Handbook of Research on

Entrepreneurship, Innovation, and Internationalization

Nuno Miguel Teixeira, Teresa Gomes da Costa, and Inês Margarida Lisboa

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A volume in the Advances in Business Strategy and Competitive Advantage (ABSCA) Book Series

Published in the United States of America by
IGI Global
Business Science Reference (an imprint of IGI Global)
701 E. Chocolate Avenue
Hershey PA, USA 17033
Tel: 717-533-8845
Fax: 717-533-8661
E-mail: cust@igi-global.com
Web site: http://www.igi-global.com

Library of Congress Cataloging-in-Publication Data

Names: Teixeira, Nuno Miguel, 1974- editor. | Costa, Teresa Gomes da, 1964- editor. | Lisboa, Ines Margarida, 1981- editor.
Title: Handbook of research on entrepreneurship, innovation, and internationalization / Nuno Miguel Teixeira, Teresa Gomes da Costa, and Ines Margarida Lisboa, editors.
Description: Hershey, PA : Business Science Reference, [2020]
Identifiers: LCCN 2018054605| ISBN 9781522584797 (hardcover) | ISBN 9781522584803 (ebook)
Subjects: LCSH: Strategic planning. | Entrepreneurship. | Technological innovations. | New products. | International trade.
Classification: LCC HD30.28 .H366335 2020 | DDC 658.4/012--dc23 LC record available at https://lccn.loc.gov/2018054605

This book is published in the IGI Global book series Advances in Business Strategy and Competitive Advantage (ABSCA) (ISSN: 2327-3429; eISSN: 2327-3437)

British Cataloguing in Publication Data
A Cataloguing in Publication record for this book is available from the British Library.

Advances in Business Strategy and Competitive Advantage (ABSCA) Book Series

Patricia Ordóñez de Pablos
Universidad de Oviedo, Spain

ISSN:2327-3429
EISSN:2327-3437

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has a significant positive influence on the profitability. In addition, market orientation shows significant and negative effects on the profitability of SMEs. For these types of companies, it is important that they focus their efforts on customers, the market and the main competitors. This investigation contributes to the development of the literature on entrepreneurial behavior and dynamic capabilities.

Chapter 3

Currently, small and medium enterprises that are family businesses (SMEFs) assume an important role in the global economy. Further, innovation and flexibility became vital to firms' survival and prosperity in the market during these volatile times. Firms should not only possess critical resources, but also be able to recombine them. Characterized by resource restrictions, SMEFs can rely on dynamic capabilities to access resources and be competitive in the market. In this regard, networking capabilities (NC) and resource combinations (RC) such as exploitative and explorative product development and on market-related capabilities emerge as key dynamic capabilities. This chapter examines the role of Entrepreneurial Orientation (EO) on NC and RC. Using a qualitative method of in-depth case study, the chapter analyzes 12 Portuguese SMEFs.

Chapter 4

Although management literature mostly reports a positive association between entrepreneurial orientation and firm performance, it also recognizes that different business contexts may prompt different manifestations of entrepreneurial orientation. Considering that family firms constitute the backbone of most economies across the globe, and based on arguments from socioemotional wealth perspective, this research aims to examine the moderating effect of being a family firm on the relationship between entrepreneurial orientation and firm performance. The empirical study is based on primary information obtained from the chief-executive-offices of 402 small and medium-enterprises (SMEs) from Portugal, a country located in southwestern Europe, and one that has been scantly investigated by the literature in the confluence between entrepreneurial orientation and family firms. Results show that the family firm status weakens the relationship between entrepreneurial orientation and performance in the Portuguese SMEs.

Chapter 5

Family businesses are considered as an important source of economic development and growth in that they create added value by providing new products, processes and technologies. Family businesses, where family values and perspectives dominate, have begun to experience problems in adapting to such

a structure in the global economy, where the rate of change has increased, and the competition is intense. In the process of restructuring, entrepreneurial orientation is vital for these businesses. From this point of view, the aim of this chapter is to define family business, to explain their characteristics and to show the two perspectives on the entrepreneurial orientation of family businesses. The concept of "family entrepreneurship" and "transgenerational entrepreneurship" is also mentioned in the chapter. In relation to what is told in the chapter, how a conservative structure has been opened to the market by its third generation, a family business in Turkey that is going through its third generation and the innovations brought about by the new generation compose the case study.

Tourism is a strategic sector for the Portuguese economic and social development in general, and for Setúbal municipality in particular. Consequently, the existence of an effective ecosystem that promotes competitive business is crucial for the region. This chapter considers how the entrepreneurial ecosystem concerning tourism sector is perceived and operates in this Portuguese municipality. The authors chose a case study research strategy, in addition to documental analysis, through which we selected 45 stakeholders to participate as a focus group, related to the entrepreneurial activity in tourism in the municipality. The evidence shows that Setúbal municipality has relevant ecosystem elements, which are determinant for the development of the tourism entrepreneurial activity in this region. However, it is not functioning systemically in a way that can generate more effective results in the entrepreneurial activity. This result is also related with the fact that tourism activity in the region is in an initial phase and it is expected that, with its continuous development, the entrepreneurial ecosystem will also grow and become stronger, being able to create more synergies that will support new businesses.

Academic entrepreneurship literature has been covering a wide array of subjects, including studies on the role of universities in the process of transferring knowledge, the role of governments in spin-off processes and on the creation of new companies (start-up) and also with several scopes of research, such as the role of university policies in the creation, development and relative performance of spin-offs. These new companies are an important mechanism for transferring knowledge, but their performance/survival rate is considered low. Despite their importance in knowledge transfer, there are still few studies on this mechanism, which demands further research. In this chapter, the aim is to understand the phenomenon of academic entrepreneurship in its diverse dimensions, the process and the different mechanisms of knowledge transfer; and to ultimately understand the role of academic spin-offs in the conversion of knowledge produced in universities.

Born Again Globals, and Born Regionals—allowed comparison of the main characteristics of each theory vis-à-vis the firm's internationalization. A synthesis table summarizes the main characteristics of the internationalization process of each model and presents a clearer view of the particularities of each. Analysis of the primary data and interviews provided by the company's CEO made it possible to compare the internationalization process adopted by the company with those characteristics, facilitating the process of identifying the strategy followed. The present case study took into account the theoretical model with the greatest similarity of characteristics with the path followed by the firm, as well as its learning and future plans.

This chapter aims at providing a theoretical explanation for the observed heterogeneous internationalization behavior of small and medium enterprises (SMEs). In this chapter, the authors propose a conceptual framework of how the entrepreneurs' cognitive systems affect the internationalization decision making in SMEs, and supplement extant normative theories of venture's internationalization with entrepreneurial and psychological constructs. The proposed framework suggests that entrepreneurs' cognitive systems (expertise-based intuition System-X and the analytic System-C) moderate the relationship between the perception of environmental validity and the venture's internationalization decisions. This approach explains how entrepreneurs perceive the environment in such a way that some will recognize an international business opportunity, evaluate alternatives and, finally, decide to start and grow an international venture by following any of the extant patterns of internationalization, namely a sequential, gradual and slow pace or an accelerated and not necessarily sequential approach.

The present study seeks to analyze the behavior of a technological start-up regarding its entry modes in foreign markets. It is based on the case study of a company in the field of 3D printing and takes into account the analysis of topics such as the internationalization of start-ups and modes of entry in foreign markets, considering several theories of internationalization. As the company analyzed is a start-up, the research is supported by the analysis of the characteristics present in the process of internationalization of small and medium-sized enterprises (SMEs). The study closes with the conclusion that this SME matches the profile of an International New Venture/Born Global (INV/BG), although the company takes advantage of the network-based theory and relationship orientation to enter international markets. The most used mode of entry by the company in international markets has been exporting activities.

Preface

This book emphasis on the relevance of entrepreneurship, innovation and internationalization for firms. It integrates a three virtuous circle that almost all companies should take into account when establishing a strategy that allows the company's sustainability in future generations. By focusing on basic concepts, explaining the link between them and the firm's success, this book is an important tool for the definition of the business strategy.

The specificities of small and medium-enterprises (SMEs) and family firms, two important groups of firms all over the world are also addressed. Different sectors, countries, contexts and firms are explained in this book giving an overall picture of what is going on in the world with regards to these fields of research.

So, with a multi-disciplinary contributes from several researchers, this book provides key data to managers for planning and control innovation and internationalization processes in the way to avoid risk and increase the firm's value.

Topics covered are also important for academics and students of master and doctoral degrees as it makes a synthesis of literature review in these areas and makes contributions that increases the knowledge in these topics of research. Usually these three topics are analyzed in separate, and not in a integrate perspective.

Several topics associated with entrepreneurship, innovation and internationalization are discussed and addressed, such as:

- The relation between the business strategies and performance of companies;
- The importance of the entrepreneurial orientation in the innovation and the profitability;
- The importance of dynamic capabilities to develop sustain competitive advantages;
- The effect of being a family firm on the relationship between entrepreneurial orientation and company performance;
- The challenges of transgenerational family entrepreneurship;
- The importance of perception of entrepreneurial ecosystem in the development of tourism businesses;
- The role of academic institutions to contribute to the success of entrepreneurship;
- The role of academic institutions in the perception of the higher education students about the challenges of entrepreneurship;
- The importance of development of entrepreneurship in the organizational performance of Higher Education Institutions;
- The importance of innovation and entrepreneurship to avoid the impact of economic crises;

- The impact of willingness to innovate and of assessing innovation as an essential element of competitiveness;
- The effect of being a family firm on the relationship in the R&D productivity;
- The relation between leadership and adoption of organization Innovation;
- The role of open innovation to the dynamism of innovation in companies;
- The importance of financial reporting on innovation to the company's value and to the investor's decisions;
- The relation between internationalization theories and the real practice of companies international processes;
- The importance of the cognitive approach of managers to the internationalization process;
- The challenges of the internationalization process of SME's;
- The management of internationalization process risks;
- The management of credit policy;
- The challenge of national cultures to the expatriates and the role of Leadership;
- The challenges of global outsourcing.

The 23 chapters are organized in relation to the main topics of the book: entrepreneurship, innovation and internationalization.

ENTREPRENEURSHIP

Chapter 1, based on a literature review, focuses in particular on the relationship between the business strategy and the financial performance, which naturally, will study the different approaches to the competitive context and the strategic initiatives themselves. It presents the contributions of different authors over time and the evolutionary logic of the approaches on business strategy, which emphasize strategic positioning and resource-based theory. Several types of strategies are also approached and the main empirical evidence from the different studies about the relationships between business strategies and financial performance are presented.

Chapter 2 analyzes the opportunities for entrepreneurship, the behavior of the entrepreneurial orientation and the orientation towards the market that is developed in the SME, and the innovation and profitability effects in the field of SME. The research is based on a sample of 1012 commercial, services and industrial enterprises of the Northwest region of Mexico.

Chapter 3 examines the role of Entrepreneurial Orientation (EO) on key dynamic capabilities such as networking capabilities (NC) and resource combinations (RC) to create a competitive position in the market. The study focuses on 12 Portuguese SMEs.

Chapter 4 examines the moderating effect of being a family firm on the relationship between entrepreneurial orientation and firm performance. The empirical study is based on primary information obtained of the chief-executive-offices of 402 SMEs from Portugal.

Chapter 5 studies the family businesses, where family values and perspectives dominate, and the way they experience problems in adapting their organizations in the global economy, where the rate of change has increased, and the competition is intense. It presents an example of the challenges crossed by a third generation Turkish company.

Chapter 6 considers how entrepreneurial ecosystem concerning tourism sector is perceived and operate in a Portuguese city, Setúbal, conspiring all the specific environmental setting of this region. Specifically, this chapter studies the environmental conditions of the region for the development of tourism entrepreneurial activity; identifies the presence of elements that combined promote the development of tourism entrepreneurial activity in the region; verifies the capability of the region to the development innovated tourism products and services; identifies constraints related with tourism entrepreneurial activity; identifies if the existence of entrepreneurial ecosystem elements are adequate to the region; and identifies the existence of networks and collaborative relationships in the region for the development of tourism entrepreneurial activity.

Chapter 7, based on a literature review, studies the phenomenon of academic entrepreneurship in its diverse dimensions, the process and the different mechanisms of knowledge transfer, and the role of academic spin-offs in the conversion of knowledge produced in universities.

Chapter 8 examines the perception of the higher education students about the role of the professors in their knowledge about businesses and the challenges of entrepreneurship. The study is based on a survey conducted among final-year undergraduate business students in South Africa.

Chapter 9 studies the importance of entrepreneurial activity on the organizational performance of Higher Education Institutions (HEIs) and the impact on the success of the strategies, namely, on the accreditations of national agencies, on the positions in the rankings, on their external image and on the capacity to obtain students and financing.

INNOVATION

Chapter 10, based on a wide literature review and analysis of case studies, focus on the relevance of innovation and entrepreneurship in modern economies and analyzes the importance of these two concepts in modern economies during economic and financial crises, as a relevant way to perform economies to prevent and to overcome crises, in an evolutionary perspective.

Chapter 11 analyzes the characteristics of companies of Extremadura (region of Spain) based on perceptions they have about two variables: willingness to innovate and assessing innovation as an essential element of competitiveness. Data come from an ad hoc questionnaire focused mainly on variables related to innovation and with a sample superior to 700 companies.

Chapter 12 has the aim to analyses the moderating effect of family management on the relationship between R&D inputs and R&D outcomes, that is, R&D productivity, using a longitudinal sample of 337 Spanish privately held manufacturing firms.

Chapter 13 aims to answer the question of what are the determinants of the adoption of organizational innovation. In this sense, it presents an example, identifying some of the organizational factors which have the capacity to influence organizational innovation in an innovative Portuguese company.

Chapter 14, based on a wide literature review, studies the importance of practices of open innovation as a solution for the achievement of sustainable competitive advantage, and a way to better respond to market by the development of products in a shorter time than the others developed on traditional research departments of companies.

