improve the level of creativity.

### **5. Problem-solving Argument**

Heterogeneity in decision and problem solving groups potentially produces better decisions through a wider range of perspectives and more thorough critical analysis of issues.

### **6. System Flexibility Argument**

An implication of the multicultural model for managing Argument diversity is that the system will become less determinant, less standardized, and therefore more fluid. The increased fluidity should create greater flexibility to react to environmental changes (i.e., reactions should be faster and at less cost).

## **How to Successfully Change the Organization?**

According to Cox and Blake (1991), organizations with the aim to maximize the benefits and minimize the drawbacks of diversity in terms of interpersonal conflicts that may arise, team cohesiveness and coherent action on major organizational goals, must create "multicultural" organizations.

In the past, the typical organization has been either monolithic (homogeneous membership sharing a single cultural group) or plural (diverse membership but sharing a single cultural group). By contrast, the multicultural organization is one where members of non-traditional backgrounds can contribute and achieve their fullest potential (Cox et Blake, 1991). The key components necessary to transform traditional organization into multicultural ones are the following (Cox et Blake, 1991):

### **1. Leadership**

Only addressing the commitment to cultural diversity to top management is crucial but not sufficient. An organization needs to have lower organizational level members to get involved in order to fully accomplish the task.

### **2. Training**

As a first step to manage and value diversity, training is the starting point. There are two types of training: awareness training and skill-building training. The former is meant to focus on the understanding and the awareness of managing and valuing diversity. The latter is meant to educate the employees on specific cultural differences and how to handle differences in the workforce.

### **3. Research**

It is crucial to collect the information about diversity-related issues, including analysis of attitude and perception of employees, career experiences of different cultural groups etc. This data is helpful to address the right commitment to the right issues, recording the target accomplished so far.

### **4. Culture and Management Systems Audit**

An auditing system analysing in-depth the issues related to the potential misunderstanding, harassment that may arise among the organization's workforce, is needed to indicate and support the management to give effort to the proper target.

### **5. Follow-up**

Monitoring the change and evaluating the results is crucial in order to institutionalize the changes as part of the organization's regular on-going processes. Furthermore, an accountancy system is required to oversee the progress and establish actions to keep the organization in the right line.

## From Diversity to Inclusion

Nowadays leading companies are promoting diversity as an expected commitment, like other activities run with the primary aim of increasing their reputation and thus, the attraction of talent.

According to Deloitte, an international consultancy firm, organizations still treat diversity primarily as a matter of compliance – a regulatory box to be checked (Deloitte, 2014). However, not enough organizations take the next essential steps of creating a work environment that promotes inclusion in all its variations.

In this context, the main question to be answered is:

*"What can organizations do from simply meeting minimum regulatory requirements for diversity to building an inclusive workplace that inspires all employees to perform at their highest level?"*

According to Deloitte, organizations can start by broadening their understanding of diversity to focus not only on the visible aspects of diversity (gender, race, age) but also, more importantly, on diversity of thinking. This means to fully make use of people's different perspectives on problems and different ways to address solutions. Maximal participation from the bottom to the top is required. A direct effect would be to avoid the risk associated with homogeneity, especially in senior decision makers. The key point is to consider diversity as a business imperative. Another aspect directly linked with the diversity management is the aspect of inclusion, which relates to the feeling of *being part of* an organization.

According to the research of Kenji and Smith (2013), current inclusion initiatives often implement formal inclusion (that is participation) without recognizing how that inclusion is predicted on assimilation. Indeed, in response to the pressure, individuals often downplay their differences, covering them.

According to Deloitte, by bringing together these two issues – diversity of thinking and inclusion – organizations can consider the importance of diversity when it comes to meeting specific business objectives:

- *Assessing top talent*: Companies should recruit top people from a globally diverse workforce.

- *Driving performance and innovation:* A significant body of research shows that diverse teams are more innovative and perform at higher levels.
- *Retaining key employees:* One reason people leave organizations is that they feel they no longer “belong”.
- *Understanding customers:* Diverse employees better enhanced a competitive advantage over market opportunities.

The key point is to make sure that organizations, applying diversity as a means and not as a regulatory compliance, can move to allow their employees to bring their rich perspective and approaches to the workplace.

### **Steps of the process**

According to Deloitte, organizations with the aim to better understand the key points that make people feel included, should consider the following steps (Bourke et al., 2012):

- *Create inclusion labs to help educate leaders about unconscious bias and covering behaviour:* Encourage leaders to honour other people’s opinion and promote constructive debate.
- *Embed diversity and inclusion in leadership pipelines and programs:* Give the right effort to diversity and inclusion initiatives in leadership programs.
- *Conduct a gap analysis of talent systems and processes:* Audit the current system of HR in order to make sure that diversity and inclusion principles are applied.
- *Develop a diversity and inclusion scorecard and measure business impact:* Hold leaders and managers accountable and identify outliers in the diversity and inclusion initiative.
- *Install governance and resource the effort appropriately:* Create a council with representatives from different parts of the business that is properly resourced to be a change agent.

### **The Experience of Managing Diversity in Organizations**

According to Karabacakoglu and Özbilgin (2010), there are three models of global diversity management: universal, localized and transversal. The first approach is a set of “universal” criteria, which means a common set of diversity priorities, activities and methods that have to be put into effect by every national branch network. The critique of this method is that the

considerations made for a country, could not be lawfully/socially acceptable for another.

The second approach is related to the implementation of diversity at a local level; this method is applicable in the case that each branch network's target complements the global reputation of the organization. The third approach links the priorities set at a global level with the different ways of identification and implementation, of the latter, at a local level.

### **Ericsson's experience**

*At Ericsson, the power of you defines the power of us. We are more than 100,000 people with diverse experiences, perspectives and ideas. It is our diversity that brings us closer together and helps us make a difference.*

*Together, we inspire innovation, communication and connectivity around the world. Your personal strengths are our strengths – and it is Ericsson's mission to ensure that diversity and inclusion are some of the most important building blocks of our company.<sup>2</sup>*

The approach of Ericsson to global diversity management is closer to the transversal approach. Ericsson encourages global shared priorities, giving the duty, to each Country Manager, to best define the implementation in accordance with national circumstances and legislation.

According to Karabacakoglu and Özbilgin (2010), Ericsson puts special attention on two areas, as a diversity strategy on a global level:

- *Achieving a representative portion in terms of gender at all levels of the organization.*
- *Increasing the proportion of people from different backgrounds (nationalities) in senior management roles.*

At Ericsson the Human Resources and Organization department is responsible for developing the global framework for diversity. Locally, each Country Manager, in accordance to the global strategies, defines country diversity priorities and each country's plans are reviewed and updated to reflect the business situation.

Every manager and every employee has the responsibility of translating set priorities into practice, in order to ensure the outcome. Ericsson set short

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<sup>2</sup> Source: company website

term and long term goals as a roadmap to follow and particular attention has been given to the link between global and local perspective. In order to continuously update the progress of the diversity work, the monitoring system includes different approaches which capture diversity at individual, workgroup and organizational levels.

### **BHP Billiton's Experience<sup>3</sup>**

In order to solve a demographic mismatch that has occurred to the marketing division of BHP Billiton, the firm needs to adopt an approach that carefully refers to diversity and inclusion. BHP Billiton's marketing division was highly diverse in terms of gender and ethnicity in non-executive positions, but there was a demographic mismatch between the global talent pool and the company's senior team.

Mike Henry, the president of health, safety, environment, and community, marketing, and technology, observed this misalignment. He concluded that the only reasonable explanation was an unconscious bias within the organization and a tendency to do things as they had always been done - particularly due to the fact that leading talent was primarily sourced from BHP Billiton's traditional hiring bases in Australia, the United Kingdom, North America, South Africa, and the Netherlands.

Following the closure of BHP Billiton's marketing office in The Hague - a traditional hub for recruiting and developing marketing executives - Henry decided to take action to prevent narrowing the leadership pipeline even further. With strong support from the CEO, Henry began seeking out broad-based leadership engagement and took steps to understand BHP's unconscious biases. He led by example, taking the Harvard Implicit Association Test and sharing the results with his team. He aimed to prove his commitment to diversity and inclusion and show that he could only mitigate his own unconscious biases by being aware of them first.

Next, Henry had BHP Billiton's marketing organization conduct an inclusive leadership program for its top 150 leaders, which included measuring perceptions on diversity and inclusion. The program involved

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<sup>3</sup> BHP Billiton's experience, Deloitte Australia, "Interview with Mike Henry (Group Executive & Chief Marketing Officer, BHP Billiton): Reflections on investing in leaders to accelerate diversity and inclusion outcomes," May 2013, [https://www.deloitte.com/view/en\\_AU/au/services/consulting/human-capital/DiversityandInclusion/fc1eb8b30902e310VgnVCM3000003456f70aRCRD.htm](https://www.deloitte.com/view/en_AU/au/services/consulting/human-capital/DiversityandInclusion/fc1eb8b30902e310VgnVCM3000003456f70aRCRD.htm).

interactive workshops, storytelling, videos, self-paced activities, homework, coaching, and reading, all designed to help leaders shift their mindsets and behaviours. And it broadened the conversation from one about diversity to one about diversity and inclusion, from demographics to diversity of thinking, and from compliance to business imperative. To help take this from a program to a sustained focus of attention, Henry appointed a full-time diversity and inclusion manager to implement change. During a time of downsizing, this was a potent symbol of the value he placed on diversity and inclusion.

These steps yielded several notable results. Nine months after the first leadership intervention, 88–94 percent of leaders reported that they understood what they needed to do, that they had changed their behaviour, and that they knew they were accountable for change. Critically, 72–76 percent of staff agreed that their leaders were behaving differently - that is, more respectfully and inclusively - and that their teams were now more collaborative.

In 2013, the program was expanded to include all leaders and all staff, which was a huge investment of time and energy. Mindsets have shifted, and while employee statistics have been slow to change, the 2013 results of BHP Billiton's marketing organization's annual "inclusion index" diagnostic reveal that representation of women and talent from outside the companies' traditional hiring bases has increased at leadership levels - a trend that has continued year on year since the first diagnostic was run in 2011.

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## CHAPTER FOUR

# A PERFECT COUPLE: THE WINERY AND RURAL TOURISM

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### **Introduction**

The wine sector is notably competitive and contributes significantly to the economy of several countries such as Portugal, Italy, Spain, France, Australia, Chile and South Africa. Over the last twenty years, the sector has increasingly come to see tourism as a complementary activity, one that can increment revenue, support marketing strategies and nurture a close relationship between customers and the territory and community where the wines are produced. Wine tourism has been predominantly growing in wine-production territories that are situated in rural areas and which consequently permit synergies with rural tourism.

From a tourism perspective, wine has the potential to become the main attraction of a territory and thus, together with the other local resources such as heritage sites, rural community activities, local traditions, environmental reserves and other territorial intensive products (TIPs), to be an asset that makes a major contribution in defining the attraction of a territory to tourists. Asero and Patti (2009) classify wine as a territorial intensive product since it contains a strong reference to the territory in which it is produced. These authors argue that wine reaches a target market made up of those who are sensitive not only to the up-market wine brands, of which they are often connoisseurs and in some cases experts, but also to the territory, local traditions and handicrafts, which represent what Winter (2003) refers to as “a new and defensive localism”. In several countries wine is an expression of culture and the identity of a community that maintains a set of traditions rooted in antiquity. Wine tourism

proceeds typically in rural areas, based on itineraries involving areas of wine production.

This study analyses the Portuguese wine sector, where wineries are organized into 14 demarcated wine regions: 12 in continental Portugal and two in the islands of Madeira and the Azores. One frequently finds wineries and farms associated with these wine regions that promote rural tourism as a complementary product. This study aims to identify and characterize this burgeoning area of rural tourism.

This chapter is divided into two parts; the first presents a review of the literature relating to wine tourism and rural tourism and the relationship between these two areas of activity. The second part presents an empirical study carried out in Portugal in 2014 to characterize the evolution of rural tourism associated with wineries.

## **Literature Review: Rural Tourism, Wine and Heritage**

### ***Rural Tourism***

Usually, wineries are located in rural agricultural areas that incorporate wide-open spaces, and low levels of development, thus permitting visitor and environment interactions (Nelson et al, 2008). Rural tourism means that travellers visit locations outside urban areas and covers activities such as hiking, biking, visiting community museums, buying crafts or having a “country experience” (Page and Getz, 1997). This experience can provide the urban visitor with an opportunity for a rural retreat or for an adventurous activity in a natural setting. Hall et al (1997) suggest that enjoying a rural location for its peace and tranquility is one motivation for visiting a winery. Most of the wineries are located in very picturesque rural environments that can, in addition, offer an appealing location for weddings, family reunions, birthdays, or retirement parties. In fact, several wineries have upgraded their once rudimentary facilities to accommodate such events, and some even employ event planners to make the experience stress-free for the consumer (Nelson et al, 2008). Getz (2000) notes that visitors to wineries in rural settings not only have the benefit of scenic views and landscapes but wineries may also provide attractive sites for picnics, recreation, vineyard walks and group functions that will add value to the guests’ enjoyment and enhance their experiences.

With regard to rural tourism, it is interesting to analyze the changing profile of the rural tourism entrepreneur. Some studies suggest that if new

farmers or other types of rural actors, such as winery owners, with diverse backgrounds continue to enter the countryside in significant numbers, then new networks are likely to arise, and established ones may feel threatened (Dawson et al, 2011).

### ***Wine Tourism***

Studies of wine tourism began in the mid-to late-1990s, growing out of several other existing areas of academic interest, such as rural and special interest tourism (Hall and Mitchell, 2001; Hjalager and Richards, 2002; Mitchell and Hall, 2006). Hall et al (2000) defined wine tourism as the “visitation to vineyards, wineries, wine festivals and wine shows for which grape wine tasting and/or experiencing the attributes of a grape wine region are the prime motivating factors for visitors” (Hall, et al, 2000, p. 298). Getz (1998) describes wine tourism more broadly as including three major perspectives: a strategy for destinations, an opportunity for wineries and as a form of consumer behaviour.

Fraser and Alonso (2006) have observed that although the tourism and wine industries are increasingly seen as “natural symbiotic partners” and this relationship is embodied in wine tourism, in some cases wine tourism can present significant downside aspects to the business of making and marketing wine and not every grower will want to be involved. Nevertheless, wine and tourism are both products that are differentiated due their regional identity and can play a significant role in attracting tourists to rural regions (Dawson et al, 2011). These visits can also generate important benefits to local economies and communities (Bresciani et al., 2015; Hall, 2004; Hall et al., 2000; Jaffe and Pasternak, 2004). In addition, as wine regions and wine trails have emerged worldwide (Fensterseifer, 2007; Jaffe and Pasternak, 2004; Sharples, 2002), traditional regions that had stagnated are being revitalized through small-scale production for wine tourism (Scherrer, et al, 2009).

### ***Wine Tourism: Relations with Rural Tourism, Territory and TIPS***

Nowadays wine and other TIPS are part of the heritage of a territory, one capable of providing a rich cultural experience. In recent years the Council of Europe for Cultural Routes has encouraged the creation and exploitation of itineraries as cultural routes, such as “The Routes of the Olive Tree” and “Iter Vitis–Wine Routes in Europe”. These thematic routes promote thematic tourism and the conservation of cultural heritage through the

utilization of typical products (Asero and Patti, 2009). The touristic potential of these typical products is enhanced when they are identified with quality labels and brands that protect their identity and when they are associated with the endogenous features of the territory where they are produced.

In the case of wine tourism, it is possible to identify different vectors associated with wine production. These range from the vine plantations and their settings (Douro, in Portugal, for example is a UNESCO world heritage region and many tourists come just to see this particular landscape) to the actual production in the wineries. The latter typically includes wine-tasting and gastronomy, contact with the wineries and producers along with nature-related experiences provided by rural tourism. Hall et al (1997) characterize wine tourism as visits to vineyards, wineries, wine festivals and wine shows, and suggest that the major motivating factors for visitors are wine tasting and/or experiencing the attributes of a wine region. Charters and Ali-Knight (2002) take a broader view and propose that the wine tourism experience encompasses an expanding range of features that include lifestyle experiences, education, linkages to art, wine and food, tasting and cellar-door sales, winery tours, incorporation with the tourism-destination image and a marketing opportunity which enhances the economic, social and cultural values of a territory. Additionally, Fuller (1997) argues that wine and tourism rely on regional branding. Ohe and Kurihara (2013) suggest that local food production and rural tourism are joint products, while wine is a predominant TIP associated with rural tourism in numerous studies (Carlsen and Charters, 2006).

However, wine tourist expectations vary according to region (Charters and Ali-Knight, 2002) and although wine can have a varying impact on the tourism flux to a territory in accordance with its role which can be predominant, complementary, marginal, or exclusive, it is generally considered a contributing factor to the competitiveness of a destination (Asero and Patti, 2009). Wine contributes to improving the competitive advantage of a region, through the creation of jobs and revenue and vine plantations, and the wine industry itself, winery visits, cellar-door sales and associated hospitality all have a part to play in the business model. The volume of wine tourism tends to increase with the competitive and strategic positioning of a wine tourism region in a country (Williams, 2001) while the exclusivity of the product increases market opportunity and reinforces the market niche created (Vrontis et al., 2011). Several authors' associate wine tourism with a neo-rural ethos, one that presents a

new rural entrepreneurship, rural style of life and farmhouse activity embedded in a culture of hospitality and sustainability (Asero and Patti, 2009). Additionally, some research (Cambourne et al., 2000) suggests that wine provides a motivating factor for tourists to visit a destination given that wine regions tend to be attractive places and vineyards aesthetically pleasing. Consequently, wine tourism and hospitality could support the development and refinement of cultural attributes, traditional values and regional identity (Conto et al., 2014).

As wine can be considered a TIP par excellence, the following table from Ohe and Kurihara (2013) that summarizes the symbiosis between TIPs and tourism can be helpful in contextualizing its role.

**Table 1. State of the art: TIPs and tourism.**

| <b>Topic</b>                               | <b>Sub topic</b>                        |
|--|---|
| Local food and tourism                     | Rural development/rural tourism         |
|  | Authenticity                            |
|  | Rural cultural heritage                 |
|  | Food tourism                            |
|  | Wine tourism                            |
|  | Social effects                          |
|  | Rural development/rural tourism         |
|  | Culinary tourism                        |
|  | Organic agriculture and agri-ecotourism |
| Rural tourism                              |   |
| Economic effects of local food and tourism | Differentiation of tourism destinations |
|  | Food consumption by tourists            |
|  | Backward economic linkage               |
|  | Hedonic pricing approach                |
| Economies of scope                         | Agricultural and rural field            |
|  | Agricultural cooperatives               |
|  | Non-agricultural field                  |
|  | Theoretical development                 |

Source: Ohe and Kurihara (2013)

## **Empirical Study: Wineries and Rural Tourism, the Portuguese Case**

### *Portuguese Wine Demarcated Regions*

Portugal has 14 demarcated wine regions, 12 on the continent and two on the Portuguese islands of Azores and Madeira. As can be seen in Table 2, the volume of wine production is highest in the northern demarcated regions of Douro (23%), Minho (15%), Trás-Os-Montes (2%), Beiras (1%) and Dão (5%), which in total represent 46% of total production.

The second highest producing region is that of Greater Lisbon and the Tagus Valley with 31.4% (Tejo: 9.2%; Lisbon: 16.2%; Setubal Peninsula: 6%). The demarcated regions from the centre of the country represent 7.2 % of the total production (Bairrada: 4% and Beira Interior: 3.2%). The south of the country contributes 14.4% of the total (Alentejo 14% and Algarve 0.4), while the islands of Azores and Madeira produced just 1% of the total in 2009/2010.

**Table 2. Wine production by region in Portugal - 2009/2010**

| <b>Regions</b>    | <b>Production</b> | <b>Production %</b> |
|-------------------|-------------------|---------------------|
| Minho             | 869.985           | 15%                 |
| Trás-os-Montes    | 110.615           | 2%                  |
| Douro             | 1.351.949         | 23%                 |
| Dão               | 295.894           | 5%                  |
| Bairrada          | 238.343           | 4%                  |
| Beira Interior    | 189.386           | 3,2%                |
| Beiras            | 60.522            | 1%                  |
| Tejo              | 544.540           | 9,2%                |
| Lisbon            | 962.718           | 16,2%               |
| Setubal Peninsula | 379.371           | 6%                  |
| Alentejo          | 810.339           | 14%                 |
| Algarve           | 23.651            | 0,4%                |
| Madeira           | 45.448            | 0.8%                |
| Açores            | 13.755            | 0.2%                |
| Total             | 5.893.516         | 100%                |

Source: Instituto do Vinho e da Vinha, Portugal, Unit: 1000hl, 2014

The export of Portuguese wines in 2011 was mostly to the following 10 countries: Angola, France, Germany, United Kingdom, USA, Brazil, Mozambique, Switzerland, Canada and Guinea Bissau and Portuguese wines are currently fifth in the ranking of European wines imported into

China (Lusa, 2015). Port wine is mostly exported to France, the Netherlands, Belgium, United Kingdom, Germany, USA, Canada, Denmark, Spain and Brazil.

### ***Wine Tourism in Portugal***

According to the “Wines of Portugal” website, there are a number of wineries that offer wine tourism in Portugal although the distribution is somewhat heterogeneous. As can be seen in Table 3, the supply of wine tourism is limited to five of the 14 demarcated wine regions. In the north of the country one finds three demarcated wine regions providing enotourism services: Dão Lafões (three wine tourism business units), Douro (eight units) and Minho/vinho verde (six units). In the centre of the country, there is just one demarcated region, Bairrada (five units). In the south just the Alentejo offers wine tourism (eight wine tourism business units). As can be seen in Table 3, all of the units have a winery; some are in rural regions and also have vineyards. These wine tourism business units offer several services. This study has organized these services into the following categories:

- Rural tourism;
- Museum and heritage (gardens, palaces etc.);
- Hotel;
- Restaurant and bar.

Most of the wine tourism units are located in the north of the country which has 17 units representing 57% of the wine tourism supply, followed by Alentejo in the south with 27% and in third place, Bairrada in the centre with 16%. Overall, the distribution of wine business units in Portuguese territories broadly parallels the volume of wine production set out in Table 2.

With regard to accommodation services, the study indicates that 40% of wine business units offer rural tourism accommodation: six units in the north, four in the south and two in the centre. Additionally it is possible to see that 20% of the wine business units have hotels (five or four stars) associated with the higher end of the market. All of the units have restaurants and bars that highlight the use of local products (TIPs) in combination with local wines. We also note that 30% of these units offer complementary products such as museum and heritage attractions.

**Table 3. Wine tourism: A landscape of the supply in Portugal**

| Regions/ Wine tourism business        | Rural tourism | Museum and heritage | Hotel           | Restaurants and bars |
|---------------------------------------|---------------|---------------------|-----------------|----------------------|
| <b>North</b>                          |               |                     |                 |                      |
| <b>Dão e Lafões</b>                   |               |                     |                 |                      |
| Hotel Casa da Insua                   |               | x                   | Five star hotel | x                    |
| Paço dos Cunhas de Santar             |               |                     |                 | x                    |
| Quinta de Cabriz                      |               |                     |                 | x                    |
| <b>Douro</b>                          |               |                     |                 |                      |
| Aquapura Douro Valey                  |               |                     | Five star hotel | x                    |
| CS Vintage House Hotel                |               |                     | Five star hotel | x                    |
| Quinta Nova de Nossa Senhora do Carmo | x             |                     |                 | x                    |
| Quinta da Pacheca Wine House          | x             |                     |                 | x                    |
| Quinta do Pego                        |               |                     |                 | x                    |
| Quinta Vale de D. Maria               | x             |                     |                 | x                    |
| Quinta do Vallado                     | x             |                     |                 | x                    |
| The Yeatman                           |               | x                   | Five star hotel | x                    |
| <b>Minho/Vinho Verde</b>              |               |                     |                 |                      |
| Quinta da Aveleda                     |               | x                   |                 | x                    |
| Casa do Valle                         | x             |                     |                 | x                    |
| Quinta da Brejoeira                   |               | x                   |                 | x                    |
| Quinta das Arcas                      |               | x                   |                 | x                    |
| Solar do Merufe                       |               |                     |                 | x                    |
| Solar de Serrade                      | x             |                     |                 | x                    |
| <b>Centre</b>                         |               |                     |                 |                      |
| <b>Bairrada</b>                       |               |                     |                 |                      |
| Adega Luis Pato                       | x             |                     |                 | x                    |
| Caves Aliança                         |               | x                   |                 | x                    |
| Campo Largo                           | x             |                     |                 | x                    |

|                                     |   |   |                 |                          |
|-------------------------------------|---|---|-----------------|--------------------------|
| Caves Solar de São Domingos         |   | x |                 | x                        |
| Quinta do Encontro                  |   |   |                 | x                        |
| <b>South</b>                        |   |   |                 |                          |
| <b>Alentejo</b>                     |   |   |                 |                          |
| Herdade Malhadinha Nova             | x |   |                 | x                        |
| Herdade do Esporão                  |   | x |                 | x                        |
| Herdade do Rocim                    |   | x |                 | x                        |
| Hotel Rural Vila Galé Country House |   |   | Four star hotel | x                        |
| L'and Vineyards Hotel               |   |   | Five star hotel | x (with a Michelin star) |
| Herdade dos Coelhoiros              | x |   |                 | x                        |
| Herdade dos Grous                   | x |   |                 | x                        |
| Herdade do Sobroso                  | x |   |                 | x                        |

The coupling of wineries and rural tourism has also benefitted from local and nationally supported initiatives which are aimed at increasing the international market share of Portuguese wines and which also serve to attract foreign tourists to participate in wine tourism. These range from the choice of Reguengos de Monsaraz in the Alentejo region as the European City of Wine 2015 (Recevin, 2014) to wine-tasting events as have been hosted in countries such as Norway, Poland (Revista de Vinhos, 2015), Brazil (Wines of Portugal, 2015) and increasingly in China (Lusa, 2015).

These events are frequently given government and diplomatic support as wine and gastronomy promotions were highlighted as priority areas in PENT (2013) the Portuguese government's National Strategic Tourism Plan Horizon 2013 – 2015.

### ***Rural Tourism associated with Wine/Wineries in Portugal***

To systematize the information collected about rural tourism in wine tourism units we present table 4 which provides a breakdown of the particularities of rural tourism when paired with wineries and wine

producers. Rural tourism in these cases is typically developed on a small scale and most of the accommodations have less than 15 rooms, with the exception of *Herdade dos Grous* in Alentejo with 24 rooms. Most of the accommodation is inside existing buildings on farms, and tourists generally share the facilities on the farms with the owners and their families. So the value added to the tourists in these cases includes contact with a rural family environment and the possibility of sampling typical routines of farm and country life, as well as close contact with nature and relief from the stress of the city, given that the majority of the tourists come from urban areas.

Additionally, it was possible to confirm that some winery owners come from urban areas having abandoned city life and moved to rural regions with the intention of working on properties that belonged to their families for generations.

Another interesting aspect is that most of them offer other TIPs, such as olive oil, honey and jam, and all of them have bars and restaurants that use local products to provide some gastronomic experiences to visitors, in addition to the wine. Therefore, these products function as complementary products, and as often referred to in the literature, tourists come to experience and taste flavours associated with endogenous products of each region. Finally, it is also important to note that some of these business units, particularly those in the south of the country (Alentejo) where farms are large in terms of hectares, are able offer other types of tourist attractions such as ecotourism, fishing and hunting.

**Table 4. The winery and rural tourism: A perfect couple**

| Regions/ Wine tourism business units  | Rooms (number) | Other TIPs                                  | Restaurants, Bars, wine tasting | Other tourism segments supplied |
|---------------------------------------|----------------|---|---------------------------------|---------------------------------|
| North                                 |                |   |                                 |                                 |
| Douro                                 |                |   |                                 |                                 |
| Quinta Nova de Nossa Senhora do Carmo | 11             | Produce: olive oil, jams, honey and tisanes | x                               |                                 |
| Quinta da Pacheca Wine House          | 15             | Produce: olive oil and jams                 | x                               |                                 |

|                         |    |  |   |   |
|-------------------------|----|--|---|---|
| Quinta Vale de D. Maria | 3  |  | x | Ecotourism<br>Fishing                   |
| Quinta do Vallado       | 13 |  | x |   |
| Minho/Vinho Verde       |    |  |   |   |
| Casa do Valle           | 5  |  | x |   |
| Solar de Serrade        | 8  |  | x |   |
| Centre                  |    |  |   |   |
| Bairrada                |    |  |   |   |
| Adega Luis Pato         | 2  |  | x |   |
| Campo Largo             | 6  |  | x |   |
| South                   |    |  |   |   |
| Alentejo                |    |  |   |   |
| Herdade Malhadinha Nova | 10 | Produce:<br>Livestock,<br>olives and<br>worse  | x |   |
| Herdade dos Coelhoiros  | 10 | Produce cork,<br>olives and<br>nuts  | x | Ecotourism<br>and<br>hunting<br>tourism |
| Herdade dos Grous       | 24 | Produce:<br>worse,<br>livestock,<br>olives,<br>orchards,<br>vegetables,<br>olive oil,<br>chocolates<br>with wine,<br>jams, tisanes,<br>honey and<br>seasonings<br>with herbs<br>from the<br>region | x | Ecotourism                              |
| Herdade do Sobroso      | 8  | Produce:<br>honey, olives,<br>olive oil and<br>jams  | x | Ecotourism<br>and<br>hunting<br>tourism |

This analysis suggests that tourists often seek this segment as part of a package that includes a set of experiences that provide contact with rural life, a gastronomic experience and wine tasting, and opportunities to purchase TIPs to savour back home (usually stays in rural accommodation are short, especially in the low season), to have contact with the farm owners and their families and to accompany the process of wine making from vineyard to cellar. There are also some cases reported of tourists participating, at certain times of the year, in the activities of farms, particularly in harvesting grapes and other traditional activities involved in the preparation of wine. Furthermore they travel to these places with the purpose of participating in festivals and local get-togethers associated with wine.

This flux of tourists to rural areas enables a reduction in the problem of seasonality in rural tourism and adds value to the tourist experience.

## **Conclusions**

This chapter first presents a literature review that evidences the relationship between wine and rural tourism. It then characterizes the significance of Portuguese wines in supporting rural tourism provision in demarcated wine regions in Portugal.

The empirical study looks at the 30 Portuguese wineries that provided wine tourism in 2014 and in particular the 40% of these with a rural tourism component. The study describes the features of rural tourism when associated with wineries and TIPs in the Portuguese context and highlights the importance of wineries in making rural tourism attractive and adding value to the client experience. We also note that while wine is a predominant TIP with the capacity to attract tourists to participate in the different phases of its production from vineyard to the wine cellar and tasting the final product, it is often associated with the provision of complementary TIPs such as gastronomy, wine and rural tourism as joint products.

The study allows us also to confirm that tourists are mainly from urban regions and aim to enjoy rural experiences and contact with rural life in a peaceful and natural environment. Some of the entrepreneurs are also from urban regions but have come to live in rural areas to exploit the endogenous resources of the farms that have been in their families, sometimes over several generations. Further research aims to study the

profile of these entrepreneurs and their relationships with local communities.

We note that the promotion of wine and gastronomy have both been prioritized in the Portuguese government's national tourism plan for 2013 - 2015 which has meant that Portuguese wine has been increasingly marketed at events in Europe, South America and China and this is likely to reinforce the symbiosis of these TIPs in coming years, which can be expected to provide scope for important future research.

The data presented suggests that events associated with wine and wineries can increase tourist demand in rural areas by adding value to the tourist experience and consequently reduce seasonality in rural tourism.

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# CHAPTER FIVE

## STRATEGY – STRUCTURE COMBINATION FOR LUXURY YACHT PERFORMANCE MANAGEMENT

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### **Introduction**

In periods of economic downturn such as the current one, businesses try to streamline operations within their organization, with Management formulating questions such as ‘how can we make the company more efficient and more effective? Is strategy aligned to the market? Is the structure adequate to the strategy to be implemented?’ The issues related to any crisis can no longer be solved entirely by the old rules, institutions, strategies and attitudes. Management must develop appropriate structures for the future, as when it comes, recovery will be quick (Pellicelli, 2009).

The idea of the research itself and investigation of related issues springs from review of the strategy and structure literature and appropriateness thereof, which becomes essential in periods of crisis, when management rediscovers some fundamental tenets of business theory, i.e. the way companies should be organized and managed.

The purpose of the project was to:

- Verify the inextricable relationship between strategy and structure.
- Assess the impact of corporate strategy on the structure and related changes, as well as that of organizational structure on strategy.
- Identify the impact of strategy and structure on corporate performance, considering that the assumed reason for change is the search for better results.
- Highlight, in the context of change, the best strategy-structure combination to gauge business performance.

The paper consists of initial analysis of the theoretical background about the paradigm strategy-structure-performance, followed by a description of the research method, short presentation of the test sample and, to conclude, some managerial implications.

## Theoretical Background

### Strategy and Structure

Prior to discussion, it is appropriate to clarify the meaning of strategy and structure as considered in this study.

In the literature, there is an abundance of *strategy definitions*, but Mintzberg tried to organize the different concepts defining strategy with 5 symbolic terms, i.e. Plan, Ploy, Pattern, Position and Perspective, whereby:

- *Plan* identifies the guidelines to follow in a given situation, conceived ahead of the action and intentionally developed.
- *Ploy* is intended and designed to contrast a competitor.
- *Pattern* is the result of actions and behaviour of individuals, deliberate or otherwise, but not of their own design.
- *Places* are specific markets for specific products, intended as a mediating force between the organization and the environment.
- *Perspective* is the management or owner's vision for the future.

To formulate a correct concept of strategy, the five definitions listed above should be considered jointly and not separately.

Another way to define strategy is to state what it is not, (Porter, 1997): quality, time-to-market, customer satisfaction considered not as strategies but as tools used by businesses to achieve best results (Pellicelli, 2005).

Concluding, the elements that characterize the concept of strategy can be:

- A set of complex decisions, relating to who, what and how.
- Medium-long term goals.
- Resources to acquire and allocate for achieving the strategy.
- Actions for strategy implementation.

For a successful strategy, the above elements must be verified at company level and related to the external environment, otherwise the wanted result will not be achieved.

Grant (1999) emphasizes this link, considering strategy as a link between the company and its external environment, which is the basic concept of this study.

The business must develop a strategy able to produce value added for stakeholders, using its core skills but keeping under strict control the environment in which it operates in order to snatch any opportunities and monitor possible challenges that may arise. In fact, from a systemic viewpoint, the environment is the set of factors surrounding the operators and, in terms of interests and goals, it determines behaviour.

The environment influences the behaviour of a business. Consequently, in order to make effective decisions, companies must relate to external partners and solutions, as different environmental conditions require different operating strategies (Bresciani, 2010; Costa and Gubitta 2004).

In this research, the Porter and the Miles and Snow classifications were used to assess the strategy of each group, as they consider both competitive advantage and link to the environment.

*Corporate structure* was considered as a set with roles, activities and tasks assigned to each element according to rules and constraints to achieve a common goal (Golinelli, 2005). In particular, the structural organization of each group was analysed according to basic structures, i.e. elementary, functional, divisional and matrix. Also, in each group of such companies, some differences in basic structure were found to be always present.

### **Organizational Design.**

After defining the "dimension" strategy and the "dimension" structure, a more complex issue was considered, i.e. *organizational design*, or how to put together strategy, structure and other variables, with a bias toward the latter. In this phase, the issue related to the study of the structure more suited to business goals was considered (Bresciani et al., 2012).

Organizational design can be performed at a specific and formal time, for instance when the company was founded, or when the company is restructured, and must embody the mission.

For effective organizational design many variables were considered, including the link between strategy and structure.

The following are related:

- Strategy as outlined by Porter and by Miles and Snow and
- Distinctive elements that best support the competitive approach of the company.

**Table 1. Implications of organizational design of the strategy**

| Porter's competitive strategies  | Miles and Snow Strategic Typology  |
|--|--|
| <p><i>1. Strategy: Differentiation</i></p> <p><i>Organizational design:</i><br/> <i>Orientation to learning, acting flexibly and without many constraints, with strong horizontal coordination</i><br/> <i>Ample capacity for research</i><br/> <i>Enhance and build mechanisms for familiarity with customers</i><br/> <i>Rewarding employee creativity, risk-taking and innovation</i></p> <p><i>2. Strategy: Cost leadership</i></p> <p><i>Organizational design:</i><br/> <i>Guidance efficiency; strong central authority; tight control of costs with frequent and detailed reports SOPs</i><br/> <i>Highly efficient supply and distribution systems</i><br/> <i>Careful supervision, routine tasks, limited empowerment of employees</i></p> | <p>1. Strategy: Exploring</p> <p>Organizational design:<br/>           Orientation to learning, flexible structure, fluid, decentralized<br/>           Ample capacity for research</p> <p>2. Strategy: Defence</p> <p>Organizational design:<br/>           Guidance efficiency; centralized authority and tight cost control<br/>           Emphasis on productive efficiency, low overheads<br/>           Careful supervision, limited empowerment of employees</p> <p>3. Strategy: Analysis</p> <p>Organizational design:<br/>           Balance efficiency and learning; tight cost control, flexibility and adaptability<br/>           Efficient production by established product lines; emphasis on creativity, research and risk taking, innovation</p> <p>4. Strategy: Reaction</p> <p>Organizational design:<br/>           No clear organizational approach, the characteristics of the structure may change abruptly according to the needs of the moment</p> |

Source: Daft R.L., Organizzazione aziendale, Third edition, Apogeo, 2007, page 61

Analysing the factors related to organizational design, it emerged that depending on company strategy and objectives, special emphasis should be applied to certain elements, thus implementing organizational structure strategy most appropriately in order to secure *correct alignment* between strategy and structure (Bresciani and Ferraris, 2014).

The two models above, i.e. Porter and Smiles and Snow, were considered to formulate strategy because they emphasize company internal characteristics on one side (Porter) and environment (Miles and Snow) on the other, so as to meet the challenge of market turbulence. This explains clearly how strategy represents a strong link between:

- The company with its aims, values, resources and structure,
- and
- The external environment including competitors, customers and suppliers.

The Porter's model assumes that Management assesses two factors in formulating strategy, i.e. competitive advantage and company objective, subsequently deciding whether to compete by reducing costs or introducing distinctive products and services, or by turning to different or selected market segments.

The model developed by Miles and Snow is based on the assumption that management formulates strategies consistent with internal features of the organization's strategy and the external environment. They studied businesses operating in four different markets, i.e. publishing, electronics, food and healthcare. This model was used by many researchers because of its ability to characterize an organization as a complete system and to provide a comprehensive format to study the implementation of different successful strategies (Jennings, 2004).

The two models highlight the link between internal characteristics of the business and the external environment.

The implications of organizational design suggest that depending on company objectives, certain combinations of strategy and structure give better results than others, as reflected in the literature.

Some authors (Chandler, 1962, Williamson, 1975, Pavan, 1976, Donaldson, 1987, Whittington R. and Mayer M., 2002), state that the divisional structure is particularly appropriate for several products.

### **The Paradigm Strategy - Structure and Performance and how to Measure them**

While many authors debate whether it is structure that follows strategy or vice versa, few study the issue of *performance related to strategy and structure combinations*.

One of the first to study this issue was Rumelt, who discovered the relationship between strategy, structure and performance. He identified the special relationship between strategies and structures and defined nine forms of strategy-structure relationships adopted by businesses, showing how certain combinations are superior to others and how companies with a differentiation strategy based on divisional form, obtain better performance than others.

Other researchers investigated strategy - structure – performance, including Donaldson (1987) who conducted similar research in Australia, and Hamilton and Shergill (1992) in New Zealand. The results of these works have shown that performance improved when strategy and structure were aligned.

Also Galbraith and Nathanson (1978) pointed to a relationship between strategy and structure, arguing that proper alignment between strategy, structure and operational processes produces improvements in business performance.

Harris C. and Ruefli TW (2000) found that the temporal order of changes in strategy or structure did not affect business performance. This study shows that businesses which only modify the structure without changing strategy, post worse performance than those who do not change strategy nor structure. Companies who change strategy leaving the structure unchanged were found to perform better.

Assessing company performance, Harris C. and Ruefli TW (2000) found that after changes in strategy and structure, measurement became problematic, because the implementation process, in terms of time, varied from company to company. To allow for changes in strategy to be implemented they monitored ROA (return on assets) for five years after the change.

Some researchers (Claver-Cortés et al., 2012) found that strategy, by its very nature, involved coordination and control issues, and structural

devices such as centralization, divisionalization, etc., helped in handling such problems (Miller et al., 1988). Other contributors demonstrated that successful implementation of strategies involved decisions affecting the characteristics of organizational structure (Chandler, 1962 and Okumus, 2003).

Organizational structure can influence the strategic decision-making process (strategy formulation), consequently its characteristics can explain or limit strategic decision-making in some cases. At the strategy formulation stage, following internal and external analysis a company defines the strategy to secure the competitive advantage (deliberate strategy), subsequently altering its organizational structure as necessary to implement that strategy. According to this approach, the organizational structure would mediate the effect of strategy on company performance (Claver-Cortés et al., 2012).

However, the strategy which actually influences performance, does not always go according to plans (Mintzberg, 1990). Management often has more discretionary powers to define competitive strategy than to change organizational structure in the short term, organizational change being slower than strategic change (Child, 1972).