Chapter 15 aims to present some limitations of financial reporting on innovation with an impact on the investor's decision-making process and on the value of companies. Based on a literature review, it discusses how the value relevance of financial reporting is conditioned by non-financial factors related with the innovation: the intangibles.

INTERNATIONALIZATION

Chapter 16 analyzes the strategic international formulation of a Portuguese SME technological service-based firm, to perceive the internationalization theory that best suits the company throughout its history. This research is based on the literature review of the most studied internationalization patterns – Uppsala Model, Born Globals, Born Again Globals and Born Regionals – and allows the comparison of the main characteristics of each theory with the firm's internationalization process.

Chapter 17 aims to provide a theoretical explanation for the observed heterogeneous internationalization behavior of small and medium enterprises - SMEs. It proposes a conceptual framework of how the entrepreneurs' cognitive systems affect the internationalization decision-making in SMEs, and supplement extant normative theories of venture's internationalization with entrepreneurial and psychological constructs. The proposed framework suggests that entrepreneurs' cognitive systems (expertise-based intuition System-X and the analytic System-C) moderate the relationship between the perception of environmental validity and the venture's internationalization decisions.

Chapter 18 seeks to analyze the behavior of a Portuguese technological start-up regarding its entry modes in foreign markets. It is based on the case study of a company in the field of 3D printing, and takes into account the analysis of topics such as the internationalization of start-ups and modes of entry in foreign markets, considering several theories of internationalization related to small and medium-sized enterprises.

Chapter 19 describes the main theories of internationalization and then highlight the motives, barriers, reasons, and mode of entry of Finnish retail SMEs in Russian market. Data was collected through a mail survey questionnaire and the research was based on a final sample of 145 companies.

Chapter 20 focuses on the risks associated with globalization and on the risk management techniques that may be used to mitigate them. Therefore, the main aim of the research was to demonstrate how a Portuguese company in the sector of the Ship-Chandler, with an activity focused on international customers, is exposed to the risks of internationalization and how it can use risk management techniques to mitigate those risks.

Chapter 21 wants to summarize all information needed for a company to establish credit policy for each customer or group of customers. First, credit risk and customers' credit risk are explained, to call the attention to the need to manage it. Then it is enlightened how a Portuguese company with activity with international customers can manage credit to maximize its value and reduce its risk.

Chapter 22, based on a wide literature review, analyzes the importance of the theme of expatriation to the competitiveness of the organizations, and highlights the necessity of adjustment of expatriates in a new culture. Poor performance by expatriates compromises the success and competitive capacity of organizations. Like expatriation, responsible leadership is a very important topic. So, this chapter focuses also on the theme of Responsible leadership, because it can be the answer for a more ethical business in a context full of uncertainties with different relationship between leaders and stakeholders (internal and external).

Chapter 23 focuses on the importance of global outsourcing for the competitiveness of companies and presents some cases of American companies to explain the advantages and disadvantages of this business strategy. It ends with a description of the challenges to the outsourcing in an actual context with a lot of uncertainties related to signs from some major economies of national protectionism of their culture and their businesses.

All of the above-mentioned chapters work together to present a combined image of Entrepreneurship, Innovation and Internationalization in several and multidisciplinary perspectives.

Finally, we would like to thank all authors for the participation on this book as well as IGI Global staff, for their continuous support during the development of the book.

Chapter 1
Business Strategy and Financial Performance

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ABSTRACT

This chapter will focus on the relationship between the business strategy and the financial performance, which naturally, will study the different approaches to the competitive context and the strategic initiatives themselves. The contributions of different authors over time and the evolutionary logic of the approaches on business strategy are first, which will emphasize strategic positioning and resource-based theory. Next, several types of strategies will be approached, based on different views: product and market choices, sources of competitive advantages, the activities to be carried out internally or to be subcontracted and the geographic space of action (internationalization). Finally, a number of research papers will be presented that studied the relationships between business strategies and financial performance, mentioning the main empirical evidence from the different studies. In this way, it is intended to contribute to a better knowledge of successful strategies in the business context.

INTRODUCTION

This research work focus is, above all, the connection between business strategy and financial performance within organizations. Naturally, through literature review, different approaches on the competitive context will be studied, as well as different strategical initiatives.

DOI: 10.4018/978-1-5225-8479-7.ch001

It begins by presenting different literature contributions over time and the evolutionary logic of the approaches on business strategy, highlighting the strategic positioning and resources-based theory.

The points that follow will describe each of the approaches, the relationship among them, as well as some concepts and results of empirical studies on the two research currents that have attempted to explain the performance differences between companies operating in the same industry. On strategic positioning, it stands out the Porter model of the five competitive forces (1980), and the intra-industry analysis, that intends to study companies' behaviour within an economical sector, by identifying companies with similar strategies (strategic groups) or competing in the same markets (competitive groups).

As far as resource-based theory is concerned, we will highlight the concepts of resources, capacities and competencies, and highpoint different authors' contributions to the development of this business strategy approach. Finally, we will reflect about the complementarity between strategic positioning and resource-based theory, characterizing its importance on success in business.

Next, considering the variety of strategic actions susceptible to be developed by the organisations, we identify scopes that have been considered to explain performance, both in the various approaches of business strategy, as in empirical studies developed for this purpose. Thus, various types of strategies will be addressed, based on different visions: product and market choices (Ansoff, 1984; Martinet, 1989), competitive advantages sources (Porter, 1980; Hill & Jones, 1995), operational chains activities internally carried out or subcontracted (Porter, 1985; Martinet, 1989) and geographic area of action, namely internationalization (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977).

Finally, we will present several research studies about relationships among business strategies and financial performance, as well as their main empirical evidences.

So, the main purpose of chapter one is to characterize the different approaches on business strategy, the different strategic dimensions related to the large management decisions of the organizations and, simultaneously, to present the main results of investigations that have studied the relationships between business strategies and financial performance. In this way, we intend to contribute to a greater understanding of successful strategies in the business context.

METHODOLOGY

The methodology adopted is based on a detail and systematic review of the literature on main topics covered, more specifically, strategy approaches and performance.

The literature review is based on research in databases such as B-on, with access to web knowledge and a great diversity of publishers, like for example, Elsevier, Wiley, Springer, Kluwer, SAGE and EBSCO.

Are also consulted the databases of Proquest, JSTRO, Science Direct, Wiley Library Online, complemented by searches through Google and Google academic. Using specific search terms, the literature about the core concepts is explored and the critical analysis of the literature is made throughout the chapter.

THINKING STRATEGIC APPROACHES

The development of management as a discipline arose from companies' growth in the end of the nineteenth century, because of the second Industrial revolution. The main goal of the classical management approach was the need to systematize work organization and make it more efficient for workers to perform tasks.

On that matter, important contributions were made by Frederick Taylor (1911), Henry Fayol (1916) and Max Weber (1904) who studied, respectively, productivity in tasks performing, the chain command, and bureaucracy as a way of establishing rules and procedures in the organizations' functioning.

Since the early 30's until the early 60's of the twentieth century, there were significant progress in this matter. The management behavioural approach was featured by Elton Mayo (1933), which focused on motivation, by Kurt Lewin (1935) who wrote about group dynamics and its effect on learning. In addition, Robert Bales (1950) and Douglas McGregor (1960) wrote about kinds of leadership to adopt, depending on the attitude of the employees towards work, in order to answer productivity issues due to workers' dissatisfaction.

Centered on the improvement of processes and the encouragement of collaboration, Drucker (1954) developed the concept of management by goals, which aimed at the alignment of managers concerning organizational objectives through authority decentralization, participation and employees' accountability in planning, defining and controlling.

Overcoming reflection about the companies' internal aspects, the 50's marked the emergence of works that stressed, for the first time, the importance of the surroundings environments in the organizations' activity:

- Systems theory was adapted by Forrester (1958) from the original theory about living organisms, that aroused the analysis of the company as an open system in constant interaction with its surrounding, being itself formed by subsystems that interact with each other, mutually conditioning;
- The contingency theory, raised by Joan Woodward (1965), evidenced that management and organization are not static. The way decisions are made must conform to the internal reality of each company, and how it should fit into the surrounding environment where it is inserted.

Whereas the company is indissociable from the context in which it acts, and that it is subject to changes, planning the future in the likeness of the past has become increasingly less adjusted to reality. The concept of strategy, from military art, was introduced in management, with remarkable development in the 60's.

In 1969 and in line with the principles of systems' theory, the LCAG model (initials of the authors ' names – professors Learned, Christiensen, Andrews and Guth, from Harvard Business School) established a method for analyzing the relationship between the company and its surroundings environments, to support decision-making regarding the future (Learned et al., 1969). Thus, companies' strategy enhancement, should analyse its surroundings environments, essentially as regards the economic, technological, political, legal and social means, in order to predict future alternative scenarios. After, strengths and weaknesses should be analysed, as well as their distinctive competences, that represent what the company can do better than its competitors.

In this way, formulating a strategy would include both surrounding environment and internal resources' conditions, with a view to establish a way to create competitive advantages. This confrontation that the SWOT analysis expresses, between opportunities and threats detected in the environment, and the strengths and weaknesses of the company, identified in their internal analysis, enabling the establishment of suggestions for strategic actions, was the practical instrument that lasted.

Other aspects were also studied, at this point. In line with contingency theory, Chandler's work (1962) evidenced a close relationship between the organizational structure of large companies and the evolution of the outlined strategy, being a key factor in its implementation. In this way, there is no ideal way to organise, but a way that, at every moment and situation, is more suitable to the chosen strategy.

Still in the 60's, enjoying of a relative predictability of the surrounding environment, companies were growing and generating financial surplus. Strategic Analysis had the financial area as focus, creating detailed budgets for the medium and long term, so to perspectives the growth measure of both the market and the organization (Grant, 2005). At that time, the most successful companies were those that could ensure monopolistic positions, obtaining greater market share and, therefore, scale economies that generated greater profitability. Such competitive positions, were based on the creation of barriers to competitors' entry, coming from other industries (Rumelt, Schendel & Teece, 1991).

The strategic focus passed, thus, essentially, by the resources' development to monitor the evolution. To this purpose, Greiner (1972) established a model of organizational structure evolution, according to the age and size of the company, the industry growth rate, the managers' maturity and the structure itself. Each stage of the company's evolution was preceded by a crisis arising from the growth of the activity and demanded the transformation of the resources' organization and the way of directing the managers, to ensure the necessary flexibility to the challenges of the business context.

Due to the large growth of companies during the 60's and investment needs from the financial surplus arising from the activity, the business diversification strategy became current among the main business groups, giving rise to conglomerates of companies. The lack of strategic analysis tools for such companies encouraged the consulting firms Boston Consulting Group (BCG), McKinsey and Arthur D. Little (ADL.), to create management tools for business portfolios that, in a practical way, sought to provide answers to the needs.

The Boston Consulting Group, through their collaborator Bruce Henderson, launched during the 70's, the famous matrix BCG that stressed the effect of economies of scale and experience in managing business portfolios. As companies specialised in a business, the resources were naturally optimized through the experience in activities' implementation. That brought up a very important strategic implication, since leadership in each business or market segment allowed better profitability, not based only on scale economies, but also on accumulated experience, that permitted lower costs, when compared to those of the less efficient producers.

The BCG matrix interconnected the attractiveness of different businesses with the company's competitive position in these same businesses. It used the growth rate of the market/industry to measure attractiveness, considering high rates those above the growth of the national economy. Regarding the competitive position, the indicator used was the relative market share, which was given by the ratio between the company's market share and the market share of its biggest competitor in each business.

Deep down, it was about achieving a risk diversification, simultaneously covering, businesses that provided short-term growth (stars – leadership in business with high growth rates), businesses that could generate cash-flows to finance the necessary investments in other business (dairy cows – business leadership with low growth rates), businesses that ensured sustainability in the medium and long term (question marks – non leadership in business with high growth rates) and abandonment of the remaining business (stray dogs – non leadership with low growth rates). The intention was, by doing this, to generate short-term profits without jeopardizing the business success in the medium and long term.

The main criticism made to the BCG matrix, concerns to the fact that it reduces business attractiveness to the growth rate and the company's competitive position to their market shares. As it is known, there are various factors that influence both the attractiveness of business and the competitive position of companies. For instance, on one hand, the existence of substitute products or the pressure of new competitors, are variables that condition the level of profitability generated by business. On the other

hand, notoriety, quality, offer innovation or process efficiency, clearly favors the position of the competitors that dominate these competences.

In response to these criticisms, the General Electric / McKinsey matrix arose. Although it bases the management of business portfolios equally on the attractiveness of each business and in the competitive position of each company, it doesn't consider only the growth rate and the market share, but uses several quantitative and qualitative criteria to conduct an appropriate analysis of the decision process. Each criterion is given a weighting, according to its importance in business evolution and company competitiveness.

Regarding the business portfolio management model developed by ADL, that also crosses the attractiveness of business with the competitive position of the company, the competitive ability of companies present in the business is also assessed by several criteria of a qualitative and quantitative nature, however, attractiveness is assessed through the business' life cycle, defending that the company should know how to reconcile business in the launching or growth phase, to demand high investments to keep up with the market growth, with a maturity-phase businesses able to release high cash-flows able to finance the activity.

The aforementioned models, inserted in an instrumental approach, are the first to use industry as a reference to position the business situation of the company and advocate strategies intended to be adjusted to their evolution.

However, the highest markets volatility and the increasing competitiveness on a global scale since the 70's, have come to modify competitive conditions and brought new research currents and new instruments of strategic analysis. In a turbulent environment, in constant mutation, where competitive rivalry was more intense, was visible that the environment required the organizations a constant strategic adaptation.

Due to greater context uncertainty, several models have also emerged, that intended to give a more reliable picture of the impact of the environment on business activity. In this sense, Ansoff, Declerk and Hayes (1976) developed the strategic management concept, definitively including environment changes in the Strategic analysis contents, what assumed the adjustment of the organizational configuration as a response to the contexts' adequacy.

Considering that the surrounding environment that most influences the company is the industry or industries in which it is inserted, Porter (1980), based on the structuralist model of the industrial organization in which the structure of the industry determines the behavior of the companies and determines the performance, rearranged the analysis of the industrial structure, framing it in 5 strengths (competition between companies, threat of new competitors, threat of substitute products, negotiating power of suppliers and negotiating power of customers). Thus, the attractiveness of each business varies according to the impact of each of the component forces of this model and, in this context, the company will react strategically, defending itself, controlling or influencing the forces in its favor.

In the same work, Porter popularized the concept of strategic groups (companies that acted similarly in certain strategic variables and tended to respond identically to the constraints of the surrounding environment), previously introduced by Hunt (1972), drawing attention that, within the same industry, there could be greater competitiveness. As such, performance was explained not only by the attractiveness inherent in each industry but also by the existence of strategic groups of companies, with different areas and forms of action and different profitability, follow-on the barriers of mobility that hinder the movement among groups.

Contrary to the perspective that presupposes a reactive attitude of the company to the surrounding environment, other jobs placed inside the company the center of the construction of the competitive advantages.

So, Nelson and Winter (1982) stressed the importance of Schumpeter's perspective: it is the ability to generate revenues through innovation, which is the base of competitive advantages and consequently, of the best performance. On the other hand, Mintzberg (1982) observed that the adjustments of the organizational settings did not depend solely on the adequacy, but they were also conditioned by sociologic factors of each company, related to their size, age, power, technology, etc.

The resource-based theory arose with this perspective, mainly since 1984, with the work of Wernerfelt and Rumelt. Several researchers (Wernerfelt, 1984, 1985 and 1995; Rumel, 1984; Prahalad & Hamel, 1990; Barney, 1991, 1997 and 2001) highlighted the concepts of central resources and competences, focusing on the explanation of companies' performance and use of resources to create sustainable competitive advantages.

By the foregoing, on the one hand, one can verify that the binomial Environment and Company constantly repeats itself in the search for the ideal combination of resources and key opportunities and threats, with different emphases to each of these elements (Collis & Montgomery, 1997).

On the other hand, the current reality shows us that optimal solutions in past situations do not mean success in new challenges (Sull, 1999), thus not surprising that the evolution of resource-based theory has been in the sense of highlight the relevance of companies ' ability to renew their core competencies over time, hindering the imitation by the remaining competitors.

Then arose the concepts of dynamic capacities (Teece & Pisano, 1994; Helfat & Peteraf, 2003) and organisational learning (Senge, 1990), fundamental in nowadays organizations. Also, in the opinion of these researchers, companies with greater financial sustainability over time were those who had greater ability to learn, continually renew and innovate.

At the same time, several works carried out during the last two decades (Barney, 1991; Peteraf, 1993a; Helfat, 1994; Markides & Williamson, 1994; Edvinsson & Malone, 1997; Kluge, Stein & Licht, 2002; Ray, Barney & Muhanna, 2004; Kaplan & Norton, 2004), evidenced that creating distinctive competencies and strong competitive advantages lays fundamentally in the internal resources denominated intangible assets, where included human resources, information systems and the quality of management, measured by the leadership capacity, to implement a culture of innovation and market response, to align the performance of the various functional areas and hierarchical levels and to work as a team and share knowledge.

However, it is not enough for organizations' success, formulation clear strategies to implement, regardless if based on the resources or the surrounding. It is also necessary having the capacity for its implementation.

So, during the last two decades, one of the main research topics in strategic management, has been realizing the ability to implement the strategy designed by the top organs of the organizations. According to Kaplan and Norton (2004) most companies cannot achieve the objectives planned, by failing to implement the outlined strategies. "At the limit, the strategy became Action" (Freire, 1998, pp. 42). That's why operationalising the strategy, through the so-called management control instruments, became essential for the mission dissemination and organisational objectives, and for aligning the performance of the various hierarchical levels and the various functional areas. These instruments include Responsibility Centers and the criteria for assessing the performance of managers and centers, based on operational plans, budgets, financial control and in controlling the critical factors of the success of the defined strategy, using *tableaux de bord* and balanced scorecards (Anthony & Govindarajan, 2001).

In this regard, the work developed over the years by Kaplan and Norton about balanced scorecard (2004), had the great merit of showing the importance of aligning the internal resources, the working processes performed, customer satisfaction and the creation of financial value to obtain a sustained organizational performance.

Thus, such as Ansoff (1987) already referred, the evolution of the approaches to business strategy, was fundamentally characterized, by two distinct research currents:

- One based on positioning, essentially rooted in the basic model of the Industrial organization (structure – behaviour – performance), which has as its main focus the surrounding environment and structural analysis of the industry, as a way of defining the target segments of products and markets and in sequence, suit the internal resources according to the kind of competitive advantages needed to develop;
- Another one based on company (where one could include the theory based on the resources) that focuses on what the company is capable of doing best, for selecting target segments of products and markets where sustainable competitive advantages can be built more easily.

Apart from Ansoff, also Mintzbeg, Ahlstrand and Lampel (2002), considered the existence of different approaches. Yet, researcher understand they represent only parts of the business strategy, which may complement each other, creating a close relationship between the surrounding environment, internal capacities and strategic formulation.

STRATEGIC POSITIONING

The Relevance of the Environment: General Environment and Sectoral Environment

As previously mentioned, strategic positioning assumes that the surrounding environment is decisive in formulating a strategy.

The business environment consists of a wide range of dimensions and its analysis implies some selection of those considered most important for the activity development. Literature refers to several methodologies, but the most common way to proceed is to separate the most relevant aspects into two levels of analysis: the general surrounding environment and the sectorial or specific environment. The general environment is the broader context in which the activity is inserted and understands, among others, political, economic, legal, environmental, technological and social aspects. These dimensions are, essentially, the basic conditions of the model of the Industrial organization. The sectorial or specific environment refers to the closest context, that is, which directly affects the activity. As previously mentioned, Porter (1980) sought to analyze it through the well-known model of the 5 competitive forces, whose intensity conditions the potential for profitability:

- Competitiveness among existing companies in the industry: contexts of great rivalry deteriorate profitability
- Suppliers' negotiating supremacy: sales price policies can affect an industry profitability, so do payment deadlines, delivery deadlines and products' quality

- Customers' negotiating supremacy: gaining pricing policies can affect an industry profitability, as well as payment deadlines, quality level requirements and product's adequacy
- Threat as in entry of new competitors: The entry of new competitors causes an increase in the supply capacity, affecting profitability level
- Threat of substitute products or services: Can condition the profitability of the industry by limiting the sales prices

Through the analysis of the 5 competitive forces, it is possible to obtain a competitive context by identifying the factors that may impact the potential industry attractiveness.

So, considering the structural characteristics of each industry, it will be possible to outline more correctly the actions to be undertaken in strategic formulation. For example, in a fragmented industry (in which supply capacity is distributed by a large number of organisations, each with little significant market share), companies should be able to respond to the needs of specific segments or promote concentration if they are in a position to exploit larger economies of scale than direct competitors. On the contrary, in a concentrated industry (where supply capacity is centred on a small number of organisations), companies could reinforce their economies of scale, their experience, or seize market segmentation opportunities not seen by other competitors (Porter, 1980).

According to Cachadinha, Bezelga and Reis (1995), some authors (Bain, 1956; Mann, 1966; Orr, 1974) considered that only the structural elements of the industries influence the performances of the companies, because of the relationship that is supposed to exist between companies in an industry, with a certain behavioral homogeneity.

Nevertheless, other authors (Hatten & Schendel, 1977; Porter, 1979; Caves, 1980; McGee, 1985) argued that companies are heterogeneous units in terms of size and behavior, which conditionate the performance.

So, for the first ones, the industry is a unit of analysis, and the performance is determined by its structural characteristics as, for the seconds, performance differences are justified by the industry and the behavior of each company.

In that sense despite performance differences between industries, there are also differences in performance between companies in the same industry (Cachadinha et al., 1995).

However, not all companies have sufficiently differentiated behaviours that justify the differences in profitability and, therefore, in a context of strategic positioning, the company should not be solely the most appropriate unit of analysis for explanations of performance differences, and it's necessary to take into account an intermediate level of analysis between the company and the industry (Cachadinha et al., 1995).

Intra-Industry Analysis

Although the industry analysis is an important source of information about the forces that condition the business activity, it is important to know in greater depth the competitive environment that a very aggregated analysis does not allow.

The study of how companies compete within the sector of activity to which they belong has been subject of attention in the literature on business strategy. Various approaches have been discussed by looking to group companies that resemble each other and that, therefore, are more direct competitors. Even in judicious defined activity sectors, there are always some heterogeneity. The analysis proposals

in literature basically settle in the dimensions that each one considers more relevant to unveil groups of companies, allowing you to map in a useful way the different competitive positions.

So, considering the strategies' similarity, there will be strategic groups and, essentially considering the products and markets characteristics to which they are dedicated, the competitive groups. Still, some authors defend that the establishment of competitive groups should be performed in a cognitive way, taking into account the way each company perceives the others as competitors.

Starting from different dimensions, the results are not coincidence and you can always discuss what each methodology allows and also its limitations.

These are the different perspectives that matters to discuss.

The Strategic Groups

Strategic groups were, undoubtedly, in the last quarter of the past century, the most debated analysis proposal. Presented by Hunt (1972), was released by Porter (1980), having been used in many empirical studies and the focus of theoretical discussions.

Hunt noted that, within the same industry, there were very heterogenous companies, which implemented different strategies. Thus, groups of companies can be formed, according to the strategy type assumed (strategic groups). In line with the model of the Industrial organization, the groups that developed more difficult strategic characteristics to copy by the remaining competitors, created mobility barriers. As such, groups with stronger barriers would have better performances (Porter, 1980).

It was understood, therefore, that the different performances were directly related to the strategic group to which the company belonged. Adapting the original idea of the industrial organization model, companies belonging to a strategic group, tended to collaborate in a way that would create a favorable competitive environment about companies from other strategic groups in the industry, avoiding new entries (Caves & Porter, 1977; Fiegenbaum & Thomas, 1990; Dranove, Peteraf & Shanley, 1998). This collaborative activity helped companies that constituted the strategic group, leading to similar performances among them (McNamara, Deephouse & Luce, 2002). So, companies belonging to different strategic groups were subjected to diverse competitive environments with different performance potential, generally creating differences in profitability between strategic groups and homogeneity within (Caves & Porter, 1977).

Alphonse, McGee and Thomas (1987), attribute relevance to strategic groups' definition for the following reasons:

- Defining strategic dimensions that give rise to groups allows a better understanding of how competitors formulate their strategies
- Defining strategic groups allows better understanding about competing companies
- Knowing performance differences among groups allow us to know the industry competitive strategies of success
- The observation of the dynamics among groups allows better understanding of the industry evolution and eventual strategic movements and responses to events of the surrounding environment

Thus, it was considered that a company performance could be explained by the intrinsic characteristics of the sector, the strategic group where it belongs and lastly, its own action (Strategor, 1993).

Continuing the work developed by Hunt (1972) on strategic groups, numerous studies have been elaborated by several authors, with different concepts.

Whereas Hunt (1972), Porter (1980), McGee and Thomas (1986), Hatten and Hatten (1987), Cool and Schendel (1987) had as reference to its concept the companies' strategies similarities, other authors, Newman (1973), Harrigan (1985a), Peteraf and Shanley (1997), associated the strategic groups' concept to a group of companies that acted in the same market, competing for the same customers.

Thus, several configurations can be found depending on the profiles chosen as a reference (Ribeiro, 2003). One can consider that:

- The strategic groups are susceptible to theoretical exploration – derived from the countless strategic profiles that can be used as definition
- The concept of strategic group is theoretical – the strategic groups are not constituted, one can identify, imaginarily, groups of companies that may not relate each other but find themselves working in an industry which is a study subject
- When different strategic groups have been identified – it is difficult to set its borders – fluctuate a lot according to the standards considered for strategic profiles established as a reference

Porter (1980), says that the definition of strategic groups is very important to identify a set of factors that facilitate competitive analysis:

- Mobility barriers among groups, which protect the group constituent companies from other groups' attacks, managing to maintain their positions
- Marginal groups, which represent companies that have poorly defined strategic orientations and therefore are potential candidates to enter strategic groups or to leave the industry
- Strategic movements of sector companies, showing strategies guidelines for companies in the industry
- Trends of change within sector companies and consequences that may exist at the performance level
- Forecasting of sector reactions to environmental events, since companies within a group tend to react similarly to threats and opportunities, due to the similarity of their strategies

Also, Martinet (1989), refers the importance of strategic groups to determine two types of competition, namely, inter that is directly related to the strategic movements that companies develop within the industry and intra, in which the performance of the companies within the group is determined by the quality and efficiency of its operational management.

Thus, in the context of the identification of strategic groups within a sector of activity, companies may adopt various guidelines, namely (Porter, 1980):

- Creation of a new strategic group through, for example, technological changes that create very strong entry barriers to remaining competitors
- Change to a strategic group in a more favorable position, with higher levels of attractiveness that provide better performance
- Strengthening the structural position of the existing group or the position of the company within the group, through actions that encourage mobility barriers that are more difficult to overcome
- Change to a new group and strengthen the structural position of it, through an increase in mobility barriers

Several empirical studies have been carried out in the context of the strategic groups, but with different objectives, highlighting, according to Vaz (1999) the following:

- The analysis of the strategic-performance group relationship
- The identification of strategic groups according to theoretical types of business strategies conceptually defined and each studied sector specificities
- Study of the strategic groups' dynamics

With regard to the relation strategic group – performance, several works were developed over the years, that evidenced differences in performance among strategic groups (for example, Cool & Schendel, 1988; Leask and Parker, 2007; Shah, 2007; Short, Ketchen, Palmer and Hult, 2007; Teixeira, 2013). However, other works, West, (1990), Lewis and Thomas (1990), Short (1993), Pinto (1995); Kling and Smith (1995) and Vaz (1999) didn't demonstrate that different strategic groups present significant differences in performance. In other words, identifying all of them the existence of strategic groups, they didn't all confirm that different strategic groups present significant performance differences (Cachadinha et al., 1995).

Other works were developed on various sectors of activity, identifying strategic groups and from which infer a diversity of conclusions.