Change of organizational structure is not immediate. In fact, it often takes many years to complete, especially in large corporations.

## **Research Procedure**

### **Methodology and Survey Tool**

The work consisted of "*case studies*", i.e. qualitative research effort characterized by interacting theoretical and empirical concepts. Although partly affected by subjectivity and often criticized for lack of statistical reliability and validity, the method excels in cases of complex issues (Yin, 1984) for developing expertise and confirming results of previous research.

The survey tool used was the *interview*, which has advantages such as flexibility, nonverbal behaviour, environmental control, order of questions, completeness, response from the interested interviewees, against disadvantages such as costs, time, interviewer influence and non-standardized formulation of questions.

Interviews were semi-structured to be kept within the main area of interest but sufficiently open to get the interviewees' own ideas and feelings. They included questions intended to verify the quality of answers. Chief Executive Officers, Chief Financial Officers, Business Units Executives and consultants were interviewed to obtain the information needed. Three interviews lasting 2 to 3 hours for each group were planned.

The *main questions* of interviews were:

1. Kind of strategy (focusing on customer differentiation ...) and structure (multi-functional – multidivisional, etc.) adopted.
2. Changes in strategy or corporate structure over the years?
3. If any, change dates and type of new structure or strategy adopted, with details thereof.
4. If none, explain why.
5. Changes in strategy always overlapped with changes in structure?
6. Corporate structure changes determined changes in strategy?
7. Were there different combinations of strategy-structure in the firm history?
8. What were the reasons for changes in structure and strategy?
9. The corporate structure was always adequate to the strategy?
10. What was the best combinations strategy-structure?
11. The economic performance resulting from these choices showed improvements?

Representative cases must be selected and results validated continuously, not only at the end of the study. The *sample* consisted of six groups of leading luxury yacht businesses (for a total of 67 companies), representing about 58% of the national market and about 18% worldwide.

The decision to examine these six groups of large companies was supported by the opinion of Eisenhardt (1989) on the case study method of research, which stimulates the use of multiple cases. This author concludes that with a number of cases between four and ten it is possible to "work well", whereas with fewer than four cases it is often difficult to generate theoretic concepts.

*ROA and ROE* were considered, disregarding the time and risk variables, e.g. E.V.A., taken as appropriate indicators by the work of Fryxell and Barton (1990) on their suitability for research related to strategy.

## **Research Question and Assumptions**

The *main goal* of this study was to analyse the *relationship between strategy and structure and impact on performance*.

The research statement was:

- If strategy and structure are aligned, performance is improved. Consequently, if alignment of strategy (which must take into account the external environment) to structure is correct good results are possible in overcoming crisis situations.

To fulfil the objectives specified at the outset, four assumptions were made, based on the literature:

**Hp I:** The strategy adopted in the luxury yacht business is differentiation / exploration.

**Hp II:** The structure adopted is the divisional format.

**Hp III:** If the strategy changes also the structure changes and the structure affects strategy.

**Hp IV:** Each change in strategy and structure brings about an improvement in performance.

## **Findings**

This section outlines, for each group of companies, the strategy – structure combination adopted over the years and the associated performance measured by ROA and ROE, as noted by Fryxell and Barton (1990).

### **AZI Group**

Changes in AZI strategy and structure occurring over the years and strategy-structure combinations are summarized hereunder.

**Table 2. Strategy and structure combinations in the AZI**

| <b>Years</b> | <b>Strategy</b>                                    | <b>Structure</b> |
|--------------|--|------------------|
| 1970-1985    | Cost Leadership toward<br>Differentiation/Analysis | Functional       |
| 1985- 1997   | Differentiation/Exploration                        | Divisional       |

|                   |   |                           |
|-------------------|---|---------------------------|
| <i>Since 1997</i> | Focused Differentiation<br>/Exploration | Divisional with<br>review |
|-------------------|---|---------------------------|

Source: In-house processing

The years 1970 to 1985, 1985 to 1997 and 1997 to the present day are the periods when most changes occurred.

The years that mark the turning point and the need for change were 1985 and 1997.

Regarding ROA and ROE ratio, group performance improved to significant peaks between 1999 and 2003, whereas from 2004 to 2006, the two indicators stabilized and then decreased until 2011.

This trend shows how the group achieved good results (from 1999 to 2002) when strategy was supported by the structure, or rather when strategy and structure were perfectly matched, whereas when these two variables were not balanced performance was adversely affected.

Over time the structure suffered some adjustments to successfully implement the strategy. In fact, in AZI, once decided on the strategy to be implemented, the structure evolved and changed up to the time when it achieved the right balance, thereby influencing performance. This was clear for the years ranging from 1997 to 2003, when performance was continually improving.

Consequently, deteriorating business results (2004 to 2011) are a mark of strategy-structure misalignment, making it essential to rethink the combination.

AZI moved toward a logic of process management to find a new strategy-structure balance.

AZI corporate strategy was based on differentiation and external environment dynamism was driven by product innovation, even though the company still made changes to strategy, e.g. moving from competitive advantage based on design and technical performance to that related to the services on offer.

### FI Group

Changes in strategy and structure occurring over the years and FI strategy-structure combinations are summarized hereunder.

**Table 3. Strategy and structure combinations in FI**

| Years             | Strategy  | Structure             |
|-------------------|---|-----------------------|
| 1980-1990         | Differentiation /<br>Exploration                                  | Elementary/Functional |
| 1990- 2000        | Differentiation toward<br>Focused Differentiation/<br>Exploration | Functional/Divisional |
| <i>Since 2000</i> | Focused Differentiation/<br>Exploration                           | Divisional            |

Source: In-house processing.

The years 1980 to 1990, 1990 to 2000 and 2000 to the present day are the periods when most changes occurred.

The years that mark the turning point and the need for change were 1990 and 2000.

ROA and ROE indicators reflecting FI corporate strategy, were calculated for items reported in the consolidated balance sheet. Data for year 2003, the subject of extraordinary operations, were disregarded.

When strategy (year 2000), differentiation and product innovation were aligned to structure or divisional structure, performance increased in year 2002.

In 2004 to 2011, results worsened, although corporate strategy remained unchanged, and differentiation, product innovation and structure did not involve significant changes.

The drop in performance meant that corporate strategy, in terms of competitive advantage and response to external environment stimuli, as well as the structure, needed rethinking to correct the deficiency. Any change in strategy or structure involved a decrease in performance for several years.

## RI Group

The changes in RI strategy and structure occurring over the years and the different strategy-structure combinations are summarized hereunder.

**Table 4. Strategy and structure combination in RI**

| <b>Years</b>      | <b>Strategy</b>                         | <b>Structure</b> |
|-------------------|---|------------------|
| 1980-2000         | Differentiation /Defensive              | Functional       |
| <i>Since 2000</i> | Focused Differentiation/<br>Exploration | Functional       |

Source: In-house processing.

From 1980 to 2000 and from 2000 onward were the periods when most changes occurred.

The year that marked the turning point and the need for change was 2000.

ROA and ROE indicators reflecting FI corporate strategy in 2005 to 2007 were calculated for items reported in the consolidated balance sheet. Data for 2000 to 2004 were related to the financial statements.

Following a change in strategy and some small changes in structure, group ROA remained steady, whereas ROE exhibited swings between positive and negative.

Strategy changed from differentiation/defensive to focused differentiation/exploration, but structure did not move. In fact, disregarding minor variations the group maintained a functional structure. Consequently, structure adversely affected strategy, preventing the achievement of good performance.

Thus, strategy and structure had failed to achieve the right balance, structure preventing strategy from achieving good results.

Differentiation strategy is difficult to achieve in a multi-functional structure, and RI had to find the right strategy-structure combination to enable the new strategy to bring results.

## AN Group

The changes in AN strategy and structure over the years and the different strategy-structure combinations are summarized hereunder.

**Table 5. Strategy and structure combination in AN**

| <b>Years</b>      | <b>Strategy</b>                         | <b>Structure</b> |
|-------------------|---|------------------|
| 1999-2005         | Differentiation /Analysis               | Elementary       |
| <i>Since 2005</i> | Focused Differentiation/<br>Exploration | Divisional       |

Source: In-house processing

From 1999 to 2005 and from 2005 onward were the years when most changes occurred.

The year that marked the turning point and the need for change was 2005.

ROA and ROE indicators reflecting AN corporate strategy in 2005 to 2011 were calculated for items reported in the consolidated balance sheet.

Both the indicators showed a clearly downward trend, especially ROE.

Year 2005 was marked by a strategic change: the company changed from analysis strategy to exploratory strategy, penetrating new market segments specialized in particular types of customers, with consequent changes to company structure.

In fact, from 2007 elementary structure was changed to divisional structure. The downward trend of the two indicators selected was due to reorganization, as yet not completed, the resulting Business Units not having yet reached the autonomy that characterises the divisions.

As regards the marketing plan, in 2008 the Group developed a set of strategies to strengthen and revitalize the business for the purpose of improving the geographical spread of its distribution network.

In addition to the actions implemented during the year on the production side, the objective included raising product quality, focusing on standardization and quality control procedures at production unit level, with supervision by a cross-function team.

To correct quality misalignment, the group implemented specific improvement programs, thereby avoiding additional costs for rework (a significant item in 2008).

Some inefficiencies were related to production misalignment resulting from business interruption due to ineffective management of internal scheduling, especially in connection with production plan changes, as a consequence of cancellation of orders and the rework activities.

### SM Group

The changes in SM strategy and structure over the years and the different strategy-structure combinations are summarized hereunder.

**Table 6. Strategy and structure combination in SM**

| Years             | Strategy  | Structure                       |
|-------------------|---|---------------------------------|
| 1968-1988         | Cost Leadership/<br>Defensive                       | Elementary toward<br>Functional |
| 1988- 1997        | Cost Leadership toward<br>Differentiation /Analysis | Functional                      |
| <i>Since 1997</i> | Differentiation /Analysis                           | Functional with<br>Reviews      |

Source: In-house processing

From 1968 to 1988, 1988 to 1997 and from 1997 onward were the years where the most changes occurred.

The years that marked the turning point and the need of change were 1988 and 1997.

ROA and ROE indicators reflecting SM corporate strategy in 2006 to 2011 were calculated for items reported in the consolidated balance sheet. Data for 1997 to 2005 were related to the financial statements.

When strategy and organizational structure were clarified, in 2002 to 2006, performance began to improve. The organizational structure was changed to allow strategy implementation. In recent years (2007, 2008), when it was decided to penetrate a new market segment, i.e. the fly-bridge, results worsened, underlining again a need to adapt the structure to the changed strategy to be implemented.

When strategy and structure were aligned (2004 - 2006), performance improved considerably, but the deterioration of results showed that the change in strategy was not followed by a change in structure (2007 - 2011).

## SO Group

The changes in SO strategy and structure over the years are summarized hereunder and the different strategy-structure combinations are summarized hereunder.

**Table 7. Strategy and structure combination in SO**

| <b>Years</b>      | <b>Strategy</b>                      | <b>Structure</b> |
|-------------------|--------------------------------------|------------------|
| 1958 – 2004       | Differentiation /Defensive           | Elementary       |
| <i>Since 2005</i> | Focused Differentiation/<br>Analysis | Divisional       |

Source: In-house processing

From 1958 to 2004 and from 2005 onward are the years when the most changes occurred.

The year that marked the turning point and the need for change was 2005.

ROA and ROE indicators reflecting SO corporate strategy for 2006 and 2011 were calculated for items reported in the consolidated balance sheet. Data for years 2005 and 2007 were related to the financial statements.

From 2005 to 2011 ROA increased moderately and ROE peaked abnormally in 2008, whereas from 2005 to 2007 the trend indicated slow growth.

Except for 2008, performance was moderate but growing, showing that the change in strategy and in organizational structure had a positive impact, pointing to possible improvement.

## Discussion

The examples of AZI, FI and SM show that changes in strategy facilitate changes in structure also positively impacting performance within two to three years, provided that strategy and structure are perfectly aligned as stated by Harris and Ruefli (2000). Such good results last on average five years, after which a decrease in performance sets in. This proves that, even if the two variables are correctly balanced they cannot go unchanged over time, if excellent results are to be achieved and/or maintained. In fact, with changing external environment factors, such changes must be incorporated in order to adapt so as to be ready to take every opportunity (Grant, 1999), even in critical market conditions. A case in point is the current economic

downturn, when strategy or structure must be adapted to avoid adversities, as some activities or products have to be eliminated or some critical processes have to be restructured.

As RI, AN, SO and SM show, especially for 2007 and 2008, by itself a change in strategy is not sufficient to achieve good results, a suitable change in structure being needed for proper balance to prevent the structure caging the strategy (Rumelt).

In general, the performance of the companies surveyed:

- Did not show significant improvement,
- Fluctuated or decreased.

FI also showed that when strategy and structure continued unchanged, performance was adversely affected. Consequently, as structure is a crucial variable for proper strategy implementation, when the strategy-structure combination is not aligned, companies fail to achieve good results. In fact, where strategy or structure does not change performance takes a dip, whereas when both strategy and structure change and are aligned to business objectives and the environment, companies achieve good results.

Based on the four assumptions:

***Hp I: Strategy for luxury yachts: differentiation / exploration***

Strategy was only partially valid, since in the luxury yacht sector the companies surveyed were characterized by differentiation strategy which however, according to Miles and Snow classification is of both exploratory and analyser type.

***Hp II: Divisional structure***

Structure was only partially valid, because not all businesses adopted a divisional structure, although some used a variant of the functional structure for the different products, this structure holding while there was no significant change in production.

***Hp III: Strategy changes bring about structure changes: structure affects strategy***

This was seen to be valid. All businesses surveyed clearly confirmed that any change in strategy brought about a change in structure or adaptation.

A change in strategy, i.e. what, how, for whom to produce, or simply partial strategic orientation requires rethinking the organizational structure in order to successfully implement strategy.

Regarding the statement "structure shapes strategy" typical of companies, the choice of appropriate structure to implement strategy was never optimal to begin with, and always necessitated rethinking and adjustments during implementation, in some cases structure restricting strategy implementation, confirming Claver-Cortes et al. theory.

*Hp IV: Change in strategy and structure = Improved performance*

The following were found to apply:

- Performance improves with each strategy or structure adjustment, but best results are achieved when strategy and structure are aligned.
- If structure is not adequate for strategy, performance suffers.
- If strategy and structure change, performance suffers.

The best combination strategy-structure was found to be differentiation strategy-divisional structure, confirming that as stated in the literature (Chandler (1962), Williamson (1975), Pavan (1976), Donaldson (1987), Whittington R. and Mayer M. (2002)), divisional structure is especially appropriate for safeguarding several products.

An assessment of strategy–structure and performance revealed strengths/weakness and opportunities/risks inherent in the luxury yacht sector, as summarized hereunder.

Figure 1. Swot analysis

| STRENGTHS  | WEAKNESSES  |
|--|---|
| style / design boats<br>quality of production<br>offer financial services<br>customization | quality of port services<br>high number of berths<br>regulatory apparatus<br>quality of assistance services |

| OPPORTUNITIES   | THREATS  |
|---|--|
| emerging markets<br>growth of nautical tourism<br>superyacht market<br>growth of the brand made in Italy<br>nautical services (including ports) | economic downturn<br>reduction in the growth of nautical marketing<br>Excessive fragmentation of the offer |

Source: In-house processing

## Limits

The limits of this research are summarized hereunder.

- a) The survey was conducted using qualitative data which can be affected by subjectivity.
- b) The sample used consisted of successful large companies operating in the same sector, although future studies should also include small businesses.
- c) The research project focussed on strategy and structure combination and their mutual influences, but it is stressed that successful strategy calls for variable structure and a set of other factors, including management control system, quality of human resources and development tools, appropriate technology, etc.
- d) The study assessed the impact on performance of strategy–structure combination, but it should be noted that performance can be affected by internal factors, e.g. breach of supply contract or a fire, as well as external factors, e.g. commodity price increases, etc.

## Conclusions and Contributions

Strategy and structure are in continuous iteration and it is crucial for performance that these two variables change over time to provide continuous and different stimuli from the environmental factors arising, but their relative balance is equally important. Some authors (Andrews, Hofer & Schendel, Porter) purport that strategy should bring the business in line with the operating environment, thereby acting as an adaptation mechanism (Hambrick, 1983).

This project has shown that if strategy and structure are aligned good performance follows. Some (Kaplan and Norton, 2006) argue that a

"strategic dream" often turns into nightmare if businesses undertake costly corporate restructuring. and that when corporate strategy and structure are not correctly aligned, the strategic design chosen must work well with a strategic system allowing structure "to get in tune" with strategy. Structure is not a neutral variable in the formulation of strategies, and can condition and often preselect strategy (Onetti, 2002).

This research agrees with the literature:

- In stating that the causal relationship between changes in strategy and structure is reciprocal (Hoskinson 1987, Mintzberg 1987);
- In giving prominence to the results obtained by differently matching strategy and structure, without emphasis on the temporal order of changes thereof (Harris and C. Ruefli TW 2000);
- In identifying the best strategy-structure combination in differentiation strategy with divisional structure (Chandler, Pavan, Whittington, et al).

About the relevance of the research for the business world, this study will prompt businesses to reflect on strategy and the way of implementing it, focusing on one critical aspect, i.e. the need of an appropriate organisational structure to support strategic decisions. In fact, companies often change structure and strategy, but just as often they fail to reflect as to whether strategy and structure are aligned and whether the structure is adequate for strategy implementation. Alignment is always critical, and even more so during economic downturns.

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## CHAPTER SIX

# MODERN TRENDS FOR THE STRATEGIC USE OF INTELLECTUAL PROPERTY RIGHTS: DYNAMIC IP PORTFOLIO MANAGEMENT, OPEN INNOVATION AND COLLABORATIVE ORGANIZATIONS

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### **Introduction**

Intellectual property (IP) management (Aghion and Tirole, 1994; Bader, 2007; Tanaka, 2013) is the process whereby products are created that incorporate new inventions and integrate IP into both the company's business model (Magretta, 2002) and its corporate strategy (Al-Aali and Teece, 2013). By managing these IP rights and exploiting them economically, new forms of access to knowledge are created, based on collaboration among companies (Yang, 2012). The protection of IP is based, therefore, on various management practices, including access to innovation outside the company.

The advantage of proactive IP management is that it allows a company to increase its financial performance and achieve a greater market share (Porter, 1980; Edvinsson and Malone, 1997; Stewart, 1999; Arora, 2001; Kale et al., 2001). However, IP management requires a leadership (Gordon, 1945; McGregor, 1966; Drucker, 1972) capable of identifying and handling the goals defined by the company, with the view of harmonizing the work of the human resources involved in such activity at the company level. Consciously managed IP can, therefore, allow

managers to control the problems connected to its economic assessment, with the aim of increasing the company's contractual power.

Over the past few years, the analysis of several profit and non-profit organizations has revealed the existence of new IP asset management opportunities based on the sharing of knowledge within and without the company. In this conceptual chapter, with its approach based on a literature review (Yin, 2003; Myers, 2013), the aim is to analyse new management trends concerning IP rights. The chapter explores the concept of dynamic IP portfolio management and the need to exploit company resources, dividing the management of IP rights into: identification, acquisition, implementation and strategies of use. The analysis continues with the contextualization of IP strategies based on the open innovation model. Companies adopting open innovation in their IP management operations have the opportunity to create greater economic returns from the non-core IP rights identified in the open research phase, through licensing and the creation of spin-outs.

Considering a business environment based on technologies and knowledge shared by individuals and organizations, collaborative IP management can accelerate growth and innovation processes. This has led to the need to replace traditional legal instruments (patents, industrial secrets, copyrights and trademarks) with more flexible licensing arrangements.

In order to explain the modern trends of IP management, after the introduction, the methodology section illustrates the approach used in the research. The Dynamic IP portfolio management section introduces strategies implemented by companies to manage their IP portfolios. The section referring to the identification and acquisition phases of IP rights studies the starting phases in which IP rights are handled by companies. The section about the implementation and use phase of an IP portfolio analyses the strategies that are used to stimulate the dynamic management of an IP portfolio. The IP and open innovation section investigates the adoption of the open innovation model in IP management. The collaborative organization section defines the distinctive features of a collaboration model in order to exploit the benefits that are derived from this strategy. The section referring to a new model for IP management strategies conceptualizes how to choose companies' IP strategies properly. Finally, the last section sets out the primary conclusions of the review.

## Methodology

The qualitative research approach (Myers, 2013) is based on an analysis of the literature concerning IP (De Villiers and Dumay, 2014), with particular focus on open innovation and the collaborative organization model. Starting from a single method approach, data was acquired through secondary research sources (Yin, 2003) specified as follows:

- scientific books and articles (international literature);
- databases (EBSCO; Google Scholar);
- news items, documents and websites.

## Dynamic IP Portfolio Management

After defining the concept of new IP management models, this was followed by the description of a framework to identify the strategies that a company can achieve, setting out the internal and external indicators of structured planning and cognitive self-sufficiency. The analysis starts by studying IP management, proposing a definition of its distinctive principles and phases within the knowledge economy (Jaffe and Trajtenberg, 2002; Rooney et al., 2005).

Starting from the onset of IP management, IP assets are handled by the chief innovation officer (CINO) and a team of people who constantly assess markets and the company's lifecycle (Gollin, 2008). Additionally, strategies implemented by managers must grow and develop regularly to ensure that the capabilities within the company can also grow, to achieve competitive advantage (Barney, 1991) and create value in the long term.

Company capabilities are dynamic in nature (Teece and Pisano, 1994; Grant, 1996; Teece, 2007) and can be distinguished into:

- Current capabilities, which are the skills used within the company's organization and production process, which vary according to the operations being carried out;
- Future capabilities, which are the additional skills that the company attains during its life cycle to achieve its corporate mission.

By using their current capabilities and acquiring IP rights, companies can invest in the development of future skills (Quinn et al., 1996).

In the light of this proposition, the analysis is directed towards defining IP management strategies, adapting them to a company dynamics and its

skills (strategic flexibility), or defining methods whereby both current skills and IP rights are used efficiently (strategic creativity). The phases of IP dynamic management are identification, acquisition, implementation and use (Palfrey, 2012), which are discussed next.

## **The Identification and the Acquisition Phases of IP Rights**

The phases of identification and acquisition of IP rights are defined by the following steps carried out in the company:

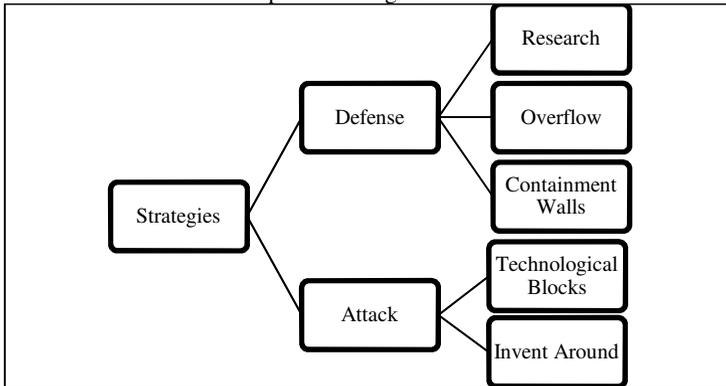
- a) identification of IP rights;
- b) internal acquisition;
- c) joint development agreement;
- d) licensing-in;
- e) merger and acquisition operations.

The first phase (a) refers to identifying IP rights associated with the existing and potential skills owned by the company. In the initial phase of management, the company draws up a table in which it summarises its IP rights before undertaking any strategic action to alter the arrangement. It is, therefore, necessary to define which IP rights generate a greater return on the capital invested by the company and how to set about acquiring further IP assets, with the aim of increasing company business and its competitive advantage in the long term (Barney, 2006). In the identification phase, the IP manager prepares a policy statement, defining the rules and obligations regarding its intangible assets management, specifically with reference to industrial secrets, copyrights, patents and trademarks.

The internal acquisition of IP rights (b) is carried out by developing IP through investments in advertising or research and development. For example, patents may be acquired or developed within the company (Lissoni and Montobbio, 2002; Gollin, 2008), in line with either defensive or attack strategies (Figure 1). There are three defensive strategies. First, the strategy of “research into patents” involves correctly identifying the technological components to be patented, with special focus on the protection of cheap ideas. Second, the “overflow” strategy is based on patenting all positive results originating from corporate research and development processes. In sectors involving complex technologies, this strategy does not always lead to a sector being totally safeguarded, regardless of any collaboration with other companies. This situation leads

to the company adopting cross-licensing and patent pooling practices during the implementation phase of its patent portfolio. Third, the “containment wall” strategy is more structured compared to the previous strategies, as it is based on patenting the variations of a basic idea, building a range of instrumental patents around the main patent in order to defend innovation.

Figure 1- Defensive and attack patent strategies



Looking at attack strategies, the strategy of “technological blocks” is associated with research and development activity and its aim is to create a block around a specific technological question, preventing competitors from using a specific type of technology. Next, the strategy of “invent around” consists in backing the patents of third parties with either patents relating to complementary inventions that are necessary for translating the primary patents into products and processes, so extracting economic value.

However, there are different methods for acquiring and developing a dynamic IP portfolio, which mainly focus on patents, and apply to for-profit and non-profit orientated companies. The alternative procedure refers to the possibility of stipulating a temporary agreement between several competitors, with the objective of co-producing products or services in compliance with the IP rights of others. This is a joint development agreement (Palfrey, 2012) (c), allowing two or more companies, called parent companies, to share their respective IP portfolios and teams of developers, and create new IP to incorporate within a specific product or service. A joint venture (Gutterman, 2002; Bellamy and Child, 2012) involving cooperation between competitors or complementary companies can lead to an increase in financial and non-financial

performance and market penetration, expanding the composition of the company's IP portfolio.

Another method to acquire IP rights is represented by an IP license agreement taken out by one or more third party organizations. This operation is identified as "licensing-in" (d). A license agreement allows technology to be transferred from one innovative company to a buyer in exchange for a fixed fee and/or a royalty calculated on revenue.

Another strategy to acquire IP assets derives from merger and acquisition operations (e). These operations (Tovstiga and Farhadi, 2010) use a portfolio of crucial IPs to achieve the company goals. Furthermore, part of an IP portfolio can be achieved through the acquisition of company assets, with the ability of attaining autonomous income. With a view to the acquisition and identification of IP, management and human resources involved in the management of these assets must complete the following functions:

- 1) identify the company's IP;
- 2) assure that IP assets are protected;
- 3) ensure that management strategies defined for each class of IP are applied.

Company management quantifies the time and economic resources to be spent in protecting its IP, in order to define the entity of the rights relating to these assets, regardless of the strategy of use to be created. Companies that classify, protect and assess their IP are able to implement strategies to achieve their objectives in shorter periods of time.

## **The Implementation and Use Phase of an IP Portfolio**

The phase of implementation and dynamic use of IP rights included in the company portfolio are based on the following areas:

- a) full exclusion;
- b) limited exclusion;
- c) free licensing;
- d) spin-off;
- e) IP loan and IP securitization.

Starting with the strategy of "full exclusion" (Smith, 2007) (a), the IP portfolio is used to take advantage of a monopoly position with regards to a newly developed product, both excluding its use by third parties and

using it as an instrument of defence or attack against competitors. This company strategy is known as a shield and sword strategy (Glazier, 2000) and is applied in the protection of patents.

If the aim is to maximise the use derived from IP rights and, in particular, patents, the most appropriate strategy is that of “limited exclusion” (b) (Palfrey, 2012). This strategy allows third parties to use corporate IP according to predefined agreements. It is the license strategy used to generate cash flows from the use of IP rights owned by the company in the short term. This strategy allows value to be extracted from the assets of IP held in the company’s portfolio, leading to the achievement of greater profitability of IP connected to the core business of the company.

These licensing-out strategies can be implemented for a series of different objectives (Smith, 1998; Arora and Fosfuri, 2003; Raugust, 2008). Primarily, a license is granted when the company does not want, or does not own, sufficient skills to exploit modern technology and reach a position of monopoly, so it decides to maximise its profit and receive royalties. The definition of royalties varies according to the use that the licensee means to make of the IP, the need to acquire this license and the geographical area in which the IP is to be used.

Many organizations have understood that the licensing system allows IP to be used in new geographic areas or in different commodity-related fields, without having to directly support the costs and investments necessary to expand operations. Subsequently, it is possible to establish partnerships with customers, suppliers and distributors through cross-licensing strategies (Shapiro, 2001). These agreements include the reciprocal exchange of licenses between two companies, where each party becomes the licensee of the other, guaranteeing the right to freedom of action and limiting the risk of litigation for violating the IP rights of the other.

Additionally, there are also patent pooling strategies (Aoki and Schiff, 2008; Choi, 2010), consisting in packaging several patents together, and granting the rights of use to others in a single solution. The advantage here for companies is that they avoid having to acquire several licenses, with high transactional costs. Using patent pooling, an innovator may use protected technologies and benefit from multiple rights in a single transaction.

With the implementation of a “free licensing” strategy (c), granting a license for free is seen as a way to impose a technological standard or to

signal that the company has no interest in opportunistically establishing a monopoly.

Next, the implementation and dynamic use of IP assets aim, on the one hand, to maintain the IP rights necessary for the core business of an organization and, on the other hand, to externalise IP rights of less strategic importance through “spin-offs” (d) (Smith and Hansen, 2002). Where licensing strategies become an autonomous profit centre for companies, the independent management of part of the IP portfolio is assured. Company management may also consider whether it makes sense to create an IP holding company (Manton, 2006), establishing a company spin-off where IP assets are transferred to a special purpose entity, and therefore receiving profit in the form of income from royalties, or by issuing shares to collect private equity.

Finally, a company may pursue strategies that consist in exploiting its IP portfolio financially (e) through “IP-loan and IP-securitization” operations (Malackowski and Smith, 2009). This strategy uses the IP portfolio as a guarantee for loans and as a securitization asset. In an IP-loan, the IP portfolio is granted as a guarantee against a loan or fund. This operation is not very wide-spread because of problems in valuing IP rights. IP-securitization involves the securitization of future cash flows in the form of royalties deriving from assets, in this case the IP rights held in the portfolio. This operation is complex and expensive, especially since the predictability of future cash flows relating to intangible assets is poor. An IP portfolio is especially useful for the self-funding purposes of small innovative companies in their start-up phase (Siegel and Wessner, 2003) or when IP represents a company’s main asset.

The strategies of acquisition and implementation of IP should be constantly assessed, in order to make sure that the portfolio of these intangible assets is aligned with the goals of the company. The need for dynamic IP portfolio management is connected to the continuous changes that a company makes to its strategy, as well as to the different market channels and different phases in the lifecycle of its business. By assessing the importance of IP rights in the various development phases of its business, a company can determine its priorities in terms of investment and management of intangible assets.

After having introduced an IP portfolio, it needs to be handled, protected and increased; processes to control the IP rights that are owned need to be defined in terms of their obsolescence, and these rights need to be

developed and enhanced. In general, the dynamic management of an IP portfolio does not mean the simple strategy of acquisition and static holding of IP assets. Here, it is essential that the company's management should work closely with the company's innovators and legal representatives (Fisher and Oberholzer-Gee, 2013) in defining both the implementation and protection strategies for the IP, to ensure that they understand how, in particular, the latter support the economic goals of the company (Sullivan, 1998).

The IP assets management process should not be handled exclusively by the legal department; for strategic purposes, it must be linked to the commercial and the research and development departments. The strategic purpose of the dynamic management of an IP portfolio is to avoid many assets from remaining within the company without being exploited. Some empirical research (Chesbrough, 2006) confirms that the majority of companies, including large companies, only use 25% of the IP rights available to them. IP managers often license or sell unused IP rights because they believe that they are unable to gain any further revenue from them, while the rights granted could be used and interpreted in a different manner in other business models.

Additionally, it is possible to acquire an instrument to stimulate the dynamic management of an IP portfolio by implementing the correlation between the IP manager's remuneration and his or her capability of achieving financial returns on the assets of IP held in the company portfolio.

## **IP and Open Innovation**

The development of information and communication technology (Rosenberg, 1976; Geroski, 1990; Unwin, 2009) and the increase in innovation processes (Drucker, 1985; Von Hippel, 1988; Arora and Merges, 2004) have reduced the value of singular IP rights. Thus, IP Management models need to capture the value of innovation, with the view of starting circular development processes between the company and their environment towards reconfiguring business models (Chesbrough and Rosenbloom, 2000; Applegate, 2001; Teece, 2010). Therefore, many companies choose to reconfigure their business models openly in order to take advantage of the division of work in innovation (Chesbrough, 2006). An open business model creates value because it allows the full exploitation of intangible resources and underused IP assets.

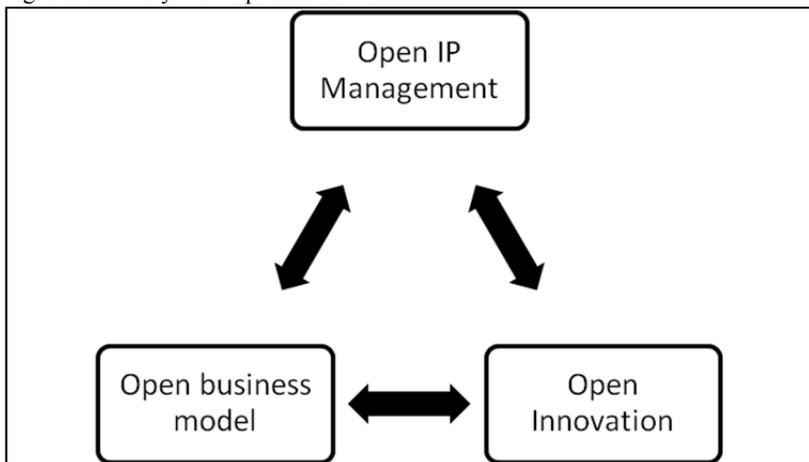
An open business model is associated with an open type of IP management, with the purpose of improving company performance. The open management of IP is connected to the processes of open innovation (Figure 2). Open innovation (Von Hippel, 2001; West and Gallagher, 2006; Chesbrough, 2010; Gassmann et al., 2010) represents a strategic alternative to the traditional model of innovation.

More specifically:

“open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology” (Chesbrough, 2006: 1)

Open innovation is founded on two forms, outside-in and inside-out. Outside-in open innovation is the basic model in which ideas flow into companies from various sources and is defined as crowd-sourcing (Doan et al., 2006; Ye et al., 2012). Inside-out open innovation occurs, instead, when many entities create an operative system or platform fitted with special tools, to which each entity can add and include their own ideas and contributions (Dahlander and Gann, 2010; Gemunden et al., 2007; Huizingh, 2011). Additionally, outside-in open innovation receives a set of contributions for company development. Inside-out open innovation allows advanced innovation processes to grow and develop, following the information provided by the organizations involved.

Figure 2 – The cycle of open innovation



In defining open innovation models, particular attention is given to the partnerships between universities, research organizations and companies (Palfrey, 2012). Innovation needs both knowledge and capital. The search for new knowledge is often carried out by public organizations (Mazzucato, 2013); however, due to decreases in government investment for public research organizations, there is now an emerging need to concentrate more on applied research, the creation of patents and earnings derived from licensing. At the same time, companies must be able to use knowledge and IP rights to create new products and processes. In this perspective, many companies, universities and research centres have decided to open up their boundaries and collaborate on highly innovative projects. Therefore, companies can develop a dynamic IP management strategy based on opening their innovation processes to include collaboration with public research organizations.

Additionally, when building a business strategy based on third parties' IP such as those found in public research organizations and beyond, this should be seen as an opportunity to open up and pay attention to everything that customers, competitors and other external individuals can offer by way of improving and increasing IP, and this brings with it unexpected advantages (Weber, 2004; Von Hippel, 2006).

With reference to the opportunity of participating in an open innovation process (Lee et al., 2010), it is possible to distinguish between companies with different IP:

- Those with a wide and strong IP portfolio, for which the paradigm of open innovation can represent an obstacle to the acquisition of IP rights. These companies do not participate in the open innovative processes;
- Those that own IP rights as the basis of their business activities (in particular, patents, as in the case of pharmaceutical companies), for which sharing in the open innovation community is not sensible with regards to their core business;
- Those for which opening is not an obstacle to the acquisition of patents or other IP rights, and using open innovation represents an alternative business model.

Handling an open innovation model is a challenge for many companies, because of the general norms that regulate the protection of IP rights (Lee, 2009). For example, different national patent laws tend to discourage the exchange and communication of new ideas at the global level, because

they cannot be protected through the patenting institutions after publication or diffusion. In this perspective, open innovation requires companies to find a method to connect with the closed innovation model adopted in law. Therefore, IP management in the open innovation model has different characteristics than those of the closed innovation model.

The managerial aims of companies, based on the open innovation model, are, principally, the following (Chesbrough and Vanhaverbeke, 2006):

- Optimization of performance from internal innovation; increase in the development of new products and services; and granting of IP rights outside the company through licensing-out, patent pooling or free licensing contracts, stimulating the request for complementary products related to the rights transferred;
- Inclusion of external knowledge flows within company processes in the short term to contend with competitors;
- Development of new products for new markets through third party IP involvement.

Companies, based on the open innovation model, have the chance of creating greater economic returns from non-core IP rights, identified in the open research phase, through both licensing and the creation of spin-outs (Agarwal, 2004; Franco and Filson, 2006; Rossi et al., 2013).

Spin-outs allow companies to externalise their non-core technologies, maintaining a level of involvement within the project and pursuing the objective of an increase in company competitiveness (Chesbrough et al., 2006).

Under the open innovation paradigm, companies use a management strategy aimed to fill the gaps in owned IP and promote the development of new technologies, through the connection of internal and external ideas in order to reach the target markets. Thus, the open innovation model can be used to realise a joint product from a shared project between many companies and organizations; in these cases, the open approach may include two requirements:

- the innovation project should be divided into operative activities, classified according to the members of the community;
- the project applicant, or the company sponsoring the project, must provide members of the community with the appropriate tools to modify, expand and recombine the innovative process.

Through open innovation, a company-centric model may be transformed into a network-centric model, favouring dynamic connections between the company, suppliers, customers and partners.

Nambisan and Sawhney (2008) have identified the network-centric approach with the MOD (or modification) station model: it is a project based on the promotion of open innovation around an architecture of pre-existing IP, made public by licenses based on non-conventional principles. Under the MOD station model, an agreement is defined, granting to the community the ownership of IP rights relating to all the contributions derived from the open innovation project. The sponsor companies may increase their reputation as well as increasing their technology and generating further internal development strategies.

### **The Collaborative Organization and its Distinctive Features**

Over recent years, the Third Industrial Revolution has been changing the global economic paradigm of capitalism. The new communication/energy matrix is enabling consumers to collaborate and share goods and services at a near zero marginal cost in global networks (Rifkin, 2014). In this scenario, a new model for organizing economic life, called collaborative commons, has emerged. It is made up of self-managed, mostly democratically-run organizations.

Collaboration represents the key factor in the development of dynamic business ecosystems based on technologies and knowledge shared between individuals, organizations and companies, accelerating growth and innovation processes (Adler and Heckscher, 2006; Morgan, 2012). However, collaborative organizations may be the last phase in company development (Dyer, 2000), becoming part of a complex community, adopting a mutual collaborative and participating approach based on collective intelligence (Lévy, 1996; Surowiecki, 2005) to capitalise on the production of shared value. Collaborative enterprises use free individual agents who cooperate through the web with the aim of improving a specific operation or solving a problem.

The largest opportunity for collaborative enterprises to develop open access-based IP management models is given by the internet. The interconnectivity and interactivity of web 2.0 (O'Reilly, 2007) means that organizations can communicate directly with stakeholders and exploit their knowledge to gain intangible assets. In this way, organizations open up

their boundaries to make their knowledge available to other individuals who are capable of developing it. This process, defined as “generativity” (Zittrain, 2006), involves part of the IP owned by companies being made available over the web and, therefore, allowing other individuals to increase or develop further innovation.

To ensure that collaborative organizations are managed effectively, according to the collaborative commons model (Ostrom, 1990), the following requirements are needed: a technological platform that allows information and knowledge to be diffused; incentives for participants who can supply a direct benefit (money), intrinsic benefits (learning and personal fulfilment) or relational benefits (reputation among peer community); well-defined conditions of inclusion, restrictions on exclusion, sanctions and protocols for self-management.

Companies that implement a collaborative management structure transform their vertical hierarchic business model into network-type business models (Trequattrini *et al.*, 2002). This type of organization develops, designs and supplies products and services by using a global fund of talent that can generate innovation through peer production (Benkler and Nissenbaum, 2006; Tapscott and Williams, 2007), based on the principles of open source (Van Wendel de Joode *et al.*, 2003). IP management strategies based on open source generate profit for the organizations through the use of connected and complementary services to the shared IP rights.

The open source model also allows organizations to create standards and strengthen their business, as a complement to the shared rights. In this instance, IP management is based on sharing and the authorization to reproduce, adapt or distribute a software process, a work of art, or a text for commercial purposes, with the obligation of granting to the community the result of these modifications and upgrades (Rosen, 2005). As a result, strategies of collaborative management are based on a new legal model of IP management; the concept of property is changing from an individual to a collective perspective (Rose, 1986) and, for this reason, there is the emerging need to find new legal forms of property management. Thus, management of IP in collaborative organizations replaces the traditional legal instruments (patents, industrial secrets, copyrights, and trademarks) with significantly more flexible license arrangements. For example, the initiatives relating to general public licenses and copyright licenses, known

as creative commons licenses (Lessig, 2008), become very important (Flew, 2005; Snow et al., 2009).

The creative commons licenses provide a number of options by which authors can mark their content and determine the freedoms that they would like to extend to others. They can be defined by the following main requirements: the duty of always indicating the author of the work; a ban on the use of creative work for commercial purposes or making changes that damage the author's reputation; all use of creative work is subject to the terms set out by the author. In place of "all rights reserved" under copyrights, the results of these legal-type changes specify, "some rights reserved" under the creative commons licenses (Von Hippel and Von Krogh, 2003). The most important examples of collaborative commons include open source software (Feller and Fitzgerald, 2002; Weber, 2004), an operative system made visible within a community of developers so that it can be improved upon through sharing. The economic advantage of open source software derives from rights not attributed by a free license; an example is the right to use the brand or distribution mechanism of the software and its updates.

The logic of the IP collaborative management model relates to the characteristic of non-rivalry among intangible assets, which do not exhaust their usefulness if used by several individuals. On the contrary, intangible assets and their relative IP rights acquire value if their use increases. Additionally, collaborative management allows companies to possess IP assets treated as a common fund where part of the rights are protected and another part shared with the network in which the organization interacts. This IP management method may help the synchronization and coordination of the organizations' activities and efforts that interface with the environment, forming the basis for collaborative networks that unite people and knowledge within and without the organization (Benkler, 2006; Rifkin, 2014).

The objective of IP management strategy is to assimilate shared IP in the field of cooperation, combining what is learned from the network with internal skills. In this way, it is possible to create a profit centre based on IP rights, through which technological development and new collaborative projects can be supported. Furthermore, business network management should be implemented according to a bottom-up approach, implementing a participative management model so that decisions, resources and strategic activities can be shared with the community. Collaborative

organization management (Nambisan and Sawhney, 2008) includes governing the network, the management of knowledge and the management of IP rights. Network governance implies control of opportunistic behaviour on the part of entities involved in the company network (free-riders) and the creation of an environment that stimulates the interaction and exchange of information and resources.

The main benefits provided by a strategy of collaborative IP management for organizations can be set out according to the following aspects (Tapscott and Williams, 2007; Reeves and Deimler, 2011):

- Possibility of using external talent, because, for the organization, it is much more expensive to develop innovations using internal resources only;
- Synchronizing with the needs of users through peer production;
- Stimulating the request for complementary products or services; for example, companies may generate profit through an increase in service or sales assistance;
- Reducing the organizations' R&D and transaction costs (Coase, 1937) by collaborating with open source communities; this allows for a drastic reduction in time with regards to the innovation and creation of more highly customized products that correspond to consumer requirements;
- The possibility of spreading IP related to areas outside the organization's core business, preventing competitors from monopolizing resources;
- Connecting owner networks (created through licensing, outsourcing and joint ventures) with much more open networks, which stimulates collaboration between peers;
- Stimulation of individuals, non-profit research organizations and governments to generate and share IP, including in the hypothesis of no financial returns.

## **A New Model for IP Management Strategies**

Since the analysis of existing trends in IP management reveals different strategies to handle companies' IP rights, a fact that has emerged is the need to define, for each company, the degree of structured planning and that of cognitive self-sufficiency. Defining these two features in companies is important in establishing the correct strategy for exploiting IP rights. The degree or necessity for structured planning is considered to be the possibility or opportunity to plan a company's business in all

aspects connected with and/or referring to innovation. It depends on a company's internal and external features, such as internal R&D efficiency, the pace of developing innovation affecting the industry and its competitors' capabilities.

The degree of cognitive self-sufficiency is defined as the need for external knowledge, depending on business complexity. A company is seen to have a low level of cognitive self-sufficiency when it has difficulty in planning its business because this requires excessive information and resources. On the contrary, a company is seen to possess a high level of cognitive self-sufficiency when the business requires limited additional knowledge and resources. Through the combination of these two variables, it is possible to identify a model whereby companies can understand which IP management strategy is most suited to their business organization (Figure 3).

Figure 3 – A model of appropriate IP management strategies

|                               |      | Degree of cognitive self-sufficiency                       |                                 |
|-------------------------------|------|--|---------------------------------|
|                               |      | Low  | High                            |
| Degree of Structured planning | High | 4. Open IP management strategy<br>(Open innovation)        | 3. Closed IP dynamic management |
|                               | Low  | 2. Sharing based strategy<br>(Collaborative organizations) | 1. No IP management strategies  |

As a result of combining these two variables, it is possible to identify four company behaviours. First, a lack of IP management strategies is associated with small companies operating in traditional industries, for which the work involved in IP planning may result in being too expensive or unnecessary. Second, in the case of companies with a low level of cognitive self-sufficiency and a low level of planning, due to the complexity and uncertainty of the business, it may be advisable to implement a collaborative organizational approach based on sharing

knowledge, to solve specific problems or improve specific products or processes.

Third, for companies with a high need for external knowledge and a high possibility of planning their business, a dynamic IP management directed towards open innovation processes is considered the most appropriate, since it gives them the opportunity to separate the innovation project into activities addressing and involving members of an open community. Fourth, as a middle strategy, closed IP dynamic management is seen to be useful for companies with a high level in terms of planning their business, demonstrating that they own almost all the knowledge they need internally. Therefore, when considering the specific features of each company, this model offers a practical framework to identify and evaluate the most appropriate IP strategy.

## Conclusions

Nowadays, new economic paradigms, based on collaborative commons systems, will have to coexist with traditional IP management models. Companies, apart from those with a progressive vision of the future who have introduced collaborative management strategies, have adapted their IP strategies simply to become more dynamic and adapt to environmental transformations. The sharing of intangible assets is not, as yet, the predominant system.

Starting from the analysis of existing trends within company IP management, it is possible to argue that there is no single strategy for managing IP assets. However, more innovative companies are moving beyond the legally-oriented and patent-focused IP departments of the past to adopt a more strategic and cross-functional approach to IP management, allowing them to assimilate intellectual property management operations within their management practices. Therefore, in a long-term view, the development of company IP management strategies will depend on how the global capitalistic system evolves and how the concept of property changes.

This research defines the different trends in IP strategies, conceiving a framework for company practice in terms of IP management, which contributes towards enriching the existing literature. Moreover, the findings of this research offer managers the possibility of picking and choosing among the IP exploitation strategies to find the one that complies

best with the company's reality. Finally, future research needs to be directed towards validating the proposed model of IP management strategies through case study research.

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## CHAPTER SEVEN

# SMART CITY INITIATIVES IN ITALY: A CASE STUDY OF TURIN

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### **Introduction**

The process of urbanization, which has affected the world population during the past few decades, has led to a growing relevance of cities. They have become focal centers for the economic, social and environmental development and innovation of a country. Governments, as a consequence, have decentralized a number of public programs and activities to local authorities, which have, in turn, decided to invest financial resources and knowledge on *smart city* projects.

This work would like the reader to firstly understand what the concept of a *smart city* is and to be aware of the main measures launched at local level to support the development of the city of Turin from a *smart* point of view. The case which we have selected is significant for several reasons. The project named SMILE is focused on *smart* issues, such as mobility, inclusion, life & health, and energy. The project involves several public and private partners. Moreover, the city of Turin has decided to develop another innovative project, named Public Procurement of Innovation (PPI), focusing on all the services, projects and activities which the city has externalized to private providers.

The aim of our work is to understand how a city, meaning a Municipal District, can facilitate the sustainability of its social, economic and technological environment in order to ensure significant improvements for the quality of life of its inhabitants, especially with regard to the phenomenon of urban agglomeration. On the basis of the objectives of this

research, the following research questions (RQs) were developed: *How can a city become “smart” for agglomeration purposes? What specific features are needed in smart city initiatives in order to enhance the quality of life?*

This chapter is organised in the following way. In the second paragraph the concept of *smart city* is defined by using several of the previous studies made on the topic. In the third paragraph the method and design of the research are described. The fourth part is based on the case study of Turin (the local context and the *smart* projects introduced during the past year). In the last part, we present our final reflections and conclusions based on previous theoretical and empirical considerations which are useful for both scholars and practitioners (politicians, public managers, auditors, and consultants).

## Literature Review on *Smart Cities*

Even though there is no general agreement between scholars and practitioners regarding the proper definition of a *smart city*, “the idea of Smart Cities is rooted in the creation and connection of human capital, social capital and information and communication technology (ICT) infrastructure in order to generate greater and more sustainable economic development and a better quality of life” (Manville *et al.*, 2014, p. 18).

In the Glossary of the Digital Agenda for Europe, a *smart city* is defined as “a city (*that*) becomes *smart* in virtue of strategically leveraging ICT infrastructures and applications - itself or by creating the right conditions for others to do so - towards better delivery of benefits - directly and indirectly - to its citizens. Mentioned benefits include making a city more sustainable and greener through less energy consumption and more of it from renewable sources, improving the efficiency of transport and public services in general, rendering a city’s administration more responsive and engaging with the citizenry, better and more affordable healthcare as well as general age-friendliness and issues of urban inclusion. A developed urban area that creates sustainable economic development and high quality of life by excelling in multiple key areas; economy, mobility, environment, people, living, and government. Excelling in these key areas can be done so through strong human capital, social capital, and/or ICT infrastructure” (Source: official website of EC Digital Agenda for Europe, May 2015).

Smart cities were often identified by a number of relevant dimensions by previous studies (Shapiro, 2008; Van Soom, 2009), such as: smart economy; smart mobility, smart environment; smart people; smart living; and smart governance. Chourabi H. *et al.* (2012) proposed a framework “that can be used to characterize how to envision a smart city and design initiatives, which advance this vision by implementing shared services, and driving their emerging challenges. The eight clusters of factors include: 1) Management and organization; 2) Technology; 3) Governance; 4) Policy; 5) People and communities; 6) Economy; 7) Infrastructure; and 8) Natural environment.” We have used this framework to discuss the features of the Turin case study.

The term *smart cities* is used in reference to various aspects, which range from ICT-districts to *smart* inhabitants in terms of their levels of education. Caragliu *et al.* (2011) identified the characteristics proper to a *smart city* using previous literature: the utilization of network infrastructure to improve economic and political efficiency and enable social, cultural, and urban development; an underlying emphasis on business-led urban development; a strong focus on the aim of achieving social inclusion of various urban residents in public services; a stress on the crucial role of high-tech and creative industries in long-run urban growth; profound attention to the role of social and relational capital in urban development; and finally, social and environmental sustainability as a major component of smart cities. An original approach to the phenomenon was proposed by Winters (2011, p. 254) who considered “smart cities to be metropolitan areas with a large share of the adult population with a college degree. These smart cities are often small and mid-size metropolitan areas containing flagship state universities”. He also stated that the growth of smart cities was mostly attributable to population redistribution within the same state and had little effect on population growth at state level.

The term *smart city* clearly refers to the relation between the city government and its citizens (i.e. good governance or smart governance) (Lombardi, 2011). Ensuring an economically sustainable development of public services firstly implies understanding the challenges and complexities of the governance of public service provisions. In order to stimulate innovative solutions in the management of these services, more knowledge is needed regarding the outcome of existing governance models of public services in terms of sustainability. Public sector reforms have been mainly introduced with the aim of increasing effectiveness and efficiency, but with sustainability as a core element for the development of

the public sector, due to the fact that the performance necessarily needs to indicate social and environmental as well as economic achievements (Ferraris and Santoro, 2014; Bresciani, 2010; Elkington, 1998).

The triple helix model has recently emerged as a reference framework for the analysis of knowledge-based innovation systems. It outlines the complex and reciprocal relationships between the three main participants in the process of knowledge creation and capitalization: university, industry and government (Ezkowitz, 2008). Lombardi *et al.* (2011) proposed to include a further participant, the civil society, alongside the university, industry and government. A *smart city* monitors and integrates conditions for all “hard infrastructure” (including roads, bridges, tunnels, rail/subways, airports, seaports, communications, water, power, also major building) as well as “soft infrastructure” (i.e. social networks and communities, legal and cultural systems, and various models of ICT).

The notion of “smartness” was developed by Herrschel (2013) as a mechanism to reconcile conflicting policy ideas and trajectories. He states that cities, regions and city-regions are a perfect scale to bring different issues of smart growth together.

During the past few years, growing *smart city* discourses and initiatives have been introduced in Italy to support the introduction of a new urban identity, functioning as a discipline mechanism that can be defined as a “smart mentality” (Vaniolo, 2014, p. 889). Vaniolo identified three mechanisms governing the functioning of this smart mentality: the role of computing practices in the production of urban charts and smart cities benchmarking analysis at European and Italian levels; the discourse on public-private management of smart cities, as in several Italian big cities, Turin, Genoa, Milan, Naples, and Bari; and the responsibilities of cities in relation to environmental protection, technological development and quality of life.

## **Research Methodology and Design**

In our work we have adopted a qualitative approach to answer the RQs. In particular the case study method was thought to be the most suitable way to meet the objectives (George, 1979; George and McKeown, 1985; Gillham, 2001; Gummesson, 2000; Merriam, 1988; Miles and Huberman 1994; Stake, 1995), by emphasizing words rather than figures about specific situations and people involved (Maxwell, 2012). A single case study, i.e. the city of Turin, was selected for several reasons. Despite

its various limitations, the single case study was deemed to meet the desired conditions, including:

- unusual access to research for an extended period of time;
- review of several variables and access to players over the different life cycles of the municipality, permitting investigation of all the multifaceted processes of the activities (Cooper and Morgan, 2008);
- the case study of Turin is extreme, representative and leading (Patton, 1990; Stake, 1995; Yin, 2003a and 2003b). It is extreme, because the smart city concept has hitherto not been widespread, whereas now the municipality has turned its attention to the smart city innovation; it is representative, because Turin is a big Italian city characterized by the fusion of historical traditions with original and distinctive ideas; and lastly it is a leading case, because it combines innovation values with a form of resistance to change.

The first step was to define the different topics of investigation, covering a wider scenario than the specific goal of this chapter, dedicated to smart city issues. Heterogeneous information about the municipality was collated to obtain a full picture of the city and its complexity. The research project took two years to complete (from 2013 to 2014). This time was sufficiently representative to review the development of the case study, the growth and change in knowledge, skills, attitudes, perceptions and behavior in basic ways over a period of time. Initial data collection was subsequently continued throughout the duration of the project.

Multiple sources of information were used (Eisenhardt, 1989), since both qualitative and quantitative sources improve the credibility of findings (Patton, 1990). Interviews were a useful data source, as they enabled the phenomenon to be observed at various levels (Alvesson, 2003; Potter and Wetherell, 1987). Interviews were conducted on an open or semi-structured one-to-one basis (Alvesson and Deetz, 2000; Corbetta, 2003), targeted and characterized by a rich and varied content, not limited to the issue of the smart city. We conducted 11 interviews with 7 interviewees. Informants included the City Manager, Head of Strategic Planning, Head of Quality Project, Head of Development, European Funds, Innovation and Smart City and three employees. The interviews took approximately one and a half hours each. The results of the interviews were reviewed separately by the authors to avoid being influenced by each other's interpretations (Atkinson and Shaffir, 1998; Jönsson and Lukka, 2005). A comparison of the authors' interpretations was made.

Other secondary sources were used in addition to interviews. Among them was a physical presence in the above-mentioned offices (Myers, 2013), documentary material, including internal reports, documentation taken from websites and other published material. The information from interviews and secondary sources was combined together.

## The City of Turin: A Case Study

Located in the northwest of Italy, Turin is the capital city of the Province of Turin and of the Piedmont Region. The last census held in 2011, recorded a population of 872,000. This number increases to 1.7 million if the first and second suburban belts of the surrounding metropolitan area are included. Turin is the fourth Italian city in terms of population, after Rome, Milan and Naples. In 2006, Turin hosted the 20th Winter Olympics and it is known throughout the world for its industrial sector, especially vehicle manufacturing (FIAT automobiles). It is the birthplace of other well-known global players, including Telecom Italia, Seat Pagine Gialle, RAI, Lavazza, Cirio, Lancia and the San Paolo Banking Group, which was merged into the Intesa San Paolo Group. Italian cinema has its origins in Turin and, for some time now, the city has been a pioneering center for ICT and technological innovation. It is also home to some important names in the food industry, particularly in confectionery, where the main specialty is the production of chocolate and *gianduiotto* (which takes its name from the Commedia dell'Arte Gianduja mask, representing the city itself). Turin is also on the map of the sports world and will be the 2015 European Capital of Sports. Two leading football teams, Juventus Football Club S.p.A. and Torino Football Club S.p.A., reside here.

The Turin City Council is the administrative body responsible for public services, ranging from town planning to environmental and landscape infrastructure management, transport, energy, waste, water, culture and education, social policies, community services, etc. As part of the Smart Cities & Communities initiative promoted by the European Union in 2011, the Turin City Council implemented a process of change, with the medium- to long-term objective of making the city increasingly *smart*.

Although the idea of the smart city has many different meanings, when defining its own vision Turin preferred to give one precise meaning to the concept. Its chosen definition was *sustainable* from a social point of view and also in strictly economic terms, specifically with regard to the effects of urbanization (urban agglomeration) on the inhabitants.

For Turin, *smart* means “environmental care, leading-edge technological development, energy-saving in buildings, promoting pollution-free transport and improving the quality of life” (Source: Turin City Council official website). It also means efficiency, preventing waste of resources, and effectiveness by increasing the quality and quantity of services provided. ICT and digital technology are not considered the basis for the smart city, but rather useful enabling forces. As stated by the City Council Head of Development, European Funds, Innovation and Smart City (#1):

“Being smart doesn’t just mean proposing ICT solutions for the sake of it. It means solving social problems, supported by information technology, among other things.”

In purely organizational and management terms, in order to manage the project for change, in 2011 the city of Turin set up *Fondazione Torino Smart City per lo Sviluppo Sostenibile*, a Foundation with a flexible structure tasked with coordinating the numerous smart city related initiatives developed by the Council. The Foundation is made up of a team of public organizations and institutions, universities, private companies, companies jointly owned by the city and various associations. It is run by the Department of Development, European Funds, Innovation and Smart City, a special function within the Council acting as technical coordinator of the partners and departments involved in the projects.

In February 2013, the Foundation initiated a process of strategic planning, aimed at turning Turin into a smart city. The first stage, lasting around six months, ended with the formalization of a planning document entitled SMILE, an acronym for *Smart Mobility, Inclusion, Life & Health, Energy*. Several contributors to the economic, cultural and technological fabric of the city helped draft the document, including local government organizations, the university, the polytechnic, centers of excellence and research, businesses, foundations and professional associations. A primary role was played by the Torino Wireless Foundation, established in 2002 by several national and local institutions (Ministry of Education and Research, Piedmont Region, Province of Turin, Turin City Council, Chamber of Commerce) and companies (Telecom Italia, STMicroelectronics, Motorola, Fiat, Alenia, San Paolo IMI, Unicredit, Unione Industriale di Torino and ISMB), with the aim of creating an “ICT Valley” around Turin to take advantage of the local know-how and expertise. Torino Wireless, the managing body of the Turin ICT district, took responsibility for creating a national technology cluster, moving

beyond mere experimentation and research to find solutions that can be replicated on a wide scale.

The strategic initiatives in the SMILE planning document are grouped into five programs considered essential for Turin's objective of becoming a model smart and inclusive city. As part of a strategic portfolio, these are:

- *Energy*: management of all initiatives and projects related to energy saving and sustainability setting out rules, commitments and incentives for energy efficiency;
- *Inclusion*: dedicated effort to address public attention on increasing sustainability of the city through initiatives to boost digitization and dematerialization, development of collaborative platforms, improving the design of public services, creating open data for a transparent city;
- *Integration*: development of internal organizational models and associated operational mechanisms, to facilitate the city's transition to smart from its core. The scope encompasses defining urban planning controls and tools with special indicators to measure the results of the smart city;
- *Life & health*: improvement of community quality of life and welfare. It includes strategic initiatives such as improving the environmental quality and reducing waste and pollution;
- *Mobility*: improvement of transport and travelling within the city. Initiatives include improving urban mobility and cycling.

The SMILE strategic plan is not of a compulsory nature. Its mission, as described by the Head of Development, European Funds, Innovation and Smart City (#1), is namely:

“Getting quick tangible results, increasing the level of involvement of businesses and strategic organizations and implementing operational projects that are reproducible in a specific area of the city and can then be disseminated throughout it.”

To facilitate the reproduction of innovative projects, the Turin City Council has taken part in a project sponsored by ANCI (National Association of Italian Municipalities), involving the creation of a Smart City Monitoring Unit to act as a repository for the smart city initiatives of the various participating towns (around 80). The aim of the monitoring unit is to enable the reuse and reproduction of the innovative solutions proposed by the various participating towns, such as the ESCO (Energy

Service Company) best practices for efficiency, for which the regulatory plan is simple, but examples are few and far between.

Among the smart city projects of the city of Turin, there is one in the Integration program, which received the Council's InnoVaTo award, set up to foster innovative ideas among employees. This particular project was for *Public Procurement of Innovation* (PPI) and deserves attention for a full understanding of the essence of the smart concept. PPI is a business process for smart management of public innovation contracts, whereby resources are handled efficiently and public procurement is more effectively geared to the actual needs of organizations and communities. Essentially, in PPI public administration is considered a "Smart Buyer" capable of:

- evaluating *ex ante* whether or not to make certain purchases, linking the same needs to current and potential needs and considering the consistency of certain procurement contracts with the broader strategies formulated by top management;
- reviewing the innovative potential of the procurement markets;
- issuing *smart* calls for tender, to address current and future technological problems.

The current procurement process of the Turin City Council is supervised, in purely organizational terms, through a "Central Service" called Contracts and Procurements (*Contratti e Appalti*). Its task is to verify the legal and administrative validity and handling of published tender procedures. This staff-level unit works alongside the line organizational units, responsible for defining and implementing the more specifically technical procurement activities. There are roughly 106 cost centers. Coordinating legal requirements and technical needs are the responsibility of the Treasury Department, which also controls purchasing of standardized goods for all the Council's organizational units. Some departments have project groups, which promote various kinds of contracting, such as "green procurement contracts" for the Environment Department, "social contracts" for Development, European Funds, Innovation and Smart City, etc. To date, the Council has only used PPI on an experimental basis, as part of its European projects, through which, nevertheless, it is acquiring expertise and credibility with the outside world.

One of the Council employees recognized for the innovative PPI project (#2) says:

“There is considerable fragmentation in the procurement process and the current model has not yet yielded excellent PPI results. In addition, there are no databases with analytical information about procurement operations or purchasing units, or historical databases collecting information about suppliers. However, the considerable legal and technical know-how of the Council (in each procurement area) and existing organizational culture can be applied for a reconsideration of the processes and optimum use of existing human resources.”

Hence, the PPI project has the objectives of rewriting the procurement process from scratch and creating a permanent task force to deal with the new PPI process across all departments. In particular, the new process will include the definition of the procurement strategy and the strategic procurement plan, which will have a life cycle of three years to be converted to an annual program based on a rolling budget. Then, a review of the sectors of the Council involved in the innovation procurement will be required to evaluate the possibility of activating PPI (or similar programs) and establishing a close dialogue with market operators. The identification of the best legal and administrative procedures will be made as well as technical consulting for the preliminary assessment of the actual innovation potential of each solution and control of the acquired solutions.

At full capacity, the PPI task force should operate with a “category management” consisting of “innovation facilitators” specialized in different areas of procurement, which must liaise with the various technical departments. The Human Resources Management Service will work with the Head of the task force to identify the best people for the team, and any job rotation strategies.

The employee (#2) explains:

“It is essential to define training courses for the task force, to set up a dedicated e-learning portal for the employees involved, to provide on-the-job coaching modules for internal buyers, to use the PPI technology platform for widespread communication.”

Furthermore (#2):

“It will be necessary to devise procedures for innovation procurement through modelling and online guidelines on standardization, launch and management of PPI, e.g. Prior Information Notices, guidelines procedures for governing pre-tender comparison meetings with the market, and innovative co-design models.”

Also (#2):

“An internal database of Council tender procedures needs to be established in order to have a record of tenders (all types) and data on the procurement area, costs and suppliers, the latter being of special interest not least for supply relationship management purposes.”

Lastly (#2):

“Monitoring tools, performance assessment and innovation reporting must be defined, possibly drafting a smart city balance sheet (a new model for social reporting of the use of public resources).”

## Discussion

The case study described lends itself to some observations about the project for change being implemented by the Turin City Council covering innovation, sustainability and smartness. In fact, from the management aspect the Turin City Council, although not profit-oriented, must be efficient to ensure its survival. This is assessed by reviewing what tools the Council has devised to address the challenge of smart growth and whether it has been able to identify some of the aspects that are key to becoming smart and how it tried to govern and monitor their progress (RQs).

These observations were based on the theoretical model proposed by Chourabi H. *et al.* (2102), not intending “to produce a set of components to rank smart cities”, but to test the framework itself.

The first cluster, *Management and Organization*, concerns issues such as the organizational structure of the project, team skills and expertise, leadership, identification of clear and realistic goals, the involvement of relevant stakeholders, engagement of the end user, planning, communication, training, funding and review of current and best practices (Gil Garcia and Pardo, 2005). Turin opted for the process of urban agglomeration, through the introduction of innovation processes, by clearly defining its pivotal role and adopting strategic planning to coherently identify and implement initiatives, within the context of multiple stakeholders. The Council has called on major stakeholders, setting up an ad hoc Foundation responsible for promoting consensus among all stakeholders in the area on the definition of targets to focus on. For each project within the SMILE master plan the following were defined:

- place where it will be developed
- who is responsible for development and running
- description of planned activities
- expected benefits
- connections with other existing initiatives
- investment needed.

Each project is available online on the Fondazione Torino Smart City website and residents have been asked to contribute their views and comments, providing email addresses for further exchanges.

The city administration plays a key role in strategic planning, managing and organizing the smart process and subsequent operational implications, not least through the Development, European Funds, Innovation and Smart City Unit, which reports directly to the Council's Department of Trade, Employment, Innovation and Information Systems. This internal unit, dynamic and not vertically integrated within the Council's hierarchy, operates across promoting the coordination of all smart initiatives of Fondazione Torino Smart City, also participating in broader strategic plans of the metropolitan area supported by other foundations in which the Council has a stake (e.g. Torino Strategica). Moreover, it is responsible for handling all European and local projects, ensuring the city's share in various funded projects. A critical factor to be monitored and insisted upon as regards management and organization to prevent resistance to change, is top and middle management culture. The same supervisor (#1) states:

“Public administrators should be able to switch jobs. However, supervisors are not selected for new jobs and traditional methods still prevail when it comes to acquiring new skills. Young people must be introduced with incentives to innovate. Promoters of change get little encouragement. At best, they work with highly motivated colleagues within their department, but it is a matter of chance. Also, everything is fine while things go well, but anyhow one has to struggle against the skepticism of many. However, in economically hard times, those able to create resources can win over the conservative minded.”

The second cluster, *Technology*, concerns “the collection of smart computing technologies applied to infrastructure components and services. Smart computing refers to a new generation of integrated hardware and software and network technologies that provide IT systems with real-time awareness of the real world and advanced analytics, to help people make more intelligent decisions about alternatives and actions, that will optimize

business processes and business balance sheet results” (Washburn *et al.*, 2010). As Turin City Council considers technology the enabling factor required to develop its ideal smart and sustainable city, it has sought the involvement of Torino Wireless in strategic planning to draft the SMILE master plan. The SMILE plan includes numerous social inclusion projects and initiatives to be implemented using ICT tools. Careful monitoring to ensure that innovative ICT technology will not remain the privilege for a few will be essential to avoid the digital divide and inequality.

The third cluster, *Governance*, is closely related to four major issues, i.e. stakeholder collaboration, support of leadership, structure of alliances and working under different jurisdictions (Scholl H.J. *et al.*, 2009). By setting up Fondazione Torino Smart City, the City Council sought to solve the problem of resistance to change, indeed the smart project is designed to involve multiple stakeholders and as such needs special governance to manage the various strategic initiatives. Fondazione Torino Smart City ensures cooperation among the stakeholders and an effective structure of alliances, as well as citizen participation, public/private partnership and accountable and transparent information infrastructure. Also, the leadership is supported by managerial team within the organizational structure of the town, directly sponsored by the City Manager.

The fourth cluster, *Policy Context*, has to do with the transformation from ordinary (not smart) to smart city, which also entails the interaction between technology and political and institutional factors. Institutional preparedness, i.e. removing legal and regulatory barriers, is needed for smooth implementation of smart city initiatives (Mauher M. and Smokvina V., 2006). Through the SMILE strategic plan, the city of Turin aimed to highlight the need of a change in policies, especially considering that a government cannot innovate without a regulatory process to drive policy. With the SMILE strategic plan, the Council wanted to underline what potential activities public administration and research institutions could introduce in a synergistic and collaborative framework where everybody contributes their individual skills. This tool, and the entire strategic planning process for city innovation, could also stimulate the legislator to rethink laws and regulations and formulate new, more suitable and user-friendly solutions for the smart city model.

The fifth cluster, *People and Communication*, refers to encouraging participation by city residents, “not only as individuals, but also as communities and groups and their respective wants and needs within cities” (Chourabi H. *et al.*, 2102). During formulation of the SMILE

master plan, city residents were provided with top-down information concerning the aims and scope of the process, and they were given the opportunity to interact in many different ways with the Council and the other institutions involved. For example, they were asked to answer specific questions on the websites or on social media, or take part in *Smart City Weeks*, dedicated to discussions in different parts of the city, in order to understand the demand for innovation and how the smart and sustainable city concept can be readable to citizens. The *Inclusion* program of the SMILE master plan also includes numerous initiatives and projects to improve public participation in the process of the sustainable city.

The sixth cluster, *Economy*, covering the city's current and prospective competitiveness, is closely related to "innovation, entrepreneurship, trademarks, productivity and flexibility of the labor market, as well as integration in the national and global market" (Giffinger *et al.*, 2007). To be smart, a city should develop economically, as the economy is the most important key driver of all smart city initiatives. This can be regarded as a virtual cycle, in which the economic development generated by smart city initiatives, such as upgrading information technology capabilities, can induce change in business and industry, create new business and job opportunities and improve productivity and efficiency, thereby further enhancing smartness. In this respect, Turin has made efforts to sustain environmental competitiveness, by helping reverse deindustrialization and revitalize historic centers. SMILE outlines initiatives to promote tourism and the city's cultural and historic heritage through experience design initiatives (the introduction of new technology and projects on historic buildings and places of cultural heritage to maximize the experience of citizens and tourists), to improve quality in the traditional food sector, and create new, innovative business models for project design and telecommunications.

The seventh cluster, *Built Infrastructure*, considers the availability of ICT infrastructure in the city, such as fiber optic channels, Wi-Fi networks, wireless hotspots, kiosks, service-oriented information systems (Chourabi H. *et al.*, 2102), and the transformation and requalification of traditional buildings and infrastructure. All five programs of SMILE emphasize this strategic aspect, in terms of both investment to promote integration across government systems and availability of software and applications for the public and for the requalification of historic centers.

The last cluster, *Natural Environment*, addresses the responsibility of the smart city for safeguarding natural resources and associated infrastructure,

such as waterways, sewers, and green areas (Hall R.E., 2000), which have a direct impact on the life and health of city dwellers. Many smart city initiatives in the SMILE document are about improving the sustainability of the city through a commitment to abate air and noise pollution, to waste recycling and to fight illegal waste dumping, to monitor the risk of flooding and geological emergencies, etc., and to safeguard the rich world famous history of Italian cities and towns.

## Conclusion

The eight clusters of critical elements necessary to achieve smart city status have been applied to Turin by creating a systematic framework and adopting an organic planning approach resulting in the SMILE master plan. This document, the first of its kind in Italy, paves the way for cities intending to become smart and sustainable. Careful strategic planning is required to define objectives, actions and resources, especially in a multi-dimensional, multiple stakeholder context.

In response to RQs, to achieve smart status an original idea of *city* is needed, together with initiatives for implementation, forecasting and comparison with similar successful cases of other cities around the world. The ensuing organizational structure must be able to set up and supervise the planning process for the smart city, which should run across functions and be multi-stakeholder in nature. Also, it must coordinate internally- and externally-generated projects and initiatives, identifying and encouraging synergies among participants in the process of innovation. The Mayor of Turin, Piero Fassino, summed it up:

“It’s like putting together the pieces of a puzzle.”

Primarily, a smart city must define its medium-term aim, plan consistent actions and initiatives, and muster all public or urban policies, which, together with technology, will trigger a mechanism for widespread prosperity. This includes facilitating a competitive business environment involving the public and fostering top-down decision-making.

Constraints to the success of the planning process include a cultural resistance on the part of the personnel of the local Council, and a slow-acting national legislative machine in updating laws and regulations to the innovations taking place at the local administration level in Italy. It is up to the legislator to lay down the statutory instruments empowering local

authorities to enforce rules and directives, who otherwise will fail to ensure applicability in the real world.

The main limitation is that our study is based on a single initiative of smart city in Italy, which makes it difficult to generalize our conclusions. Even if our case study is extreme, representative and leading, it could be useful to extend our research data analysis with multiple-case studies, with the purpose to compare strategic approaches and smart initiatives adopted by different Italian and European cities.

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## CHAPTER EIGHT

# NEW VENTURE GROWTH FROM START-UP TO SCALE-UP

ALESSIA PISONI AND ALBERTO ONETTI

### **Introduction**

In the last years, the global economic environment has undergone dramatic changes. First of all, the financial crisis of 2008 has left an indelible mark on economic and financial structures worldwide. In most cases, the financial crisis was just the edge of the difficulties that developed economies were facing for many years. Keen competition from players of developing/emerging countries, slow growth rate and depression/recession of their economies were among the major problems that more or less all the Western developed economies were challenging.

In this scenario, entrepreneurial activity through the exploration and exploitation of new opportunities (Venkataraman, 1997) and the implementation of new innovative value propositions and business models (Onetti et al., 2012) able to grow in this new competitive landscape, is of crucial importance for all the economies. The positive impact that entrepreneurship has on economic growth, innovation and job creation has been proved (Reynolds et al., 2001)<sup>1</sup>. However, new venture creations per se do not imply societal wealth creation. A growing body of evidence has shown that it is the young high-growth firms that foster innovation and job creation (Stangler and Kedrosky, 2010).

Therefore just new firm counts may be misleading. In order to contribute to economic progress, startups are supposed to survive, break the early

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<sup>1</sup> Recent studies (see inter alia, Stangler and Kedrosky, 2010) show that startups are accountable for almost all the new jobs created in the United States (about 63%), net of jobs lost.

stage barrier, grow and scale-up. A recent model presented by WEF (2014) “A Life Cycle Model for Entrepreneurship” supports this approach to fostering Innovation-Driven Entrepreneurship based on three stages: Stand-up, Start-up and Scale-up. In the first step, called *Stand-up*, the individual/team of individuals, are inspired and prepared/willing to be an entrepreneur or join an innovative venture. The second phase, *Start-up*, is characterized by concept development and business model implementation. The founders are involved in making the innovative organization a viable, operating venture, in particular they focus on securing the required financial and human capital and increasing the likelihood for the business to break even. In the *Scale-up* phase all the efforts are directed in assessing conditions to expand the company in terms of market access, revenues, added value and number of employees.

Many governments, as part of entrepreneurial ecosystems, are therefore trying to actively promote entrepreneurship/new ventures’ scale-up through various initiatives. Also the European Union has shown a renovated interest<sup>2</sup> in new innovative high-growth ventures operating in high-tech sectors, the so called scaleups<sup>3</sup>. The aim of these programs is not to foster new business creations per se, but to support new ventures in gathering the resources to enable them to scale (move from startup phase to scaleup one), ie to break the early stage barriers.

Enterprise growth has been studied by scholars for many years (Gupta et al., 2013). For startups, growth is an unavoidable and desirable condition in order to survive. New ventures are subject to a liability of newness where, in the absence of growth, their survival rate may be significantly reduced (Bruderl et al., 1992). This chapter focuses on new ventures’ early growth experience, that is crucial to understand the critical phase between start-up and scale-up, the critical phase in which a startup breaks the early stage barrier. In doing so, we review extant literature on entrepreneurial profiles (i.e. founders’ characteristics) focusing on the relationship

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<sup>2</sup> The European Commission has a new Sector, called Startup Europe, which aims at supporting the startup ecosystems at European level. Additionally, a specific initiative, called “Startup Europe Partnership”, focused on exploiting the growth of the most promising European startups, has been launched at World Economic Forum in January 2014.

<sup>3</sup> According to Onetti (2014), “a scaleup can be defined as a development-stage business, specific to high technology markets, that is looking at growth in terms of market access, revenues, and number of employees, adding value by identifying and realizing win-win opportunities for collaboration with established companies”.

between human capital and new venture growth. The studies to be considered were identified by a methodological process that combined electronic means with manual search (Rialp et al., 2005; Coviello and Jones, 2004; Keupp and Gassmann, 2009). The use of electronic tools as a way of search was conducted through keywords web search (scanning Ebsco- bibliographic database host as well as Scopus and by searching other Internet resources, such as Google). In addition to this, a manual search, based largely upon citation analysis, was also conducted for identifying other possible contributions in edited books of readings, refereed journal articles as well as conference proceedings and working-papers which, in spite of being relevant for this study, had not been identified electronically.

The chapter is structured in three sections. In the first part, an overview of new venture growth definition is presented. The second part, summarizes the results of a literature review on entrepreneurial characteristics affecting new venture growth. Future research directions conclude the chapter.

## **How to Measure New Venture Growth**

Typically a firm's growth can be measured by considering different aspects such as cash flow, net income, profitability indexes, sales growth, market share, employment, customer base and so on (Gilbert et al., 2006). However, not all these measures are applicable to all ventures when considering their stage of development. There is a marked difference between young and growing ventures (the above mentioned startups and scaleups) and large mature established ones. The typical indicators taken into consideration to define and measure an established firm's growth regards profitability and cash-flow. These conventional indicators of performance are not relevant/applicable to new ventures/very young firms since in their first years of life they are negative or not available (Stuart et al., 1999).

As previously mentioned, in the last years scholars and practitioners show an increasing interest towards new venture growth. But how do scholars measure new venture growth? Specifically, which is the most appropriate/common measure of new ventures' early growth?

The typical measures of growth are sales growth and employment growth. *Sales growth* regards "change in amount" over time. Sales growth indicates that customers are increasingly adopting the new product/service (Robinson, 1999). It is an important measure of growth since it also

represents for the firm the future possibility to re-invest profits and acquire new resources. However, sales obviously depend on the availability of products and services to be sold. Therefore, this measure of growth could not be considered in some high-tech industries spending many years in developing their first new products to sell. Furthermore, sales growth cannot be used in some web based businesses, e.g. the companies developing mobile/desktop applications at a very early stage; in such cases customers' acquisition could be measured also in terms of number of active users (Quinn and Cameron, 1983).

For all these reasons, sales growth is used to measure the growth of new ventures that are no more in the very early stage (and exit the stand-up phase). Similarly, it is difficult to implement *International growth measures* based on the ratio between foreign sales and total sales of the firm.

*Employment growth* refers to change in the number of individuals employed in the company. A variation in the number of employees reflects a development in the organizational composition. At the very beginning the company headcount is limited to the founding team, i.e. founders working both full time and part time. When employment growth occurs the firm acquires new human capital, which in turn can boost the growth of the company. Then it can be seen as a proxy/predictor of future growth. Employment growth is also generally recognized as less commercially sensitive than sales growth and can be applied also when the firm doesn't have a product or service on sale (i.e. companies looking for grabbing market shares by adopting free or freemium business models). Moreover, information about the number of employees is usually easy to obtain and usually is not manipulated in order to reduce taxable net income. However, as pointed out by Storey (1994), employment growth is less correlated with profitability than other indicators such as sales growth. While sales growth has a direct impact on profitability and cash flow, employment growth could not be associated with sustainable growth when considering the future profitability of the company. For all these reasons, employment growth is usually considered along with other indicators of growth.

**Table 1: Traditional firm's growth measures**

| Measures                | Operationalization   | Pros/cons  |
|-------------------------|--|--|
| <i>Typical measures</i> |  |  |
| Sales growth            | “change in amount” over time   | <ul style="list-style-type: none"> <li>- Clearly indicates that customers are increasingly adopting the new product</li> <li>- Proxy of future possibilities to re-invest profits</li> <li>- Not always available in the early stage (e.g. no products ready to sell)</li> <li>- A possible proxy of customers' acquisition could be the number of active users (e.g. web based business)</li> </ul> |
| Employment growth       | “change in amount” over time   | <ul style="list-style-type: none"> <li>- Reflects a development in the organizational composition</li> <li>- New employed human capital is a proxy of future firm's growth</li> <li>- Less commercially sensitive than sales growth</li> <li>- Is less correlated with profitability</li> <li>- Usually not considered alone, but along with other growth indicators</li> </ul>                      |
| International growth    | Foreign sales/total revenue; No. of foreign market reached; No. of international R&D partnership | <ul style="list-style-type: none"> <li>- Of particular interest for studies related to INVs and Born Globals</li> <li>- Depending on the availability of products to be sold is not always available in the early stage</li> </ul>   |

Source: own elaboration based on literature review

Due to the limitations of the above mentioned measures of growth, when referring to early stage growth, scholars introduced along the years other innovative/alternative indicators of growth. These are: variation in the range of products offered, time to IPO, equity evaluation, growth of total assets, and financial capital raised.