Cool and Schendel (1987), Mascarenhas (1989), Fiegenbaum, Sudharshan and Thomas (1991), Fiegenbaum and Thomas (1995), Tallman and Atchinson (1996) and Vicente and Puerta (2001), developed studies with the aim of observing the dynamics of the strategic groups, explaining their formation and consequent evolution of strategic orientations, as well as Mascarenhas and Aaker (1989b), who studied the strategic changes over the different economic cycles in the oil industry.

As one can see, there is a wide variety of studies on the strategic groups' thematic.

As mentioned above, the analysis of the evolution of the topics covered through the years shows that, in the 70's and 80's prevailed the works on strategic groups' identification, in diverse sectors, and on the empirical confirmation of performance differences among groups, in order to highlight the most successful strategies.

From then on, several works have emerged, notably, Cool and Schendel (1988), Lawless et al. (1989), Cool and Dierickx (1993), McNamara et al. (2002) and Short et al. (2007), that focused their attention on the performance differences within the groups, placing particular emphasis on the importance of competencies developed at the company level in explaining the different levels of performance. These studies also intended to demonstrate that the level of rivalry within the group tended to overcome the collaborative effort, thus not cooperating in the creation of barriers of mobility.

Lawless et al. (1989), Reger and Huff (1993), McNamara et al. (2002) and Short et al. (2007), observed that the greater variability of performance differences was plaid within the strategic groups, because, being strategically similar companies, also tended to occupy the same competitive space more frequently and hence the level of rivalry be higher, in view of possible competition relations with companies from other strategic groups.

In this regard, it should be noted the concept of market segment, which is defined as a set of customers with the same needs, desires and wills. Consumers from another segment, have different needs. As such, a strategic group characterized by the differentiation, tends to compete for different customers, when compared with a strategic group that bets on cost leadership (Shah, 2007).

As for intra competitiveness, Govern and Huff (1993) and Porac, Thomas, Paton and Kanfer (1995), have come to point out that, considering companies' accomplishment, these could be divided into major, secondary and transitional, according to the identification degree concerning the strategic group' characteristics. Major companies were the reference firms of each group, which incorporated their traditional characteristics; secondary companies, included those that were attempting to secure alternative positions, avoiding direct competition with major companies; finally, transitional companies incorporated the players with marginal positions, which were less like the other members and could eventually try to move to another strategic group.

So theoretically, one would have to admit that, within strategic groups, it might be possible to have subgroups of companies that compete each other heavily. Obviously, this hypothesis does not invalidate that there were also other competitors from other strategic groups.

Peteraf and Shanley (1997) stressed the importance of the identity of strategic groups and their impact on competition. To these authors, the identity of the strategic groups was understood as the set of characteristics of the group identified by the managers, sufficiently recognised and considered by the members, conditioning the way individual companies act and perform. The greater the success of the major companies within a group, greater the tendency for the remaining players to imitate their behaviour, creating greater homogeneity in the way they act and strengthening the identity of the strategic group.

In this way, if a strategic group had a strong identity, it would predictably affect its way of action and the target segments of the various companies that composed it, leading to greater strategic similarity and greater uniformity in the type of customers to address.

On the other hand, a group with a weak identity, represented just an aggregation of companies acting individually, not collaborating. In this case, considering the heterogeneity of ways of action and potential market segments, these companies would be more exposed to competition from other strategic groups. In this situation, Leask and Parker (2007), verified that the strategic groups most vulnerable to competitors from other strategic groups, were subjected to greater rivalry and greater price wars, which clearly influenced its economic outcomes.

Other empirical studies (Bandura, 1986; Alphonse, Hart and Schendel, 1996), related to the theory of social learning, confirmed these behaviors.

According to Peteraf and Shanley (1997), the factors that contributed most to strengthening the identity of a group were:

- Having companies with high corporate success
- Geographical proximity among players
- Greater number of contacts in products' strategy development and markets, fostering collaboration instead rivalry
- Greater similarity in the internal resources used, which created greater similarity in the information and greater understanding of working processes
- Little business diversification, leading to less identification with other groups

Considering, therefore, the possibility of the existence of strategic groups with a higher level of performance, it must be considered the hypothesis of companies changing from a strategic group to another, as they are willing to establish identical strategies.

However, this possibility will depend on the access and realization of the variables that distinguish strategic groups with the highest level of performance.

Porter (1980) refers in his structure of industries' analysis model that there are six types of entry barriers, which constitute specific characteristics of each industry and which avoid with greater or lesser intensity the entry of new competitors: scale economies, product differentiation, change costs, cost advantages, access to distribution channels, capital needs e governmental policy.

While some barriers to entry protect most companies in some industries, the true degree of protection against new competitors will be associated to the inherent characteristics of the strategic group to which each company belongs. In fact, because strategic groups deal with varied competitive environments and present differences in strategic guidelines, the intensity of each type of entry barrier to new competitors differs in each group.

Thus, when we analyse entry barriers, considering the strategic group as a level of analysis, we verify that they should not only protect the company from competitors acting outside the industry, but also that they should reinforce barriers to the entry of companies acting in other strategic groups, the designated mobility barriers among strategic groups. Thus, mobility barriers between groups can be one of the main justifications for the different levels of performance in an industry.

According to Caves and Porter, (1977), the companies of strategic groups with higher mobility barriers, have a higher profit potential, because they avoid more easily entering companies from less attractive groups, that try to conquer positions in the most profitable groups. Inclusively, McGee and Thomas (1986) and McGee, Thomas and Pruett (1995), believe that barriers to mobility will be the most important variables for identifying strategic groups in an industry, which may fall into three categories: market-related strategies, industry supply characteristics and companies' characteristics.

According to the authors, market related strategic variables and industry' offer characteristics are barriers that can be surpassed over time, with progressive activity adaptation and appropriate financial resources' access, considering, therefore, the variables related to the companies characteristics that create the largest isolator mechanisms.

Still, some researchers have questioned that mobility barriers could be a strong explanation of the intra performance differences.

According to Baumol, Panzar and Willing (1982), when a company manages to obtain monopoly position, others try to copy the leader performance and there is a tendency for the above-mentioned profits to be divided by several players, reducing the profitability of all those involved in these competitive actions (Theory of the contested markets). Thus, when a certain strategic group manages to achieve higher performances, the companies of other groups try to enter in this favorable competitive position

Table 1. Mobility barriers' categories

Market-Related Strategies	Industry Supply Characteristics	Companies' Characteristics
Product line Used technologies Market segmentation Distribution channels Brands Geographic coverage Systems of vendas	Scale economies: - Production - Marketing - Administration Production processes Ability to R & D Marketing Systems Distribution Systems	Shareholder structure Organizational structure Control systems Management styles Limits to the levels of: - Diversification - Vertical integration Dimension Relationship with Groups of influence

Source: McGee and Thomas, 1986

in order to absorb some of these profits, which reduces the difficulty of overcoming mobility barriers. In sequence, performance tends to stabilize between the different groups.

Hatten and Hatten (1987), reported several examples of companies that, despite having very favorable competitive positions, due to mobility barriers of very strong new competitors, have seen their market share being contested by other companies. Such situations have illustrated that even the highly protected market positions could be put into question. Thus, in these cases, the theory of the contested markets was found in practice.

Still Hatten and Hatten (1987), drew attention to the fact that the mobility barriers protected with greater or lesser intensity, accordingly with companies' dimension: larger companies, entered more easily into small businesses groups than in niche markets, but the opposite situation doesn't happen so easily, due to the need for greater financial capacity that smaller companies did not have.

Mascarenhas and Aaker (1989a), studied the oil extraction industry and failed to obtain empirical evidence that the groups with greater mobility barriers, were those who presented higher profitability levels.

It can therefore be considered that the concept of strategic groups introduced by Hunt in 1972 and the subsequent significant work carried out by countless authors, has greatly contributed to the development of knowledge in the context of the business strategy, highlighting its importance in explaining different performances within an industry and in analysing competition, easing decision-making by managers in relation to the companies' strategic orientations.

Competitive Groups

The knowledge from studies within an industry strategic group can support decision-making of strategic nature, but, as some researchers have stressed (Cunningham and Culligan, 1988; Porac, Thomas & Baden-Fuller, 1989; Porac, & Thomas, 1990; Bogner & Thomas, 1993; Porac et al., 1995; Peteraf, & Shanley, 1997), only allows to answer the question: within an industry, which companies compete similarly?

However, knowing who competes more directly may imply consideration of other dimensions. In this sense, Grisprud and Gronhaug (1985), Porac, Thomas and Emme (1987) Porac et al. (1989), Cunningham and Culligan (1988), used the concept of competitive groups to identify the most direct competitors, intending to answer the following question: within an industry, which companies competed directly in the same markets with identical products?

In this way, these researchers clearly distinguish the concept of strategic groups, considering it associated with the existence of similar companies in their form of action, from the concept of competitive groups, consisting of companies with a high level of competition in markets and products, thus admitting that within a strategic group there may be companies that do not compete with each other and inversely within groups with a high level of direct competition there may be companies from different strategic groups.

However, for the identification of the group of companies competing strongly among themselves, that is, acting in the same markets with the same type of products, the use of different methodologies (Alka & López, 2001) is verified. Some authors (lawless & Anderson, 1996; Ruíz & Iglesias, 1997; Leask & Parker, 2007) use objective data, essentially on the product – markets strategy, to define companies that compete more strongly among themselves, through clusters analysis. Others (Cunningham & Culligan, 1988; Porac et al., 1989; Porac & Thomas, 1990; Bogner & Thomas, 1993; Porac et al., 1995; Peteraf, the & Shanley, 1997) understand that such identification is essential to be based on the managers' opinion, because they are those who formulate mental models about business and the company environment, creat-

ing references from the main competitors, monitoring their performance in the market, the resources they use and the skills they develop, trying to imitate their behavior or anticipate their actions. They therefore develop a thorough knowledge of their activity, which is sometimes not accessible to researchers. Even, some authors (Vázquez, 1991; Hodgkinson, Tomes & Padmore, 1996), identified competitive groups based on consumer opinion. It should be noted that in a study developed by Bigné and López (2002), when they sought to verify the conformity of opinion between managers and consumers regarding the establishment of competitive groups, concluded that there were quite different points of view.

To identify competitive groups in a cognitive way Alcañiz and López (2001) refer the following methodologies used in different studies:

- Classification of competitor categories: managers give their opinion on the groups of companies that compete heavily and indicate in which group their organization is included;
- Competitor evaluation: the managers are questioned about a list of competitive dimensions, and subsequently grouped the companies that compete most among themselves, through statistical techniques, which highlights clusters analysis;
- Analysts ' opinion: after questioning the managers and specialists of a sector on the most important competitive variables, they identify companies with a higher level of competitive rivalry, also through clusters analysis.

In the work developed in 1990, Porac and Thomas thoroughly characterized the mental model of managers on identification of direct competitors. They argued that the categorization of competitors went through a 5-step process:

- The managers started by developing cognitive taxonomies that summarized similarities and differences among companies
- They define their companies considering the most characteristic features of reference competitors
- They organized the information and attempted to conduct a categorization of the various competitors
- They framed the company in a given category, recognizing the competitors in this group as direct ones
- Any changes in the competitive context produced new competitive analysis, restarting categorization cycle, in order to identify the direct competitors

One of the first studies identified, regarding the establishment of competitive groups based on cognitive processes, was elaborated by Cunningham and Culligan (1988). They focused on the UK companies in the information technology sector, where tried to discover, through interviews of the managers, the direct competitors based on information on the panoply of products, markets and marketing channels.

Also Porac et al. (1989), in the study on the Scottish textile industry, refer that competitive groups should be defined cognitively, that is, based on managers' opinion and their knowledge of the other players, relatively to similarities and differences. In this sense, for these researchers, the notion of competitive groups went through the following definition: groups of companies competing for the same markets with similar offer (they dominated identical production technologies, making their products replaceable among themselves).

Meanwhile, several studies have been developed refering competitive groups of companies, however, with different objectives.

Reger and Huff (1993) and Leask and Parker (2007) conducted studies comparing the results obtained in relation to the strategic groups and the competitive groups.

In Reger and Huff's study (1993), the first, were formed considering the information about strategies implemented by the companies, while the seconds were identified through managers interviews about competitors. They found that the vast majority of companies in each strategic group divided itself into subgroups of direct competitors. They also verified that some of these subgroups were simultaneously integrating companies from different strategic groups, which meant that they were in the same segments with different strategies, affecting the levels of rivalry and, consequently, the potential profitability.

The study by Leask and Parker (2007), observed the existence of strategic and competitive groups within the British pharmaceutical industry, having reached the following conclusions:

- Companies included in the same strategic and competitive groups (most of the data): implemented similar strategies and acted in identical segments. Although competing for the markets, there were opportunities for cooperation and less propensity for price wars, which honed overall profitability
- Companies included in the same competitive group but from different strategic groups: implemented different strategies but acted in identical segments. In these cases, there was more rivalry and higher odds of price wars, which generated high competition costs and consequently lower profits
- Companies included in the same strategic groups, but which were part of different competitive groups: implemented similar strategies but acted in different segments. As such, there was also a propensity for greater collaboration through resource sharing or optimization of complementary product sales
- Companies that were in different strategic and competitive groups: implemented different strategies and acted in markets that were not occupied by the remaining competitors. Companies that applied the focus strategy were included here, i.e. investing in niche markets to escape competition from the remaining players

The study developed by Lawless and Anderson (1996) must also be referred, which sought to verify intra and inter competitive groups' performance differences, concluding that the best companies within each niche of competitors were the ones with the greatest differentiation, that similarity generated greater competition within groups and that competitors' stability in groups' structure favored financial performance.

On the other hand, Peteraf and Shanley (1997) deduced that a strategic group with weak identity represented just a companies' aggregation acting individually, without relationship. In this case, the number of different groups of competitors within each strategic group would tend to be greater, because of the heterogeneity of action and potential market segments, and these companies were more exposed to competition from other strategic groups.

Thus, it can be considered that the development of studies under the concept of competitive groups, in addition to allowing to identify companies that strongly compete among themselves by the same products – markets segments, contributes alongside the concept of strategic groups for a deeper industry analysis.

RESOURCE-BASED THEORY

The Concepts of Resources, Capabilities and Competencies

As previously mentioned, business strategies can be based on the company's internal resources, capacities and competencies, seeking to offer the market different competitive solutions and, therefore, lasting competitive advantages. Resources, capacities and competencies are, thus, central concepts in this approach that have been widely discussed since mid-80's which may be mixed-up or unclear.

For Grant (1991) resources can be defined as assets that can be easily identifiable (tangible resources) or not clearly observable and quantified (intangible resources) and that are, somehow Linked to the company. Barney (1991) defines 3 main categories: physical resources, such as facilities and equipment, human resources, covering all the company employees and top managers and organizational resources, formed by the norms and routines that coordinate physical and human resources in a productive way.

Freire (1998) identifies resources such as material assets (machinery, land, etc.), financial (asset liquidity, profitability, solvency capacity before creditors and the ability to obtain new funds), human (current and potential) and organizational (reputation, notoriety, innovation capacity, commercial partnerships, access to privileged information, etc.), that the company can combine in developing its activity.

Within the scope of the business sciences, the combination of resources to develop an activity is generally attributed to the concept of capabilities (Barney, 1991).

The concept of competences usually refers to the capacity that an organization has to sustain the coordinated combination of resources in order to achieve its purposes (Heene & Sanchez, 1997).

Prahalad and Hamel (1990) e Wernerfelt (1984) e Barney (1995), define core competencies as internal resources, which distinguish the company from its competitors.

Wernerfelt (1984, pp. 172), defines resource as "anything that can be thought of as a strong point or a weakness of a given company". According to this idea, a company obtains competitive advantages if it manages to acquire or develop superior resources or combination of resources better than its direct competitors. Teece, Pisano and Suen (1997), define resources as a company-specific asset difficult, if not impossible, to replicate, approaching the core competencies' definition given by Prahalad and Hamel (1990) and referred to by Wernerfelt (1984) and Barney (1995).

For these authors, central competences represent the collective learning capacity of an organization, that coordinates different knowledge and integrates multiple technologies, allowing to add value to its customer. Thus, the core competencies are directly related to know-how and communication capacity, involvement and commitment throughout the organization (hierarchical levels and functional areas), which favors value creation in products and services.

Barney (1995), considers that core competencies are associated with intangible assets (e.g. notoriety, brand image, skilled human resources or more efficient work processes) that can be valued through its application as part of the activity development, generating business opportunities in new markets and achieving the best operational practices at all hierarchical levels and functional areas. Incidentally, Kaplan and Norton (2004) observes that, on average, about 75% of the market value of listed companies in the capital markets is represented by intangible assets. That is, there is a wide variety of important resources that are not reflected in the accounting data.

Barney (1991), proposes four tests to determine which resources represent core competencies: value (should greatly contribute to creating customer value compared with other competitors ' offer); rarity

(should be seen as unique by other players); imitation difficulty (competitors are unable to imitate them without high investment costs); markets access (should provide potential access to new markets).

Already Peteraf (1993), refers, in addition to the rarity and inimitability, the sustainability requirements of the - Must be durable over time, guaranteeing a supra-abnormal yield throughout the exercises - and property control - the company must control or have easy access to its acquisition, creating a privileged position against remaining competitors, that cannot acquire it or will have higher cost in their acquisition.

Thus, a company' resources (materials, financial and other intangible, namely human, informational and organisational) should be the assets that may be used. Its integration and alignment with the strategy, is what will allow know-how better than the competition, constitute strong core competences in the working processes and sustainable competitive advantages within the industry. Due to its characteristics, intangible assets play a relevant role in ensuring differentiation and business success.

Resource-Based Theory: Some Contributions

As previously mentioned, the explanation of performance can be fundamentally found in companies' actions and its resources' use in creating sustainable competitive advantages over their competitors, this being the premise of the resource-based theory.

Although the resource-based theory has had its development from the mid-80's onwards, authors may be found that, much earlier, drew attention to the importance of internal resources for the activity' sucess.

In 1959, Penrose (cited in Kor & Mahoney, 2004) spoke of the importance to the success that managers' business knowledge represented, as well as the knowledge developed and shared by work teams, supporting the need for continuous development of employees, of human resource practices' culture and incentive systems, that privileged market needs and innovation in responsiveness. Thus, emerged the isolator mechanisms designated by Rumelt and Wensley (1981) and Rumelt (1984) whose concept is associated with the company characteristics, such as financial capacity, reputation, customer loyalty and preferential access to market channels, that would allow sustainable creation of competitive advantages over competitors. This would result in financial surpluses that would allow expansion and diversification, with a continuous adequacy of the company's capacities when facing challenges.

Montgomery and Wernerfelt (1988) and Markides and Williamson (1994) also verified that diversification of related businesses allowed know-how capitalization of accumulated insulators mechanisms, creating diverse exploration synergies and optimising the performance.

Also, Richardson (1972) considered the relevant dimension, defended that was the unique knowledge in certain resources, that allowed greater market penetration capacity, what meets the theory of the Schumpeterian rents, based on resources that generate returns above the opportunity costs, thus contributing to this theory being highlighted in strategy concepts.

From the decade of 1980, the resources-based theory was affirmed by counterposition to the Porterian approach of strategic positioning. Counterpoint to the determinism of the environment, the works of Wernerfelt (1984) and Rumelt (1984) highlighted the distinctive capacities' importance based on internal resources for the construction of the competitive advantages. In this regard, Barney (1986) noted that the analysis of the competitive context would not be the primordial factor to ensure the achievement of supra-abnormal profits, since this information was public domain and therefore all competitors would be able to react identically to the challenges posed by the environment. Thus, it would be the internal resources' analysis, clearly identifying the distinctive capacities against competitors, that would allow companies to achieve success.

In this same sense, the central competences defined by Prahalad and Hamel (1990), that represent the strengths of the internal resources that most distinguish a company from competition in satisfying customers' needs, are de mean by which companies develop their competitive critical products or services, from which the business will be developed.

On the other hand, Prahalad and Hamel (1990) and Bogner, Thomas and McGee (1999), report that this integration between core competencies, critical products and competitive advantages depends fundamentally on resources with a high degree of subjectivity, quality and managers' vision, ability to create, sharing and knowledge application in the organization, highlighting the role of human resources and organisational communication as alignment motors of working processes. However, as Lippman and Mahoney (2003) observe, these resources are not able to easily value and cannot be purchased on the market, since they are developed in organizations over the years, accumulating unique specific knowledge on the undertaken activities and the various business stakeholders.

Also, in this sense, Mahoney (2001) mentions a certain relationship between resource-based theory and transaction cost theory, since it is the investments in specific assets that develop unique competences and sustainable competitive advantages, little accessible, avoiding opportunistic imitation behaviors by competitors.

Kaplan and Norton in its various works (2004), also incorporate the importance of intangible assets for the development of the Balanced Scorecard. For these authors, the foundation of business success is the management that companies can make of their human capital (workers' skills and experience), of its information capital (systems, networks and infrastructures) and its organisational capital (leadership, culture, teamwork). It is the management of the so-called intangible assets that allows to create distinctive competences in internal work processes and competitive advantages in the face of competition in customer satisfaction, leading to better financial performance, either at activity growth or investments profitability, for which there is a need to ensure adequate monitoring and corresponding actions for continuous improvement.

Indeed, in the face of the turbulent context of timeliness, where change is continuous, unforeseen and often imperceptible, companies are obliged to constantly adjust their competences and their offer. More than sell at competitive prices, online with low operating costs, it is important to do better and create value for customers and other business partners (Nelson, 1991).

So, Dierickx and Cool (1989) report that the sustainability of a company is in the accumulation capacity of the most important resources, that enable the creation of core competences and who cannot be replaced or imitated by competitors. In this sense, Teece and Pisano (1994), introducing the concept of dynamic capacities, advocate that successful companies are those who manage to give a faster response to the market, by means of constant offer' innovations, as consequence of ccontinuous competences and internal resources adequacy. In fact, as the time goes by, the threat of imitations by competitors will tend to occur and to stress acquired competitive advantages, if companies show inability to find new proposals for the market. For Thompson and Strickland (1999), the process of creating and eroding competitive advantages is a three-phase process: the construction phase through strategic movements; the benefit phase while competitors do not replicate and the erosion phase when the imitation and competitor attacks diminish the possible income.

Kogut and Zander (1992) emphasize the importance of business development and the renewal of competitive advantages not only based on the replication of past competences, since it will make competitive behavior more predictable and facilitate imitation by competitors. In that sequence of ideas, Teece and

Pisano (1994), created a model for assessing the sustainability of the companies' competitive advantages, which is based on the ability to imitate skills and the capacity to protect know-how.

Following the same logic, Helfat and Peteraf (2003) consider that the life cycle of competencies depends on the intensity of its use and the volume of activity generated through them. The defined model is especially important to emphasize the focus on the renewals of internal resources in order to support core competencies and competitive advantages.

Thus, according to the representation in the preceding figure, the cyclical renewal of core competences allows for the sustainability of competitive advantages and the creation of financial surpluses. Through these, the company may continue to expand its business and explore opportunities into new ones, while continuing to optimize the use of its resources and profitability (Mahoney & Pandian, 1992; Teece et al., 1997).

Also, in a resource-based theory context, several empirical studies have been developed, divided into the following research currents:

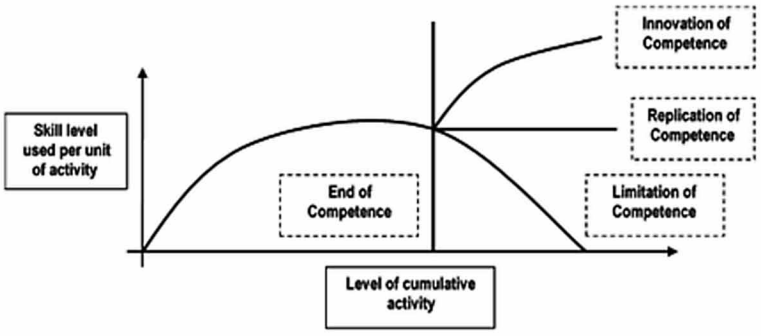
- Confronting industries' characteristics with companies' specificities, to see if performance is more influenced by the industry structure or by each company resources and competencies (Rumelt, 1991; McGahan & Porter, 1997; McGahan & Porter, 2002; Mcnamara, Aime and Vaaler, 2005)
- Relationships analysis between strategic groups and companies within the same group, In order to verify whether it is inter-or intra-group rivalry that allows a better explanation of performance variability, in the latter case explained by the companies' development capacity of distinctive competences based on their resources (Cool & Schendel, 1988; Lawless et al., 1989; Cool & Dierickx, 1993; Mcnamara et al., 2002; Short et al., 2002; Short et al., 2007)

Table 2. Model for assessing the sustainability of competitive advantages

		Ability to Imitate Skills	
		Strong	**Weak**
Protection Capacity of Know-How	**Weak**	Weak competitive advantages	Moderated Competitive advantages
	Strong	Moderated Competitive advantages	Strong competitive advantages

Source: Adapted from Teece and Pisano, 1994

Figure 1. Model of the life cycle of corporate competences
Source: Adapted from Helfat and Peteraf, 2003



- Similarity effect among companies' analysis, to verify if the unique characteristics of each competitor positively influence performance (Marlin, Hoffman & Lamont, 1994; Lawless & Anderson, 1996; Gimeno & Woo, 1996; Young et al., 1997; Young et al., 2000)
- Relationship between resources and competitive advantages' analysis, to highlight the most important internal capacities in creating higher competitive positions (White, 1986; Agus & Sagir, 2001; Clarke & Machado, 2006; Strandskov, 2006; Chen, Lin & Chang, 2009)
- Relationship between resources and performance' analysis, to observe which resources have the greatest impact on business performance (Hansen & Wernerfelt, 1989; Davis & Thomas, 1993; Markides & Williamson, 1994; Ray et al., 2004; Chan, Shaffer & Snape, 2004; Leask, 2004; Bogner & Bansal, 2007)
- Relationship between dynamic capacities and performance' analysis, to prove the importance of organizational learning on competitive advantages and performance' sustainability (Levinthal & Myatt, 1994; Barnett, Greve & Park, 1994; Karim & Mitchell, 2000).

The resource-based theory has, thus, the merit of drawing attention to the importance of strategic analysis, focusing on the company's internal conditions. Conner (1991), calls it even the company theory.

Faced with the foregoing, it can be concluded that the resources-based theory is essentially concerned with studying two very important issues that influence companies' success (Makadok, 2001):

- Which resources enable strong competitive creation skills and advantages when facing competitors
- How to ensure competitive advantages' sustainability creation through internal resources

COMPLEMENTARITY BETWEEN STRATEGIC POSITIONING AND RESOURCE-BASED THEORY

Each organization has specific resources and unique competencies that condition their activity and their market presentation. However, as Barney and Zajac (1994) refer, the strategic analysis should integrate positioning and resources, making them complementary. Both are fundamental to achieve organizations' success, because they provide instruments that allow to optimize the competitive context analysis and, at the same time, the company's internal resources' capacities analysis.

From the perspective of strategic positioning, as previously mentioned, companies' performance can be determined by the industry intrinsic characteristics, the group in which it is included, and its own action to react to the context.

In relation to the industry, as recommended by Porter in his model of the 5 strengths, there is a general competitive environment that influences all companies within a industry. However, taking into account that each strategic group is characterised by specific competitive environments, there are different opportunities and investment needs among the groups, with direct impact on the potential results of the companies that constitute them (McNamara et al., 2002). Dranove et al. (1998) give as examples of causes of performance differences, the fact that there are groups with greater negotiating power with suppliers and customers, less subject to the pressure of substitute products and new inputs' threats. These circumstances regularly generate different performances between strategic groups and a relative performance homogeneity within groups (Caves & Porter, 1977). In addition, the mobility barriers created among groups also contribute to these inter performance differences (Porter, 1980).