The *difference in range of products* offered to the market at the end of a certain period of time from the creation of the new venture has been used to measure growth (Patel et al., 2011). Scholars first apply this indicator to the software industry. In this case the range of products could be considered as a proxy of the technological portfolio of the company and therefore a measure of growth. This indicator is not applicable when the

purpose of the study is the comparison among new ventures belonging to different industries, because some companies grow with very few products, while other companies apply marked product differentiation strategies. Additionally, many innovative startups are adopting strongly focused strategies and then this indicator does not allow to measure their progress.

A more interesting early stage measure for growth is the *time to IPO* of high technology startups (Chang, 2004; Stuart et al, 1999; Kim and Heshmati, 2010). The studies applying the time to IPO measure it by months since the date of establishment of the new venture. These studies aim at finding out whether an earlier IPO of firms leads to better performance of firms. There are many reasons for considering the IPO event as a new venture performance indicator in the early stage. First, the IPO is an important turning point for a new venture, for entrepreneurs and for investors (Kim and Heshmati, 2010). The IPO transforms a privately held venture into a publicly owned company. Investors typically look for an exit of the startup as soon as possible to realize their profits and re-invest the proceeds in other startups. For entrepreneurs, the IPO is an opportunity to exchange stock for cash and obtain personal gains. For a startup, the IPO is a means for raising capital to boost the business. Thus, the IPO highlights that the new venture reached an important milestone and indicates the firm is ready for further growth (Sohn et al., 2012). This measure has been particularly used in studies on internet new ventures (Chang, 2004). The limit of this proxy is that many companies are not targeting an IPO (this is typical for non-venture-backed companies and for companies either operating in niche businesses or addressing small-medium sized target markets).

The use of *equity evaluation* is another attempt scholars made in order to operationalize the variable growth. Every time a startup receives a venture round of funding, a valuation event occurs. The measure of growth is calculated in terms of difference with the valuation received in the prior round (Davila et al., 2003). A possible limitation in the adoption of such a measure of growth is that these data are not public.

New ventures' processes of development/growth need to mobilize resources to form a resource base capable of allowing the company to generate market returns (Garnsey et al., 2006). In this respect, scholars develop other two measures of growth taking into account the increase in amount of resources available for the new ventures, i.e. growth of total assets and financial capital raised to date.

Accordingly, Helmers and Rogers (2011) propose to measure the *growth of total assets* during the new venture's first years of life. In doing so, one can measure the increase in the level of investments in the firm along the years. Authors argue that data on "total assets" are usually easy to obtain.

Last but not least, *financial capital raised to date* could be considered as an important measure of growth. In particular early stage equity financing plays a critical role in the survival and successful development of new high-growth ventures (Wetzel, 1986; Mason and Harrison, 2000; Onetti, 2014). Several studies find out that lack of financial resources is the most limiting factor for startups' growth (Boeker, 1989). The acquisition of financial capital allows the firm to acquire other resources (i.e. human capital - talented employees - and or technological resources) that are fundamental for the development of the enterprise, thus it is a good predictor also for the future growth of the firm (Davila et al., 2003). Accordingly, Davila, Foster and Gupta (2003) examine the evolution of employees growth around the time of a round of financing and found a positive relationship between the growth of the financial valuation of the startup and the changes in the number of employees over successive rounds of financing. Furthermore, if financial resources are collected from investors, it implies a growing acceptance of the new venture by the environment (Alsos et al., 2006). Recent studies indicate that angel investors are the major source of seed and start-up capital for new ventures in the US and Europe (Mason and Harrison, 2000; Sohl et al., 2000). Furthermore, the acquisition of angel capital can be a crucial step in receiving institutional venture capital (Mason and Harrison, 2000) to further boost the new venture business and consequently growth. Shane and Stuart's study (2002) argues that the cumulative amount of VC funding helps the startups go faster to the IPO.

**Table 2: New ventures' early growth experience: summary of measures**

| <b>Measures</b>   | <b>Operationalization</b>  | <b>Pros/cons</b>   |
|---|--|--|
| <i>Alternative measures (complementary or substitute)</i> |  |  |
| Difference in range of product offered                    | “change in amount” over time   | <ul style="list-style-type: none"> <li>- Applicable to software industry as a proxy of the technological portfolio of the company</li> <li>- Not applicable when the study compares new ventures belonging to different industries</li> </ul>  |
| Time to IPO   | No. of months from the date of new venture establishment and IPO date                  | <ul style="list-style-type: none"> <li>- Applicable mainly to internet new ventures</li> <li>- The IPO is an important turning point for the company and indicates that the firm is ready for further growth</li> <li>- Many companies are not targeting an IPO</li> </ul>   |
| Equity evaluation   | “change in amount” over time (difference between previous valuation and following one) | <ul style="list-style-type: none"> <li>- These data are not public/difficult to obtain</li> </ul>  |
| Growth of total assets                                    | “change in amount” over time   | <ul style="list-style-type: none"> <li>- Measure of new ventures' increase in the level of investments (proxy of the amount of available resources)</li> </ul>   |
| Financial capital raised to date                          | “change in amount” over time   | <ul style="list-style-type: none"> <li>- Early stage equity financing is critical for the survival and subsequent growth of the new venture</li> <li>- Proxy of future possibility to acquire resources (human capital and technological)</li> <li>- Some scholars argue is an indirect measure of growth</li> </ul> |

Source: own elaboration based on literature review

As shown above new ventures' early growth experience remains a multifaceted phenomenon. Heterogeneity regards first of all the appropriate measures scholars use to identify new ventures' growth in their early stage of development. Typically, a company's growth is characterized by sales and employment growth. When considering new ventures, and in particular early stage growth, these two measures can be

accompanied and to some extent also replaced by accumulation of assets and of financial capital. Furthermore, according to Gamsey et al. (2006) the study of new venture growth suffers from a lack of comparison between consistent measures of a company's performance and the way these change over the company's life.

## **Factors Influencing New Venture Growth Literature Review on Entrepreneur's Characteristics**

Among the existing models of new venture growth, the seminal work of Sandberg (1986) and subsequent/deriving ones (Sandberg and Hofer, 1987) define new venture performance as a function of the founding entrepreneur(s), industry structure, venture strategy and resources as well as the organizational structure, processes and systems. Other models of growth mainly focus on the impact that entrepreneurs/founding teams' characteristics exert on growth (Thakur, 1999; Baum et al., 2001). Also Penrose (1959) identifies entrepreneurship as a key element in her theory on the growth of the firm because entrepreneurs explore and exploit market opportunities to bring into existence "future" goods and services.

The entrepreneurship literature posits that new ventures' performance/success is directly related to entrepreneurs' characteristics. Specifically, many researchers examine the entrepreneur's characteristics to determine the ones that are most likely to influence new ventures' growth. Decisions are made by individuals and are influenced by individual-related characteristics. This is particularly true when considering small firms (Bloodgood et al., 1996). The different ways the entrepreneurs select information/knowledge (Liesch and Knight, 1999), leverage personal business network and exploit strategic opportunities (Venkataraman, 1997) is crucial to understand a company's growth path.

Extensive research examines a wide range of an entrepreneur's personality traits. Scholars studying entrepreneurship make a first distinction between entrepreneurs' basic demographic factors (i.e. age, gender) and human capital, being the latter the combination of skills and knowledge that individuals acquire through education, previous work and entrepreneurial experience (Becker, 1964). In the following pages, all the above mentioned features will be analysed in depth, both at entrepreneur (individual) level and at entrepreneurial team level, as predictors of new venture growth (highlighting the direct/indirect, positive/negative effects on the growth of the firms).

Entrepreneurs' age and gender are common variables scholars study when focusing on entrepreneurs' *basic demographic factors*.

Specifically, the variable *age* is in almost every study investigating the relation between entrepreneurs' characteristics and new venture growth. In general, scholars argue that focus on opportunities decreases with age. Empirical research demonstrates that young adults have a stronger focus on opportunities than older adults (Zacher and Frese, 2011). Risk aversion as well as the adoption of responsible behaviours are likely to grow with age (Timmons and Spinelli, 2010). Sheehy (1976) suggests that young entrepreneurs are in the "trying twenties", a particular "stage" where all things seem possible and this is the time of opportunity. By contrast, to recognise an opportunity, a certain degree of domain-specific knowledge is required. Furthermore young entrepreneurs face greater difficulties in fund raising (especially from institutional investors) compared to their elder peers (Ierapetritis et al, 2010). Recent studies show that startups exhibiting faster growth rates are led by entrepreneurs ranging between 25-54 years old (Honjo, 2004).

The existence of a gap between men and women in entrepreneurship is a more recent field of study, which is attracting increasing academic attention (Hughes et al., 2012). Extensive research that investigates on the differences between businesses run by male and female entrepreneurs has been carried out by scholars from several countries. Several scholars have focused their attention on performances and particularly on the differences in the growth rate of the companies founded by females and their male counterparts, highlighting the existence of a *gender effect* (Alsos et al., 2006). The result is that, typically, women-owned businesses are often described as low performing in terms of revenues, size and rate of growth (Cliff, 1998). Reasons for that are once again ascribable to the fundraising process. Scholars outlined the difficulties that female entrepreneurs face in the early stage phases of a startup arguing that women entrepreneurs start companies with lower funding (Rosa et al., 1996) and that women-led startups are undercapitalized (Brush et al., 2004). According to Fischer, Reuber and Dyke (1993) there are mainly two theoretical perspectives to explain such differences in performance between women- and men-owned ventures. On the one hand, they suggest that women are disadvantaged in accessing resources, i.e. in terms of human capital (education and working experiences) or financial capital. On the other hand, women have a different attitude towards risk and therefore adopt a different approach to business. More recent studies on women led startups highlight that there is no empirical evidence that female-entrepreneurs consciously choose to

establish small firms or organizations that grow less or slowly when compared to men's companies, because of different attitudes toward risk or different values than their male-counterpart (Pisoni and Bielli, 2015).

As previously mentioned, *human capital* is a broader definition encompassing many aspects of analysis, i.e. level of education, previous work/entrepreneurial experience (Becker, 1964).

*Education* is one of the most frequently examined components of human capital. The educational level reached by an entrepreneur in school and vocational training can be considered as a proxy of the knowledge acquired/gained by the entrepreneur before initiating a startup (Rauch and Rijdsdijk, 2013). Formal education shapes the knowledge, skills and perspectives that a person brings to task. Education is seen as providing the necessary cognitive skills to adapt to environmental changes (Hatch and Dyer, 2004). Furthermore, entrepreneurs may also leverage their knowledge and the social contacts generated through the education system to acquire resources. Extant research highlights how an entrepreneur's educational background/level positively impacts on new venture growth (Sapienza and Grimm, 1997; Rauch and Rijdsdijk, 2013; Honjo, 2004; Colombo and Grilli, 2005; 2010; Barringer et al., 2003; Capellaras and Rabertino, 2008). Educational level helps entrepreneurs in recognizing (and exploiting) opportunities and in developing their own business network (Littunen and Niittykangas, 2010; Schutjens and Wever, 2000). A few authors identified a non-significant or even negative relation between educational level and new ventures' growth (Phong and Yoshi, 2009; Lash, Le Roy and Yami, 2007). However, a country-specific effect may have affected these latter results being that these studies related to transition or emerging economies.

Entrepreneurs' *prior work experience* has been considered in many studies as a proxy of skills and competencies. Prior work experience related variables take into consideration years of work, function/role played and industry of employment. The number and variety of prior work experiences (Lazear, 2004; Dahl and Reichstein, 2007) is also an important aspect. The required knowledge to take business decisions often arises from daily work experience one accrued in a lifetime. The previous company, where the entrepreneur has worked, has provided him models of organization and practical skills useful for his future tasks (Beckman, 2006). It has been argued that an entrepreneur with similar experience takes better decisions than an entrepreneur who lacks such experience. Colombo and Grilli (2005) show that new technology-based firms

(NTBFs) established by individuals who have a long work experience in technical functions in the same industry of the new venture exhibit superior growth rates. By contrast, work experience in other industries or in the same industry, but in commercial functions, seems not to affect new ventures' growth. A wide range of studies corroborates the idea that experience is an important catalyst for high level of new ventures' growth (Cooper et al., 1994; Mai and Zheng, 2013; Littunen and Niittykangas, 2010; Baum and Bird, 2010). Sapienza, Autio, George and Zahra (2006), highlight that following international strategies increases the probability of sales growth and of failure at the same time, but managerial experience allows to increase the positive effect of internationalization by reducing the probability of failure simultaneously. By contrast, a few studies show that too much knowledge has a non-significant (Sharder and Siegel, 2007) or even negative impact on sales (and sometimes also on employment) growth of new ventures (Chrisman et al., 2005).

*Prior entrepreneurial experience* has a positive impact on new venture growth too (Baum et al., 2001; Colombo and Grilli, 2005). As regards previous entrepreneurial experience, studies often refer to "serial entrepreneurship", defined as the propensity to start-up more than one company in one's life, (Delmar and Shane, 2006). Empirical evidence as well as business case analysis supports the idea that entrepreneurial startup experience increases the odds of venture success (Dyke et al., 1992; Presutti et al., 2008).

Other studies ascribable to the stream of research of "personality perspective/approach", i.e. an individual's unique *personality* is assumed as the key driving force for entrepreneurial activity, investigate an entrepreneur's motivation and cognitive features. Many authors distinguish entrepreneurs from other individuals by looking for particular cognitive traits, such as risk propensity, need for achievement and self-confidence in order to detect the individual traits that delineate the successful entrepreneur (Timmons and Spinelli, 2010). However, entrepreneurs' personality traits are difficult to be measured and it's therefore difficult to find a direct relation with new venture growth.

Entrepreneurs are considered to have a high *risk-taking propensity*, mainly because of their high optimism about their capabilities to run a business and about the future market performance (Hmieleski and Baron, 2009). Moreover they are considered to have an intern locus of control, i.e. they believe they can control events that affect their life. Extant research on entrepreneurs' risk-taking propensity and its effect on new venture growth

shows controversial results. According to Hmieleski and Baron (2009) entrepreneurs characterized by a too high level of optimism tend to underestimate negative information having a negative impact on sales and employment growth. By contrast, Gundry and Welsh (2001) found out that high growth entrepreneurs are more ambitious and committed – with high risk propensity and ready to sacrifice part of their personal life for the company. Kiss, Williams and Houghton's contribution (2013) corroborates these results by identifying the positive effect that entrepreneurs' risk propensity has on new ventures' international growth.

Individuals initiate entrepreneurial careers for different reasons (Cassar, 2006). Accordingly, new ventures follow different growth paths (Cassar, 2006; Littunen and Niittykangas, 2010). Proactive and *internal motivations*, such as self-realization, bring to the introduction of innovative products in the market and have a positive impact on the growth rate of startups. Individuals with a high need of achievement look for activities in which they can set high standards and get satisfaction by taking responsibilities for success and failure (McClelland, 1965). In doing so, they have higher probabilities to achieve positive results, since they are more task oriented and more committed in the entrepreneurial activity. By contrast, need for independence/self-employment usually does not lead to high growth rate (Cassar, 2006).

Even though prevailing literature on entrepreneurship seems to be concentrated on the role of the individual entrepreneur, today new innovative firms are more likely to be founded by *teams* rather than individuals (Gartner et al., 1994; Beckman, 2006). To this regard, Cooper and Daily (1997) found that successful high-growth firms are usually built around a team. Further studies reported that team-founded firms have higher success rates, if compared to firms started by single founders (Ensley et al., 2006). Working in group with a diverse educational background exposes individuals to a broader set of knowledge, opinions and perspectives (Harrison and Klein, 2007). These interactions can lead to a creative cross-fertilization of ideas and can stimulate new combinations of knowledge, creativity and innovativeness (Sethi et al, 2002). When analysing the growth rate of startups founded by teams not only the characteristics of individuals have to be considered, but also team dynamics and team composition (Gilbert et al., 2008).

*Team composition* is of paramount importance because there are several aspects to be taken into consideration to obtain the best mix of features (i.e. knowledge, skills and competencies). The way teams are formed

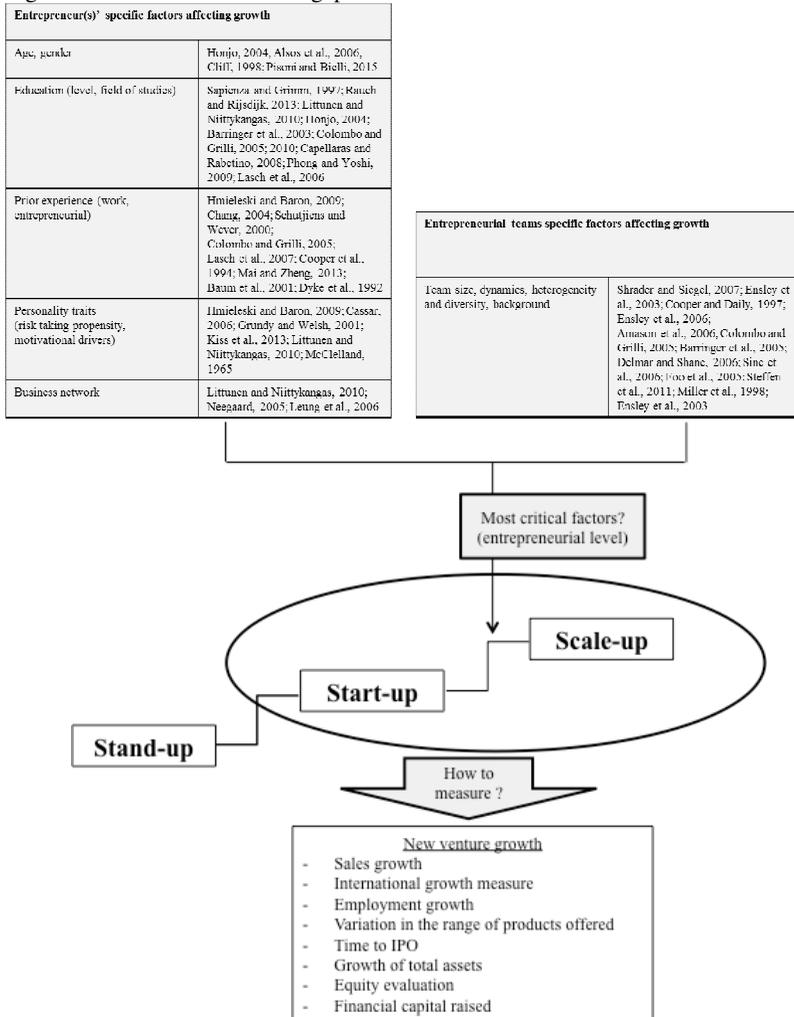
(Klotz et al., 2014) is crucial because it could affect the success rate of a startup. Specifically, *team heterogeneity* means a variety of skills and competencies within the team. Differences in age, educational level, experience have a positive impact on new venture sales growth (Amason et al., 2006) also in the long run (Steffen et al., 2011). Colombo and Grilli (2005) provide evidence that there are synergistic effects originated by the presence, within the founding team, of specific complementary capabilities. Their findings corroborate the idea that new venture growth is positively affected by founders' years of schooling in economics, management and science. Also Barringer, Jones and Neubaum (2005) highlight the importance of founders' college education. They compare a sample of 50 rapid-growth companies with a sample of 50 slow-growth companies and found out that college education is fundamental for founders to shape necessary skills to initiate a new venture and help its growth. According to Delmar and Shane (2006), also team members' previous startup experience positively impacts new venture survival and growth. Later on, Beckman, Burton and O'Reilly (2007) demonstrate how knowledge and experience (acquired also through new team members) facilitate the company in obtaining funding from VC and go public (IPO). Furthermore, Sine, Mitsuhashi and Kirsch (2006) find out that team formalization and functional specialization lead the new venture to success. In this respect, Foo, Wong and Hong (2005) analyse the concept of team diversity considering both "task related diversity", i.e. different tasks that founders have in the company, and "non-task related diversity", i.e. differences in terms of age, gender, race among team members. The analysis shows that task related diversity in a team leads the firm to obtain positive external evaluations of the business plan. However, larger team size also present higher level of conflict and lower decision speed which might affect startup growth (Miller et al., 1998).

*Team dynamics*, cohesion and conflicts influence firm growth because they affect the decision making process (Ensley et al., 2003). Cohesion is found to have a positive relation with growth, because it allows to speed up the decision making process and consequently the startup growth (Ensley et al., 2003). Furthermore, Beckman (2006) demonstrated that members with a prior common work experience are able to share a language and a vision that will lead them to easily implement the firm's activities. A recent study of Fern, Cardinal and O'Neill (2012) show how some team members are chosen because they share the same past experience of the founders, while others are chosen to extend the experience of the founders. Moreover, Clarysse, Knochaert and Lockett (2007) show that founding teams without external equity shareholders do

not tend to attract outside board members with complementary human capital. Last but not least, *networking capabilities* of new venture teams is another crucial aspect enhancing a company's performance. Networking is essential to create business links between the new venture and external potential investors both in the early stage and during the growth path. According to Neegaard (2005), networking activity should be implemented by all team components. Moreover, the network of contacts changes over time in relation to the need of the startup (Leung et al., 2006).

To conclude, the literature review presented above revealed several key aspects related to entrepreneurial profile influencing new venture growth. In the following graph we summarize these factors and highlight a potential gap identified in literature, which we will discuss in the following paragraph.

Figure 1: Literature review and gap identified



Source: own elaboration based on literature review

### Conclusion

In order to contribute to economic development, startups are supposed to break the early stage and growth. Scaling-up is difficult, presumably more than starting-up. The critical issues to understand are: first, how to

measure new venture early growth and second, which factors mainly affect growth. The typical measure of growth, i.e. sales and employment growth are not applicable to all ventures when considering their stages of development. Therefore, early new venture growth is usually defined in terms of an organization's ability in gathering resources, in obtaining external support and readiness to change (Quinn and Cameron, 1983). Accordingly, when considering early growth experience of new ventures, the two typical measures of growth can be accompanied and to some extent also replaced by accumulation of assets and of financial capital raised.

The review of the literature presented in the previous paragraph shows how entrepreneurial profiles characterize the initial imprinting of startup planning for growth with ambitious plans to scale-up. Getting a company to be profitable with hundreds of employees is therefore exclusive to those who possess unique management skills along with a strong leadership. Based on the review of the extant literature we recognised, within the various characteristics considered, that human capital (i.e. educational background and work/entrepreneurial experience) is the most effective factor in explaining new venture high growth rates.

Literature review highlights that an entrepreneur's educational background positively influences a new venture's growth (Sapienza and Grimm, 1997; Colombo and Grilli, 2005; 2010; Barringer et al., 2005). Education emerges as being strongly correlated to the propensity of new business creation and, not surprisingly, with the attitude for success. Highly educated entrepreneurs are better able to deal with complex problems. Empirical evidence supports the idea that entrepreneurs' prior work and entrepreneurial experience are positively related to growth (Colombo and Grilli, 2005; Cooper et al., 1994; 1997; Baum et al., 2001; Dyke et al., 1992). Entrepreneurs' personality traits are difficult to be measured and it is therefore more difficult to find the existence of a direct relation to growth. On the one hand, the effects on growth of an entrepreneur's risk-taking propensity provide controversial results. On the other hand, an entrepreneur's motivations, such as self-realization, lead to the new venture's high growth rate (McClelland, 1965).

Even though the vast majority of contributions ascribable to entrepreneurship literature focus on the role of the individual entrepreneur, empirical research demonstrates that successful high-growth firms are usually built around a team (Cooper and Daily, 1997). Therefore, not only

do individual characteristics have to be considered but also team composition and interactions between team members.

Team formation and team dynamics (i.e. member entries and exits): the way in which teams are formed is critical and can be the key to success. Controversial results emerge from the review of contributions related to team composition. On the one hand, scholars' findings show that team heterogeneity (i.e. knowledge, skills and competencies) positively affect firms' performance and new venture growth (Foo et al., 2005; Colombo and Grilli, 2005; 2010; Steffens et al., 2012). On the other hand, larger team size also present higher levels of conflict and lower decision speed which might negatively affect startup growth (Miller et al., 1998). Under this point of view, scholars' conflicting findings spur further research on the topic.

Finally, the review carried out in this chapter has important implications for policy makers and entrepreneurs alike, because it suggests which of the identified entrepreneurial factors have strong implications for growth. At the same time, the review encourages future empirical research to shed new light on the crucial phase in which the new ventures break the early stage barrier. This aspect emerges as being largely overlooked by scholars. This research also has some limitations, which offer opportunities for future research. Specifically, from the literature review it emerges that a few contributions examine how entrepreneurial characteristics, both considered at individual and team level, change over the years along the different stages of new venture growth paths (Littunen and Niittykangas, 2010). In filling this gap, future research (both quantitative and qualitative) should examine in depth and longitudinally the hurdles that entrepreneurs face in this complex step between the start-up and scale-up phase and which entrepreneur's characteristics are most critical to help the new venture to reach the scale-up phase. In so doing, further research on new venture growth will help both practitioners and policy makers in understanding how to support entrepreneurs in overcoming these problems and how to bring their startup to the scale-up phase.

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## CHAPTER NINE

### DESIGN DRIVEN INNOVATION: AN APPROACH FOR GLOBAL MARKETS

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#### **Introduction: Innovate by Design**

Design is a discipline that offers a wide set of application fields: product design, graphic design, packaging design, environmental design, digital design... and recently, even culinary design!

Its definitional variations, and its multiple theoretical frameworks, also illustrate its dynamics and its interdisciplinary status. In the context of global markets with strong international trends and versatile consumers, design can be a useful tool and a new strategic way of thinking about the things (real or virtual) surrounding us.

The aim of this chapter is to try to explain how design may provide a new framework for design management. The innovative question is whether “innovation guided by design” should be considered to be a powerful tool of globalization or a way to support a cultural and adapted design.

#### **Design: A Discipline in Constant Evolution and a Tool for Thinking Globally**

The role of design in marketing has changed and evolved from a simple variable of adjustment that was intended to improve sales (in the United States, in the Fifties, Raymond Loewy stated that the role of design was “to make the cash register ring”) to a much more complex strategic variable.

More than a simple variable, ‘design’ has become a way of thinking (the ‘design thinking’<sup>1</sup>) which is able to drive the decisions of international head offices of enlightened large companies like Sony, Renault, Decathlon, Peugeot, EDF, Legrand... design is combined with other disciplines like marketing, production, in order to open up the way for innovation<sup>2</sup> and new visions of projects.

One of the definitions ratified at an international level by the ICSID - International Council of Societies of Industrial Design - is that of Thomas Maldonado (1969): “*design is a creative activity which consists in determining the formal properties of the objects that one wants to produce industrially. By formal properties, one should not hear only the external characters but especially the structural relations which make of an object or a system of objects, a coherent unit.*”

The emphasis was then placed on the “*global design of design*” and not only on the simple aesthetic side. It was a pedagogical work, trying to explain why design was not a futile and cosmetic action, but a reflection carried out on the structure of “the object” and on its integration in a coherent “system of objects”.

Today, design seems to be an instrument of societal transformation. Its recent definition of 2002 claimed its mission and intention: to be at the service of mankind. This vision of design is not so recent. In fact, German Bauhaus clearly assigned this aim to design in 1919<sup>3</sup>.

The most recent contribution is absolutely due to the recognition of its powerful role. Design increases human potentialities by integrating new and innovative technologies, and extending its scope of action. “Design is a creative activity with the goal of presenting the multiple facets of the quality of the objects, the processes, the services and the systems in which they are integrated during their life cycle. This is why it constitutes the major factor of humanization of innovating technologies, and an essential

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<sup>1</sup> <http://designthinking.ideo.com> and Brown T. (2010), *La Pensée Design*, Pearson France.

<sup>2</sup> <http://www.industrie.gouv.fr/creation/etudes-rapports.html>

<sup>3</sup> Laurent S. (1999), *Chronologie du design – Guide culturel*, collection Tout l’Art, Encyclopédie, Flammarion; Magne S. (2004), “Les grands courants du design” in *Emballage et Conditionnement : Marketing – Techniques - Mise en œuvre – Qualité - Réglementation*, Les Référentiels DUNOD, mars, partie 5, Chapitre 15.

motor in economic and cultural<sup>4</sup> exchanges”. Its functions reveal also the multidimensional character of the discipline and its role in globalization.

### **The Functions of Design: A Strong Tribute to Culture**

*“Design aims to discover and ensure the structural, organizational, functional, significant and economic relations, which allow:*

- *to take care of environmental protection and its perpetuity at a worldwide scale (global ethics);*
- *to ensure advantages and increased freedom to the human community, end-users, producers and actors of markets, both as individuals and groups (social ethics);*
- *to promote cultural diversity towards globalization (cultural ethics);*
- *to give to products, services and systems forms that express (through semiology) their own complexity with aesthetic coherence.*

*Design sticks to products, services and systems conceived by tools, of an organization and a logic oriented towards industrialization - even when they are not manufactured in large series.”<sup>5</sup>*

Design falls under a perennial multidisciplinary approach that is deeply rooted in globalization and its underlying questions. Designing a product/service also means to define in advance its performances according to various contexts:

- customer: what functions, uses and value will the consumer allot?
- technology(-ies): what internal competences and technical control will be necessary for the company?
- components: what materials have to be chosen and what are the expected environmental impacts?
- markets: what are (or will be) the competing current and future products? What benefits will they bring and what will be the profitability of the project?
- culture and aesthetics: what image, elements of differentiation and values will they convey?

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<sup>4</sup> <http://www.apci.asso.fr>, APCI: Association pour la Promotion de la Création Industrielle (2002).

<sup>5</sup> Ibidem

The aim of design creations, by its multi-field nature, supposes a large intellectual and cultural open-mindedness for all those that manage these kinds of projects.

A large cultural background is necessary in this eclectic field to be able to consider:

- functionality, namely its utility, its uses and its ergonomics, i.e. its handiness and easiness, its safety...
- efficiency, namely how to think about the product in order to optimize its production (to ensure product quality and to integrate it in a manufacturing process).
- the socio-cultural and even societal adaptation, i.e. how to adapt the product to the segments of consumers and their practices by registering it in a megatrend (a societal marketing trend) which is not only an ephemeral effect.
- appearance, aesthetic attributes and attractiveness are increasingly stronger and segmenting<sup>6</sup>, thanks to consumers' aesthetic expectations.
- design strengthens and develops the identity and, more generally, the Brand Design<sup>7</sup>.

## **Design is a Global Project Rooted in Culture**

Design is a discipline which requests an interdisciplinary sensitivity and an analytical capacity that is associated with technical and human skills. This is due to the nature of the discipline which aims at representing a thought, an idea, a concept or an intention by taking into account functional, structural, aesthetic, technical and productive constraints. These representations necessarily fit into a socio-economic and cultural context.

Design does not only interfere with the creation of objects or brand names, but also with the creation of environments, permanently trying to combine tastes and tendencies with a practice of production and the style of the creator. *"The product must express its destination and its usage qualities, by its formal aspect, its materials, its colour. It thus physically creates an*

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<sup>6</sup> Magne S. (2003), "La Sensibilité Esthétique Personnelle du consommateur" in Emballage et Conditionnement : Marketing – Techniques - Mise en œuvre – Qualité - Réglementation, Les Référentiels DUNOD, décembre 2003, partie 5, Chapitre 14.

<sup>7</sup> M. Bassani, K. Ben Youssef, S. Magne, S. Sbalchiero (2010), "Brand Design – construire la personnalité d'une marque gagnante" 2<sup>ème</sup> édition revue et augmentée, éditions De Boeck.

*immediate relationship with the consumer who will perceive his level of performance*”, says Monique Brun.

Moreover, designer’s competences are related to the ability to visualize and represent scenarios and anticipate trends, the problem-solving capacity and an ease in combining various forms of knowledge. These competences support the formulation of a global strategy.

Design can thus become one of the most powerful motors of the project<sup>8</sup> and the entire innovation process<sup>9</sup>. Design is also essential in order to “be unique”, to “be different” from competitors, even if this function is outsourced.

## **New Challenges for the Design Department**

The Design Department, whether internal or outsourced, is at the crossroads of several functions of the company<sup>10</sup>. Today, its main objective is to create value. This value is a global value, not only a financial value that concerns producers as well as consumers. Usually, the current method of giving value to design is innovation<sup>11</sup>. Indeed, innovation is often related to a new approach to products/services and to its value perceived by the customers and/or users. In a broader way, the design falls under the logic of the project.

These concepts - project, innovation, and value - narrowly overlap with the logics of design<sup>12</sup>. Innovative projects often suppose complex processes and result from these same processes (Bresciani et al., 2015; Bresciani and Ferraris, 2014; Bresciani et al., 2013; Dias and Bresciani, 2006). The first step is to know at which level of this process and to what extent the design has a real innovative power.

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<sup>8</sup> Jean-Jacques Urvoy et Sophie Sanchez (2009) *Le designer, De la conception à la mise en place du projet*, édition Eyrolles.

<sup>9</sup> Commission of the European Communities (2009), Commission staff working document, *Design as a driver of user-centered innovation*, Brussels, 69 p.

<sup>10</sup> For an analysis of the functions of a company, see Department of Business Administration, University of Torino, (1996), *Lezioni di Economia Aziendale*, Giappichelli Editore, Torino.

<sup>11</sup> Groff A. (2009), *100 questions pour comprendre et agir – MaEditori*, nager l’innovation, Afnor éditions.

<sup>12</sup> [http://www.designinnovation.ie/what\\_innovation\\_sec1.html](http://www.designinnovation.ie/what_innovation_sec1.html) et Utterback James and al., *Design-inspired innovation, Managing the design process* chapter 4, <http://www.worldscibooks.com/business/6052.html>

As for value - a concept with multiple meanings and dimensions - it must fit not only with the value offered to consumers but also with the internal value for the company using the design. However, new relationships are established between producers and customers, characterized by a strong presence of the “*prosumer*”: a consumer which is a proactive actor of his consumption. This means that this active consumer is ready to take part in the value “co-creation” process, which recently also concerns design activities.

Kratz Ch.<sup>13</sup> notes: “*The role of design strongly evolved: from a subjective concept related to aestheticism with non measurable consequences, it has been apprehended like a competitiveness factor and an element of the global strategy of the company.*” Far from a “cosmetic” design that could be associated with simple coloured or “gadgetified” styles of decoration, current design is facing a double process: project management on one side and value creation on the other. This is why today, many large companies are, to various degrees, integrating design management logics into their organizational structures, which are contributing to new differentiated offers. These offers are anchored in the cultural project of the company, a culture nourished and developed by these same offers.

## **Design Management for Innovation Strategies**

In Europe, Design Management appeared in the UK in the Sixties. The term referred to the management of relationships between a design agency and its customers. In 1966, Michael Farr observed the rising of a new organizational function: the “design manager”, whose role was to ensure the proper execution of the projects and to maintain good relationships between the design agency and its customers.

Then, *London’s Royal College of Art* and the *London Business School’s Department of Design Management* (directed by Peter Gorb) together provided a better understanding of the role of designers in industry. In 1975, in the US, Bill Hanon and the *Massachusetts College of Art* founded the *Design Management Institute* in Boston (DMI) which represented a new deal for design management that became a new field of research. In France, the term “design management” was ratified only comparatively recently by the scientific community of management. The French

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<sup>13</sup><http://www.e-marketing.fr/Definitions-Glossaire-Marketing/Design-5613.htm> and Lehu J.-M. (2004), *L’encyclopédie du marketing*, Editions d’organisation.

precursors Borja de Mozota<sup>14</sup> (1985) and Bauhain<sup>15</sup> (1988) did not use these precise words in the title of their Ph.D thesis. Only a few years later, Hetzel<sup>16</sup> used the term “design management” for the first time in his doctoral dissertation of 1993.

The French scientific community waited to emphasize not only the strategic and academic status of design, but also to recognize its important function in companies. The first French contribution in 1990<sup>17</sup> and 1992<sup>18</sup> used both the terms “Design” and “Management” as two distinct fields, which tend to meet.

Peter Gorb published in 1990<sup>19</sup>, an article in the *Revue Française de Gestion* - a French Review of Management – RFG - in which he uses the term “Design-management”. Lastly, in 1998<sup>20</sup>, Monique Brun, always in the RFG, underlined the importance of design-management for SMEs. In 2002<sup>21</sup>, Borja de Mozota talked about “management of the design” in the same review. This variation in terminology illustrates the theoretical round-ups of the concept. All these rhetorical precautions show the difficulty in accepting the major role of a new strategic field at the frontiers between design and strategic management, as well as design and innovation management. Gradually, Design Management has been developing and is currently one of the most important fields of Design.

Design Management makes it possible to take into account the integration of design in companies and shows several essential challenges such as:

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<sup>14</sup> Borja de Mozota B. (1985), *Essai sur la fonction du Design et son rôle dans la Stratégie marketing de l'entreprise*, thèse de doctorat en Sciences de Gestion, Université de Paris 1 Panthéon Sorbonne, juin.

<sup>15</sup> Bauhain D. (1988), *Le design et son intégration dans l'entreprise*, thèse pour le doctorat ès Sciences de Gestion, Université de Paris 1, septembre.

<sup>16</sup> Hetzel P. (1993), *Design Management et Constitution de l'Offre*, Thèse de doctorat en Sciences de Gestion, Université Jean Moulin Lyon 3.

<sup>17</sup> Borja de Mozota B. (1990), *Design & Management*, éditions d'organisation.

<sup>18</sup> Bauhain-Roux D. (1992), *Gestion du design et Management d'entreprise*, Chotard.

<sup>19</sup> Gorb P. (1990), *Design-management et gestion des organisations*, *Revue Française de Gestion*, n°80, septembre-octobre, p.66-72.

<sup>20</sup> Brun M. (1998), *Design Management: les PME aussi*, *Revue Française de Gestion*, janvier-février, p.31-42.

<sup>21</sup> Borja de Mozota B. (2002), *Valeur stratégique du Design : Un modèle de management du design*, *Revue Française de Gestion*, Vol. 28 n°138, avril/juin, 75-95.

- in saturated markets, in contracting situation or strong changes, the traditional marketing tools come to show their limits;
- when competition goes to another level beyond the quality-price ratio;
- when it becomes essential to follow different paths in order to meet the needs of consumers because of the rejection of traditional offers;
- when the company wants to leave the expensive cycle of the perpetual renewal of its offers;
- when, in order to increase its power of innovation, companies wish to discover synergy between marketing and R & D.

Design Management makes it possible to add multiple solutions that marketing or design, separately, are not able to do. It makes it possible to adopt another internal vision in the company. Design Management can even become a genuine instrument of organizational commitment.

Many companies today are relying on design management in order to improve complex projects. This practice is increasingly regarded as a fundamental asset and an added-value for the company and its brands. But what is Design Management really?

Peter Gorb (1990) defines Design Management as the effective deployment by the project managers of all the available design resources in order to achieve the goals of the company. This definition implies that the organization of the project and the location of know-how and competences are key factors in the researched solution.

*According to Brigitte Borja De Mozota<sup>22</sup> (2002), “Design Management is the function of the organization which is in charge of strategic framing, of tactical and operational piloting of design and in charge of the definition of a competitive advantage for the firm thanks to design knowledge”. “Design is at the same time a differentiating process of management (coordinator and transformer) and design can also create a competitive advantage on several levels of the chain of value by optimizing either the principal functions (on the perceived value by the customer), or on the support functions and the inter-functional coordination (function that organize the firm), or finally on external coordination (vision of the industry)”. For this reason, design is increasingly integrated at the*

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<sup>22</sup> Borja De Mozota B. (2002) Design Management, éditions d’organisation.

*beginning of the development process of a product. For Borja, Design Management has the role of identifying and explaining the various means that contribute to the company's value chain and exploring further opportunities.*

Bill Hollins (2002) described Design Management as “*the implementation of all the processes allowing to develop new products and services*”.

Lastly, according to Alan Topalian (2003)<sup>23</sup>, “*within an organization, design management consists in managing all the aspects of the design on two different levels: the entrepreneurial level and the conceptual level.*” Topalian affirms that “*the development of design management supposes the widening of the experience of the actors brought to seek adapted solutions to design projects and to any type of situation in the company*”.

These various definitions show the strong impact that design has when it is considered from a strategic point of view within the framework of Design Management. It makes it possible to manage processes or projects and ensures a value increase for both the producers and the consumers. Finally, it modifies the organisational structures by involving protagonists who previously were not used to co-operating.

Hence, Design Management is a strategic and operational practice which benefits from the potential of the approach as a whole and can be probably considered as one of the most powerful tools of the design discipline. Many companies have integrated design management in the heart of their industrial process because of its powerful generation of added-value and, at the same time, because of the cooperation of the staff around the creative process of managing innovation (Bresciani, 2010).

## **Actors of Design Management**

Who are the actors in Design Management? For Christopher Lorenz<sup>24</sup> “*the attitude of synthesis and entrepreneurship of the industrial designer must have as much force as the competences of the engineer, of the financial controller or those of the marketing expert.*”

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<sup>23</sup> Topalian A. (2003), Envisioning, visualization and dynamic integration in design, Design Management Symposium: Advanced strategies for tough times, International School of Design (KISD), Cologne, Germany 21-22 November.

<sup>24</sup> Lorenz C. (1990), La Dimension Design. Atout concurrentiel décisif, Paris, Les Éditions d'organisation.

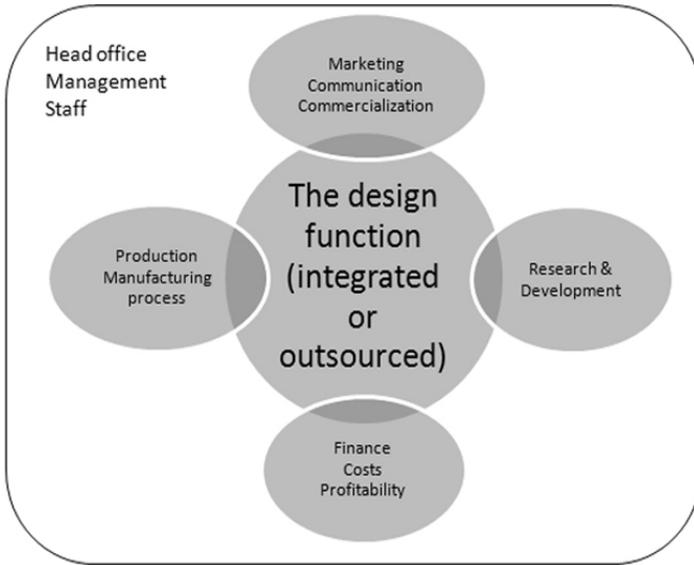


Figure 1 - Actors of design management.

In a design management process the major functions of the company are connected with the design. Decisions concerning the shapes and functionalities of products are subjected to many constraints that require an exchange of information with many actors. Meetings with the project teams, especially at the first steps, are generally done with all these actors.

It is essential that the person/people in charge of design and the marketing experts take part right from the early meetings at the beginning of the project development in order to determine the positioning of the new product or service. When a company adopts an innovative management approach driven by design, this seems to be the effective way of activating quality dialogues among the main actors. Design also helps to promote a cultural approach centred on the users and on the markets.

This figure (fig. 1) focuses on the poles and profiles that can create value by the design on:

- (1) the offered value to customers (what will modify its perception: product quality/service, *branding*, emotional values and use...)
- (2) the valorisation of the techniques (what will act on the performance of the product/service: adopting innovating solutions, adopted technologies ...)

- (3) the financial value (what will make it possible to act on the economic position of the company: opening to new markets, stock exchange valorisation of the company...)
- (4) the strategic value (in terms of mission and culture of project: new strategic organization, changes of organizational structure, team commitments...)

Managers who tried these practices and worked with design, confirmed that they play a role in managing companies towards success. Moreover, design practices make the entire communication process between departments easier and, moreover, develop a culture centred on markets and customers.

Big industry groups (such as Renault, Philips, Sony, Seb, Alcatel, Décathlon...) developed these practices a long time ago and implemented a design management strategy that was able to link design to head offices, giving the designers an equal decision power to share with people in charge of Research & Development and Marketing. This transverse function can find its place between the traditional hierarchical functions and Production and Marketing-Communication specifically.

Design allows to unite all the actors, whatever their technical skills or level of experience are. It manages to join people in the creative projects teams, allowing them to work together effectively and in the same direction. Design devotes its 'transversality' in communication to all the forces in a participative management approach.

### **A Way of Thinking and a Methodological Approach for Design Projects**

Design management allows the gathering of several functions which were previously connected and which were complementary only in a linear way (as the sequential process of product design in fig. 2). These activities did not work together either when designing the product or during its development.

#### ***Before: Sequential process called "over-the-wall" product design***

Each function did its specific work that, once completed, was transferred linearly to the following function or step, in a sequential way.

***Now: Process of collaborative design***

The design team is composed of representatives from each department which develops the specifications. It also involves the consumers in the project (co-creation), in order to solve the potential problems, along with reducing the costs and the time to market.

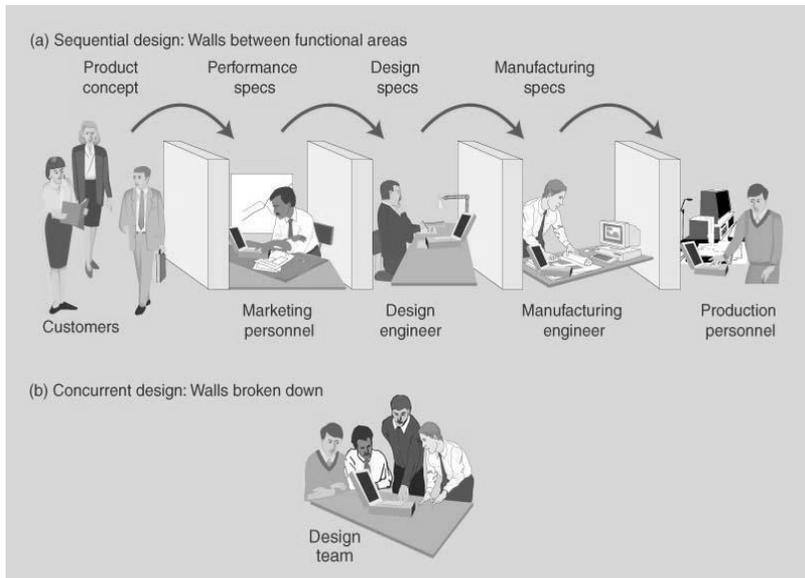


Figure 2 - The process of design: sequential design versus collaborative design.

Today, the steps are no longer presented in this sequential and linear way. Large companies rejected this scheme and adopted a collaborative approach oriented to the exchange of information within a team.

Today, thanks to design management, the innovation of products or services results from an approach that closely associates strategic marketing, R&D and design<sup>25</sup>.

In the design management model, the team behind strategic marketing leads the creation as well as the development of products. They are

<sup>25</sup> <http://www.dti.gov.uk/files/file14794.pdf> ed. Swann Peter and Birke Daniel (2005), How do Creativity and Design Enhance Business Performance? A Framework for Interpreting the Evidence, 'Think Piece' for DTI Strategy Unit, Final Report, Nottingham University Business School.

constantly informed about the latest market trends, and they suggest possible consumption scenarios based on the consumers' expectations and megatrends. After having collected information, these interdisciplinary teams create "product concepts" (also called system-products<sup>26</sup>). Then, these concepts are proposed to the research and development teams so that they can analyze technical possibilities and economic profitability. In the design management model, the marketing team also works with designers and follows the various steps of product development. They define the communication strategy and prepare the launching of the products. Finally, they ensure the follow-up with the assistance of operational marketing.

Changes brought by the design management model call for a real open-mindedness of the protagonists who work with strategic marketing and design. The research teams always consist of experts necessarily coming from multiple sectors (electronics, thermics, chemistry, new technologies...). These teams look further and deeper into the produced concepts created by the marketing teams and suggest other possible proposals. In close collaboration with the designers, these teams design prototypes. When their project is finally approved, the prototype enters into the development phase. The principal task of the Development function is to make the product evolve from a prototype to manufacturing. Designers take part in the entire process at each step of the product creation. They adapt the forms, the colours and the textures. They finalize the ergonomics and the aesthetics of the product. They also emphasize its functionalities. With this intention, companies can create their own design pole or call on external outsourcing design agencies.

This new model creates strong synergies. The whole becomes stronger than the sum of its parts (holism). The design process is a model which makes it possible to understand the impact of design in the development of products. It belongs to the entire development process of the company and is used to achieve profitable and creative results thanks to the competences and know-how brought by design. The design process can be applied to

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<sup>26</sup> Design combined with marketing moves the classical approach of the product considered as a tangible element, to the "system-product" viewed as an integrated unit of products, services and communication components. This vision contributes to determine the competitive position of the company on the market and the relationship the company finds with the market and the sociocultural background with which it interacts.

many sectors and projects which relate to tangible processes, messages, goods, services or new environments.

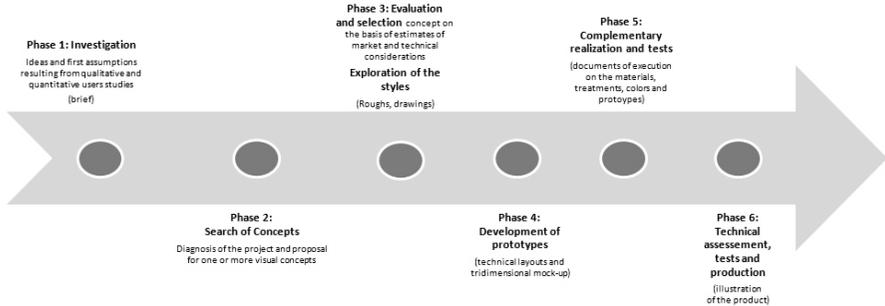


Figure 3 - The design process.

This process is often more iterative than chronological, and the force of the design approach should be able to predict some variables or characteristics, for example the elements of marketing, communication, commercialization which have to be thought about in advance as they influence the final design of the product/service.

This study will analyze dynamic processes in various levels. Its underlying field is *Design Thinking* and not the theoretical framework of the *New Product Development*<sup>27</sup> that is more sequential and linear. “*It is less a question of making design than thinking in a design mode*” points out Tim Brown<sup>28</sup>. How is it possible to represent in an effective way this vision of design in project management?

## Levels of Design Integration in the Company

As can be seen in figure 4, called *The Design Ladder*<sup>29</sup> (i.e. levels of design development in a company), there are four factors that lead to the use of design by a company. The first step involves those who do not use it. Secondly, there are those who just use it for the appearance of the products, just like an aesthetic tool. The third step refers to those who

<sup>27</sup> Trott P. (2002), *Innovation Management and New Product Development*, 2<sup>nd</sup> edition, Prentice Hall, Pearson.

<sup>28</sup> Ibidem.

<sup>29</sup> <http://www.seeproject.org/casestudies/Design%20Ladder>

integrate design in the development process, and finally (fourth step) to those who regard design as a strategic key element.

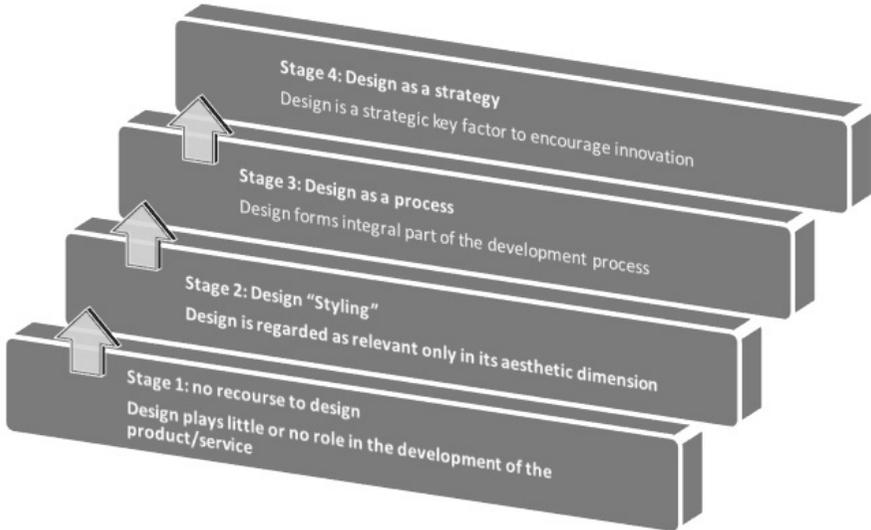


Figure 4 - The Ladder of Design: four stages to integrate design.

***Stage 1: no recourse to design***

The design plays little or no role at all in the development of the product/service. For example, the product and the development of service are made by non-design specialists. The end-user is not taken into account.

***Stage 2: Design is "Styling"***

Design is regarded as relevant in its only aesthetic dimension: style, appearance and elements of ergonomics. Sometimes an external designer can be involved but the *styling* will be defined mainly by internal professionals of other functions or sectors.

***Stage 3: Design like a process***

Design is considered a process or a method for the creation of the product or the service, but it's only used at the initial stages of the development. The solution of design is external and is adapted to the requirements of the end-user thanks to an interdisciplinary approach.

#### ***Stage 4: Design is a strategic dimension***

The design is integrated and accompanies the permanent renewal of the business concept of the company. Design is the way to encourage and stimulate innovation. The design process is one of the key objectives of the company and plays a role at each stage of the development.

The basic assumption is the following: the higher the company is on the design ladder, the better its growth performances are. How can that be organized at a strategic level?

There are three levels of management concerned with design<sup>30</sup>: strategic, operational and production of outputs. Teams with the head of design, the project manager design and designers should be involved in all these three levels.

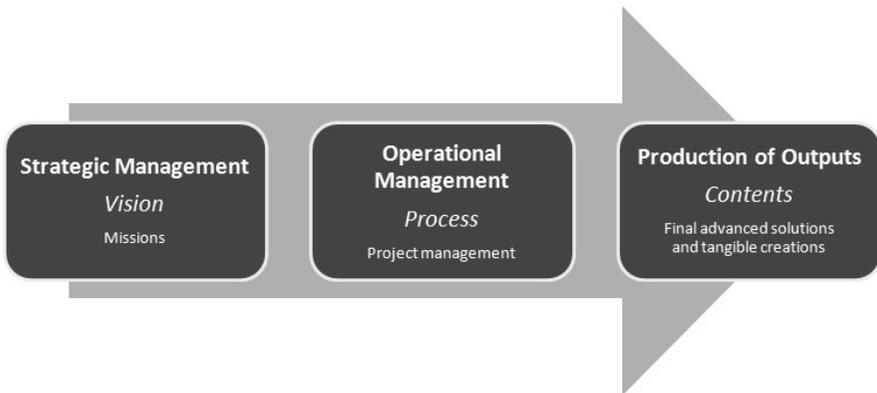


Figure 5 – the 3 levels of management.<sup>31</sup>

Defined in these terms, design management draws the *project status*, defining the *orientations*: *top down* versus *bottom-up*, authoritative versus compromise, centralized versus peripheral; the principles regulating decision making: who decides what, who is involved in the project, with the level of dialog, the level of specification, the degree of autonomy; as well as the *system of actors* involved in the project process: roles, methods of commitment, contributions expected, phases of intervention.

<sup>30</sup> Best K. (2009), *Le design management : stratégie, méthode et mise en œuvre*, Pyramid and Chaptal de Chanteloup Ch. (2011), *Le Design - Management stratégique et opérationnel*, Éditions Vuibert.

<sup>31</sup> <http://design-keys.org/168/management/#comments>.

The interdisciplinary nature of all stages and the rationalization of the processes do not prevent at the decision-making process from being flexible. Each project, even if it must conform to the total strategic patterns of the company, is perceived as being independent of the precedents and as having an opportunity to develop the company. The need for finding new keys for understanding the projects supports the flexibility of thought of each involved department, and it finally stimulates the innovation processes. Design is a vector of innovation for reconsidering the creative processes and of innovation.

### **The Theoretical Framework: The Design Thinking for Global Markets**

The Organization for Cooperation and Economic Development (OCDE), proposes through the handbook of Oslo<sup>32</sup>, the following definitions of innovation:

*“An innovation is the implementation of a product (good or service) or an appreciably improved new process or, a new marketing method, or a new organizational method in the practices of the company, the organization of the workplace or the foreign relations.”*

*“So that there is innovation, it is necessary that at least the product, the process, the marketing method or the organization process are new (or appreciably improved) for the firm. This concept includes the products, the processes and the methods which the firms are the first to develop and those which they imported from other firms or organizations.”*

*“The innovation is one of the principal means to acquire a competitive advantage while meeting the market needs. To innovate, it is to create new products, to develop existing products, but also, to optimize its system of production, to adopt last technologies resulting from the fundamental research like its department of Research and Development.”*

Innovation is, at the same time, an approach and the result of this process. To develop it calls for interdisciplinary project teams. In this direction, design can frame these innovating processes. It proposes types of projects, methodologies and instruments that are useful for innovation.

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<sup>32</sup> Manuel d'Oslo (2005), Principe directeurs pour le recueil et l'interprétation des données sur l'innovation, p.54-67, édition n°3.

## The Dimensions of Design-Driven Innovation

Design occupies the role of “*socio-technical translator*” between society trends, customer needs and user expectations. Figure 6 summarizes the relationship between these three elements which contribute to the innovation that is guided by design, i.e. to give the design a driving role in the innovation: an innovation *design-driven*.

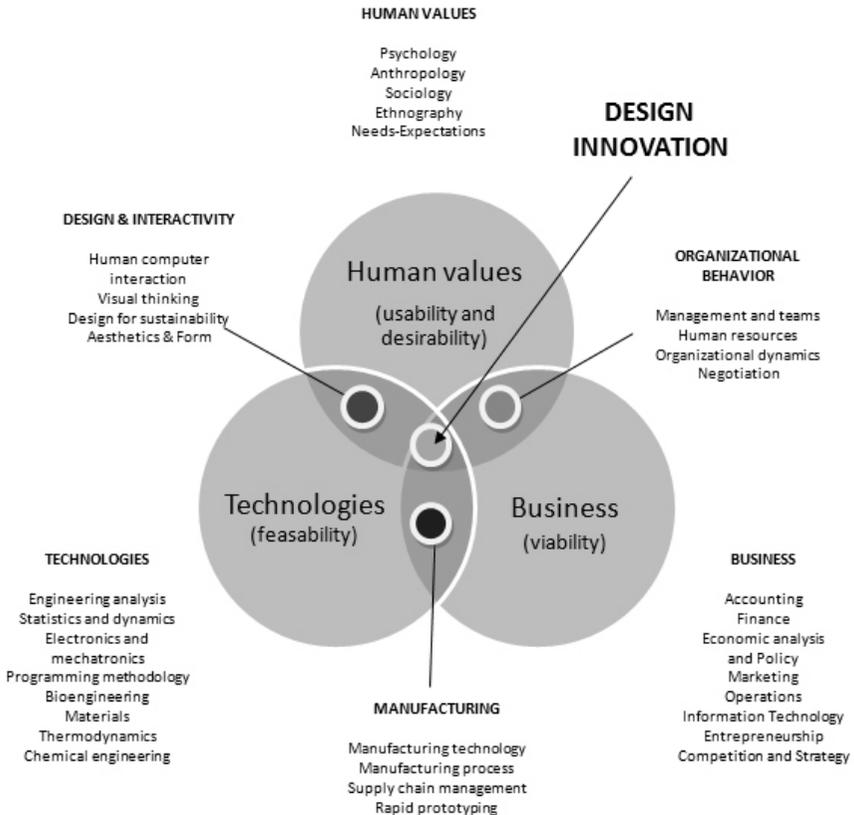


Figure 6 - The dimensions of design innovation.

Design requires the deliberate acceptance of some constraints. “Without the existence of limits, there cannot be design, and the best design is often carried out within a restrictive framework” explained Tim Brown in his book *Design Thinking*. This sentence illustrates what leads to innovation by design. The constraints and limits are the three major elements which

dictate innovation: economy, technology and the individual. The bases of innovation design can be founded on these elements: managing the constraints on a hierarchical base and evaluating them. These criteria of innovation lead the designer to take the following questions into consideration:

- What is a durable integrated economic model?
- What is functional and realizable in a realistic future?
- What corresponds to consumer expectations?

After the identification of constraints, they should be carefully evaluated. Then, it has to be determined what importance should be given to each one. The answer will be specific and different for each company. Some projects will be largely dependent on technology, others of the funding process, etc.

### **A Linear Model of Product Development versus a Collaborative Model of Design Driven Innovation**

This approach of *Design Thinking* is opposed to the traditional model of linear innovation, in which each step is clearly defined in a precise given order, starting with research and going all the way through to the final innovation.



Figure 7 - Linear traditional model of the innovation.

Design-driven innovation is individual-centred, but remains open to the societal and external influences. Design is considered to be a bridge between the process of product development and individual and societal needs. This approach corresponds to the *Design Thinking*.

*“The Design Thinking is deeply rooted in the designers’ competences, that they acquired during decades of effort to put in adequacy the human needs and the technical available resources in the respect of the economic constraints”* says Tim Brown.

The Design Thinking is thus a process that is able to allow for practical and creative resolution of problems, aiming at finding effective durable

solutions. *The Design Thinking* is a process which “mobilizes our imagination, our capacity to identify patterns, to build ideas with strong emotional contents but also functional, to express by other means words and symbols”.

The approach adopted in this paper was aimed at the presentation of a new perspective for design management in global markets within the theoretical framework of *Design Thinking*.

### **Conclusions: Designing with the Culture of the Company and for Cultural Dimensions of the Markets**

For Rachel Cooper and Mike Close (1995)<sup>33</sup>, the design manager is a person who, in a team, seeks to meet the company’s needs while contributing to the optimal use of design.

The design manager is positioned at the same level as the person in charge of a process, a kind of *project manager* with a *design competence*, with an *authority* on the project, determining the rules and being able to change them under the development process while deciding on elements to stabilize and changes of orientation and direction.

The role of the design manager is, above all, “to manage”. This role consists of understanding the strategic issues of a company and effectively connecting know-how, means, tools and methods which will make it possible to achieve its goals. If he wants to reinforce, at the same time, the recourse to design and innovative capabilities of the company, a design manager must develop two important qualities: firstly, knowledge of how to assess the aesthetic quality of a product and, secondly, consideration of the innovative nature of a project for the company.

As a translator and a messenger of company value, the designer assumes a new important role within projects. In order to be aligned with global markets, a company must emit powerful signals aimed at the congruence between its own organizational culture and the cultural dimensions of these markets. Design must ensure that it occupies the role of an intermediary, of a mediator between these cultures. But to do it correctly, it should not be a simple step in a linear development process: the design

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<sup>33</sup> Cooper R. et Press M. (1995), *The design agenda – a guide to successful design management*, Wiley John and sons.

thinking must become itself the heart of the creative process, while being integrated into all the stages of the development of the product.

According to Gino Finizio<sup>34</sup>, “*Design management consists in the realization of programs able to mix the culture of the company and the culture of project*”. We could add: and the cultural dimensions of the targeted markets. It means aligning the team of designers/marketers/engineers and sectors (or global markets) with a strong cultural content and trying to translate into the product or service the elements of this innovating language occurring between the company and its markets.

The role of the design manager consists of supervising the activities of product definition, the identification of latent needs and the launch of final products, by making sure that the strategy of the company converges with the innovating signals offered by the design team. Its role is then cross-bordered with two disciplines: one creative, since it is a question of identifying the creative resources within the company, the second one more administrative, since designers and creations are constrained by the available means of the company (financial and production capacity, selected strategic decisions of development...).

How can the results of the market studies, statistical results and considered scenarios be translated into concrete actions? It is once again the role of the design manager. Its role is particularly complex because of the fact that, for example, when an idea comes from consumer market studies, its feasibility should be checked. The design manager must know how to talk with each department of the company (finances, marketing, and technique) in order to bring the initial idea until the phase of industrialization without denaturing the project essence.

For that, after having validated the idea of feasibility in collaboration with marketing, logistics and communication directors, the design manager identifies the best creative resources (they can be outsourced or internal). The designer’s team then develops an innovating solution on the basis of the report resulting from the common approach. At the beginning of this process, known as “cycle of innovation”, other departments of the company are involved: they ensure that the suggested solution is in harmony with the requirements of the company and its various organizational functions. An efficient creativity is not, contrary to the

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<sup>34</sup> Gino Finizio, (2006) adaptation de l’ouvrage en français par Ben Youssef K. et Magne S. “Design et Marketing – gérer l’idée”, éditions ESKA.

generally accepted ideas, creativity without rationality. By anchoring the creative approach in a rational, calculable and measurable process, one increases the relevance of the encountered solution(s).

For this purpose, the design manager has a “toolbox” that allows him, according to the type of project, to adopt the optimal configuration of the project, the most adequate techniques taking into consideration a nonlinear process of the project.

Beyond global markets and their cultural specificities, innovation guided by design should integrate the consumer’s culture and subcultures to respond to new individual market expectations. What kind of tool could help design to succeed in this endeavour? How can the consumer be involved in the long and collaborative process of design management and this process design driven by innovation? We should find new models of co-creation that are able to integrate consumers as real actors in these processes towards global markets (cf. Fig 7).

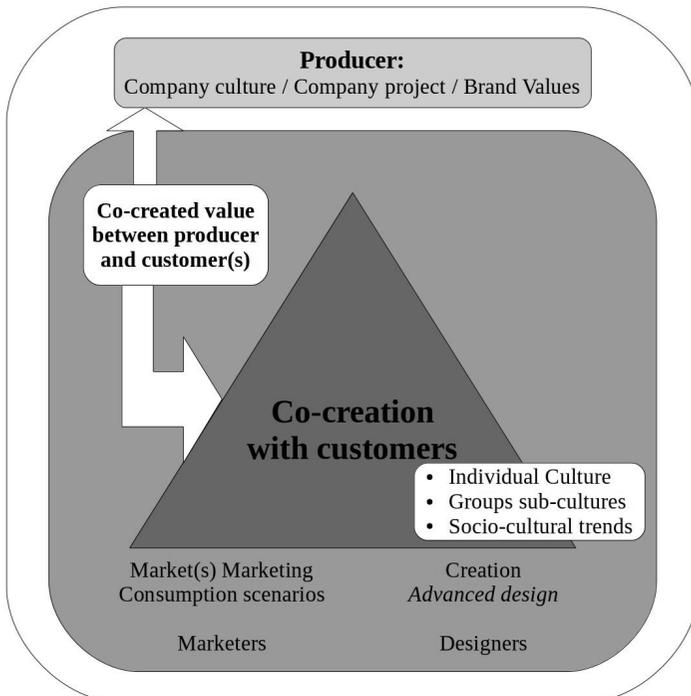


Figure 7 – Co-creation in global markets.

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# CHAPTER TEN

## SMART MANAGEMENT OF PORT LOGISTIC NETWORKS - THE ITALIAN CASE

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### 1. Introduction

Ports currently play a key role in the management and coordination of material and information processes in regard to goods handling and trading. As such, ports are increasingly important in global economies, as they have become strategic assets for competitiveness and the development of a territorial system (even in a sustainable view). From areas dedicated to simple cargo handling, ports have gradually been transformed into crucial partners of companies contributing significantly to the logistic processes of value creation.

In fact, as a result of the evolution of seaports in terms of size, roles and tasks, together with their contribution to the development of the areas in which they are located, the scientific literature has highlighted a generational growth (Hoyle and Hilling, 1984; UNCTAD, 1994 e 1999; Van Den Berg and Klink, 1994; Van Klink, 1995; Hoyle, 1998; Gilman, 2003; Flor and Defilippi, 2003; Bichou and Gray, 2005; Angeliki, 2005; Siviero, 2002; Siviero and Carlucci, 2009; Flynn and Lee, 2010; Flynn et al., 2011). One of the most important achievements of studies in this field – mostly connected with logistic evolution – is the distinction of ports into four generations:

- ‘first-generation ports’ are appropriate for small trades, and port activities are mainly concerned with the loading and unloading of goods;
- ‘second-generation ports’ are characterized by a process of the industrialization of logistic activities, having the main task of ensur-

- ing a steady flow of goods to territorial companies that are involved in handling local materials;
- ‘third-generation ports’ are essentially linked to two important internationalization drivers: the growing expansion of transport technologies, based on the standardization of the size of the transported units (pallets and containers) and the preponderance of logistic services, characterized by deeper market orientation and higher added value;
  - ‘fourth-generation ports’, finally, are organized with logistic activities that are gradually put outside the port perimeter, developing further value-added services and expanding toward inter-modality and multi-modality<sup>1</sup>.

By virtue of this categorization, it is easy to highlight the changing role of maritime terminals, now considered real catalysts in local, regional, national and international socioeconomic development. This innovation, more specifically, has characterized the evolution of port logistics ‘from the flow to the network’.

In this modern phase (of the so-called ‘network port’), it is essential that maritime terminals put into place development strategies that are oriented toward socioeconomic growth. The competitiveness of a port system is thus linked not only to managerial/operational elements but also to the ability of the subject of governance.

The competitiveness of port logistic networks is the focus of the first part of this chapter, in which we have tried to delineate the potential measures necessary to increment port attractiveness and, therefore, the ability to intercept those volumes of traffic managed by global logistics players<sup>2</sup>. Fun-

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<sup>1</sup> In truth, Flynn and Lee (2010) have also introduced the ‘Fifth-Generation Ports’, even called ‘Customer-centric Community Ports’, whose performances depend not on infrastructure capacity but on their ability to attract and keep clients (of course, while serving the stakeholders’ community at the same time).

<sup>2</sup> We would note that general findings in this sector tend to confirm a gradual concentration of traffic in a few major ports. This phenomenon stems from concentration strategies on the part of shipping companies and port terminals for better control of logistic components. This trend has an impact in terms of efficiency and effectiveness and ensures customers a reliable service at competitive costs. Thus, the larger the port is, in terms of volumes handled and port/inland facilities, the greater its competitive potential, through exploiting economies of scale, interconnections with other territories, saturation of critical infrastructures and concentration of port activities.

damental, in this sense, is the intelligent (smart) management of port logistic networks, in which all network actors are involved in efforts to speed up, improve, simplify and make secure the entire flow by virtue of technological innovations, operations and services of the port.

In this direction, another transformation has emerged, involving an evolution toward supply chain management (SCM). In this context, the competitiveness of a seaport depends on its ability to create added value throughout the whole supply chain, taking into account new competitive trends whereby competition is no longer among individual companies, but among supply chains (Christopher, 1992; Meersman and Van de Voorde, 1996).

In fact, this study aims to emphasize the new status of ports in the whole logistic process, called upon not only to play a reactive role within the supply chain but also to take on an active and even proactive role, facilitating the full development of ever more integrated logistic supply chains to achieve adequate levels of competitiveness. After studying the port logistic network (that is, focusing on third- or even fourth-generation ports), the second part of this chapter will present and describe the contextualization of port smart platforms in the case of Italy – one of the most important countries in Europe in regard to port logistics, in part because of its strategic position in the Mediterranean Sea.

## **2. ‘Smart’ Management of Port Logistic Networks and the Evolution toward SLSCM (Smart Logistic Supply Chain Management)**

Port competitiveness, as highlighted above, does not depend exclusively on the quality of material infrastructures (hard components, e.g., terminal, docks) but mainly on the quality of immaterial infrastructures (soft components, e.g., logistic services, ICT systems) by virtue of the capacity and development of adequate core competences on the part of port actors in the coordinated and systemic management of various logistic activities/processes (Huybretchs, 2002; De Martino *et al.*, 2012). Improving service effectiveness and efficiency can be accelerated by a smart management system that would be able to simplify and safeguard activities/processes/operations already enabled or scheduled to be enabled by port actors.

In this sense, the development of ICT-based solutions is fundamental to guaranteeing competitiveness, sustainability and interoperability im-

provement among logistic partners. The adoption of these technologies provides operators with sophisticated and innovative information systems able to streamline information flows as well as improve data management and processing within a port community, with a consequent reduction of total costs and improvement in the overall level of services.

The computerization of ports is part of the European Union's<sup>3</sup> strategic initiatives aimed at applying IT in all modes of transport. The essential objectives of the policy are to minimize environmental impact on different territorial systems, to guarantee a smooth administration for the goods' path through different infrastructures, to reduce road congestion and to implement incremental multi-mode efficiency by the rational use of real-time information in moving goods and people. In other words, smart ports can be defined as complex interactive ecosystems enhancing a better management of the intra-, extra- and inter-port logistic network, creating higher added value by means of integrated services (of an economic, social and environmental nature) for individual clients and for the port system as a whole. Many ports, however, have failed to use these technologies to gain competitive advantage and improve performance. Implementing such technologies is a challenging and risky process involving huge resources and significant investments (Zhao *et al.*, 2002).

The scientific literature highlights the concept of a Port Community System (PCS)<sup>4</sup>, defined as a holistic information platform integrating a heterogeneous community of port actors<sup>5</sup> electronically connected in a network

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<sup>3</sup> The EU website states that the "... EU e-Maritime envisages promoting interoperability in its broader sense. It aims to stimulate coherent, transparent, efficient and simplified solutions in support of cooperation, interoperability and consistency between Member States and transport operators" (source: [http://ec.europa.eu/transport/modes/maritime/e-maritime\\_en.htm](http://ec.europa.eu/transport/modes/maritime/e-maritime_en.htm), accessed 31<sup>st</sup> January 2015).

<sup>4</sup> For a discussion of the Port Community System, cf. van Baalen *et al.*, 2008. Other studies focus on the private and public partnerships that have enabled the development of these systems (Bagchi and Paik, 2001), on the collective work achieved by the port community or on the adoption process (Rodon and Ramis-Pujol, 2006), as well as on the architecture of information systems (van Baalen *et al.*, 2008). For a discussion of PCS interoperability at the European level, cf. Baron and Mathieu, 2013.

<sup>5</sup> Port actors are generally defined as members of a port community (Rodon and Ramis-Pujol, 2006). The port community typically includes ship-owners, handlers, road/rail/river carriers, and warehouse owners, as well as trading partners (forwarding agents or commissioners) and government organizations (customs, veterinary or immigration services). Cf. van Baalen *et al.*, 2008.

of global transportation in order to enable the exchange of information and to guarantee the smooth flow of shipments from origin to destination (Rodon and Ramis-Pujol, 2006; Srour *et al.*, 2008; Tijan *et al.*, 2009). The main purpose of a PCS is to exchange information within the system (Milá, 2009) through the use of information models (Posti *et al.*, 2010).

The debate on port competitiveness, as part of the evolution of the role of ports (i.e., from simple places dedicated to cargo handling to complex logistics platforms whose sustainability is highly dependent on the level of integration and coordination of actors/resources/processes) has pushed for an analysis of port competitiveness based on theoretical categories related to integration logistics and supply chain management (SCM).

The Council of Professionals (2009) defines logistics management as the sector of SCM that plans, implements and controls the efficient flow and storage of raw materials, semi-finished and finished goods and related information from point of origin to point of consumption. To satisfy the logistic needs of customers, it is essential to integrate the whole logistic process with other functional areas of the enterprise (intra-organizational logistics), thus giving organizations the opportunity to consider logistics as a fundamental moment in value co-creation. This process involves not only a single activity but also the entire supply chain (i.e., inter-organizational logistics). The Italian Association of Logistics, for example, recognizing the importance of logistic integration in SCM evolution, has come to define it as a set of approaches utilized to efficiently integrate suppliers, manufacturers, distributors and retailers, so that goods are produced and distributed in the right amount, in the right places and in the right moments, with the goal of minimizing costs for the entire system and thus ensuring the desired service level (Riccio, 2005). As a management philosophy, SCM aims at maximizing the competitiveness of companies and networks through the integration of actors, activities and processes, given the positive relationship between integration and competitiveness. The higher the level of integration between actors of the chain is, the higher the potential benefits for all stakeholders (including the end consumers) and, as a result, the competitiveness of the whole chain (Hines *et al.*, 2000; Lambert, 2001; De Martino and Morvillo, 2007).

Ports as complex logistics platforms are engaged in the inbound and outbound receipt and dispatch of goods and information and should offer high quality services effectively and efficiently. Therefore, the role of the port in the context of SCM is to provide differentiated services as required by demand and to facilitate logistic integration. In this perspective, ports have

become an important node in a variety of different sectors (with different entities to satisfy) whose lesser or greater capacity for integration and coordination the logistic value co-creation depends on.

The increasingly important role of the port community in the process of value co-creation in a specific logistic network is then evident in a continuous effort to find optimal solutions for the end user. Ports do not play merely a reactionary role within the supply chain; rather, they participate actively and proactively in the full development and competitiveness of the chain<sup>6</sup>. As such, for a port that seeks to become a key player in the value co-creation process for the end user, a growing interaction among the various actors in a port logistic supply chain appears increasingly necessary, in addition to reciprocal interoperability.

The application of conceptual categories of SCM to ports and dry ports is particularly complex (Robinson, 2002; Carbone and De Martino, 2003; Paixão and Marlow, 2003; Bichou and Gray, 2004; Carbone and Gouvernal, 2007), given the traditional conflict among actors of the port community in regard to service delivery. Some authors (Tongzon *et al.*, 2009), in an attempt to unravel such complexity, have analysed the role of the port in the supply chain through integration practices implemented by global players – mainly shipping companies and terminal operators – that manage the terminal and provide other logistic services (and not only transport)<sup>7</sup>. Actors, although vested with a key role in port competitiveness, are not however the only development options, given that the success of the port is based on the development of activities and resources related to the needs of other port users (Capaldo and Giannoccaro, 2012), including companies that operate in their hinterland's manufacturing and service industries. Several scientific studies investigating this phenomenon have emerged in recent years, though the field appears to be quite limited, particularly in terms of empirical studies (Lam and Song, 2013). It would be important,

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<sup>6</sup> According to Ketchen *et al.* (2008) supply chains go beyond traditional logistics requirements advancing a holistic logistic value proposition as well as an ideal balance of key competitive priorities, i.e., speed, quality, cost, and flexibility.

<sup>7</sup> In a recent work, Song and Panayides (2008) conducted a survey to collect the viewpoints of managers of container ports and terminals worldwide. Supply chain integration parameters such as technologies, value-added services and relationships with users were positively related to the parameters of port competitiveness. The authors suggested that these dimensions represent a strong contribution to port competitiveness in the supply chain.

therefore, to assess trends and performances in port supply chains from the perspective of port users.

In this context, a conceptual model of the evolution of port logistic supply chains (see Figure 1) distinguishes *dominant players* (port authorities – customs agencies, shipping companies, terminal operators, large logistic providers, large wholesale distributors), *secondary players* (transportation and storage companies, average/small size shippers), and *players of considerable importance* (i.e., rail and road operators).

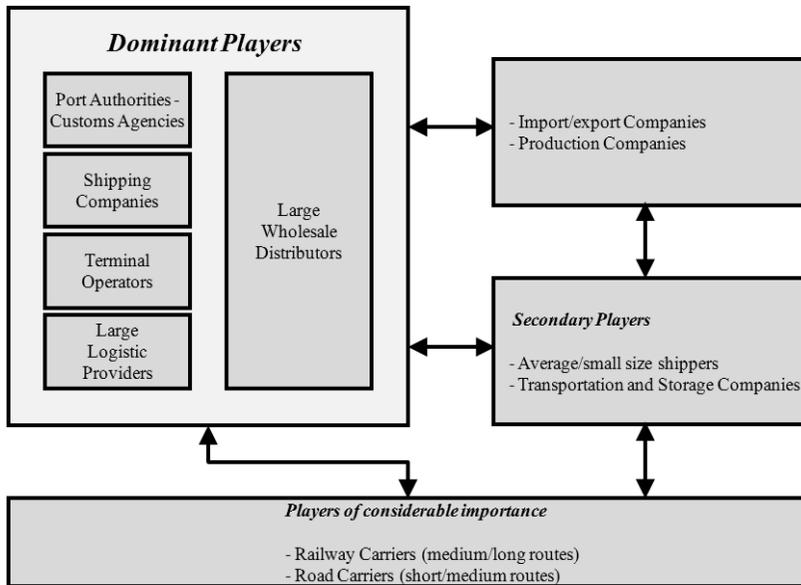


Figure 1 - Conceptual model of the port supply chain evolution (source: adapted from Siviero and Carlucci, 2009).

The internal integration of various actors in port logistic networks is merely the first step toward an ideal evolutionary path (Paixão and Marlow, 2003), which entails the gradual external integration of maritime terminal services with activities implemented by the other actors of the supply chain. Potentially, therefore, ports will be required to develop skills that could be difficult to imitate by competitors ('port specific').

Carbone and De Martino (2003), for example, maintain that the greater inter-actor integration in a port network is, the greater the competitiveness of the entire supply chain. In particular, the two authors, analysing the role

of the port of Le Havre within the Renault distribution chain, have tried to show that port competitiveness is closely linked to its ability to create value and how, in this process, port operations alone are not sufficient to make a port terminal competitive unless accompanied by interoperability, interaction, dialogue and the exchange of information between various actors in the port logistic supply chain. “Research [...] has shown that the performance of the traditional components of port supply (infrastructure, supra-structures, and services to goods and to ships) are no longer sufficient to guarantee its competitiveness, but they can be considered merely as ‘prerequisites’. Much more relevant for this purpose, is the relational capacity of the various port operators (in particular, the CAT, a logistics operator responsible for the distribution of cars in Europe) in the Renault customer satisfaction process”<sup>8</sup>.

Thus, it is clear that the ability of a port to create value within the supply chain depends above all on interoperability among all stakeholders (internal and external) in the port logistic network. The ‘keyword’ underpinning SCM is ‘integration’: several entities that inter-operate have to eliminate “... structural, information [and organizational, *authors’ note*] redundancies, erase the transit dead times, modify procedural behaviors in order to harmonize them in a holistic approach of the entire logistic process”<sup>9</sup>.

The harmonization of behaviours required by SCM philosophy in a port context can only take place by virtue of the smart management of the seaport by actors capable of creating a real port community in which each actor is an integral part of success or failure – in terms of competitiveness of the maritime terminal – on the international stage. In short, even in the evolution toward the supply chain management of a seaport, technology plays a vital role.

The synergic relationship between ICT and SCM is highlighted by Ross (1998), wherein the author defines the Information Technology System as the core of supply chain management. “The origins and continued development of SCM are directly dependent on the capabilities of today’s information and communication technologies (ICT) [...] – the networking of geographically dispersed process teams, the integration of channel strate-

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<sup>8</sup> Source: De Martino and Morvillo, 2007, p. 101.