On the other hand, still in the context of strategic positioning, other researchers (Porac et al., 1989; Bogner, 1991) draw attention for the competitive groups' establishment to explain performance, in relation to greater or lesser rivalry in the same market, complementing the strategic groups vision.

Leask and Parker (2007) in the work developed on the British pharmaceutical industry demonstrated, simultaneously, the strategic and competitive groups' study importance allowing to better explain how rivalry can influence business performance. This is because both methodologies allow to verify the similarities among companies at the strategies level and market segments where they compete. Thus, according to the authors, the bigger the similarity of the target segments and competitors' strategic heterogeneity, the greater will tend to be rivalry, since different cost and asset structures will provide the probability of price wars and advertising campaigns, diminishing potential company's profitability. This meets Peteraf and Shanley (1997) deductions on strategic groups' identity, in which they advocate that the greater the strategic heterogeneity and consequently the lower the group identity, the greater propensity for several types (groups) of competitors, for more rivalry and less collaboration in the construction of mobility barriers to competitors of other strategic groups. Thus, in less identity groups, performance tends to be worse, due to both greater internal competition and greater fragility, compared to competitors from other strategic groups.

In this context, the company's behavior results from environment reactions', both within the industry and within the groups to which it belongs.

The resource-based theory argues that companies' performance is determined by the unique resources and capacities developed in order to make unique offer proposals valued by the market. Thus, ideally, managers should optimise those resources that create value, are rare and non-substitutable, in order to generate strategies that can hardly be copied by current and future competitors. The accumulation of these resources will generate barriers to competitors and strong competitive position (Short et al., 2002).

That said, there are two distinct visions from strategies' perspective to achieve performance:

- In strategic positioning, the performance is fundamentally influenced by the different competitive contexts confronted by the group
- In resource-based theory is the development of unique capacities that allows companies to gain competitive advantages relatively to competitors. As such, performance differences are mainly related to the company's internal conditions

However, it is understood that both visions complement each other and, together, can better explain the performance variations in companies in the same industry.

The resource-based theory adopts a "pre-strategy" position, analyzing and inventorying the resources and competences that a company coordinates and converts into effective strategies. In contrast, the strategic and competitive groups adopt a "post-strategy" position, providing a strategy' vision implemented by companies, classifying them into groups according to their strategic guidelines. Linking the two visions, we can better understand resource-based theory companies and how they employ their resources-strategic positioning (Leask & Parnell, 2005).

Leask and Parnell (2005) identify two key factors linking the two research currents:

- The development of unique resources and competencies allows the creation of strong competitive positions, enabling mobility barriers, intrinsically linked to strategic groups;
- The analysis of existing company resources', guides managers to define strengths and weaknesses of the organization. So, market perception and resource dynamics development guide managers trough competition, generating strategic orientations that will be fundamental in the definition of strategic groups.

Peteraf and Bergen (2003) integrating a positioning and internal analysis logic of resources, developed an instrument for the identification of competitors. Thus, competitiveness level among companies will tend to be higher when, in addition to market segments similarity, there is a resources and skills developed with a high similarity.

In this sense, Porac et al. (1989), Reger and Huff (1993) and Peteraf and Shanley (1997) described that companies within strategic groups compare mainly with identical companies within the same group and try to observe the possible means to distinguish from them. In this regard, Fiegenbaum and Thomas (1995) verified that companies use their strategic group as a benchmark to perform benchmarking regarding their competitors.

In this way, these arguments suggest that companies focus more on their competitive position within the group and are more responsive to the actions of competitors in their group than to the actions of companies from other groups. As such, the rivalry indices within the group may be greater than those outside of it (McNamara et al., 2002). Cool and Dierickx (1993) confirmed this, studying the pharmaceutical industry' rivalry within the groups, which was more intense than among strategic groups, because companies often invaded each other's market segments.

So, there is a possibility of performance not only explain the differences inter but also intra strategic. If competitive groups can make a strong contribution to the explanation of inter and intra strategic differences, because the performance can be conditioned by greater or lesser rivalry resulting from performance in the same market with similar products, the resources-based theory may contribute to the explanation of the intra strategic differences, because companies able to develop distinctive competencies based on their resources, will create strong competitive positions within the group, avoiding rivalry and, consequently, will achieve better performances (Rumelt, 1984).

Thus, performance can be explained through analysis, not only of companies with similar strategies (strategic groups) and those competing among themselves (competitive groups), but also of competitive advantages based and developed through resources (Resource-based theory).

Table 3. Competitor Identification model

		Equivalence of Competencies	
		Weak	**Strong**
Correspondence of Market Segments Served	**Yes**	Vertical competitors	Direct competitors
	No	Non-competitors	Potential competitors

Source: Adapted from Peteraf and Bergen, 2003

STRATEGY CHOICE: STRATEGIC DIMENSIONS AND TYPOLOGIES

Regardless the support bases for its formulation, organizations' strategic actions will necessarily pass through business, products and markets decisions, and way of competition. That is, after defining its strategic objectives, each organization will have to decide, among several strategic alternatives, which best suit the defined purposes and which should clearly answer two key questions (Grant, 2005): where and how should the company compete.

This issue leads us to two levels of strategic decision: company and business level. Decisions such as portfolio diversity and composition are taken at the company level. The diversification strategy which may or not be related to existing business (Freire, 1998; Grant, 2005;) results from the company's demand, in exploring new areas of action through entry into other industries and refers to the choice of Where Compete. The form How it decides to compete lies at the level of each business. Several strategy typologies have been presented, supported by different dimensions. Based on the choices of products and markets, Ansoff (1984), for instance, presents growth modalities:

- **Market Penetration:** Aims to increase turnover with the same products for the same market;
- **Product Extension:** Aims to serve the same market with a wider range of products;
- **Market Extension:** Intends to serve new markets with the same range of products.

Not distinguishing decision levels, it also adds diversification strategy to extend the scope of product range and to cover new markets.

It should be noted that business diversification is clearly distinguished from the mere expansion of the product– markets matrix, because the new activity sector, where the company intends to act, can present different and specific critical success factors (Rumelt, 1977).

Still considering the same perspective, Martinet (1989) relates the development of the product– markets matrix with the variable technology, that he very much considers in strategic analysis, because of constant technological innovations arisen recently. According to the author, companies may have two orientation types conditioning its progress:

- **Product Orientation:** Companies have specific technological competences perfectly dominated which greatly contribute to their economic performance. They will therefore seek to extend markets through the products they manufacture with unique competences;
- **Technology Guidance:** Companies have wider technological competences, Having the opportunity to associate their progress to the use of these technical knowledge in the development of new products. So, as long as there are available financial resources, they can extend their product range and markets.

Not despising the product and market dimensions, Miles and Snow (1978), created a typology of business behavior against competition:

- **Prospectors:** Companies that try to always be at the innovation forefront, looking for new market opportunities, creating reference products;

- **Analysts:** Companies acting on the basis of the monitoring the prospector's competitive movements, trying to set their options relative to the products – markets matrix based on the experience of previous competitors;
- **Defenders:** Companies that have their action in terms of products – markets clearly defined, focusing its activity on the target segments;
- **Reactors:** Companies that have no capacity to conveniently monitor the context and are limited to occupying spaces in the proximity markets with less expression.

However, generic strategies typology presented by Porter (1980) is an important reference in the literature, due to its wide dissemination[1]. The leadership strategies in costs and differentiation indicate the value proposition that companies present to the market. In a strategy of differentiation, the company proposes to present products with different attributes, and practice a Premium price. In a cost leadership strategy, the aim is to achieve lower costs than competition, and possibly present more competitive prices. Considering that the company may be interested in specialising (in a specific product or in a cost leadership strategy market segment), it may opt for a specialization strategy with differentiation or with costs leadership.

One of the issues that has been subject of discussion is whether it would be possible to combine strategies. To what extent the differentiation strategy that requires investments to create and maintain unique specificities, is compatible with costs leadership.

Although Porter (1980) has acknowledged the difficulty of its conjugation and has called attention to the dangers of its implementation, is recognized today that, in certain circumstances, the combined strategy can succeed, as is the case of activities with a strong technological evolution in which it is possible to lower production costs and improve the product (Laudon & Laudon, 2002). Thus, with the development of operational practices (automation, just in time, quality management, information technology, etc.) there has been an effort from successful companies to gain competitive advantages in differentiating and simultaneously leading costs.

As such, assuming that companies should develop levels of differentiation and cost leadership to achieve success, Hill and Jones (1995) argue that the sources of competitive advantage (of one type or another) can be grouped into four general factors, reflecting the company's ability to better apply its resources than competition in value creation to customers: efficiency, quality, innovation and suitability.

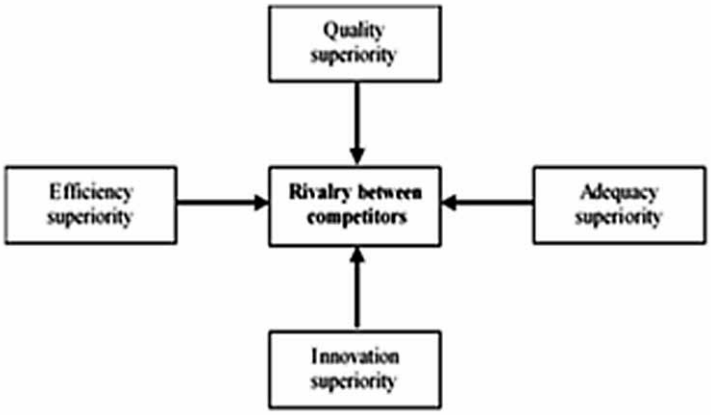
Efficiency is measured by the company's ability to generate higher levels of productivity with its resources. Quality is measured by the reliability degree of supply, as innovation, is measured by the company's ability to be pioneer in introducing new products that become a benchmark. Finally, as regards adequacy, competitive advantage is achieved through the ability to generate an offer according to customers' needs.

After defining the products, the market segments and the adoption of competitive advantages, it is necessary to identify the respective operational chains to be carried out internally or to subcontract, that is, to determine the level of vertical integration.

In this sense, Porter (1985) argued that the activities directly related to the core business and which contribute to a strong strategic positioning, should be executed internally.

Therefore, the company may choose to integrate some upstream or downstream functions into the operational chain of the business. However, it only makes sense to increase the level of vertical integration if (Martinet, 1989):

Figure 2. General sources of competitive advantages
Source: Adapted from Hill and Jones, 1995



- The increase in the internalized activity generates enough turnover for the company
- The remaining company functions benefit from the activity internalization, even if this is not profitable. For example, a company may want to ensure the supply of certain raw materials to ensure the customer the product quality

In a globalization context, the geographic space of action plays a decisive role in the entrepreneurial strategies. Internationalization has been essentially levered due to two factors (Knight & Cavusgil, 2004): markets and economies' globalization, which provided greater homogeneity of consumer preferences around the world, making global business implementation easier, by simplifying production and positions to be adopted in different markets; technological innovations in information and communication, of the production methods, of logistics and transport, that greatly reduced the costs of trade and favored the increase in international turnover.

Thus, irrespective of the generic strategic options, companies' internationalization is a matter of the greatest importance, that has aroused in the last decades intense and diverse reflections in literature. Not intending to do an extensive review of the existing literature, it is not unnecessary to mention the important contribution it can make to business' success. This contribution may occur, according to Freire (1998) through the capitalization of core competencies and competitive advantages developed over time in domestic markets; of obtaining localization economies through greater ease of access to raw materials or cheaper production factors and the increase in scale economies and experience through turnover growth in more attractive markets, decreasing unitary production cost.

Internationalization can produce viable businesses that would otherwise not survive trussed up by national borders. However, internationalization processes can be slow and difficult, involving some substantial resources. Nevertheless, it cannot be said that there are unique ways of achieving it, depending on activity, on the company's characteristics and available resources.

Several authors (Johanson & Wiedersheim-Paul, 1975; Johanson &-Vahlne, 1977; Bilkey & Tesar, 1977; Cavusgli, 1980; Reid, 1981; Czinkota, 1982; Andersen, 1992), having as reference the internationalization modalities (transactions, direct investment and projects), describe companies internationalization process by stages, according to the markets knowledge and the ability to allocate resources in these

markets, successively passing from domestic phase, to independent local representatives, to commercial subsidiaries and subsidiaries with all activities.

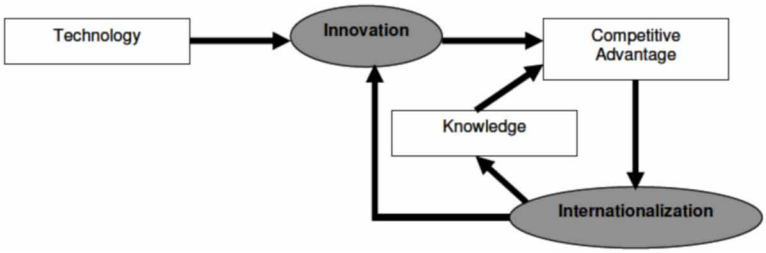
However, in recent years, many companies have been internationalized shortly after their creation, putting into question the internationalization models through steps, developed by Johanson and Wiedersheim-Paul (1975) and Johanson and Vahlne (1977), giving rise to the concept of Born Global firms. These companies presented a common feature: strong competitive advantages in innovation (Filipescu, 2006). Thus, studies on the relationship between internationalization and innovation have been addressed in two perspectives:

- International performance of countries and industries, which evidenced that technological innovation plays a key role in the internationalization capacity. Because the technology gap among countries is a competitive advantage for those in the most favorable position, contributing to the internationalization of its industries and companies (for example, Boitani & Ciciotti, 1992; Meliciani & Pianta, 1995; Archibugi, Ceccagnoli & Palma, 1996);
- International companies' performance, to assess the impact of innovation capacity on the internationalization probability and intensity. Several studies have confirmed that there is a strong correlation between innovation and internationalization: for example, Melle and Raymond (2001); Eusebius and Rialp (2002), Filipescu (2006) and Kafouros, Buckley, Sharp and Wang (2008). However, other studies showed no relation between the variables: for example, Alonso and Danoso (1998), Sterlacchini (1999) and Valenzuela (2000). Filipescu, Rialp and Rialp (2009), Justify the less positive results by the fact that in most of these studies innovation is measured by the capitalized expenditure of research and development. Many companies, medium and small ones in particular, choose to account for these values as operating costs.