<sup>9</sup> Source: Stucchi, 2011, <http://www.cbritaly.it/news/1351/scm-e-ict-un-rapporto-in-evoluzione/#.VG0ARXl0zIU>, accessed 31st January 2015. See also [http://www.trem-magazzini.com/docum\\_crm/c\\_g\\_19.pdf](http://www.trem-magazzini.com/docum_crm/c_g_19.pdf), accessed 31st January 2015.

gies and operations, communications technology providing connectivity between companies, planning systems that facilitate inventory management integration across the supply channel pipeline, and other – would be impossible without effective ICT systems. SCM provides a critical management and operational approach for competitive advantage given its inherently intertwining with the networking power to be found in today's computerized information and communication systems. As capabilities of ICT tools expand, there can be little doubt that the integrative and informative capabilities of SCM to provide fresh competitive perspectives will likewise expand<sup>10</sup>.

### **3. The case of Smart Port Logistics in Italy: Regulatory Framework, State of the Art and Managerial Perspectives**

The maritime sector in Italy (and in particular, those larger Italian ports in which Port Authorities (PAs) have been set up) has become a significant segment of the overall transport system both in quantitative terms of the flow, handling, import and export of goods, and from an economic and employment point of view. Based on 2009 estimates (Censis, 2011), port logistics and ancillary services – the branch of a maritime cluster more closely linked to the activities of commercial and industrial ports – provided a direct contribution to GDP of more than 6.7 billion euros (in line with the estimates presented in Censis, 2008), with repercussions for employment in the form of nearly 32,000 newly created jobs (and over 64,000 when taking into account the 'upstream' and 'downstream' supply chain pipeline) and added value per direct unit of labour equal to 70,000 euros. In regard to economic impact, Censis' estimates show that each euro of new investment or additional demand for port logistics and auxiliary services would lead to a multiplier effect of income equal to 2.75, with new business leading to a multiplier effect on employment units of 2.01.

Regarding freight traffic, recent statistics from Eurostat (2012) for 2010 quantify approximately 482 million tons of goods passing through Italian ports, of which approximately 313 million originated from international traffic, equal to 65% of total traffic. In the period 2001-2010, Italy was among the top three European countries for total movement of goods by sea, second after the United Kingdom until 2007 and third after the Netherlands from 2008 to 2010. During the entire period however, the United Kingdom took pride of place by moving 543 million tons on average. Italy

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<sup>10</sup> Source: Ross (1998), pp. 314-315.

followed suit with 478 million tons, and the Netherlands followed with 466 million. In comparison to evidence from other European countries, a lower percentage of goods were moved with respect to international traffic (Cesaroni and De Santis, 2014) through Italian ports.

Within the logistics system as a whole, a predominant role in terms of guidance and control is held by the Port Authority. Its organs are the President (appointed to a four-year term of service by the Ministry of Infrastructure and Transport in agreement with the region of concern), the Port Committee, the Secretary-General, the Board of Auditors and central and local advisory commissions. The composition of the Port Authority clearly shows its close link with the central government. Such a ‘symbiotic’ link could be a limitation for the development of maritime terminals in terms of real risks linked to possible inexperience and limited professional qualifications on the part of those persons appointed to govern it.

The Port Authority, a legal entity regulated by public law, has administrative and financial autonomy. The law establishing Port Authorities grants them the following functions:

- guidance, control, planning and promotion of port operations and other commercial and industrial activities in ports, with powers of regulation and order;
- ordinary and extraordinary maintenance of the common parts of the port, including maintenance of the seabed;
- entrustment (upon payment and by public tender) and control of the activities directed to the provision of services of general interest;
- supervision of the completion of port operations, services and fares that [authorized firms] intend to deliver to users;
- administration of port areas and docks entrusting them to firms involved in port operations and management of activities relating to passengers and services of prominent commercial and industrial interests.

In Italy, if ports lack the necessary requirements for the establishment of a Port Authority<sup>11</sup>, the management of maritime terminals is the onus of the Maritime Authority<sup>12</sup>, which runs and supervises all activities that take place in these ports. The Maritime Authority, also known as the Harbormaster, is a branch of the Coast Guard that essentially performs tasks related to the pub-

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<sup>11</sup> New Port Authorities may be set up in the seaports that “... during the last three years have dealt with a volume of freight traffic of at least three million tonnes per year net of liquid bulk or 200,000 Feet Equivalent Unit (TEU)” (Law 84/1994, art. 6).

<sup>12</sup> On the tasks of the Port Authority and the Maritime Authority, cf. Boi, 2008.

lic use of the sea. Its main functions (search and rescue at sea, marine environmental protection, control of sea fishing, registration of merchant vessels, underwater archaeology, counter-terrorism and security services, recruitment of naval personnel, etc.) are of fundamental importance. Other functions include port area activities such as the supervision of port functioning, navigation safety, and the control of ships – national and international (Port State Control) – in order to safeguard the port and ships from potential illegal actions and to ensure the safety of the maritime terminal.

In addition, the Maritime Authority works in conjunction with the port districts of Carabinieri, the Border Police and the Navy, as regards the maritime and judicial police. The Coast Guard, which serves as a maritime police, is committed to overseeing the discipline of maritime navigation, the regulation of events taking place in those maritime areas subject to national sovereignty, the control of maritime traffic in manoeuvring ships and port security, the investigation of marine accidents, the control of the maritime domain and the testing and periodic inspection of coastal deposits and other hazardous installations. Furthermore, with the duties of a judicial police, the Coast Guard is engaged in prevention, investigation and prosecution of all illegal behaviours [...] that presuppose the violation of legal norms not only provided by the navigation code but also related to the protection of the environment, fish stocks and fishing.

Other actors who have public direction and control functions include the following:

- the Maritime Health Office, which is engaged in health-related treatment and the control of people, ships and goods from other countries prevented from docking for reasons related to infectious disease control;
- the Customs Agency, which carries out monitoring, verification and checks on goods arriving in the port as well as on internal taxation linked to international trade. The Agency combats illicit or tax evading activities such as: trafficking of weapons, drugs, cultural heritage assets, and products that are counterfeit or not complying with regulations regarding health or environmental safety, as well as international trade in specimens of animal and plant species threatened with extinction, as protected by the Washington Convention;
- the Guardia di Finanza, which serves as an economic and financial police force at sea, combatting counterfeiting and money laundering, as well as carrying out fiscal/customs controls, ensuring law enforcement and maintaining public safety;

- Port Vets, who act as a Border Inspection Post and are allowed to carry out checks on live or dead animals as well as “... on products of animal origin, including by-products [...] and the plant products” (D.lgs. 80/2000, art. 2) for the EU market and from third countries.

In terms of integration, the ‘intelligent’ or ‘smart’ management of the port logistic supply chain is a fundamental element. From this point of view, however, Italian ports are still in an embryonic stage of development, and it is difficult to precisely highlight those measures taken by various players in the port logistic network involving an intelligent (smart) management strategy for maritime terminals. Some interesting projects in place in the main Italian seaports (Genoa<sup>13</sup>, Livorno, Venice, Trieste, Gioia Tauro, Brindisi, Bari, Barletta, etc.) concern the computerization of a number of activities, including the following:

- a) customs procedures and port logistic flows;
- b) document flows (‘E-Port’);
- c) completion of all administrative practices related to ship arrivals and departures and traffic control inside port waters;
- d) synchronization of all procedures (documentary and physical) affecting imports, exports and cargo handling, as well as those regarding passengers passing through the ports (Port Community System).

The computerization of customs procedures and port logistic flows essentially concerns the relationships between ports and customs agencies relating to goods clearance. In this sense, ‘pre-clearing’ becomes crucial. This process involves electronic procedures for documents to enable the clearance of goods before the ship berths in port. Containers previously checked and approved through the customs information system can be cleared immediately, thus decongesting port space, while those with any inconsistencies are detained in areas of verification (VV.AA., 2013).

Electronic procedures, therefore, reduce storage times of goods in the port, eliminating the risk of congestion and saturation of port spaces and, consequently, of the urban road network. The computer system handles the necessary customs formalities within a few seconds, in contrast to the several hours required if carried out in the traditional way.

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<sup>13</sup> The port of Genoa is one of the most advanced Italian ports in regard to the use of IT. In particular, one of the most interesting projects in terms of environmental impact is the Environmental Energy Plan (PEAP) (cf. Tommasetti *et al.*, 2014).

In this respect, the *Trovatore* is a project still in its experimental stage whereby the Customs Agency has shifted attention to a wider range of issues that threaten the competitiveness of the Italian port system. Through the use of RFID technology (Radio Frequency Identification), the project aims to identify a ‘procedural, logistical, organizational and technological’ model that is able to “... simplify the formalities for goods clearance; anticipate information on loading/unloading containers, so to speed up customs formalities; virtualize the port area including outdoor areas (hinterlands) to attract new trade; encourage the use of multimodal transport system; use electronic seals, so to evidence unauthorized opening; interface the Customs Information System AIDA with the management information system of the port and the dry port by interoperability solutions; optimize the use of human resources” (VV.AA., 2013, p. 102).

A further step in the simplification of customs procedures (see Figure 2) is represented by the *Sportello Unico Doganale* (‘single window’), a unique platform able to manage documentary information requested of foreign trade operators to complete import/export operations by making them available to all government departments through the interactive online system AIDA.

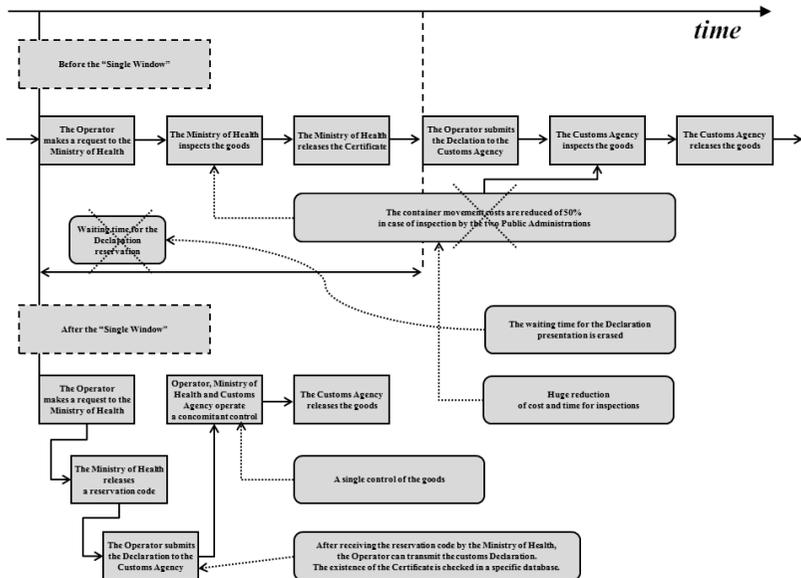


Figure 2 - ‘Single Window’ for contextual procedures - Source: adapted from Bogliolo, 2013.

The *Sportello Unico Doganale*, which promotes interoperability among private companies; the Customs Agency; and other government departments (the Ministry of Health, Finance Police, etc.) involved in customs operations provide many advantages in terms of less time and potential documentary errors; more efficient use of human and financial resources available to private operators and public administrations; the possibility of more selective and accurate controls (risk management); and reduced non-tariff barriers, i.e., transactional costs not always quantifiable, but existing, due to organizational frictions (Ministry of Infrastructure and Transport, 2012).

The computerization of document flows ('E-Port')<sup>14</sup> is an initiative to encourage the gradual development of electronic projects for ports to render the logistics chain of port services more agile and efficient. The most relevant aspect of the project are 'virtual offices', which are electronic structures enabling operators to manage and control via web port operations of containers at a port's most strategic points, thus reducing by more than 50% the transit times of vehicles in the container terminal.

The computerization of document flows between public (particularly the Customs Agencies and Financial Police) and private operators (customs brokers, freight forwarders, terminal operators, warehouse workers, drivers, etc.) has the following positive outcomes:

- eliminating/decreasing manual steps in compiling paper documents;
- securing the exchange of information;
- optimizing the series of activities to be performed;
- reducing management costs and times;
- improving environmental sustainability.

With regard to all administrative performances linked to the arrival and departure of ships and traffic control inside port waters, Directive 2010/65/EU of the European Parliament has posited the conditions for the establishment of a National Maritime Single Window through which Member States are called on to adopt electronic means for reporting formalities concerning ships arriving in or departing from ports and simplifying administrative procedures applied to maritime transport, with particu-

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<sup>14</sup> E-Port originated from the need to create a system for the achievement of common goals shared by operators of the Port Community such as speeding up traffic on toll gates, ensuring information flow security, restricting paper document movement and enhancing efficiency in working procedures.

lar reference to ships arriving in or departing from ports in the Member States (art. 1, paragraph 2), through the common use of electronic transmission of information and the rationalization of reporting formalities (art. 1, paragraph 1) [...] via a unique interface, as soon as possible, and in any event no later than 2015.

Italy, interpreting the European Directive, approved (Law December 17, 2012 n. 221) the Port Management Information System (PMIS) as the National Maritime Single Window. The PMIS is a computer system used by the staff of the Harbormaster in the management of all administrative tasks related to the arrival and departure of ships and in the control of traffic inside port waters. In particular, the PMIS has three macro functions<sup>15</sup>: *registration*, which manages personal data and information concerning port configuration; *control*, which has supervisory functions related to port traffic; and *administrative procedures*, which handle ship arrival and departure practices.

In performing functions such as ‘traffic control’ and the ‘presentation of the position of the ships in the harbour,’ as headed by the ‘Control’ macro-area, the PMIS uses LVTS (Local Vessel Traffic Service) to ascertain in real-time the location of ships via the construction of an electronic map of the port.

With the activation of the *Sportello Unico Doganale* and the subsequent National Maritime Single Window, an electronic dialogue is in place between economic operators and governments on the management of processes related to the traffic of ships and goods in ports. These two systems constitute a preliminary step in the creation of a new organizational structure for the port system inspired by the concept of the Port Community System (PCS)<sup>16</sup>, which is already embedded in a number of Northern European ports.

The port logistic network is characterized essentially by the presence of subjects charged with guidance and control tasks that interact with private subjects implementing operational activities so that its population can be divided into actors that require services and actors that provide services. Integration, dialogue, complementarity and interoperability between these two types of players are topics of the PCS by virtue of peculiar ICT applications that, allowing maximum interaction between public and private

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<sup>15</sup> Cf. [www.vts.guardiacostiera.gov.it](http://www.vts.guardiacostiera.gov.it), accessed 31<sup>st</sup> January 2015.

<sup>16</sup> On the integration of the Maritime Single Desk and PCS, cf. Mega, 2014a.

information systems, guarantee access to services through a single bureau using web 2.0 technologies and an interconnected system of paper-based processes and physical movement (Puliafito, 2013).

In short, the PCS is an effective "... ICT application for organizing the integrated and coordinated access of users and service providers [under the guidance and supervision of the Port Authority, *authors' note*], synchronizing physical and documentary procedures concerning imports, exports and goods [and passengers, *authors' note*] passing through the ports" (Puliafito, 2013, p. 7).

A concrete example of the PCS is the *Gaia* system, in place in the ports of Bari, Monopoli and Barletta. The project was started in 2012 and involved a platform of advanced technology-based services for passengers, businesses and public institutions in order to enable the intelligent and secure exchange of information between public and private operators in the port cluster (VV.AA., 2014; Mega, 2014b)<sup>17</sup>. The *Gaia* system has revolutionized the logistic network of the aforementioned ports through a series of modules related to the following:

- security and passenger boarding procedures and transport means (*Gate* module) via the introduction of Security Card(s) and electronic authorizations for access that facilitate and make safer landing at the port, shipping and border controls;
- online management of port area access, as subject to security plans (*Pass* module) and issued by email without the need to personally visit the offices of the Port Authority. This module has guaranteed port operators (in particular, terminal operators and shippers) a drastic reduction in the time required to obtain permits to access to the port, thus eliminating paper forms and simplifying control activities;
- ship tracking system (*Ships* module) to monitor in real-time the position of a ship and therefore to forecast its arrivals and departures for the benefit of passengers and port services. Advance knowledge of arrival and departure reduces or eliminates waiting times for passengers and goods;

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<sup>17</sup> Source: VV.AA., *Progetto Gaia - Generalized Automatic Exchange Of Port Information Area*, Conference Proceedings, 15th July 2014

(<http://www.aplevante.org/home/eventi/470-progetto-gaia-evento-di-chiusura>, accessed 31st January 2015). On the same subject, and on the reasons that led to the birth of the *Gaia* system, see Mega, 2014 (<http://www.mariomega.it/archives/1015>, accessed 31st January 2015).

- promotion of regional tourism (*Travel* module) through a web portal supporting passengers in transit at the seaport, which offers information related to tourist itineraries in Apulia. These communications can be viewed directly on mobile devices after downloading the appropriate app (*eGaia* module);
- assistance to local and national authorities using all data acquired by the *Gaia* system for better planning in the field of maritime transport and intermodal logistics (*Data Warehouse* module).

Although in the process of integration a major role should be played by the Port Authorities, at present, they are suffering from a severe lack of funds. Law 84/1994 introduced the financial autonomy regime for Port Authorities, while subsequent legislation in Italy has tried to give new life to the industry by planning a series of measures<sup>18</sup> to swell the coffers of the Port Authority, also using the necessary private capital to finance the infrastructure works fundamental to every port.

Despite the fact that these measures are in force, they ultimately remain unimplemented, with damaging effects for port infrastructure and connection network finance and, consequently, for the competitiveness of individual ports and the entire national port system. Even in light of the economic problems faced by the Port Authorities, adaptation to changing market conditions – and more generally, to the world economy – is essential. Such adaptation would require a different port management system in which the computerization process becomes crucial to the shift toward supply chain management. It seems thus that two important steps must be taken in order to make the necessary changes.

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<sup>18</sup> The Law n. 296/2006 (art. 1, paragraph 990) and the subsequent inter-ministerial Decree of October 12, 2007 provide for the allocation of a "... share of tolls other than taxes [substantially VAT and excise duties] and port fees to be donated to each Port Authority for the purpose of realization of works and services provided in their port strategic plans and three-year operational plans with simultaneous suppression of the transfers of the State" (cf. <http://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:2006-12-27;296>, accessed 31<sup>st</sup> January 2015). Accordingly, the Law no. 244/2007 (art. 1, paragraphs 247-250, <http://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:legge:2007-12-24;244!vig.>, accessed 31<sup>st</sup> January 2015), as well as all the laws that have taken place in recent years. For a more detailed discussion about the problem of the financial autonomy of the Port Authority, cf. Lunghi, 2013, pp. 24 and on.

## **The Diffusion of ICT in Port Authority Operations**

The use of ICT tends to integrate all procedures and actors in the port logistic network. This process requires that the Port Authorities play a crucial role in engaging, beyond the duties assigned by the Law 84/1994, in the promotion of measures for the integration and interaction of port operators and their functions, as the greater the degree of integration of the Community Port, the greater is the opportunity for the successful application of ICT technologies in port logistics.

Therefore, from this perspective, the PA should change their prerogatives by integrating the traditional role of ‘landlord’ with the community manager function aiming at “... coordinating all private port community members, such as terminals, ship owners, shipping lines, NVOCCs, neutral consolidators, road haulers, railway operators and undertakers, logistics operators, freight forwarders, customs’ brokers, shippers or consignees, involving all public regulatory agencies and Authorities to solve existing problems not only inside the port but also outside the port area thus promoting efficiency and competitiveness of the port premises”<sup>19</sup>.

### **The Role of the Port Authorities in Logistic Supply Chain Management**

The real contribution that a seaport could offer to the process of creating value in the supply chain is related to the degree of integration among different actors in the port network. Despite ongoing efforts, numerous studies have shown enormous difficulties experienced by ports in adopting a systemic approach due to the “... lack of a competitive community spirit among both public and private port actors”<sup>20</sup>.

In short, it could be said that the greater the efficiency of the Port Community in terms of integration among various operators and their ability to co-create value by strengthening their interdependencies, the greater is the possibility of meeting customer needs. In the transformation of the port network into a Port Community, a fundamental role is played by the Port Authority, which must devise all necessary measures (i.e., infrastructures

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<sup>19</sup> Cf. VV.AA., 2011, *Environment for the application of ICT Technologies in European Ports*, Port Integration Study, Interreg. IVC, 23rd November 2011, p. 18, [http://www.rop.lv/ru/smi/zagruzki/doc\\_download/568-environment-for-application-ite-technologies-european-ports.html](http://www.rop.lv/ru/smi/zagruzki/doc_download/568-environment-for-application-ite-technologies-european-ports.html), accessed 31<sup>st</sup> January 2015.

<sup>20</sup> Source: De Martino and Morvillo, 2007, p. 99.

and services) for the promotion of inter-organizational relationships among various port operators that would be fundamental in the process leading to customer satisfaction.

#### 4. Conclusion

In line with the progress made in the existing scientific literature, this chapter has tried to reconstruct and delineate the potential evolution of port logistics from a 'smart' perspective. Studies on port competitiveness have traditionally focused on the analysis of specific port services or activities facing an environment of growing complexity, given that the traditional role played by ports has changed radically. In particular, globalization and containerization have led to the development and improvement of material infrastructures and, at the same time, to the diversification of logistics services. In a competitive key, this has generated an evolution of ports from simple places for the handling of goods to integrated logistic platforms characterized by links between goods' origin of departure and

- a) ports (in the case of shipping operations);
- b) inter-ports (in the case of trans-shipment operations);
- c) ports, inter-ports and in particular, rail gateways (in the case of unloading/loading).

A new concept for ports has thus emerged, which looks at the port as a crucial node of an integrated logistic chain, characterized by interdependence with hinterland and dry-port areas, through multi-modal and multi-services logistic platforms. The competitive advantage of an integrated port logistic process, both in its internal dimension (port – hinterland – dry-port) and in the external one (port – port), relies not only on the efficiency of the single port but also on the value co-created by the system of actors operating in the port and/or with the port, by virtue of their (integrated) abilities to offer high added value services throughout the entire logistic process.

In this direction, Supply Chain Management represents an interesting paradigm to develop the strategic positioning of a port. This approach supports inter-actor partnerships and considers the integration of activities/processes/operations as a source of competitive advantage. In particular, integration concerns collaboration among actors, coordination of inter-organizational processes and reorganization of communication flows, thus suggesting that there is a demand for a holistic port approach, assessing,

influencing and being a part of the upstream-downstream pipeline within supply chains.

Nevertheless, the institutional and regulatory conditions affecting the port sector until the 1980s, especially with reference to the Italian context, constituted an obvious impediment to the start of these integration processes. In fact, as highlighted in the literature analysis, ports may interpret different roles for different supply chains; how they meet such requirements depends on their strategy for growth. Above all, stakeholders must determine how to combine the particular strategies of one port with the strategies of other organizations in the supply chain (Mangan *et al.*, 2008; Pettit and Beresford, 2009; De Martino and Morvillo, 2008).

In this perspective, the intelligent (smart) management of the logistic network, achieved by virtue of ICT solutions, would render fluid information flows among players and improve data processing within the port community. In order to delineate this new 'smart' role from a systemic point of view, therefore, the relational perspective is of fundamental importance. Mechanisms of collaboration, coordination and cooperation take place among the (public/private) actors of a port community; in such a development, as a scientific implication, the Business Relational View (Pellicano *et al.*, 2014) would represent a valid interpretation, with due regard being paid to the sustainability of the relational context (that, in the present perspective, would be the portion of the port supply chain with which value co-creation takes place).

In regard to managerial implications, this would mean, most probably, that modern logistic managers, when engaged in handling a port supply chain, should be deeply aware of the 'smart' possibilities/opportunities of current and future ICT solutions, giving increasing importance to the information side of the port logistic process rather than to its physical side. Consequently, it is also possible that, in the hierarchical distribution of network governance power, at least with respect to the past, Chief Logistic Managers could be forced to share a major portion of their action perimeter with Chief Information Officers.

It is evident, in conclusion, that port system competitiveness depends on efficient partner interactions that have been activated along the logistic network of maritime terminals involved in the whole chain by virtue of increasingly modern technological infrastructures (up to the 'internet of things', that would make any object of the port logistic process work as a smart component). Obviously, this is true not only in relation to port or-

ganization in the strict sense, with its actors and processes, but also with reference to its evolution into a real port community (always by virtue of technology), impacting decisively on the co-creation of value in a specific supply chain.

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## CHAPTER ELEVEN

# INNOVATION CAPACITY IN FAMILY BUSINESS: A SURVEY FROM AN ITALIAN SAMPLE

STEFANO BRESCIANI AND FEDERICO BALBO

### **Introduction**

The family business is a significant organizational typology in the global economy, responsible for a large part of a country's GNP and employment in the labour force. In Italy, more than 75% of firms are family-run, and more than 80% of the labour force is absorbed by family businesses (PricewaterhouseCoopers, 2014; Corbetta et al., 2014).

Family firms compete in the global and dynamic marketplace with unique resources, making them different from non-family firms. A family business is an entrepreneurial organization in which one or several families exert their influence on the properties and/or the management of the business itself (Demattè and Corbetta, 1993). More specifically, family firms differ in terms of goals (Tagiuri and Davis, 1992), size and financial structure (Romano *et al.*, 2000; Garcia-Castro and Aguilera, 2014), international structures and strategies (Zahra *et al.*, 2004; Gagnè et al., 2014), corporate governance (Golinelli, 2000; Montemerlo, 2000) and entrepreneurial behaviour (Zahra and Sharma, 2004).

The three main elements that characterize a family business are: (a) the influence of the family on the firm, justified by the legal ownership of all (or part of) the risk capital; (b) the entrepreneurial activity intimately identified with one or several families for one or more generations; (c) the relatives who work in the family firm run and own (jointly or separately) the family assets in a complex environment, often marked by family conflicts (Devecchi, 2007).

Innovativeness is an important strategic resource that family-run firms can use to achieve a competitive advantage, and determining whether family and non-family businesses differ in their processes of innovation is a crucial point to understand the capabilities of this kind of firm and the possibility of surviving and competing in the global economy (Tanewski *et al.*, 2003). Entrepreneurship and innovation are of fundamental importance to our economy as they spur economic growth and wealth creation (Barringer and Ireland, 2008; Bresciani, 2010; Bresciani *et al.*, 2015).

Innovation stimulates firms' growth and, importantly, this growth occurs almost regardless of the condition of the larger economy. Interest in understanding the factors associated with innovation has continued in line with an ever-increasing competitive marketplace. Competition among firms arises as they try to increase profits by devoting resources to creating new products and developing new ways of making existing products. The competition posed by new products is more important than the marginal price changes to existing products (Schumpeter, 1934).

Already in 1934, Schumpeter emphasized the process of "creative destruction" indicating how entrepreneurial innovations make current products and technologies obsolete and fuel economic activity for new products. Uncovering how to promote innovation, acquire and utilize knowledge, and apply this to the development of new products preoccupies many, regardless of organization or industry (Tardivo, 2008; Maggioni and Del Giudice, 2011; Trequattrini *et al.*, 2012; Tardivo *et al.*, 2011).

The Schumpeterian view of innovation concentrates on the way a firm manages its resources over time and develops capabilities that influence its innovation performance. However, studying firms over time is difficult. For example, as small family-orientated firms grow from concentrating their resources on a single activity to diversifying into a range of products and services, many are absorbed by larger firms that subsequently develop into diversified functional enterprises. Others remain family controlled and reach considerable size, with varying levels of diversity.

The role of innovation has been studied in large and publicly traded firms and high-tech ventures, also regarding R&D issues (Dias and Bresciani, 2006; Bresciani and Ferraris, 2014; Bresciani *et al.*, 2015). However, those firms that have remained family-owned have been largely ignored by innovation researchers.

This paper studies the influence of family characteristics on family owned firms and on innovation capacity, with a focus on the differences in innovative behaviour between family and non-family firms. So, the paper is structured as follows. First, in Section 2, we give a definition of the concepts of innovation and family business. This part allows us to set the hypotheses of Section 3. Then, in Section 4, we present the method, describing the sample and the statistical tools used in the analysis. Finally, in Sections 5 and 6, we present the results, we discuss them and we offer conclusions.

### **Determinants of Innovation in Family Businesses: A Resources Perspective**

It is difficult to find a unique definition of both family business and innovation. Moreover, it is even more difficult to find a definition of the link between them, as the terms have assumed a wide range of meanings. So, in this paper, in accordance with Chua, Chrisman and Sharma, we define a family business as “a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families” (Chua, Chrisman, & Sharma, 1999, p. 25). On the other hand, according with Lumpkin and Dess, we define innovation as “a firm’s tendency to engage in and support new ideas, novelty, experimentation, and creative processes that may result in new products, services, or technological processes. Although innovations can vary in their degree of radicalness, innovativeness represents a basic willingness to depart from existing technologies or practices and venture beyond the current state of the art” (Lumpkin & Dess, 1996, p. 142).

Initial studies regarding innovation in family firms found that they were less innovative than non-family firms (Donckels and Fröhlich, 1991, Morek and Yeung 2003; Pearson et al., 2014). In fact, family businesses present an aversion to risk and resist changing to invest in new ventures, and tend to lack innovative capacity since they are more likely to maximize their profits by investing in political rent-seeking behaviour rather than in innovation. That is the reason why the literature often criticizes family firms for their lack of innovation (Carney, 2005).

From a strategic point of view, a family business is considered a business that develops across generations. It follows that innovation is family-based

if and only if spontaneous interaction between family members across generations takes place and it is relevant to the process's outcome. It is difficult for innovation in family business to take place without both generations being involved. The secret of innovation in family business lies in the capacity to dynamically balance power and trust, control and freedom in the developmental process of a senior-junior relationship. Both roles contribute to the quality of this relationship. On the one hand, parents should be able to set their children free to follow their own pathways; but at the same time, it is their responsibility to try to stimulate their children to develop the necessary competencies to continue in the family business. The parents should not force them to follow their own career and, on the other hand, children should have a vision and be ready to take full responsibility for developing of that vision. Intergenerational innovation does not take place in a context where each party is set free to follow his or her own interests and career (Litz and Kleysen, 2001).

Then, family firms are characterized by specific generational evolutionary stages. It is possible to recognize three broad stages of family business evolution: the controlling-owner stage, in which the founder exercises the control rights; the sibling partnership stage, in which several members of a single generation (sibling team) control the firm; and the cousin consortium stage, in which several family branches represent ownership (Lubatkin et al., 2005). This evolution may be detrimental to the long term investment perspective and the pursuit of more innovative strategies. In addition, Westhead and Howorth (2006) argue that multi-generation family firms may also have a lower entrepreneurial drive than first-generation family firms.

Moreover, referring to managerial determinants of innovation, several authors of entrepreneurship, strategy and management literature have emphasized the importance of managerial characteristics in explaining performance differences in terms of innovation (Hoffman and Hegarty, 1993; Wu, Levitas and Priem, 2005; Elenkov, Judge and Wright, 2005). The hypotheses formulated in these studies are based on top managers' capacity to influence or challenge strategic decisions using certain personality attributes, or the influence of executives' experience on strategic firm choices, known as CEO locus of control, CEO-tenure, and top management heterogeneity (Van Gils *et al.*, 2008). They all have a positive influence on the innovation process.

Next to managerial determinants, several studies also suggest that specific family-related variables may explain variation in innovative output (e.g.

Sirmon and Hitt, 2003; Le Breton- Miller and Miller, 2006; Kellermanns et al., 2008; Bresciani and Ferraris, 2012). The theoretical arguments behind this rationale are mainly resource and agency based. In fact empirical evidence of the relationship between innovation and family characteristics is scant. In the literature, family determinants of innovation are built on the resource-based view.

Patient financial capital is one of the main resources that provide family firms with potential advantages over non-family firms. Family firms have a longer investment time horizon and could focus more on long term results. The effective management of this financial capital is especially important given the primary objective of continuing the firm as a family-run business. Hence, patient capital creates the necessary conditions for pursuing more creative and innovative strategies (Sirmon and Hitt, 2003).

Regarding family management, and more specific family CEOs, it is often argued that the presence of family members in the board team may reduce agency costs and increase stewardship attitudes. In addition, family CEOs are expected to perform better than non-family CEOs (Bennedson *et al.*, 2007). The distinction between a family and a non-family CEO and its relationship with innovation has been recently investigated, finding a result that show how family CEOs negatively influence organizational innovation (Van Gils *et al.*, 2008).

The aim of our study is to extend the knowledge about how family businesses compete in innovation, taking into account their characteristics and their differences with non-family firms. In particular, we refer to the “familiness” of firms: their human, social and marketing capital (Sirmon and Hitt, 2003, Miller and LeBreton-Miller, 2005, Llach Pagès and Nordqvist, 2009). We focus on these resources, thinking that family firms have a potential advantage and this should positively affect their innovative behaviour, with a difference to non-family firms and against the conventional wisdom that family firms are less innovative than non-family ones.

“Familiness” is described as the unique bundle of resources created by the interaction of family and business (Habberson and Williams, 1999). Familiness can be a point of difference that contributes to a competitive advantage. One of the main advantages is the use of a unique language, which allows members to communicate more efficiently and to exchange more information. It is a resource that shows a deep linkage with human, social and marketing capital.

## Hypotheses

As we have just stated, we are going to extend the knowledge about how family businesses compete in innovation, referring to the “familiness” of firms: their human, social and marketing capital.

Human capital can be defined as “the knowledge and skills embodied in people” (Hatch and Dyer, 2004). Human capital is an important family firm resource because it can give the firm a competitive advantage through skills, abilities or attitudes (Sirmon and Hitt, 2003). However, most of the related literature suggests that family firms are constrained by their limited pool of human capital, which often lacks qualified employees. The main reason for the lack of qualified employees lies in the difficulty of attracting and retaining non-family qualified employees into the firm due to certain long-term barriers (Donnelley, 1964). For these reasons, it is possible to formulate the following hypotheses:

***Hp1:** To support innovation, family firms devote a lower proportion of human capital than non-family firms.*

Then, following Adam’s (2006) and Pagès and Nordqvist’s (2009) models, we can investigate that:

***Hp1a:** The percentage of qualified employees is lower in family firms than in non-family firms.*

***Hp1b:** The percentage of employees devoted to R&D activities is lower in family firms than in non-family firms.*

Following Putnam (1993), we define social capital as the resources that exist in relationships among people. Keeping a high level of social capital is important to gain access to other forms of capital (e.g., intellectual, human, and financial capital) that are needed for a firm to survive (Sirmon and Hitt, 2003). Social capital provides information, technological knowledge, access to markets, and complementary resources; it can reduce transaction costs, facilitate information flows, knowledge creation, creativity and alliance success (Nahapiet and Ghoshal, 1998).

Family firms may have some advantages in developing social capital, especially with customers who can sustain the business in times of trouble. They also enjoy long-term relationships with external stakeholders, and through them, they develop and accumulate social capital. As a result,

social capital is one of the factors contributing to high firm performance. Cooperation often is a means of complementing the lacking internal resources: firms find solutions in their nearest environment, provided by competitors, suppliers, customers, research centres and/or universities. Consequently, it is possible to investigate the following hypotheses:

***Hp2:*** *The use of cooperation agreement to support innovation is higher in family firms than in non-family firms.*

In order to deeply analyze the degree of cooperation, we can split the sample into three sub-samples which permit us to formulate the following sub-hypotheses:

***Hp2a:*** *Family firms have a higher level of cooperation than non-family firms in production.*

***Hp2b:*** *Family firms have a higher level of cooperation than non-family firms in purchasing.*

***Hp2c:*** *Family firms have a higher level of cooperation than non-family firms in services/sales/distribution.*

While human capital is important for the initial and developing stages of the innovation process, in the stage of launching and implementation, other capabilities gain importance, such as market investigation, market testing and promotion. Family firms, due to their high social capital, have access to different resources such as information, technology, knowledge, financial capital and distribution networks (Arregle *et al.*, 2007; Del Giudice *et al.*, 2010). These resources also permit them to communicate more closely with costumers, and build marketing capital with possible direct effects on the firm's innovativeness, or more indirect effects such as facilitating the development of innovation. Last, the flexibility of family firms, especially small and medium sized ones, has additional advantages with regard to the customization of products and services; in fact, the demand structure has changed from 'mass production' goods to high quality 'individualized' products. Family firms, from this point of view, are likely to be closer to the customer than non-family firms. According to Adams *et al.* (2006), one of the most important factors for the success of a company is its capacity to successfully introduce new products and services into the market. So, the last hypothesis can be the following:

**H<sub>p3</sub>:** *The proportion of new products launched into the market is higher in family firms than in non-family firms.*

## Method

The research was done in two separate phases: in the first phase, we selected a sample of 400 Italian firms from AIDA, a database of company accounts, ratios, and activities of more than 700,000 Italian companies; in the second phase, we sent a structured questionnaire to the 400 firms of the sample. 127 firms answered the questionnaire, with a response rate of 32 per cent.

In this paper, the model of analysis is the same as the one used by Llach Pagès and Nordqvist (2009), while to identify family firms, we refer to the statement by Chua *et al.* (1999), according to which a family firm is every firm that has the perception of being a family firm by itself.

Table 1 shows some basic descriptive statistics of the responding companies. In the Italian scenario, there are more family firms than non-family firms (59.8% vs. 40.2%). The biggest percentage of family firms is in the manufacturing sector (41 firms, i.e. 53.9%).

**Table 1: Number of firms by economic activity and family vs. non-family.**

| Main activity   | Family | Non-family | % Family firms | Total |
|-----------------|--------|------------|----------------|-------|
| Manufacturing   | 41     | 26         | 61.2%          | 67    |
| Services        | 12     | 9          | 57.1%          | 21    |
| Finance         | 4      | 9          | 30.8%          | 13    |
| Food & Beverage | 17     | 5          | 77.3%          | 22    |
| Pharma          | 2      | 2          | 50.0%          | 4     |
| TOTAL           | 76     | 51         | 59.8%          | 127   |

## Factor Analysis

In order to verify that the items of each stream only load on a single factor and the discriminant validity, a principal component analysis was performed to validate the convergent validity of the measures detected in the literature.

Factor analysis is a statistical method used to describe variability among observed variables in terms of fewer unobserved variables called factors.

The observed variables are modelled as a linear combination of the factors, plus “error” terms. The information gained about the interdependencies will be used to reduce the set of variables in a dataset. Company size is related to size and “family”, so it is necessary to verify its potential effect.

We have verified the possibility of using the factor analysis model thanks to two different tests: Barlett’s sphericity test and the Kaiser-Meyer-Olkin (KMO) index. The Barlett statistic gives evidence of a value  $\chi^2=1433.96$  (p value 0.0001); the KMO (0.550) also confirms the analysis.

Table 2 gives evidence of the result due to the factor analysis. A varimax rotation was applied in order to better analyze the components. The analysis extracted four factors, choosing those which presented eigenvalues greater than one. These four factors explained 89.24% of the total variance.

As it is possible to see from the Table 2, there is a strong relation between: (1) the two measures defining human capital, and that it means that firms with qualified employees devote a high number of them to R&D; (2) the measures defining social capital, and that it means that co-operations in production, purchasing, and services/sales/distribution are strongly linked; (3) the measures defining marketing capital, and that it means that many new products from the firm are new for the market too; (4) the two control variables, and that it means there is no effect on the other variables.

**Table 2: Rotated Component Matrix**

|   | <b>Component</b> |              |              |          |
|---|------------------|--------------|--------------|----------|
|   | <b>1</b>         | <b>2</b>     | <b>3</b>     | <b>4</b> |
| <b>Human capital</b>                              |                  |              |              |          |
| Qualified employees                               | <b>0.933</b>     | -0.042       | 0.022        | 0.111    |
| Employee in R&D                                   | <b>0.925</b>     | -0.005       | 0.030        | 0.220    |
| <b>Social capital</b>                             |                  |              |              |          |
| Co-operation in production                        | 0.051            | <b>0,909</b> | 0.005        | 0.060    |
| Co-operation in purchasing                        | 0.087            | <b>0,927</b> | 0.027        | 0.120    |
| Co-operation in services/sales/distribution       | -0.050           | <b>0,805</b> | 0.008        | 0.070    |
| <b>Marketing capital</b>                          |                  |              |              |          |
| Proportion of new product into the market         | 0.048            | 0.045        | <b>0,997</b> | 0.210    |
| Proportion of new market products into the market | 0.033            | -0.010       | <b>0,998</b> | 0.098    |

|                     |       |       |        |              |
|---------------------|-------|-------|--------|--------------|
| <b>Company size</b> |       |       |        |              |
| Employees           | 0.170 | 0.055 | 0.078  | <b>0,843</b> |
| Turnover (log)      | 0.230 | 0.072 | -0.013 | <b>0,793</b> |

Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization a. Rotation converged in 4 iterations

## Results and Discussion

In this section, we present the results of the comparison between family and non-family firms using constructed analysis based on human capital, social capital and marketing capital. Using the Mann-Withney U-test, it is possible to compare family and non-family firms.

Table 3 gives evidence that family firms outperform non-family firms in all the variables considered. Moreover, five out of eight measures are statistically significant. These results are in the same directions as Llach Pagès and Nordqvist (2009), but in contrast with most of the literature. As we described in Sections 1 and 2, in fact, most of the literature states that family firms are less innovative than non-family firms. The evidence, here, is very clear and can be summarized as follows.