As Filipescu refers et al. (2009), progressive internationalization will also allow deeper knowledge of destination markets and their specificities, contributing to the implementation of a continuous improvement logic and the ever-increasing adequacy of supply to consumers' needs. Therefore, we can affirm that there is a relationship of cause and effect between innovation and internationalization, conditioning each other over time, as represented in the following figure.

This close relationship between innovation capacity and internationalization exists, once countries, industries or companies, able to present this competitive advantage, will have the ease of, through their unique know-how, addressing markets with new solutions, creating true references in their area.

Figure 3. Relationship between innovation and internationalization
Source: Adapted from Filipescu, 2006



STRATEGIES AND PERFORMANCE ASSESSMENT

The fundamental goal of business strategies is to build competitive advantages to obtain the necessary resources for profitability survival over time. The strategies' success depends on the achieved performance following the strategic options.

The relationship between strategies and performance has been object of attention in literature, because the purpose of verifying the options that tend to produce better results is largely pursued.

For example, diversifying business can have a positive impact on the overall performance of the company, or on the contrary, tends to create results reduction?

This is a question that some work has sought to answer.

In 1952, Harry Markowitz published an innovative theory that came to be denominated by portfolio theory, emphasing the role of risk and the importance of diversification in decision-making. Created for portfolio management of financial assets, The Markowitz model was adapted to the management of the business portfolio, combining risk with expected profitability. Thus, assuming that investors do not have the sole objective of maximising their income, but take into account the risk, they tend to disperse their investment by different businesses, in the conviction that diversifying could reduce investment' risk. This would be achieved through investments in assets that had a smaller or even negative correlation between themselves (possible assets' losses would be compensated with other assets' gains in since they had opposite evolutions). Consequently, diversification reduced the variability of the expected profitability.

However, some studies concluded that diversification (especially unrelated) has a negative correlation with performance (for example, Rumelt, 1974 and 1977; Montgomery, 1985; Montgomery & Wernerfelt, 1988; Lins & Servaes, 2002; Shoar, 2002; Liebenberg & Sommer, 2008). One of the explanations of this negative correlation is found in the agency's theory, in which the conflict of interest between managers and owners, resulting from access to privileged information by the first can lead them to diversify the activity in order to minimize risk, guaranteeing their survival, relegating value creation. Therefore, their participation in capital or the existence of incentive plans based on achieving objectives, were suggestions to ensure the creation of value (Jensen & Meckling, 1976).

In coherence with the agency's theory, several studies showed that companies that carried out acquisitions with the objective of diversifying the activity had negative results before the operation, which showed a possible attempt to conceal Losses (for example, Hall, 1995; Matsusaka, 2001; Bowen & Wiersema, 2005).

However, the relationship between organizational performance and diversification is not necessarily negative. As the resource-based theory defends, creating unique competences promotes sustainable competitive advantages (Wernerfelt, 1984 and Barney, 1991) and as such, diversification can contribute to companies' success by guaranteeing the acquisition of unique and valuable resources or optimizing the use of the core competencies that the company already dominates (Markides & Williamson, 1996; Piscitello, 2004). Therefore, several studies (for example, Rumelt, 1974, 1977 and 1982; Lubatkin & Chatterjee, 1994; Berger & Ofek, 1995) observed that related diversification can further enhance performance than unrelated diversification or a single business strategy.

Montgomery (1994), drew attention that in practice, business diversification strategies have not always been well succeeded. This may be due to the lack of planning, with business diversification strategy outlined without measurement of the real impact of the decision at the financial risk level and expected profitability.

In conclusion, the diversification strategy, although it contains risk factors, may play a relevant role in business success, either through the creation of synergies between related businesses or by optimising financial risk through penetration into unrelated business.

Integrating the strategies of business diversification and vertical Integration, Rumelt (1977), conducted a study which became a reference, to explain the companies' performance, considering the related or unrelated diversification and sharing level of central and resource competences between businesses.

In addition to simple identification and counting of economic activity codes of each business in which the company operates, its diversification level depends, above all, of the intensity with which is present in little related business, that require different development competences and resources. For example, a company that is present in businesses belonging to the same value chain, predictably presents a lower diversification than another that acts in businesses belonging to completely different industries. In this case, the creation of exploitation synergies will be considerably lower and require managers to be able to manage a greater diversity of techniques and poorly related resources.

In view of the degree of vertical integration and the type of existing connection, about the techniques and resources used between businesses where companies acted, Rumelt (1977) defined the categories of levels of business diversification, as shown in table 4.

As far as performance differences are concerned, Rumelt found that, firstly, companies with the best financial performance were those who acted in business that shared the same resources and competences (category 5); secondly, came companies that acted in a main business and in business that shared the same resources and competences (category 3) and companies that acted in business that did not share the same resources and competences (category 6). Companies with the worst performance were those who acted in a main business and in its value chain (Category 2) and those with concentrated activity but who acted in unrelated businesses (category 7). In this way, it showed that the exploitation of synergies were very important, penalizing, in contrast, the effects of mono product/Vertical integration (category 2) and diversification (category 7).

Table 4. Categories of business diversification levels

Categories	Business Characteristics of Each Category
1. Companies with a single business	More than 90% of sales volume is based on a single core business
2. Companies acting in a core business and in their value chain	More than 70% of the sales volume is based on a single business or value chain of this core business
3. Companies acting in a core business and in business that share the same resources and competencies	More than 70% of the sales volume is based on a core business and the remaining activity is done in related business (share the same resources and competencies)
4. Companies acting in a core business and in business that do not share the same resources and competencies	More than 70% of the sales volume is based on a single business and the rest of the activity is in unrelated business
5. Companies that operate in business that share the same resources and competencies	The sales volume of the main business does not reach 70% but, the remaining activity is based on businesses that use the same type of resources and competencies
6. Companies acting in business that do not share the same resources and competencies	Less than 70% of the sales volume is based on a single business and the rest of the activity is in business that does not share the same resources and competences
7. Companies with concentrated activity but acting in unrelated business	The set of related businesses represents between 45% and 70% of total sales
8. Companies with unrelated business portfolios	Related businesses do not exceed the weight of 45% of total sales volume

Source: Adapted from Rumelt, 1977

Harrigan (1984) developed a model for the formulation of the vertical integration strategy, where he integrated the attractiveness of the industry with Porter's generic strategies. It has found that factors such as uncertainty in demand levels, the new industries' lack of notoriety, business volatility related to the negotiation power of customers and suppliers, technological innovations and competitors' threats, as well as the type of strategy to implement (differentiation, focus or cost leadership), influenced the level and form of vertical integration. Therefore, the researcher argued that cases of failure arising from the vertical integration strategy were due to an incorrect analysis of the impact of these factors on the company's activity.

If the strategy of companies were through market leadership, differentiation or costs, the vertical integration level should be greater, to ease activity control and create monopoly situations. However, in industries with uncertain attractiveness, managers should avoid vertical integration to ensure greater flexibility in eventual business' exit. This was because it was quite superior to the risk of not monetizing investments.

To empirically validate the developed model, Harrigan (1986) conducted a study to 192 companies from various industries, getting a behaviour pattern, with regard to the vertical integration strategy, which clearly differentiated the best and worst companies, at performance level:

- The best companies tended to have an offer with a higher degree of differentiation and of vertical integration upstream to control the quality of the previous stages of the exploration;
- The worst companies used, in industries with high growth rates, distributors and external marketing channels; the best used internal resources to reach the consumer, ensuring adequate dissemination and know-how protection for the developed innovations;
- The best companies made the integration into a greater degree of new activities, in situations that allowed to create monopolies and that devastated the prices of competitors and suppliers. These actions occurred more frequently when the integrating company originally acted in a concentrated market and acquired a company that worked in a fragmented market. Thus, it was able to reflect the operational efficiencies in prices, downstream (confirmed by Chatterjee, 1991);
- The best companies favored the almost – integration in favor of investment in the acquisition or creation of other entities;
- The degree of vertical integration of the best companies was correlated with the high growth rates of the industry and the lower competitive rivalry, which reflected in less uncertainty in relation to the future;
- The greater the negotiation power of customers or suppliers, the more companies with the best performance opted for the activity internalization, to ensure product quality (for customers) and lower raw material prices (of suppliers).

Table 5. Implementation model of the vertical integration strategy

	Volatile Industry	**Stable Industry**
Focus Strategy	Almost – Integration (with few internal activities) or Partial Integration	Almost – Integration or Partial Integration
Leadership Strategy	Partial Integration	Partial Integration or Total Integration

Source: Harrigan, 1984

D'aveni and Ravenscraft (1994) reported that the success of the vertical integration strategy was closely related to the ability to decrease operating costs, as a way for companies to create situations of clear competitive advantage through cost leadership.

In the study they performed, they observed that the activity internalization allowed to lower the general, administrative, advertising and research and development costs. However, vertical upstream integration increased production costs, which was explained by lack of motivation caused by intermediate products production with lower price compared to the market. Thus, part of the competitive advantage created by vertical integration was mitigated by the upstream activities of the chain value.

Vial (2007), also found that the success of the vertical integration strategy assumed by the companies was correlated with the production capacity used, with know-how and competencies similarity at each stage of the chain value, and lower levels of demand uncertainty.

In consonance, Markides and Williamson (1994 and 1996), Argyres (1996), Church and Gandal (2000) and Leiblein and Miller (2003), evidenced the strong positive relationship between vertical integration and Know-how specificity and the assets that companies intended to control to achieve monopoly positions. In addition, the greater the uncertainty and risk, the fewer managers were betting on the vertical integration strategy.

In this sense, Harrigan (1980 and 1985b) showed empirically that, in fact, vertical integration, both upstream and downstream, made business exit difficult, negatively affecting the performance of companies wishing to abandon declining industries. This situation was more visible the greater the number of internalized activities, assets' specificity, the bad use of production capacity and the amount of capital invested. However, Harrigan noted that synergies (resource sharing) between companies in the same group favored transfers of assets and people and reduced exit barriers.

Hamilton and Mqasqas (1996 and 1997) drew attention to the importance of companies with higher degree of vertical integration to place intermediate products on the market, optimizing the business group profit, through lowest prices over exploitation efficiencies.

However, business context has been transformed over the last years, as a result of technological innovations, global competitiveness, greater complexity of products, greater regulation and social pressure. Thus, companies are obliged to constantly adapt to the environment conditions to ensure value creation over time.

Therefore, it is not surprising that several studies show substantial transformations in the implementation of the vertical integration Strategy (for example, Chandler, 1990; Mpoyi, 1997 and 2000; Argyres & Bigelow, 2007).

Barreyre (1988) call the attention to the increasing importance of the almost – integration through cooperation contracts that allow the expansion of the business and, at the same time, greater risk sharing and greater flexibility in the eventual exit. As examples, franchises and joint ventures for conquering new international markets. In this sense, Klein, Crawford and Alchian (1978) stressed that almost – integration should be protected with contracts that did not allow opportunistic behaviour and non-compliance with agreements signed.

Mpoyi and Bullington (2004) proved that American industrial companies with greater capacity to adjust their vertical integration level had the best performance between 1980 and 1997.

Nickerson and Silverman (2003), found that the worst American companies in the logistics sector, were those that had greater investments in specific assets, higher fixed costs and a greater degree of activities internalization and concluded that this should be because lower response flexibility to the environment conditions.

In conclusion, vertical integration strategy could play an important role in business success through turnover growth by capitalizing resources and competences' know-how through related activities' internalization and the attainment of a superior overall quality of the product, depending on the activities' control that further condition the company's supply.

However, it is essential to observe the business strategic activities and those whose benefit of subcontracting exceeds the cost of not being carried out internally. Furthermore, it is essential that the decision on the vertical integration strategy should always consider the structure and attractiveness of the industry. Thus, the type and degree of internalization of various stages of exploration process can be defined, according to associated risk level, avoiding insurmountable barriers to a possible business exit.

Several researchers (e.g. Parnell & Wright, 1993; Ramaswami, Flynn & Nilakanta, 1993; Sriram & Anikeeff, 2001; Gibbons & O'Connor, 2005), related the strategies defined by Miles & Snow (1978) with performance. They evidenced that companies called prospectors, by the focus on technological leadership, are those that through successive innovations can diversify their activity both at the level of products and markets. They are those that have the highest growth rates. Companies designated by analysts, tend to follow the prospectors' strategies, increasing products range, based on the most successful examples and diversifying markets, general presenting greater profitability indexes. As for the Players Framed in the typologies of defenders and reactors, they focus on their activity in certain segments and, derived from their lower flexibility, regularly present lower performance indexes.

The options related to the development strategy of the product – markets matrix, also gave rise to the Multimarket theory contact, previously addressed by Edwards (1955).

This theory assumes that companies which compete simultaneously in various markets, avoid confrontation in a segment, fearing competitors' reactions in other segments, where they act mutually. Thus, the level of rivalry tends to decrease, favoring cooperation, knowledge sharing and performance.

Several studies, in different periods and activity sectors, proved this relationship: for example, Gimeno & Woo, 1996; Greve, 2007; Anand, Mosque & Vassolo, 2009; Coccorese & Pellecchia, 2009). However, Anand et al. (2009) drew attention to the possibility that, in the long term, the multi-market contact could undermine companies' performance by decreasing their strategic options, due to retaliation fear and, possibly, less environmental flexibility, derived from the tendency to imitate competitors' behaviors.