For human capital, family firms have a higher average value, both in qualified employees and in employees devoted to R&D. So, hypothesis 1 has to be rejected.

**Table 3: Summary of basic descriptive statistics and Mann-Whitney U test**

|   | <b>Non-family firm</b> |                 | <b>Family firm</b> |                 | <b>Signif.</b> |
|---|------------------------|-----------------|--------------------|-----------------|----------------|
|   | <b>Mean</b>            | <b>St.Desv.</b> | <b>Mean</b>        | <b>St.Desv.</b> |                |
| <b>Human capital</b>                        |                        |                 |                    |                 |                |
| Qualified employees                         | 127.02                 | 368.38          | 247.23             | 553.11          | 0.0200*        |
| Employee in R&D                             | 20.32                  | 58.94           | 61.81              | 138.28          | 0.0001**       |
| <b>Social capital</b>                       |                        |                 |                    |                 |                |
| Co-operation in production                  | 0.65                   | 0.84            | 1.25               | 0.87            | 0.0001**       |
| Co-operation in purchasing                  | 0.29                   | 0.50            | 1.30               | 0.73            | 0.0001**       |
| Co-operation in services/sales/distribution | 0.69                   | 0.88            | 1.38               | 0.80            | 0.0001**       |

| <b>Marketing capital</b>                          |      |      |      |      |        |
|---|------|------|------|------|--------|
| Proportion of new product into the market         | 0.17 | 0.04 | 0.19 | 0.06 | 0.3250 |
| Proportion of new market products into the market | 0.12 | 0.04 | 0.13 | 0.06 | 0.6680 |

\* indicate that the Mann-Withney U-test is significant ( $p < 0.05$ )

\*\* indicate that the Mann-Withney U- test is significant ( $p < 0.0005$ )

For social capital, family firms outperform non-family firms in every area considered. However, the higher difference is in purchasing. So, cooperation and relationship are one of the key competitive factors of family firms in comparison with non-family firms. For all these reasons, hypothesis 2 is accepted.

Finally, for marketing capital, there is no statistically significant difference. In any case, the average data are very similar between family and non-family firms, with very little prevalence for family firms.

## **Conclusion**

The main goal of the paper was to study the influence of family characteristics, and of family owned firms, on innovation capacity. We focused on the differences in innovative behaviour between family and non-family firms.

To achieve a competitive advantage, as we know, family firms can use innovation. Although there are not many studies about innovation in family firms, we know that there are research studies on the link between innovation and aversion to risk in family firms. In other words, it is very common to say that family firms are not useful with regard to risk, so their level of innovation is lower. However, our study analyzes the innovative behaviour of family firms in a comparison between three resources: human capital, social capital and marketing capital.

Using the same model on a Spanish sample, Llach Pagès and Nordqvist (2009) found that family firms are more innovative than non-family firms. This was a result so different from the existing literature that we decided to apply the same model to an Italian sample. The result was, more or less, the same: family firms outperform non-family firms in human and social capital.

Also, family firms have the need to attract and use qualified employees (see hypotheses 1); the high level of collaboration in family firms (see hypotheses 2) seems to give evidence of their heavy link with territory. These findings might have been expected in marketing capital (see hypotheses 3) due to the fact that family firms base a big part of their competitive advantage with a strong connection with their surroundings.

These findings are even more relevant in the Italian case, where clusters are based on the flexible specialization between a large number of SMEs sharing a complementary technological specialization in a territorial network of common norms and values. Until recently, this competitive frame has been the source of advantages for both the firms belonging to this network and for the regions where these networks have emerged. However, the main source of this competitive advantage, the possibility of sharing the costs of learning and innovation in a territorial network, is closed to being exhausted. The main reason is that the extension of the network is insufficient to metabolize the degree of complexity generated by the global process of interaction between people, institutions and firms. The local network of shared norms and values has become a barrier to local knowledge creation because it constrains interaction rather than leveraging it across geographical boundaries.

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## CHAPTER TWELVE

# INNOVATION AND SUSTAINABILITY: THE ROAD TO SUCCESS FOR WINE TOURISM DESTINATIONS<sup>1</sup>

ANGELA SCILLA AND MILENA VIASSONE

### **Abstract**

The meaning of destination sustainability is explored in literature and more and more wine destinations are at the centre of the economic debate. Despite a wealth of literature on the sustainability and innovation of a tourist destination, only a few contributions explore these topics with regard to wine tourism (an important Italian competitiveness driver) and a few use the approach of case study to explore it. This paper bridges this gap by providing a very careful analysis of dimensions affecting wine destinations through the description of an interesting case study, proposing development strategies. This paper aims at describing the dimensions of sustainable wine destinations from the community perspective (by also considering the driver of innovation) and at examining the exemplar case studies of a destination famous for its prestigious wines: Piedmont. In a first step, the analysis consists of exploring - through a careful literature review – the main dimensions affecting the innovation and sustainability of a wine tourist destination. In a second phase, a case method involving

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<sup>1</sup> Although this chapter is based on a combined effort, Prof. Milena Viassone is to take credit for paragraphs “Wine tourist destinations”, “Sustainability of tourist destinations”, “Environmental sustainability”, “Economic sustainability”, “Socio-cultural sustainability”; “The sustainability framework of Piedmontese wine destinations”, “Implications for sustainability” and “Managerial implications” while Angela Scilla for paragraphs “Introduction”, “Innovation in wine tourist destinations”, “The innovation framework of Piedmontese wine destinations” and “Implications in innovations”.

multi-stakeholder input is employed to identify issues specific to Italian wine destinations that are the object of our study. The research findings show how the sustainability of a wine destination is affected by three important dimensions (environmental, economic and socio-cultural sustainability). This case illustrates challenges that regions which aggressively pursue wine tourism development have to cope with, but it deals also with implications for agriculture, the natural environment and the community. In addition to strategies and implementation methods, comparisons and recommendations made for Piedmont provide an important starting point for other destinations engaged in wine tourism.

**Keywords:** Innovation, Sustainability, Wine Tourism, Tourist Destination, Tourist Strategies, Piedmont

## Introduction

Although the last 7 years have been characterized, especially for advanced economies, by the difficult economic scenario, the tourism sector is confirmed as one of the fastest growing sectors in the twenty-first century, responsible for 9% of worldwide GDP. (Wto, 2014).

Tourism continues to be an important driver of development, prosperity and well-being because it enhances economic growth and encourages local development by increasing employment and national income (Szivaz *et al.*, 2003; Torres and Momsen, 2004; Na Sakalnakorn and Naipinit, 2011). Moreover, it is one of the sectors that has the ability to improve competitiveness between territories, to promote territorial innovation (Gemmiti and Salvati, 2010) and thus enhance the attractiveness of the destinations (Weaver, 2006; Scheyvens and Momsen, 2008).

The development of the attractiveness and competitiveness of a destination, also touristwise, is possible only from the point of view of sustainability, i.e., by taking care of the environmental, economic and socio-cultural aspects of a territory (Tardivo *et al.*, 2014).

The strong relationship between innovation and tourism has a positive impact on GDP and the health of national economies (Jimenez-Zarco *et al.*, 2011), above all in the European countries, since, in the tourism sector, most of the economic value is represented by experiences (Tsaur *et al.*, 2007). The growth of competitiveness, the increase of information thanks to technological innovations, and more sophisticated and demanding tourists have determined a shift away from focusing on facilities and

services to focusing on providing customized experiences (Knutson *et al.*, 2006; Buonincontri *et al.*, 2012).

New types of innovations are changing the competitive landscape through new technologies, such as high-speed Internet, powerful and cheap memory capacities, and mobile devices.

Even though innovation concepts have gradually percolated into the tourism literature, researches on tourism innovation policies have been limited (Hall, 2009; Hall and Williams, 2008; Hjalager, 2010, 2012; Bresciani *et al.*, 2012, 2014, 2015). This situation reinforces Hjalager's (2012) assessment that research on tourism innovation policies remains 'extremely fragmented and largely ignored' (Rodríguez *et al.*, 2014).

If all this is important for the development of tourist destinations in general, it is even more important for wine tourist destinations. In fact, in Italy, the wine sector has increased its revenue by about 10%, also for overseas sales (Mediobanca, 2014); moreover, in recent years wine tourism has been considered as a complementary way to generate income and employment in rural areas (Boatto *et al.*, 2013).

Given the importance of innovation in the development of tourist destinations, without neglecting the environmental, cultural and economic sustainability, this paper aims at describing the dimensions of sustainable wine destinations from the community perspective (by also considering the driver of innovation) and at examining the exemplar case studies of a destination famous for its prestigious wines: Piedmont.

To show the strong relationship between innovation and sustainability of the wine tourism destination, this chapter is organized in two parts. The first part proposes a survey of most recent contributions on:

- wine tourism destinations;
- the three dimensions of sustainability of tourist destinations;
- the importance of innovation in wine tourism destinations.

The second part proposes a presentation of a framework of wine tourism destinations in Piedmont (Italy) where a case method involving multi-stakeholder input is employed to identify issues specific to the Italian wine destination object of our study (Carlisle *et al.*, 2013). The second part of this chapter ends with a discussion of the implications of both innovation and sustainability.

## Literature Review

### *Wine Tourism Destinations*

Recognized as a significant component of both the wine and tourist industries (Ye *et al.*, 2014; MacDonald *et al.*, 2013; Hall *et al.*, 2000), wine tourism has increased its importance in recent years. More and more, environmental and cultural properties assume a very important role and, when taken into account, this can make wine an identity good, able to pick out cultural aspects of a territory (Tardivo *et al.*, 2012; Viassone *et al.*, 2014). The topic of wine tourism destinations is widely analyzed because wine tourism (Hall *et al.*, 2000) has assumed an increasing importance in terms of tourist flows and ability to determine specific behavioral models (Scorrano *et al.*, 2013; Mitchell *et al.*, 2000). Nowadays the tourist industry has to cope with new challenges because tourists search for multi-optimal offers and experiences which are delivered in an exciting but also comfortable and authentic atmosphere (Reiter, 2004; ETC, 2006). Wine tourism is capable of fulfilling many of these requirements.

A clear example of a sustainable and attractive form of tourism that perfectly fits Italian rural regions is wine tourism (Presenza *et al.*, 2010). In particular it is defined by Hall *et al.* (2000: 2) as

“... touring vineyards, wineries, wine festivals and wine exhibitions, where wine-tasting and/or experiencing the attributes of the wine regions are the principal factors of motivation for the visitors”.

Another definition of wine-tourism destinations is provided by Brown and Getz (2005: 3); in their opinion these are

“...regions which base some or all of their appeal on wineries and wine-related benefits”.

In particular, the two authors (2006) maintain that the wine tourist's experience is determined by three groups of characteristics: wine product, destination appeal and cultural product.

Scorrano *et al.* (2013) identify several factors able to attract tourists towards wine destinations: the first one is of course wine, with its additional services and products. Other authors focus their attention on the motivations that push tourists towards a wine destination: they are attracted by the possibility of visiting wine tourism destinations because of

their desire to visit vineyards, to taste food, to attend festivals and events (Mitchell *et al.*, 2004).

According to Charters and Ali-Knight (2002: 312), the wine tourism experience can be provided through events and festivals, cultural heritage, eating, hospitality, education, tasting and cellar-door sales and winery tours. Several researches have been carried out on the side of wine tourism demand (Carlsen and Bocksberger, 2015; Cho *et al.*, 2014). In particular, Quadri-Felitti and Fiore (2012) segmented wine tourism using different variables while Nella and Christou (2014) emphasized the strict link between consumer, wine, firm and territory. Bruwer and Alant (2009) proposed a classification of visitor expectation: during the first visit, consumers look for vacation and fun while others are attracted by wine atmosphere, wine purchasing and meeting winemakers (Capitello *et al.*, 2013). Capitello *et al.* (2013) proposed the application of discrete choice models to the study of tourism destinations, from the point of view of visitor experience; in particular, they analyzed the way wine and food contribute to the tourism experience.

According to Weber and Ali-Knight (2011), wine tourism can help create a brand and image of the winery and wine region, representing an important factor for tourists to visit a destination. For this reason, Charters and Ali-Knight (2002) assert that the development of wine tourism can be considered a valuable marketing opportunity to increase the value of the destination.

### ***Sustainability of Tourist Destinations***

In the last decades, the topic of sustainable tourist destinations (Juvan and Dolnicar, 2014) has increasingly been at the center of the economic debate (Delgado and Palomeque, 2014; Franch *et al.*, 2010). It is widely accepted in the literature that the future competitiveness of destinations (Phelan and Lund-Durlacher, 2013) will be based on their ability to be sustainable in time (Jaafar *et al.*, 2015) in terms of economic, natural and cultural resources (Tardivo *et al.*, 2014).

The concept of sustainability begins with the famous definition of sustainable development

("development is sustainable if it satisfies needs of present generations without compromising possibilities for future destinations to satisfy their needs")

proposed in the Brundtland Report in 1987 and applied to the tourist field in the following year. In fact, tourism can be considered sustainable if it is able to satisfy the needs of actual tourists and of host regions, forecasting and increasing the opportunities for the future (Wto). As supported in the international conferences in Rio de Janeiro in 1992, in Lanzarote in 1995 and in Johannesburg in 2002, at its base it has three important dimensions (environmental, economic and social) (Kaivo-oja *et al.*, 2015). The term “sustainable tourism” has come to represent and encompass a set of principles, policy prescriptions and management methods (Tardivo *et al.*, 2014).

Despite the fact that no definition of sustainable tourist destinations exists, according to the Italian Association of Responsible Tourism this terminology can be referred to every tourist activity able to preserve natural, social and cultural resources in the long term, contributing to the welfare of inhabitants of a specific tourist area.

Several influential papers have increased the understanding of the highly complex and intertwined issues of sustainable tourism, quality of life, equity and environment (Butler, 1999; Collins, 1999; Farrell and Twining-Ward, 2004; Hunter, 1997).

In particular, Jovicic (2014) focuses on the key tasks and challenges in managing tourism in a sustainable way.

Tosun (2001) identifies the six principles of sustainable tourism that may be summarized in a balanced triangular relationship between host areas and host communities, tourists and the tourist industry where no stakeholder upsets the equilibrium (Lane, 1994).

According to some authors, sustainability could even become synonymous with the long-term competitiveness (Godfrey and Clarke, 2002) of a destination (Ritchie and Crouch, 2000).

Furthermore, sustainable tourism can be better considered either as an “adaptive paradigm” (Hunter, 1997) or as “adaptive management” (Farrell and Twining-Ward, 2004), which addresses issues of the unpredictability of events, uncertainties about the outcome of events and complexities of scale and times (Lu and Nepal, 2009). A suitable strategy of sustainable tourism development should contribute to the same by creating jobs at local level as well as structures capable of facilitating investments, by increasing cooperation between public and private sector and by ensuring

local tourist cohesion of the initiatives (Ene and Băräitaru, 2010). More and more, there is the belief that the combination of competitiveness-sustainability has an important role in the context of tourist destinations (Franch *et al.*, 2010) and that the future competitiveness of destinations will be based on their ability to be sustainable in time in terms of economic, environmental and cultural resources (Tardivo *et al.*, 2014).

Anyway, the development of sustainable destinations would be realistic only if every stakeholder agreed on priorities and it is for this reason that territorial managers develop strategies in order to achieve sustainable competitive advantages for tourist destinations (Tardivo *et al.*, 2014), including also benchmarking techniques (Kozak and Rimmington, 1999).

### ***Environmental Sustainability***

Sustainability can imply vastly different territorial strategies depending on interpretation, particularly in relation to the degree to which environmental and other resources should be consumed over time (Markulev and Long, 2013). Environmental sustainability refers to the sustainable use of natural resources and applies methods in which the world can continue to develop economically and socially without damaging the planet (Purandare, 2009).

Environmental sustainability (Bagur-Fermenias *et al.*, 2015; Pouldel and Nyaupane, 2013) could be considered a key pillar of sustainable development; in particular, world leaders identify “respect for nature” as a fundamental value required in the 21st century and call for a new ethic of conservation.

The Rio Conference marked the beginning of a worldwide commitment which recognizes the principle that the right to develop must be exercised in such a way that it satisfies social and environmental needs of current and future generations in an equitable manner. This expresses the need for certain rules of resource and environmental management for the compatibility of economies with their environments (Creaco and Querini, 2003). In fact, also in the tourist sector environmental impacts can be caused, for example, by an excessive and non-controlled development of tours that could lead to a degradation and a depletion of natural resources, by the phenomenon of seasonality that provokes the concentration of tourist flows in specific periods of the year, by water and energy disposal or by atmospheric and marine pollution (Santonocito, 2009).

In literature there seems to be agreement on the need for tourism resources to be made available for the enjoyment of future generations. In effect, the industry should improve the impact of tourism on the environment and, at the same time, reduce the consumption of natural resources (Mensah, 2006).

Anyway, tourism could also contribute in a positive way to environmental preservation. In particular, the protection of the environment can be achieved through the consideration of ecosystems and their carrying capacities (Purandare, 2009).

Despite the different definitions of social, environmental and cultural sustainability, there is no a clear distinction between them given that the content of each domain overlaps with the others. In fact, the sustaining of desired environmental conditions directly contributes to social sustainability, while the viability of economy depends on environmental resources. In this way, economic sustainability depends on environmental sustainability (Sutton, 2004).

### ***Economic Sustainability***

As previously affirmed, sustainability is usually represented as based on three different pillars: environmental/ecological, economic and social (Adams, 2006). As with any other economic activity, tourism impacts on the territory, so the main task of sustainability must be the reduction of negative impacts and the maximization of the positive ones, in order to give a perfect integration of the different dimensions of this paradigm (Sciuto and Cicirello, 2010).

From the economic point of view (Higgins-Desbiollesa, 2014), sustainability is considered as the ability to maintain over time the well-being of a society (Arrow *et al.*, 2004). Several researchers have contributed to the topic of economic sustainability (Hoffenson *et al.*, 2014; Webster and Ivanov, 2014; Andergassen *et al.*, 2013). The research by four economists: Dasgupta and Heal (1974), Solow (1974), and Stiglitz (1974) are considered very important. In particular, they showed the maximum level of utility that can be obtained over time with a finite amount of natural resources. The fact that utility can be constant (Solow, 1974; Stiglitz, 1974) or declining (Dasgupta and Heal, 1974) depends on what is assumed about the capital stock, technological progress and the rate at which future utility is discounted (Markulev and Long, 2013).

Furthermore, according to Purandare (2009), economic sustainability is also concerned with the maintenance of income and capital over a period of time. This can be achieved through the development of industry and infrastructure in a sensitive and stable manner. The main dimensions of economical sustainability can be identified in operational environment and service structure, growth and measures (Merikoski, 2010). Other authors describe economic sustainability as a necessary dimension different from the other two (environmental and social), incorporated with a new sense of what quantitative economic growth means (Hackler, 2013).

While Holden (2001: 3) suggests how

“economic indicators may help to develop a new conception of economy for a sustainable society, exposing points of strain on the natural and social environment”,

Hackler (2013) supports the idea that economic sustainability should contain the goal of economic prosperity or vitality. The development of a tourist destination does not require only that positive economic impacts are higher than the negative ones but also that a criterion of rationality in the choices - able to create economic value, to safeguard and valorize natural, cultural and social resources - is developed. In this way, economic benefits generated by the development must be higher than their social and environmental costs (Sciuto and Cicirello, 2010). Sciuto and Cicirello (2010) identify five different indices of economic sustainability: local employment in tourism, profitability of the tourist sector, local tourism investments, average prices of accommodation, indicator of black tourism. Given that traditional macroeconomic indices like GDP or Value added are not able to provide information on the interaction between the economic and the natural system, several attempts have been made to create modified indices of revenue. The latter can be grouped in three different research fields (Hanley, 2000): indices based on a more exhausted representation of welfare, indices based on revenue flows derived by national censuses, indices based on capital stock. Furthermore, in the same way, the European Union (2013) identifies a framework of indices connected to the economic contribution of tourism to the economic sustainability of a destination; such a framework is composed of: N. of overnight stays, daily expenditure of each tourist, percentage of beds occupied per month, percentage of people employed in tourism out of the total of employees, percentage of tourist firms that buy local products and services.

### ***Socio-cultural Sustainability***

Among the multitude of dimensions faced by decision-makers, a very important role is played by socio-cultural sustainability (Farmaki *et al.*, 2015).

In order to draw up suitable strategies for tourism development, planners have to understand the roles of the traditional practices and customs and how they contribute to sustainable lifestyles. Sustainable development projects could reach the best results when based on negotiation among different stakeholders (Virtanen and Saarinen, 2012). In particular, the creation of a new supply of tourist services should not only respect these local cultural customs but also increase their potential in order to launch a fruitful dialogue between the local residents and the foreign tourists (Creaco and Querini, 2003). This link is bi-directional and creates changes in the socio-cultural structure of these stakeholders. The social aspect is characterized by negative and positive impacts. The first are: commodification (that is the transformation of traditional cultural events of a particular destination in exclusively commercial activities), decline of artistic heritage, pressures on the life quality of residents because of the difficulty of accessing infrastructures, conflicts between tourists and residents. On the other side, positive effects could be: valorization of local tradition through the creation of tourist paths, interventions meant to preserve artistic heritage, improvement of public services, higher cultural opening (Sciuto and Cicirello, 2010).

Socio-cultural sustainability concerns the safeguard and valorization of the cultural heritage, the identity and local resources. The main indices used to measure this kind of sustainability focus on the effects of tourism on residents and on the cultural heritage of the destination (European Union, 2013).

Environmental sustainability has become a prerequisite for social sustainability; in fact, as supported by Redelift, poverty reduction is the most important goal of sustainable development. This could come from qualitative development, population stability, redistribution sharing and community sodality (Goodland, 1995).

In particular, social sustainability could be obtained through the elimination of poverty, creation of a stable and secure infrastructure, the protection of cultures and support of local enterprises (in particular the tourist ones) (Purandare, 2009).

Finally, social-cultural sustainability could be considered a very important aspect of the tourist destination sustainability.

### ***Innovation in Wine Tourism Destinations***

Innovation is seen as one of the most important drivers for the success and growth of companies nowadays (Christensen *et al.*, 2003; Kim and Mauborgne, 2005), but it also plays a key role in improving the competitiveness and attractiveness of territories.

Looking at the drinks and beverage industry, there are several historical examples of innovative firms which created not only new products but also new habits of consumption (for example the “Happy Hour”) and brand management (Casswell, 2004).

Innovation concepts, typical of the industrial sector, have gradually percolated into tourism literature, acknowledging that tourism innovation has distinctive features including a focus on co-terminality of production and consumption, information intensity, and the complex nature of the tourism product (Hall and Williams, 2008). However, research on tourism innovation policies has been limited (Hall, 2009; Hall and Williams, 2008; Hjalager, 2010, 2012; Paget *et al.*, 2010; Bramwell and Lane, 2012), even if they are increasingly celebrated as integral to tourism sector and destination development (OECD, 2006, 2012).

Anyway, nowadays one of the main claims in the wine business is the “joining of innovation and tradition”.

Generally, countries have tried to protect themselves by exalting the concept of territoriality and introducing a more strict national legislation on the Denomination of Origin, which demands specific requirements in order to officially recognize the quality of the product. Nevertheless, this ended up confounding the consumers, especially the international and non-expert ones, which entrust their choices to independent consultants and industry media, such as wine guides (Corrado *et al.*, 2009), or word of mouth or websites considered reliable (Tripadvisor, Booking.it, etc.).

This fact led to the establishment of another important challenge for wine producers and wine tourism destinations, especially for the Italian ones: the increasing importance of marketing activities. Competitive positioning and brand identity are considered key success factors, there should not be

other investments and efforts for recognizing the “*terroir d’origine*”. To bet on it means improving the attractiveness of wine tourism destinations.

## **The Innovation and Sustainability Framework of Wine Tourism Destinations: The case of Piedmont**

### ***The Innovation Framework of Piedmontese Wine Destinations***

Drinking a glass of wine is also considered a way to connect with a certain country or region and to know it better: there is no surprise if, along with the wine production, wineries increasingly offer eno-gastronomic tours of the territory.

Piedmont is the region of production of some of the best known Italian wines (e.g. Asti Spumante, Barolo and Barbaresco). The region produces 16 DOCG wines and 42 DOC, which represent almost 80% of the production of the region and 15% of Italian production of wines with denomination of origin.

Most of the wines produced in Piedmont are red and full-bodied. In the territory there are wine bars, associations of wine producers, wineries, wine shops, wine routes and enological museums.

The tourism sector is growing and every year it records increases in the number of tourist arrivals and presences. Food and wine tourism is strengthened thanks to the numerous festivals, fairs and food and wine events.

The tourism and wine tourism destinations are not very well supported by innovation but they are based on a concept of traditional tourism.

The choice of a wine tourism destination depends on several drivers information technology, management and accessibility. Italy is not performing well with respect to this (Cinelli Colombini, 2013).

A winery is usually considered accessible when the necessary time to reach it is less than 6 h. In the current scenario, dominated by short trips of 1 or 2 days, travel time decreases and visitors choose locations that are better connected to airports and train stations and those that are able to communicate a comfortable, easy and convenient way to reach them. Connection and transportation are key issues that must be better addressed in a joint effort by the public and private sector.

Piedmont has a good level of information technology but in the tourism field, especially food and wine tourism, it presents the characteristics of fragmentation. The information available to tourists is abundant but not always found from a single source, especially if the destination is small.

Even accessibility shows some deficiencies. The infrastructure can be improved, but most of the wine tourism sites are located far away from airports and hard to reach by train or public transport. Furthermore, accessibility to the wine sites is particularly problematic for people with reduced mobility, though investments to remedy this are growing.

### ***The Sustainability Framework of Piedmontese Wine Destinations***

A clear example of a sustainable and attractive form of tourism that perfectly fits Italian rural regions, and in particular Piedmont, is wine tourism (Prezenza *et al.*, 2010).

With its 42 D.O.C. wines and its 16 D.O.C.G. wines, Piedmont is a very attractive wine tourism destination. Wine, more than anything else, expresses the real cultural and economic identity of this destination. In the last edition of “Tre bicchieri”, 39 Piedmontese wines won awards, confirming this destination as one of absolute quality with its different types of wine such as Barbera, Nebbiolo (in particular Barolo and Barbaresco), sparkling wine, etc.

Tourist operators often do not consider themselves as major contributors to environmental degradation. The increasing awareness by tourists of the impact of tourism on climate change is reflected in a major attention to the effects of tourism on the environment. In fact, in the last years also wine tourism destinations have begun to consider their environmental impact (Baughman *et al.*, 2000; Marshall *et al.*, 2005). This aspect is considered by Piedmontese tourist associations that identify high quality characteristics at each level for tourist structures, not forgetting environmental sustainability: in fact, eco-compatibility is a distinctive element of this destination. This is the model that different tourist accommodations must adopt, suggesting virtuous behavior to visitors, like the preference for tap water or unpackaged bread or the use of paper table linen instead of plastic.

Piedmont shows types of tourism suitably managed in the light of sustainability that play a very important role in the economic growth of a protected area thanks to the offer of tourist and cultural services able to

valorize local resources. For this purpose, the improvement of compatible ecology-wise accommodation, the link between tourist services and valorization of wine and food tourism, the organization of sport and educational activities, in addition to the creation of naturalistic ecomuseums are activities necessary for an economic growth that respects nature.

In Piedmont there is a strict relationship between environmental sustainability, safeguarding natural resources and wine tourism: a first attempt in this direction has been carried out with the constitution of the BITEG (Borsa Internazionale del Turismo Enogastronomico), organized by the Piedmont Region under the patronage of ENIT (National Tourism Agency) (Giansanti, 2014). During this event, there are meetings between thousands of sellers and buyers from different parts of the world.

Furthermore, thanks to the Slow Food movement, small-scale and sustainable production of quality foods is practiced, in addition to a promotion of sustainable ways of food and wine production and consumption.

With regard to economic sustainability, 2013 statistical data of Piedmontese tourism provided by the Piedmont Region show a positive situation with an increase by 2.22% of presences compared to 2012; also accommodations have increased from 5536 in 2012 to 5765 in 2013. The same has occurred with respect to overnight stays.

In particular, as shown by the 2013 data of the Regional observatory, Piedmont considers wine and food as a tourist product able to make the destination more competitive in Europe. The hills of the Langhe, Roero and Monferrato are increasingly recognized and known at an international level, with a strong increase of foreign tourists with regard to arrivals (+5%) and overnight stays (+7%). In fact, the provinces of Cuneo, Alessandria and Asti are ranked among the first 12 in the Italian top list of wine tourism.

Wine and food are protagonists of the new Piedmontese model of local development: in fact, in the last 20 years Piedmont has bet on high quality products (red wines like Barolo and Barbaresco, white wines and the sparkling wines from the province of Asti).

With regard to socio-cultural sustainability, the leadership of Piedmont is recognized at international level for several factors:

- its culture of “well-being”, the principle at the base of the Piedmontese tourism offer to a more and more demanding tourist;
- its cultural revolution generated by Slow Food, the international association for the promotion of wine and food culture, headquartered in Bra and with 70.000 partners in more than 50 countries; it promotes training and tasting courses every year, defends typical products through the system of “Presidia” and generates wine and food culture at high levels through its University of Gastronomic Sciences in Pollenzo;
- its ability to manage key drivers of marketing that link the wine sector to destination: the success of events like Vinum (with the increase of brand awareness of Langhe and Roero), important sponsorships of cultural events like Douja d’Or in Asti (a series of cultural, wine, food and artistic meetings), the winning of several awards for the high quality of its wines (i.e. “Tre bicchieri” award) (Viassone, 2012);
- the choices by wine firms not only addressed to production but also to tourism and accommodation activities; in fact, Piedmont has created the wine roads and about 14 Regional wine shops and 34 wine shops and wine cellars in addition to the institution of the wine districts. (Viassone *et al.*, 2014).

## **Conclusive Remarks and Strategic Implications**

### ***Implications for Innovations***

Innovation is a focal point of economic policies because of its perceived contribution to competitiveness. Wine tourism is quality tourism, that differs from mass tourism because it is not supported by any appropriate network of facilities required by the latter, also because of the landscape (Boatto *et al.*, 2013).

There is certainly a need for cooperation, also transnational, which should create a network amongst the different territories in a perspective of collaboration and exchange of innovation tools related to traveling, economic and cultural experiences.

The promotion of wine tourism destinations, scattered throughout Piedmont, must be supported by promoting schemes designed to spread information on the Web on cultural assets, tourism activities and peculiarities of destinations (Beltramo, 2012).

The innovation allows to find new ways of enhancing the awareness of wine tourism destinations and promoting the product in order to make it more attractive for the consumer.

However, the web is the key for development of wine tourism destinations. In fact, in Italy, 10% of all the tourism business and 30% of reservations occur online. According to TripAdvisor, mobile phones or smartphones will be crucial for orienting visitors during their travel experience. Future travelers will not ask for information anymore and will look at the web for guidance on what to see, where to eat or sleep and what to do. In other words, all the useful information to make a tour unique will be available online (Liburd, 2005).

In order to reduce this gap, Italy needs direction, and it should come from a national director; coordination aimed at improving and standardizing hospitality in wine areas and at increasing its visibility on the web is strongly needed, using a single, national database and building strong international connections with wine lovers through social media.

Therefore, in terms of management, things are going wrong. The wine tourism supply is organized into 170 “Wine Roads”, but only a dozen of them are really working. There is no national coordinating body (with the exception of “Cities of Wine”) and, moreover, there is no useful information on the official Italian Tourism website, that only provides a brief text page with links to other websites and statutes that have no interest for visitors.

In line with the proposal put forward by Dallari and Mariotti (2011), innovation and creativity, particularly when organizing cultural heritage and its marketing and communication (even through an instrument such as a Cultural Route), can be the right methods to reconquer a position of strong and dynamic, though not uniform, cultural identity on the new international stage, in an approach of ‘creative culture’ (OECD, 2009) that is increasingly oriented towards the participation and involvement of the local community and visitors in general (Frey, 2009; Richards and Wilson, 2006, 2007; Baldacci, 2006; Briednhann and Wickens, 2004; Beltramo, 2012).

In summary, innovation, combined with sustainability, can improve the success of the wine tourism destinations, through:

- networking cultural and landscape resources, but also tourism and sports activities, as well as the curiosity and individuality of the area;
- better information about the cultural heritage, food and wine in the area;
- the usability of cultural heritage;
- the recovery of traditional manufacturing activities, that can create employment opportunities (socio-cultural and economic sustainability), particularly for young people, but also for the participation of tourists in unique visiting experiences;
- access to information through a dedicated portal, dissemination of studies and research on heritage and cultural system.

### ***Implications for Sustainability***

This paper shows how the sustainability of a wine destination is affected by three important dimensions: environmental, that is the sustainable use of natural resources without damaging the planet (Purandare, 2009), economic, that is the ability to maintain over time the wellbeing of a society (Arrow *et al.*, 2004), and socio-cultural sustainability, resulting in the safeguarding and valorization of the cultural heritage, of the identity and local resources (Unione Europea, 2013).

The Piedmontese case constitutes an example of a perfect marriage between sustainability and the attractiveness of tourist destinations; in fact it is often the economic, environmental and socio-cultural sustainability of the destination that attracts national and foreign tourists. Also, thanks to Slow Food, educational and taste courses have been activated and this has allowed to assert a higher mature model of wine and food, to safeguard typical products through the system of Presidia.

In order to improve this important characteristic of Piedmont, several strategies should be developed:

- reduction of energy consumption through the use of machinery with higher energy efficiency;
- development of accommodation, sport and cultural services;
- valorization of the TIPs (Territorial Intensive Products) that are important elements of the tourist market and that can attract high numbers of tourists to a particular destination (Asero and Patti, 2009);
- creation of regional wine paths of responsible tourism by Piedmontese and international operators;

- strengthening of educational programs for bodies, schools and tourist operators;
- monitoring, promotion and support of initiatives of responsible and social tourism;
- creation of partnership among firms, bodies and non-profit organizations;
- insertion of principles and good practices of responsible and social tourism in the curricula of university education;
- analysis of food and wine packaging in order to respect environmental, functional, design and communication requirements;

This paper results in an analysis of wine tourism in Piedmont in the light of sustainability; in particular, for the first time, this is studied from three different views: environmental, economic and socio-cultural.

Major limits must be identified in the application of this 3-dimensional model of wine destination sustainability only to an Italian destination without any comparison with benchmark wine destinations at European and international level.

This paper shows how responsible and sustainable wine tourism could become a tool to valorize destinations and promote the increase of social capital, emphasizing the territorial sense of belonging and attracting tourists (Valls *et al.*, 2014) in the same way.

### ***Managerial Implications***

By integrating the considerations on sustainability and innovation applied to wine tourism destinations, it is possible to underline how the path of success for these kinds of destinations goes through three important key terms: cooperation, communication and innovation.

Tourist operators should concentrate their efforts on integrating the product “wine” with gastronomy, a good accommodation offer, landscape and culture. This could be possible only through cooperation among different operators (i.e. with the creation of wine paths) and the involvement of universities/secondary schools in specific educational programs, important factors able to improve the image of the destination. A multi-stakeholder partnership would be preferable where everyone has specific roles and can make their contribution to the development of a sustainable policy.

Also strategies based on good communication could be very useful, but they should be entrusted to experts and not improvised. These could be possible through the use of the e-economy and in particular of the information and communication technologies. Furthermore, the importance of sustainability for a destination should be taught through specific programs and may be stimulated by means of incentives. It is important to sensitise the tourist market to the possible advantages of sustainable tourism in order to create a virtuous circle of progressive improvement involving tour operators and tourists. In the same way, there is a need for harmonization between plans for tourism development and sustainability.

Finally, innovation is the rule: innovation should be developed in order to respect the environment and people. It can involve wine bottles, i.e. the use of microchips to identify a bottle of wine – RFID (Radio Frequency Identification) or packaging (ecological packaging), processes (production/distribution), transportation and communication (i.e. QR Code on the label of the different bottles).

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## CHAPTER THIRTEEN

# STRATEGIES TO INCREASE THE PROFITABILITY OF ITALIAN WINE PRODUCERS

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### **Introduction<sup>1</sup>**

The wine sector is a typical example of an industry that has been able to seize the opportunities arising from the globalization of markets. Countries like France and Italy have seen the success of their firms as a direct outcome of strategies characterised by the expansion and internationalisation of sales, maintaining a strong territorial approach to production.

The globalisation process has increased the intensity and the frequency of international transactions; as a result of the increased importance, the market has been divided into two worlds: ‘the new’ and ‘the old’ (Cesaretti et al. 2006). This market division is not merely a façade but demonstrates its tangibility through the nature of the products as well as strategies followed by firms with respect to production and distribution. A different competitive environment exists in each wine producing country. An important characteristic of the commercial wine market is the significance of distribution power and price leadership. Furthermore, the high quality wine market comprises many small and medium-sized companies.

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As suggested by several researchers (for example, Crescimanno and Galati 2014, Galati et al. 2014), the globalization process and increase in international competition has led to an overall geographical reconfiguration of world production and a geographical change in the demand for wine.

Issues relating to the role of wine in national economies have always been at the forefront, both within European institutions and in major wine producing countries. An important development in this respect was the announcement of a formal reform document by the European Commission in 2006, followed by agreed legal documents in 2008. The relevance of these regulatory provisions cannot be overstated as the EU (28 countries) produces about 60% of the world's wine (OIV 2012) and this can be expected to increase in the future.

According to the International Organization of Vine and Wine, Italy is the second largest wine producer in the World with 40,060 mhl of production (OIV 2012) out of an overall world wine production of 258,200 mhl. In 2012, the surface area planted with vines was 764 mha, behind only Spain and France. Italy is number one in terms of export volume and second in terms of export value. It should be noted that Italy exports wine to the tune of approximately 5 billion euros a year. In the last few years, the export growth of wines 'produced in Italy' has been the highest after South African and US wine brands. Today in Italy over three hundred DOC (Denominazioni di Origine Controllata) and DOCG (Denominazioni di Origine Controllata e Garantita) wines are produced and this classification increases to over five hundred when IGT (Indicazione Geografica Tipica) wines are factored in.

Italy's wineries enjoy a distinctive competitive advantage when it comes to the production and sale of high quality wines. Italian brands are well-known and very popular with international consumers. In recent years, the market has been celebrating Italy's rich heritage of "indigenous" grapes. Indeed, there are grapes (for example, Nero d'Avola, Fiano, Sagrantino and Teroldego) that offer a variety of modern enotria to consumers all over the world. As a result, a rapidly increasing number of wine-makers focus on "traditional" varieties to distinguish themselves in a market dominated by "international" varieties (for example, Merlot, Cabernet Sauvignon and Chardonnay). The success of strategies based on the use of traditional varieties is linked to the maturity of the markets in the countries of destination. For example, in the Asian area, consumers mostly appreciate international varieties (Wine Intelligence, 2013).

These elements produce direct positive effects on sector trends. The employment rate in this sector was stable (-0.5%) in 2013, and was + 2.7% in 2008-2012, in contrast with the beverage sector (-5.2%) as well as global manufacturing (-6%) in the same period (Mediobanca 2014).

The above data suggests potentialities of the wine sector that can contribute to appraising the Italian economy. In particular, this study focuses firstly on the national market and secondly on Piedmont wine companies in order to identify what determines a firm's profitability.

Piedmont plays a central role in Italian wine production with an export value amounting to 969 million euros in 2013. Piedmont is the second most important wine exporting area in Italy after Veneto whose exports were valued at more than 1.5 billion euros in 2013.

In Piedmont, the highest quality product is Barolo, 70% of which is exported. This type of wine is produced from Nebbiolo grapes, which is not easily grown in other countries. Barolo, aka "the king of wines" or "the wine of the kings", is hard to produce outside the "Langhe". The fact that such a rare quality of grape is found in this region gives it a strategic position in world trade.

Considering the importance of the wine sector in global and European economies, our aim is to provide useful elements to help wine producers to expand their businesses and to (re)direct their strategies. To do so, in the following sections, we analyse the variables that influence a firm's performance. The findings of this study are supported by the literature. We expect the study to help in policy making for wine production, which, in turn, may be helpful to increase employment and the production of wealth.

## **Profitability in the Wine Sector**

The primary purpose of a business is to create and maintain enterprise wealth (Conner 1991). Businesses produce wealth not only for owners, but for the communities in which they are established. Elements of company structure and governance have been studied extensively in order to identify factors that affect performance (Mazzi 2011). Amato and Amato (2004) indicate that the performance of wineries depends on a close relationship between market structure and the strategies adopted. Advantages are produced only when performance indicators are superior to those of competitors (Amadiou & Viviani 2010). Performance variables fall into two main categories: accounting and the market. The main accounting

profitability ratios are: return on assets (ROA), return on equity (ROE), return on investment (ROI) and return on sales (ROS). Schiefer and Hartmann (2008) used these measures in the settings of agriculture. Similarly, Amadiou & Viviani (2010) and Hirsh & Gschwandtner (2013) applied these measures to the wine production sector. Other economic variables often used to measure operating performance are Value added (VA), Earnings before interest and tax (EBIT) and Earnings before interest, tax, depreciation and amortization (EBITDA) (Fisher & Schornberg 2007).

Scholars argue in favour of EBITDA as an objective indicator of economic performance in terms of the internal resources required to run wineries (Simon-Elorz et al. 2014). Researchers, such as Amadiou & Viviani (2010) and Sellers-Rubio (2010), have opted for EBITDA for this reason. On the other hand, Dorsey & Boland (2009) and Declerck & Viviani (2012) see EBIT as a better performance measure. Market performance is generally estimated with Tobin's Q Ratio i.e. the ratio of the firm's market value to the replacement cost of its assets. However, this measure of firm performance is not available for SMEs, as the capital raised by such firms is not traded in capital markets.

The purpose of this chapter is to introduce variables able to influence the profitability of Italian wineries. They were identified by a review of the literature and by empirical analysis. These variables, once acknowledged as leading contributory factors, can be significantly applied to create concrete corporate strategies. In our analysis, we have used ROI to assess the firm's profitability. ROI is the ratio of EBIT to total assets. The assets used in the current analysis are fully operative due to the type and size of Italian wine producers. The sample analysed in the current study mainly consists of small companies. However, some of the sample firms are cooperatives, which are not geared to high revenues. Due to this, ROE is not an appropriate measure of performance. Similarly, EBIT and EBITDA have their own limitations as both measures are influenced by the size of firms.

Table 1 highlights empirical results based on the models applied in the current study.

The  $R^2$  values are low but adequate considering the nature of the dependent variable. In fact, many elements can affect a profitability indicator.

**Table 1 – Model information.**

|                       | $R^2$ | $N$ | YEAR |
|-----------------------|-------|-----|------|
| Italy <sup>2</sup>    | .26   | 187 | 2013 |
| Piedmont <sup>3</sup> | .30   | 45  | 2013 |

As shown in Figure 1, EBIT is the difference between revenues and costs. Revenues are the value of the firm on the market. They show the wine sold in internal and external markets. Revenues are influenced by many factors, for instance, product quality and price. They may be influenced by a firm's reputation and the importance of their brands. Sales revenue can also be influenced markedly by a firm's export vocation, which allows a company to extend its sales outside national borders and to meet the demand for wine in foreign countries. This tendency is based on the market environment. If the internal market is sufficiently large and stable/growing, and can absorb its entire production, a company does not need to adopt internationalisation strategies. But, when the market is highly competitive and there is a negative trend in the economic situation (whether real or potential), companies need to increase their orientation to internationalisation. For the wine industry, this process generally involves only the physical export of wine, because production cannot be relocated to other countries. Another important element able to influence the impact of a company on the market is the experience it gains over the years.

<sup>2</sup> The national sample consists of the 187 largest Italian wineries by turnover. The model is  $ROI = \alpha + \beta SIZE + \beta INV + \beta TYPE + \beta OWN + \beta EXP + \varepsilon$ . Data were collected from 2013 Financial Statements and analysed using SPSS (21).

<sup>3</sup> The regional sample consists of the 45 largest wineries for turnover in Piedmont. The model is  $ROI = \alpha + \beta EXint + \beta SIZE + \beta GROUP + \beta TYPE + \beta EXP + \varepsilon$ . Data were collected from 2013 Financial Statements and analysed using SPSS (21). This research was published by Bava F. & Gromis di Trana M., in AA.VV. (2015) "Food and heritage – Sostenibilità economico-aziendale e valorizzazione del territorio", Giappichelli Editore, Torino.

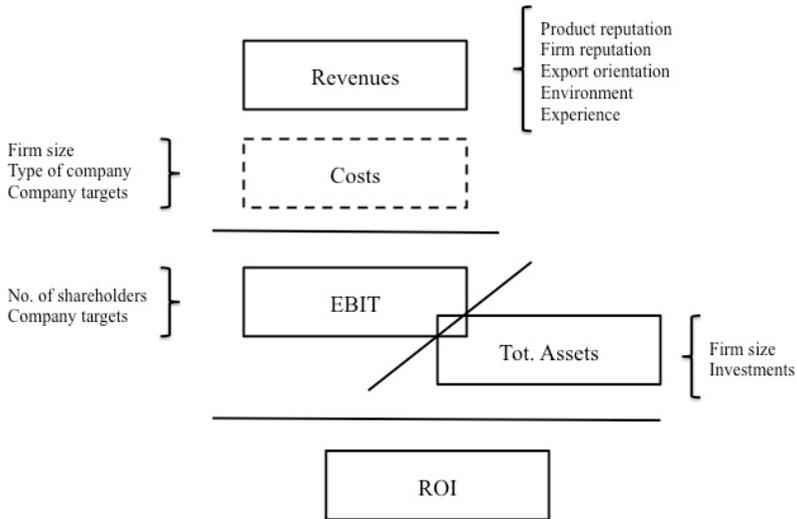


Figure 1 – Factors influencing ROI.

Costs are planned on the basis of revenues from previous years and as expected in the future. In particular, firms plan investments (amortisation) and human resources in order to respond to the market. At the same time, the type of company (corporation or cooperative) influences its objectives. For instance, a corporation may aim to maximize the outcome for shareholders, while a cooperative may be more geared to create benefits for affiliates. This produces many different evaluations based on the cost structure firms are exposed to.

As a difference between revenues and costs, EBIT is the value that shows the result of the day-to-day activities of the company. It is positive when revenues are higher than costs, meaning that the company's core business is generating wealth. Whereas, when costs are higher than revenues, EBIT is a negative value, meaning that the company is consuming wealth.

ROI is the ratio between EBIT and total assets, where total assets are the sum of tangible and intangible investments, financial and commercial receivables and other liquid values. EBIT and total assets are both influenced by firm size and profitability drive. Again, it is possible (since EBIT is the difference between revenues and costs) that ROI may be higher in small companies due to the lower value of assets.

## **Determining Factors in a Firm's Profitability**

This section analyses the main variables in our research. In particular we consider:

1. export tendency
2. firm size and business group affiliation
3. ownership
4. type of company
5. experience

Many researchers have focussed on export performance. This concept of performance does not have a unanimously accepted definition (Maurel 2009). For instance, it can be defined as “a composite outcome of a firm's international sales, which includes three dimensions: export sales, export profitability and export growth” (Shoham 1998). This definition identifies three main dimensions indicating the degree of success of the export activity.

Measures of export performance include export intensity, as the percentage of sales sold internationally (Tookey 1964), perceived profitability (Bilkey 1982) and continuous export activity (Brooks & Rosson 1982).

Other definitions include elements such as export effectiveness, export efficiency and continuous engagement in exporting (Aaby & Slater 1989, Madsen 1987, Shosham 1991).

In particular, to evaluate export sales, export intensity (exports against total sales), export sales in euros and market share may be analysed for the most important product/market combination. According to Aaby and Slater (1989), export performance is influenced by the environment and strategy, which in turn is influenced by other elements such as the firm's characteristics and skills. Zou and Stan (1998) classified variables in two main classes, controllable and uncontrollable. Controllable internal determining factors include the attitude of management, its perception and marketing strategy; uncontrollable determining factors can be divided into internal features i.e. a firm's characteristics and the skills of management, and external features, i.e. industry characteristics, and foreign/domestic market features. Researchers also highlight how variables representing environmental, organizational and managerial dimensions influence marketing strategy, which in turn, influences export performance (Katsikeas et al. 2000). Nonetheless, as can be seen, Shoham's definition

is not addressed to the dimension of firms (large or small/medium-sized). Focusing only on SMEs, Maruel (2009) divided determining factors into internal, external and strategy-related. Empirical analyses indicate a clear linkage (in the French wine industry) between export performance and other variables such as business partnership, innovation and size.

Because the Italian wine industry mainly comprises SMEs, the focus is on identifying determining factors that are more relevant to export-oriented SMEs. We define export as all sales in a foreign country through direct exports by a firm and sales via export agents. Export intensity is the ratio of export sales to total sales.

The results of our study show that export intensity is statistically relevant and positively associated. In other words, ROI increases with the percentage of export sales<sup>4</sup>.

International analysis (De Blasi et al. 2007) has found a general reduction in consumption accompanied by an increase in the level of quality demanded by consumers. Wine is less and less consumed with meals; nonetheless, it is increasingly considered a product able to meet hedonistic needs.

Over the past years, the price of exported wine has increased. In 1995, the export value was about 700 million euros (Istat 2007) against the 5 billion euros recorded in 2013 (Mediobanca 2014).

De Blasi et al. (2007) show that exports in the wine sector are highly concentrated geographically. 80% of exports are to 8 countries (US, Germany, UK, Switzerland, Canada, Japan, Denmark and Austria). This suggests the need to implement strategies to expand sales in diverse markets. Furthermore, evidence suggests that when production increases, the export value also increases, showing that supply has not matched demand. Moreover, most national production consists in table wine, which sometimes trades as cask wine. Italian producers should aim to increase quality and increase their exports.

The size of firms is an important variable when it comes to explaining performance. Large companies can successfully follow market strategies based on brand recognition and economies of scale (Amato & Amato 2004). This means that an increase in size enables a firm to make

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<sup>4</sup>  $B = 5.67^{**}$  (2.43) where (\*\* $p < 0.05$ )

organizational improvements, generating profits from economies of scale, and benefits from investments. Simon-Elorz et al. (2014) have described this phenomenon as a size efficiency factor acting as an entry barrier for new wineries. It also acts as a determining factor for competitiveness.

Nevertheless, the importance of SMEs in the regional wine context suggests the weakness of these barriers and their inability to determine the performance of the wine exports of SMEs. In Italy, SMEs play a central role in the economy. Indeed, SMEs represent 99.99% of Italian companies (3.7 million in 2012), also dominating in the number of employees (80% of the total). Nevertheless, SMEs produced only 68% of total added value (SBA 2013). This view, associated with other elements such as land owned by many different people and a strong family approach, reflects the structure of Piedmont wine firms (generally SMEs).

Size indicators can be collected from Financial Statements which also reflect the market values of SMEs (Biddle et al. 1997). In particular, with respect to the financial information on SMEs, observable data include turnover and the number of full-time employees. Other studies take into account total assets (Dorsey & Boland 2009, Loderer et al. 2010, Hirsh et al. 2014, Goddard et al. 2005, Gschwandtner 2012). Due to the specific configuration of wineries, our research, considers size variables via turnover and the number of full-time employees as proxies. The two variables are related; nonetheless, a divergence of trends could mean different strategies in managing human resources or may be an indication of inaccurate forecasts for future market trends. A previous study (Cordero di Montezemolo 2005) of firms with a turnover of more than 2 million euros, shows that businesses with a turnover in the 7 - 13 million euros range perform the worst. This is because these firms are subject to high fixed and variable costs, as a consequence of the complex investments required to carry on the business. These companies are not able to cover costs with revenues, evidence that lead Montezemolo (2005) to posit a polarization into two main sizes: large or small.

Nevertheless, some studies state that the larger a company is the better its export performance (Miesenbock 1988, Moini 1995, Wagner 1995). The above phenomenon produces effects on corporate planning and strategies determining the future growth of these firms. Based on recent market trends and potential opportunities in this sector, it can be argued that the wine industry and market have structurally changed, and as a consequence three main categories of wine firms have been formed (Vrontis et al. 2011):

1. global enterprises, active in all segments of the beverage industry;
2. large national wine enterprises: focused on wine production and operating in an international context;
3. SMEs, characterized by niche strategies and low capital.

Miller (1986) indicates there are two main configurations of strategy and corporate structure: a “simple structure” associated with marketing differentiation, or an organic structure associated with “new product differentiation”. Other authors (Chaganti et al. 1989) have found that a strategy based on the reduction of costs is only useful for SMEs in an environment characterised by price wars. A strategy based on product quality and image seems to be the most profitable orientation.

Looking at Italian wine firms, the Italian market is evolving in a situation of stable or declining domestic consumption; this forces Italian companies to be more territorial and follow a conservative strategy focused on specific grape growing sites and the wine marketing practices of the region (Remaud & Couderc 2006).

In our models, as stated by Oliveira and Fortunato (2006), we should bear in mind that the age of a company and its size could be correlated with survival and growth.

Our research shows a strong positive correlation between ROI and company turnover<sup>5</sup>, and a negative correlation between the number of employees and ROI<sup>6</sup>, which, however, is not statistically significant. For the above outcome, we restricted the scope of investments. For instance, we took into account amounts in the Financial Statement for land and buildings. We found a negative association between log values of L&B and ROI<sup>7</sup>. This was entirely contrary to our expectations. Different explanations could be given for this negative association. In particular, the value helps to increase asset value, reducing ROI.

These results cannot be generalised because they do not take into account some peculiarities of the wine sector. In order to evaluate the importance

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<sup>5</sup> For the national sample the Log(TRN) has a coefficient of 4.15\*\*\* (5.02) (\*\*p < 0.01). The same evidence is confirmed in the regional context where the Log(TRN) has a coefficient of 4.18\*\* (1.98) (\*\*p < 0.05).

<sup>6</sup> B = 0.05 (0.03) (p > 0.1)

<sup>7</sup> For the national sample the Log(L&B) has a coefficient of -1.42\*\* (-3.52) (\*\*p < 0.05).

of a firm's size we need to consider the high degree of segmentation characterising demand. High quality wine is generally produced by small companies and low quality wine generally by large companies, who can reap the benefits of economies of scale. This is in line with Pomarici et al. (2008) who found how economies of scale and the reduction of costs provide a competitive advantage to large companies producing low quality wine, whereas small companies should aim at high quality segments guaranteeing a higher mark up.

Some studies analyse the effect on company performance of association within groups. Results show that group-affiliated firms benefit through sharing intangibles and financial resources (Ghang & Hong 2000). Business groups are responses to market failures and high transaction costs. Khanna and Rivkin (2000) produced evidence that business groups affect the broad pattern of economic performance, in particular profitability in emerging markets. Ma et al. (2006) analysed publicly listed Chinese companies and found that the interaction of business group affiliations and state ownership has a significant positive effect on performance. On the other hand, Chacar and Vissa (2005) found an inverse correlation between profitability and affiliation to a group. In particular, they observed that affiliated firms performed more persistently poorly than firms that are not affiliated. This result seems to be confirmed by our observation; however, in our models, this result is not statistically significant (\*\* $p > 0.1$  and  $t = 0.07$ ).

We also analysed the impact of ownership structure on performance. Many studies highlight the relationship between ownership concentration and company performance. Ownership concentration (ensuring better monitoring) was theoretically expected to lead to better performance (Jensen and Meckling 1976). Others, as Stulz (1988) predicted a concave relationship. Some studies, including Morck et al. (1988), McConnell and Servaes (1990), Hermalin and Weisbach (1991), Holderness et al. (1999) have found that low levels of managerial ownership increase company value but at higher levels of managerial ownership, the value decreases.

We introduced an independent variable, the number of shareholders, and found a negative association between these elements,<sup>8</sup> meaning that in the Italian wine sector strong ownership concentration helps to produce higher profitability.

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<sup>8</sup> The OWN has a coefficient of  $-.339^{**}$  ( $-2.42$ ) ( $^{**}p < 0.05$ ).

In Italy, wineries are mainly divided into two institutional categories, corporations and cooperatives. Cooperatives are owned by their members, who generally own the vineyards. They deliver grapes to the cooperative for the production of wine and subsequent marketing activities. In Italy, as in many major wine producing countries, winemaking cooperatives are responsible for a significant proportion of total wine production. Cooperatives produce more than half of French wine (Robinson 2006). This type of structure may provide advantages to members, for instance, by allowing them to pool resources and share costs; they may also obtain financial advantages including EU subsidies. In other words, like corporations, they buy, sell and produce goods and services. However, unlike corporations, cooperatives exist to serve their members. In addition to their ordinary activities, they are active in community development, the education of members and government lobbying. Staatz (1987) states that farmers, faced with the unsatisfactory performance of investor-owned firms (IOFs), may form cooperatives to compete with investor-owned firms. This generates benefits not only for members but for farm stockholders and other farmers in the area.

Considering profitability, the IOF's main aim is often to maximize ROI at a given risk level (Copeland & Weston 1983), unlike cooperatives which are generally modelled on a zero-profit objective (Halmerger & Hoos 1962). A cooperative's members mainly expect to receive benefits from services provided and do not focus only on the rate of return on their investments.

Contrary to theoretical expectations, Parliament et al. (1990) found that agricultural cooperatives perform as well as or better than investor-owned firms operating in the same industries in terms of profitability (ROE) and leverage. The lack of significant differences between these two models suggests similar goals. Furthermore, through analysing US agriculture cooperatives, Lerman (1991) identified a significant relationship between performance and two other variables: size and industry effects.

In line with the literature, our models fixed a dummy variable dividing sampled firms into Cooperatives (0) and IOFs (1). We identified a positive relationship between this variable and profitability<sup>9</sup>. IOFs are more focused on achieving higher profitability rates than cooperatives.

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<sup>9</sup> For the nationwide sample the TYPE dummy variable has a coefficient of 3.87\*\*\* (3.52) (\*\*\*p < 0.01). The same evidence seems to be confirmed in the

The age of the firms in a specific sector suggests two aspects (Simon-Elorz et al. 2014), The first relating to survival rates in the sector and the second to the indirect evidence of experience this shows (Declerck & Viviani 2012, Duquesnois et al. 2010). For this reason, a positive relationship is expected between the age variable and economic performance. Some research has found an association between age and other factors such as organic growth (Davidsson 2005) and export capacity (Maurel 2009). In particular, the positive effect on export performance can be explained by a mature management and the attitude to international transactions and international business partnerships. Galan (2010) observed a positive effect on export performance, whereas, Loderer et al. (2010) obtained negative effects.

We define experience as the age of the firm, i.e. the number of years since it was established. In our nationwide analysis, as in other studies, this variable was considered continuous (Loderer et al. 2010, Simon-Elorz et al. 2014, Hirsh et al. 2014); in other research authors established ranges (Jordan et al. 2007). In the regional study, 5 classes were used, the first from 1 year to 5, the second 6 to 10, the third 11 to 20, the fourth 21 to 30 and the fifth over 30. This is because we do not consider the relationship between knowledge and the advantages a company can obtain during these periods as linear. Evidence suggests a negative relation between experience and ROI<sup>10</sup>.

## Conclusions

Our evidence suggests two main strategic directions in order to increase company profitability. The first is geared to increasing sales with foreign countries. The second aims to increase the dimensions of the firm. To contrast the increasing success of new global companies, generally large corporations whose competitive advantage is based on economies of scale, small Italian firms should implement strategies geared to shifting their production to high quality alone (DOC and DOCG) to the detriment of price. The challenge must be accepted in terms of quality, not volume. Large Italian companies should enhance the value of their brands with advertising campaigns and diversify distribution channels. As is well-

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regional context where the coefficient of 1.40 (1.75) is positive. In our second model this variable is not statistically significant.

<sup>10</sup> For the national sample EXP has a coefficient of -.31 (-1.38) ( $p > 0.1$ ). The same evidence seems not to be confirmed in the regional context where the coefficient of .5 (.51) ( $p > 0.1$ ) is positive. Neither are statistically significant.

known, Italian wine is synonymous with quality in the world and for this reason it is important that Italian wineries use this reputational element to increase their sales. In order to evaluate the relevance of this result, factors of bias should be evaluated, such as those that reduce export intensity. In particular, the result is influenced by internal taxation rules designed to help agricultural firms. Special VAT relief is provided for farms which can increase their mark up. With particular regard to small companies this incentive helps profitability in the internal market, but in some cases discourages internationalisation.

The sample comprises mostly small and micro businesses, in many cases unable to invest adequate resources (money and skills) in exports. Due to the limited output of hectolitres, these companies can sell total production in the domestic market. Larger companies are generally better known through investments in their brands. This allows companies to increase the price of the same type of wine, for instance Barolo, compared to small wineries. As is well-known, the market price of specific type of wines can be strongly affected by branding. For instance, the same bottle of Barolo (comparable in quality and age) can cost 10 times more than lesser known brands. Small companies can set up affiliations or join networks in order to reduce costs with economies of scale and improve their market power.

Future studies may be carried out to evaluate whether exporting companies should seek to increase volumes or prices (aiming at higher quality). An interesting result is the negative correlation between the number of full-time employees and profitability. Two different reasons may be in play, the first related to the management of human resources, and the second inaccurate sales forecasts. Future studies may investigate this relationship in detail. In relation to the type of companies, cooperatives are generally older than IOFs and older companies are less export-oriented. Nevertheless, there is no significant relationship between the age of a company and profitability. In the future, we will extend our analysis over a longer (2011-2014) period using panel data, a model that has been used in a few other articles on these topics. Future research may also verify if these findings apply to other Italian regions as well.

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## CHAPTER FOURTEEN

# MANAGING THE GLOBAL COMPLEXITY IN A TRIPLE/QUADRUPLE HELIX CONTEXT

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**Keywords** – Internet of Things; Knowledge Sharing; triple helix model; diffusion of innovation, smart cities.

### 1. Introduction

The complexity or structural uncertainty dominating socio-economic life are conditions that underpin the drive to verify the relationships between organizations, institutions and stakeholders in a dynamic model where the overlapping roles of universities, firms and the government are both built and codified (Maggioni & Del Giudice, 2011; Del Giudice et al. 2013; Del Giudice et al. 2012; Del Giudice & Straub, 2011; Nicotra et al. 2014; Straub & Del Giudice 2012). This is the essence of the Triple Helix model (place Leydesdorff figure here) (Etzkowitz & Leydesdorff, 2000; Etzkowitz, 2008; Etzkowitz et al., 1998; Etzkowitz & Leydesdorff, 1995; Leydesdorff & Etzkowitz, 1998; Leydesdorff, & Etzkowitz, 1996; Etzkowitz, 2003; Etzkowitz, 1998).

In the progress of Information Society to Knowledge Society, superseding, therefore, the model of technological rationality, we are approaching the idea of a new way of thinking and acting, a permanent reflection on the relationship between the production of knowledge and a new social dimension whereby access to a series of more complex sources is exploited to generate innovation (Rullani, 2012; Rullani et al. 2012; Rullani, 2013).

Innovation is no longer the direct product of intuitive creativity, but the reason for its “technological” being is linked to a whole range of collective interventions, thoughts and actions (Park, 2014). “While institutions and inter-institutional arrangements can be stimulated by local or national governments, markets and sciences operate at the global level” (Leydesdorff, 2012, page 26). The alignment between the productive system of knowledge and innovation and the system of inter-institutional relationships seems, therefore, to be one of the possible options to adopt in order to open up to new development hypotheses.

The economic system however is not always suited to the new competitive rules required by market change and the new challenges imposed by technological evolution (Betz, 2010; Carayannis et al. 2014); it has recently become more or less clear that technological progress, one of the basic motors for market globalization, has determined a shift in government functions towards functionally broader territorial environments. In this sense, the correct assumption seems that national systems are taking on a new and different kind of importance within this new configuration of global competitiveness. It is now taken for granted that competitiveness no longer takes place between single firms, within a single sector, but between countries and, therefore, at a smaller scale, even between territorial systems. The territorial development is no longer seen as external to firms, but has become the force driving or impeding the evolution of productive structures. Space is, therefore, not only a factor determining the physical location of a firm, but a strategic variable in the innovation process and in the cross-fertilization of knowledge within the processes of innovation. Technological evolution, and the consequent increase in firm competitiveness, is not perceived as a process that is essentially endogenous to the firm and its structures, but rather as the specific expression of a given environment or a specific territorial organization. The environment, therefore, no longer has the function of a hub for industrial activity and the physical resources used by these industries, but becomes an critical location for the production and circulation of a whole series of immaterial factors and, in particular, knowledge, which spawns processes of generation and the spreading of innovation. The firm, in this context, is not an entity with its own total genetic autonomy, dependant on internal factors, but is conceived by its environment, which, in turn, becomes both entrepreneur and incubator of innovation (Colapinto & Porlezza, 2012; Maldonado et al. 2009; Pfeffer 2011; Altmann & Ebersberger, 2012; Carayannis et al. 2014).

“What is at stake is to find and negotiate the appropriate level of a spontaneous Triple Helix, the level at which a positive negotiation and cooperation become possible between the administration [...], the research and higher education institutions [...] and the business community in its diversity. This local Triple Helix is the active core of a “cluster”. [...] These ‘clusters’ are not predetermined territories: they are established around a local Triple Helix [...] [that] can have partners outside its geographical location. [...] It is different from Italian ‘industrial districts’ often anchored in a long history.” (Rieu, 2014, page 18).

The purely local dimension of certain industrial phenomena, including, for example, the system of small firms, whether they are industrial districts in the classical mould or progressively more evolved forms, or whether they are satellites connected to large industries, appears basically weak in this context, especially when manufacturing cycles organized in this way aim to preserve their autonomy and complete strategic and operational independence. In this sense, firm networks are configured as closed islands within a territory, composed of various elements with their own evolutionarily strategies, often in complete dissonance with each other. If, on the one hand, there is the necessity to exploit and promote the wealth of knowledge rooted in the territory, on the other hand, there is the growing conviction that groups of local firms must consolidate into wider spheres where they can find the driving forces and energy that are not part of their own genetic baggage. Whilst creating the premises for the growth and innovation of the indigenous characteristics of an economic system, the new development models in territorial systems focus on flexibility, widespread innovation, development of skills, strengthening of the quality of services, and awareness of the market, in order to be repositioned within the Information Society.

The purpose of this chapter is to outline the main traits of Triple Helix approach, illustrating the elements that compose its architecture to identify the autonomous physiology of smart cities. The set of research centres, organizations, local government and citizens must rely on firms to find their pathway, which will be all the more functional when the “fabric” is seen to be open to the exchange of knowledge (in an open innovation logic). In this way, as the authors clearly state, a smart city is not only a laboratory of more or less innovative technologies, but it also focuses on the capitalization of knowledge, in terms of its cognitive, economic, social and cultural aspects, and exploits the involvement of citizens as search tools for sustainable solutions. Finally, it focuses on the contribution of the active population to introduce Quadruple Helix approach.

## **2. The Triple Helix Model and Smart Cities: Towards Local/Global Competitive Dimensions**

Information, however it is communicated, is the central element of reality, and this reality is made known to individuals precisely through the medium of information, that is, the form that is attributed to it (Rullani, 2012; Rullani et al. 2012; Rullani, 2013). Since all of this can constitute information, the use of modern technologies, notably computers or more precisely information elaborators, allows information to be seen, transmitted, elaborated and stored, enabling a more effective relationship with reality than in the past. The new consideration that man has of himself, his peers and the world, linked to the current fantastic speed of data transmission, is also crucial to his penchant for finding a space and becoming interested in problems where the solution had once been more or less the exclusive domain of firms, organizations, institutions, etc. In reality, by spreading information, the various parts of the model are able to become truly inter-dependant, and its influence over the economic development of specific territorial areas can be verified. In operational terms, it is precisely through information systems that a specific territorial context, a certain political and institutional environment and a clearly-defined technological framework can all be kept together, seen as the essential conditions for the development of ad hoc solutions. Think about smart cities (Deakin and Leydesdorff, 2014; Deakin 2011).

The concept of smart cities refers to the fact that our urban areas, in recent decades ensconced under the various types of networks (optical fibre, 3G/4G for mobile phones, WiFi, sensors), can be programmed and made to be more efficient from many perspectives: traffic, logistics, waste disposal, public services, etc. To introduce smart cities, it is necessary to refer to the strategy of intelligent specialization, focusing on a regional approach, which is connected to a city's capacity of carving a role for itself within modern economic systems and contribute towards producing value. In this scheme, cities are considered as poles where networks, involving at least three important dynamics take form. These are the intellectual capital of universities, the industrial system creating wealth and participative democratic governance that constitutes the rule of law. The effect of this interaction, in turn, is to generate spaces where the information base for the communication systems is implemented in order to realise the concept of intelligent cities, exploit the opportunities of future internet development, enhance intellectual capital and create wealth (Deakin and Leydesdorff, 2011; 2014; Lombardi et al., 2011).

The representation of the advanced Triple Helix model is not based on the idea of an ecosystem as something that is naturally aligned to the economic system, but as a system of social phenomena that are used to sustain the intelligent networking of smart cities and the cultural attributes and environmental capacities that permeate through the cities and which, in turn, support them (Yang et al. 2012). The strong global knowledge within cities can be used as a means to “offer” a “wealth of creative power” that communities must cultivate in function of the future internet development that cities engage in to become intelligent. “That cities engage in to become intelligent” means that the type of eco-sustainable reconstruction that future internet development make possible are not only needed by urban community ecology, such as city quarters, but as the vital sign of a knowledge economy, allowing the regional innovation system to be updated and qualified. The problem of cities cannot be separated from that of the rational use of the territory, human settlement, the relationships between people and between people and institutions, and this applies when elaborating a technique of civil co-existence both in terms of real, organic life, within the gradual bureaucratization of social relationships, and also as a virtual and mechanical representation, in the imminent necessity of a concrete development concerning citizens and technology. Smart cities must be visible, tangible, defined within a territory, but with the wide powers conferred by technology, in terms of coordination, efficiency, respect of human personality, culture and art. In other words, the smart city liberates the social environment, stimulating its power of doing, that is, involving it in a dynamic and informed project, as the reference point of daily political and economic action. For the Triple Helix model, this is the ideal field for attempting to make the territorial plan work, coherently in all its parts, with its administrative and urban problems, with the problem of democratic co-existence, coordinated at the centre and articulated at the base, respecting a regionalism that is rooted in spontaneous social reasons that must be taken into account.

However, the Triple Helix model is a good starting point for reflecting upon how useful it is, or even crucial, to code a complex event within a relatively simple framework; specifically, the model concerns an integrated system of services supporting innovation and the creation of an elective context for the developments occurring within the relationships between universities and research centres, the entrepreneurship system and local government (Leydesdorff & Park, 2014). By setting the Triple Helix model into a formal process, the relative development levers can be introduced in a logically coherent way, together with the way these levers interact and the resulting outcome (see Table 1). In particular, the support

process, by which we mean the sequence of operations that can encourage collaboration between research laboratory, market enterprise and government bodies, does not always have a similar configuration. Every part of the process must be flexible and reflect the state of progress of the product, the researcher/entrepreneur group composition and the type of know-how or technological sector involved. Moreover, the institutional logics on which the premises for growth are based emerge, in turn, from the need to draw on the great wealth of knowledge accumulated by the stakeholders, as members of an increasingly complex system where roles and responsibilities are often interchangeable and exchanged.

In this context, the dynamics of the Triple Helix model can be reorganised, to introduce the vocation and culture typical of management into an industrial and academic environment. As a result, actions concerning intellectual protection become a reality in the field of practical experimentation. Civil society attains a higher level, a place of thriving dynamic interaction between human capital, markets, universities, firms and research centres. This reciprocal collaboration does not compromise the autonomy of strategic behaviour, competitive capacity and the driving force of institutions. On the contrary, the exchange of information promotes and stimulates greater integration and progress in development driven from below, following a bottom-up logic, or democratisation logic, which, compared to a top-down approach, is not difficult to apply and adapt at a local level.

**Table 1: Institutional orders in the evolution of Triple Helix model**

| Stages of development                          | Major Triple Helix activities  | Favourable institutional logics   |
|--|--|---|
| Stage 1<br>Realisation of the needs            | Realising the importance of entering a reciprocal relationship between university, industry and government | <ul style="list-style-type: none"> <li>● Shared beliefs on knowledge as a key to economic growth (Logics of economic growth in the field of government and industry)</li> </ul>   |
| Stage 2<br>intra-organisational transformation | Taking the role of the other   | <ul style="list-style-type: none"> <li>● Market oriented organisational cultures (Logics of market at the state level)</li> <li>● Process oriented management culture in technology innovation (Logics of knowledge management in the fields of industry and academia)</li> </ul> |

|   |   |  |
|---|---|--|
| <p>Stage 3</p> <p>interactions between organisations in the three sectors</p> | <p>Growing and innovating through cooperation with others</p> <p>Generating hybrid organisation</p>   | <ul style="list-style-type: none"> <li>● Effective protection for intellectual property rights and market participants (Logics of intellectual property at the field of industry)</li> <li>● Civil society (Logics of civil society at the state level)</li> </ul> |
| <p>Stage 4</p> <p>Institutionalisation of the Triple Helix model</p>          | <p>Feedback loops between policy-makers and participants</p> <p>Institutionalised norms of “entrepreneurial university”, “knowledge-based formation and growth”, and “innovation state” (Etzkowitz 2008).</p> | <ul style="list-style-type: none"> <li>● Competitive market environment (logics of competition in the field of university)</li> <li>● Democratic policymaking process (Logics of democracy in the field of government)</li> </ul>                                  |

Fonte: Cai, 2013

### **3. What about the Quadruple Helix Model and the Concept of “user”?**

The Quadruple Helix model is difficult to interpret, not only because of the considerable problems in actually defining the concept. Indeed, these problems fully confirm how critical it is to evaluate this model independently from the Triple Helix. The Quadruple Helix “... in this context, means to add to the above stated helices a ‘fourth helix’ that we identify twofold, as the ‘media-based and culture-based public’ as well as the ‘civil society’ ” (Carayannis and Campbell 2009, pp 206-207; Carayannis and Campbell 2011; Lindberg et al. 2012; Colapinto and Porlezza 2012). Despite the many different perspectives and directions from which the Quadruple Helix model can be observed, and all the shapes that innovation can take in each case, in its basic form, the Quadruple Helix model is clearly anchored within the same working mechanism at the root of the Triple Helix model. Both models share an observation point centred on reciprocally influential relationships between the various categories of actors belonging to the innovative system, and

both retrace the methodological and ideological reference points defined in various works.

The Quadruple Helix, however, involves exploiting new dynamics and exploring new trajectories to reach a greater understanding of the “emerging” relationships between organisations that are now the condition on which innovation is based. Currently, it would not be possible to govern structural complexity and uncertainty that permeates through the entire economic and social environment and has its origins in the growing power of science and industry, without the learning processes put in motion by firms (Carayannis et al. 2006; Carayannis et al. 2011). Indeed, since the firm is constrained by the principle of competitive performance, it inevitably learns how to manage the relationships through which are channelled the increasingly varied and intense division of labour involved in the production and use of knowledge. In situations of rapid change and strong diversification that are typical of modern industrial capitalism, if firms can identify what the “public” wants in terms of achieving the desired effects from an innovative process, they can address the restrictions imposed by cognitive boundaries.

“Another candidate as fourth helix is the user that is very close to Yawson’s candidate, the ‘public’ ” (Arnkil e al. 2010, p. 14). This means that, for the firm to survive and have a continuing presence within the environment in which it operates, it must establish a “useful” relationship between itself and the “user”; in other words, this means addressing the problems that the firm can satisfy through its productive capacity in a more direct and timely fashion. Incidentally, in this perspective, the firm remains tied to the user indefinitely and tendentially infinitely. This link forms the basis for firm survival and development: however, in a different perspective, the link established through the narrow channel of “giving an asset or benefit that meets a given need” would only be valid for the length of time in which there is that precise need and at the moment in time when the precise asset or benefit can satisfy that need in the best possible way.

In addition, the problem that the user wants to solve must not be underrated, and neither should the fact that the desired solution is not always defined precisely in all its points. This fact implies, on the one hand, that the firm has significant social and moral responsibility and that proposing suitable solutions to real problems is also in its own interest (Gouvea et al. 2013; Lindberg et al. 2014; Carayannis et al. 2012). On the other hand, it ensures that the firm interacts with users, becoming the interlocutor that understands their real needs better than any other. Firms can use this

knowledge, and its particular repercussions on the logics of economic production, to decide whether they are able to solve the user's advanced problems as well as or better than what is currently available on the market (Carayannis and Campbell 2011; Lindberg et al. 2012; Colapinto and Porlezza 2012).

The firm will interact over any given period with potential users who are not in the least inclined to establish a long-standing relationship, since they are not demanding a fixed problem-product, in part because of the never-ending changes to their psychological, sociological and economic conditions, and in part because of the evolution in technology. Therefore, ever-new solutions are offered to satisfy the user's problems. It follows that, in both international and inter-industry markets, firm-user relationships are particularly sensitive to change and, being particularly precarious, they must be continuously monitored and looked after. By being aware of these changes, firms can adapt strategies, propose new solutions and, therefore, follow the process in which the user's needs evolve. Indeed, the firm's ability to respond promptly and exploit the potential offered by change is at the root of such development. At this point, however, it makes sense to examine in greater detail both firms and users within their own respective environments. It should be first highlighted that the perspective of development is not an issue reserved exclusively for firms.

In order to handle the evolution of science and technology, and, in this way, make sure that the environment of which the firms are part remains competitive, this environment must be compatible with the users' requirements, which, in this instance are their cultural, political, bureaucratic and indeed other needs (Betz, 2010; Carayannis et al. 2014). By accepting this structure, it is clear that a firm must be capable of implementing a system with the right strengths to pursue its development. In reality, in order to satisfy its economic performance, a firm must be able to implement and coordinate a very large and increasingly growing number of complex relationships. These, in turn, must not simply set (contractual) limits to the choices made by the firm, but must be capable of intervening strategically over the firm's objectives. The types of actors that constitute the innovative system are less and less unknown quantities (with no distinguishing features or personality) with whom the firm forms ad hoc relationships, and are, instead, entities with their own, often very diverse, interests that have an acknowledged meaning and stability and a given value. In particular, the Quadruple Helix model is not restricted to introducing new innovation vectors - the new innovation-enabler

organisations (Liljemark, 2004) or proposing them as new barycentres – that are leaving the periphery of the system and on the verge of becoming its centre (Andersson et al. 2009).

The Quadruple Helix model can also intuitively recognise that, in order to conquest less vulnerable competitive positions, there is the need for a type of innovation that involves searching for new ways in which the recipients of the innovation can be used and so put the new knowledge to more effective use (Colapinto & Porlezza, 2012; Maldonado et al. 2009; Pfeffer 2011; Altmann & Ebersberger, 2012). The concept of user, on the other hand, has not been defined in any detailed way in management literature. In order to introduce the phenomena covered in the analysis, the user must be framed in connection with all the diverse forms of social life, and, specifically, within the context of reference used to interpret the types and problems of innovative systems. It is now more difficult to define the cultural meaning of “user”, especially because of the growing interdependency of the environments in which social life is present (Lindberg et al. 2012). Just think about the arousal of consciences, when users are seen as active citizens. This reaffirms the centrality of the individual, who becomes the point of reference for a political and economic daily action and is able to “discover” social needs that have not yet been addressed. When, on top of this, the user is involved in public services, because of the different “expectations of the role”, either as a mere consumer of services (consumerist) or as an active supporter of decision-making models (collectivist), it becomes easy to compare different life practices (Lombardi et al., 2014; Leydesdorff et al. 2014; Trequattrini et al., 2015).

The great transformations that define firms are not simply the result of scientific and technological development, but also - and possibly to a greater measure - the outcome of the new political issues emerging in society, which are expressed through requests for democracy, social justice, liberty, participation in power and respect, in other words, the personality of the individual, as a member of society (MacGregor et al. 2010). For users to become empowered as individuals, public or community, organisations must again be compared in a logic of “development” mediated by precise, concrete research into the “social facts” that are able to guide decision-making processes.

## 4. Conclusions

Global complexity induced by innovation in various environments has generated changes and transitional events that are leading towards a totally new phase in the evolution of society. In this phase, science, democracy, market, firms and information are refashioned under brand new assumptions. It is also very clear that their functional separation, with clearly defined boundaries, has not brought about reciprocal isolation. The various environments, while different in terms of origin and specialisation, are permeable and result in continuous cross-contamination and reciprocal grafting. In particular, the conditions for creating knowledge cannot be disconnected from the radically new technical environment where the knowledge is consumed and diffused in a pervasive and accelerated manner, as an effect of the information technology revolution. Inundated by electronic change, information systems have undergone a formidable process of power, differentiation and acceleration, reaching the limits of real time.

The problem that emerges relates to the need for symmetry in the production and distribution of knowledge, where, in the light of stronger long-term competitiveness, it is necessary to ensure that these processes will continue over time. There is, therefore, a shift in focus, towards methods for gathering, distributing and communicating knowledge that switch from a purely utilitarian treatment of knowledge to promoting new “spaces”, from market to territory and to collective knowledge. These spaces are constantly stimulated to “do” innovation, an innovation of the type that does not depend on a linear relationship of cause and effect, but is the result of complex (and mainly unpredictable) interactions between technical, economic and social factors. To establish true, virtuous competitive conditions, the excessive judicial protectionism of the results of intellectual activity that restricted and concentrated the offer of innovation in the hands of a few, has given way to liberty of action (think about free revealing) that gathers and layers knowledge, and then make it available automatically on the market.

On the other hand, by developing a capacity to find sources of innovation in social environments, in gatherings, in communities of practice, through one’s own intellectual interests, social attitude and professional relationships, then, inevitably, new experimental situations will open up (think of living lab), inverting the vector of authority, shifting from linearity to creative chaos, from hierarchical governance from above to collective self-governing from below. In this way, local and global, and

private and public, environments will exist together within the new and apparently more harmonious equilibrium of innovation, where no one part excludes the other, especially when the contents of the one are the meaning of the other.

It would seem, therefore, that in the field of innovation, there are no fixed points. Probably it is partially for this reason, that innovation is studied through systemic models, a type of structure that is less dependent on all its parts functioning perfectly. Innovation analysis must co-exist with these structures; due to the inter-connections between the various parts, the model become more reliable than its single parts, because it activates social and institutional relationships capable of governing markets and producing value in the most coherent and advanced forms.

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