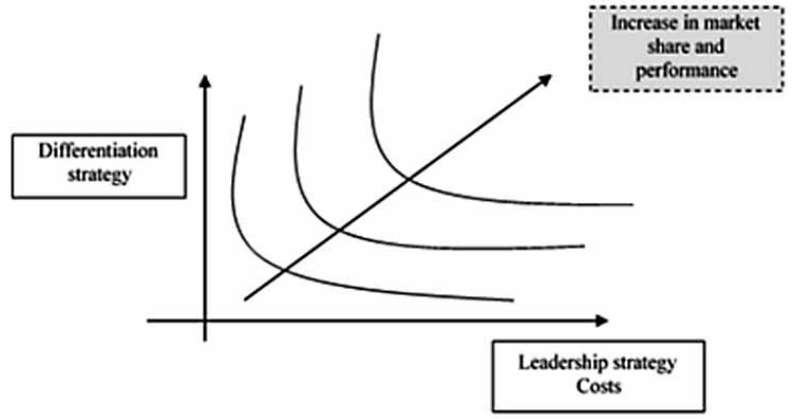
It can therefore be inferred that decisions regarding the development of the products – markets matrix, conditionate not only the company's field of action but also the definition of its direct competitors and the level of rivalry it will have to face.

In relation to competitive advantages' strategy, Porter (1980), referred in its model of generic strategies, that there were three possible positions to be adopted, to create competitive advantages over competitors: Costs leadership, differentiation or focus on a market segment. Companies that did not present a clearly defined positioning had worse performances than the remaining Players.

However, several studies conducted over the last 30 years (for example, Dess & Davis, 1984; Karnani, 1984; Miller & Friesen, 1986; Yasmin, Gunasekaran & Mavondo, 1999; Kim, Nam & Stimpert, 2004) proved that the best companies, in various activity sectors, were those able to master competences that allowed them to create sustainable competitive advantages at the same time, in differentiating and leading costs. Karnani (1984), mathematically demonstrated, that a company that bets on the differentiation strategy and progressively gains market share, can achieve, through the effect of scale economies, competitive advantages in cost leadership, proving that the strategies can perfectly coexist in the same company.

Nevertheless, the established competitive advantages should be sustainable. In this sense, Kaplan and Norton (2004), report that this will depend on:

Figure 4. Effect of the coexistence of generic strategies
Source: Adapted from Karnani, 1984



- Efficiency' ability, linking different functional areas, through new technologies, work processes and more appropriate management methods, obtaining shorter response times and lower operating costs;
- Quality capacity, considering the customer's needs at the level of reliability valued, the cost he is willing to pay and the intended deadline;
- Permanent innovation capacity at supply level, markets and organizational structure, ensuring a quicker and more effective response to environmental changes;
- Supply adequacy capacity, leveraging synergies from knowledge and workers' experience, increasingly approaching the organization product to client value.

Regarding the impact of internationalization on companies' performance, although there some studies showed no evidence of this relationship (for example, Gerpott & Jakopin, 2005) or negative correlation (for example, Collins, 1990; Lu & Beamish, 2006), the vast majority shows a favorable correlation (for example, Geringer, Beamish & Dacosta, 1989; Czinkota & Wongtada, 1997; Lu & Beamish, 2001; Elango, 2006; Kuivalainen & Sundqvist, 2006; Pangarkar, 2008; Hsu & Pereira, 2008; Zeng, Xie & Wan, 2009; Kiederich & Kraus, 2009).

Still, many studies that evidenced a positive relationship between internationalization and performance verified, that it depended on the mastery of unique competences in areas such as product innovation or production technologies, company reputation, managers experience in internationalization, the ease of know-how dissemination accumulated for subsidiaries, logistics efficiency in freight transport, cooperation with local entities or with national companies that shared distribution, marketing and facilities resources for the destination market (Harrigan, 1988; Geringer et al., 1989; Czinkota & Wongtada, 1997; Lu & Beamish, 2001; Elango, 2006; Hsu & Pereira, 2008; Kafouros et al., 2008; Slangen & Hennart, 2008; Kiederich & Kraus, 2009).

Several authors considered internationalization to benefit performance to a certain level, because the management complexity degree and associated costs, in an organization with a vast breadth of operations, progressively reduced profitability (for example, Rumelt, 1974; Geringer et al., 1989; Kumar & Singh, 2008; Lavie & Miller, 2008; Cadogan, Kuivalainen & Sundqvist, 2009).

In addition, there were considerable number of papers that drew attention to the company's country of origin for the financial success of the internationalization strategy. In fact, countries with highest internationalization tradition and more available resources in technological knowledge and innovation, favor their companies (for example, Wan, 2005; Elango & Sethi, 2007).

It can therefore be concluded that the internationalization strategy may have a very important role in business success, and should be adequately framed with overall strategy, with competences and competitive advantages. It is therefore important that the internationalization decision is prudently supported in a detailed analysis of market attractiveness and competitive capacity in each country.

CONCLUSION

The general objective of the present study was to analyze the relationship between companies' business strategy and financial performance.

It began by referring the perspectives evolution of the business approach strategy, where two research currents are highlighted: Based on positioning, with the main focus on the environment and in the structural analysis of the industry, and based on company, where it can include resource-based theory, which focuses on the resources and competencies of each organization.

Though, such as Ansoff (1987) and Mintzberg et al. (2002) referred, each approach represents only a partial image of what the business strategy is. In this sense, it can be considered that only their integration could lead to studies able to explain the external and internal forces that have an impact on business activities and to create a link between the environment, internal capacities and strategic formulation.

Starting from descending to a finer level of analysis of the sectorial environment, we sought to assign relevance to the intra analysis following the concepts of strategic groups and competitive groups. On the one hand, the strategic groups identify companies that are positioned on the market with similar strategies, on the other hand, the competitive groups identify companies that compete more directly among themselves in products and markets.

In relation to the resource-based theory, the company's role was stressed to explain the financial performance, through the development of intangible assets, central competences and dynamic capacities that allow the creation of sustainable competitive advantages over time.

Lastly, other dimensions were analyzed as business behavior to products and markets, costs and differentiation, vertical integration, business diversification and internationalization.

Finally, we analyzed numerous studies carried out over time, which related several strategic dimensions with financial performance, with the existence of several factors that could contribute to the success of companies:

- Strong presence in a core business or related diversification, creating synergies at the level of resource optimisation
- Presence in multiple product and market segments, diminished the competitive rivalry
- Competitive advantages in costs and differentiation, so as to deter more important processes in the Efficient or larger margins
- Upstream control of the activity to ensure the quality of supply and to guarantee monopoly situations and, downstream integration, when the industry has high growth rates, to dominate the marketing channels and to protect its know-how

- Internationalization of business, optimizing the know-how accumulated in key competences such as innovation, reputation, work experience in external markets, mastery of marketing channels and knowledge of partners in the countries of Destination

About vertical integration, several studies also advocate the almost integration to the detriment of vertical integration, due to the greater flexibility of companies in eventual business exits. At internationalization level, several studies also found that, from a certain level on, the complexity to manage decreased the positive effect of external markets in a company's financial performance.

So, with this research we contribute to a global vision of the relations between strategy and performance and we highlight some strategic options that can develop the sustainability of the businesses and help managers to take better decisions.

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ENDNOTE

[1] As an example, Ormanidhi and Stringa (2008) found that Porter's model was the most referenced in "Business Source Premier", which is the world's largest database of published academic texts, cited 896 times from 1980 to 2005.

Chapter 2
The Entrepreneurial Orientation: Driving the Organizational and Financial Results of Mexican SMEs

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ABSTRACT

The purpose of this chapter is to analyze the opportunities for entrepreneurship, the behavior of the entrepreneurial orientation, and the orientation towards the market that is developed in the SME, and the effects which exert in the innovation and the profitability in the field of SMEs. The research is based on a sample of 1012 commercial, services, and industrial enterprises in the Northwest region of Mexico. The data collection was carried out during the period from September to December 2016, through a self-directed survey to the manager. The relations estimates have been tested through the Structural Equation System (Hervas-Oliver, Sempere-Ripoll, and Boronat-Moll) based on the variance with the PLS technique, supported by the software SmartPLS version 3.2.6. The results demonstrate that entrepreneurial orientation has a significant influence on innovation activities and on the profitability of SMEs. Also, the innovation has a significant positive influence on the profitability. In addition, market orientation shows significant and negative effects on the profitability of SMEs. For these types of companies, it is important that they focus their efforts on customers, the market and the main competitors. This investigation contributes to the development of the literature on entrepreneurial behavior and dynamic capabilities.

DOI: 10.4018/978-1-5225-8479-7.ch002

INTRODUCTION

In recent years, the entrepreneurship has been one of the most studied topics by experts and researchers in the business administration area (Zahra & Wright, 2011; Zahra, Wright, & Abdelgawad, 2014). Throughout these investigations there has been a firm intention of knowing the impulses, the behavior of the entrepreneurs and the entrepreneurial spirit (Covin & Lumpkin, 2011). Being the entrepreneurial behavior a central point of the business process and of the competitiveness of the organization (Marvel, Davis, & Sproul, 2016). Frequently, the development and competitiveness of the companies are achieved through intentions and orientations focused on entrepreneurship (Anderson, Kreiser, Kuratko, Hornsby, & Eshima, 2015). These entrepreneurial behaviors are intimately related to proactivity, competitive aggressiveness, risk, autonomy and the ability of innovation (Matsuno, Mentzer, & Özsomer, 2002). Entrepreneurship is considered as the fundamental axis of knowledge which supports the detection of business opportunities (Rauch, Wiklund, Lumpkin, & Frese, 2009). For this purpose, the entrepreneur utilizes all the abilities to transform the resources and to take advantage of them in the new business opportunities (Jantunen, Ellonen, & Johansson, 2012). Business opportunities with an innovative approach, which are put into practice, are generally riskier (Suddaby, Bruton, & Si, 2015). To counteract these effects, in addition to detecting opportunities, entrepreneurs must focus their resources and abilities on profitable markets (Lessard, Teece, & Leih, 2016). However, in today's highly competitive markets, entrepreneurs must develop the market orientation (MO) capability. This ability is considered as an activity that derives from the competitive advantage theory and marketing theory (Kirca, Jayachandran, & Bearden, 2005; Porter & Kramer, 2019). Therefore, the MO is considered as a marketing strategy which helps the company to detect market opportunities, satisfy customers, create superior value for customers and study the competitor (Jaworski, Kohli, & Sahay, 2000; Kaur & Gupta, 2010). These capabilities and business practices which help the company in its growth, development and consolidation are addressed by the theory of dynamic capabilities. This theory states that the superior and sustained innovation and profitability achievements are a consequence of entrepreneurial ability and the use of resources and capabilities (Lessard et al., 2016; Teece, 2007).

Nevertheless, in enterprises named SMEs (Small and medium-sized enterprises), these accomplishments are difficult to achieve. This is mainly due to difficulties in accessing financial credits, lack of technological infrastructure, lack of interest in innovation, lack of support for government subsidies, lack of entrepreneurial skills and a focus on short-term results (Kuckertz & Wagner, 2010; McKeever, Jack, & Anderson, 2015). In the empirical revision, there is found a significant number of studies which analyze the relationship between entrepreneurial orientation and market orientation compared to innovation and efficiency in the enterprises (Miles & Arnold, 1991; Zahra, Sapienza, & Davidsson, 2006). These investigations have mostly analyzed the effect of these variables on large companies (Zahra & Wright, 2011). Despite the growth in the analysis of these variables at the SME level, these studies are still at a development stage (Zahra et al., 2014). Two main objectives have been considered in the analysis. In the first place, it has been studied the effects of entrepreneurship and market orientation on innovation and profitability in SMEs. In the second, there were analyzed the effect of innovation in the financial results of SMEs. The research questions elaborated for this investigation are:

1. Does the Entrepreneurship Orientation, have influence on the innovation, the orientation to the market and the profitability in the SME?
2. Does the Market Orientation, have an influence on the profitability of SMEs?

The proposed theoretical model is composed of traditional variables such as innovation in products and processes, which have been considered as drivers to achieve financial profitability in companies of different sizes and sectors. However, this traditional model has two variables: 1) entrepreneurial orientation and market orientation, which have been treated statistically as second order variables. These types of variables have been considered as strategies for innovative companies and are part of the dynamic capabilities for SMEs (Teece, 2007). This type of higher-level strategies can revolutionize the internal processes of the SME and guarantee the strength of the innovation activities and with this, there is a greater probability of obtaining greater results of financial profitability for longer periods (see figure 1).

This investigation article has the following structure: The first part presents the review of the literature, the empirical revision and the development of the hypotheses. Secondly, the methodology utilized, the sample and its characteristics are explained. In addition, the justifications of the variables under study are described, and at the final section, the results, discussions and conclusions of the research are presented.

BACKGROUND: LITERATURE AND HYPOTHESIS DEVELOPMENT

Entrepreneurial Orientation, Its Relationship With the Market, Innovation and Profitability

There exist different theories which address the importance of entrepreneurship orientation and market orientation in the development of innovative capacity and innovation results (Teece, 2007, 2010). One of the most recent and with greater impact is the theory of dynamic capabilities. From this perspective, there are different studies that have concluded that opportunities, skills, proactivity, risk assumption, training and orientation towards entrepreneurship are determinant for the development and consolidation of companies of different dimensions (Lessard et al., 2016). These entrepreneurial behaviors have led companies to take advantage of opportunities, introduce new products and improve the processes (Sirén, Hakala, Wincent, & Grichnik, 2017). Other studies have assumed that entrepreneurial behaviors accompanied by an excellent corporate strategy help small businesses gain competitive advantage, improve innovation, and increase their development (Lechner & Gudmundsson, 2014; Li, Zhao, Tan, & Liu, 2008). Additionality, entrepreneurship is often related to OM and to innovation, as some researchers claim that when entrepreneurs manage to develop and execute their resources and capabilities to the maximum level towards the market, a consequence on innovation is cultivated and acceptable financial results are achieved (Lechner & Gudmundsson, 2014). In this same direction, it has become evident that SME managers who approach their resources and capabilities, on new and existing markets in order to satisfy their necessities, analyze the competitor in depth and develop marketing strategies towards detected segments, have been able to introduce innovations in products, production processes and their distribution, thus making them more competitive, increasing their competitiveness and profitability (Zahra & Wright, 2011). From the foregoing, the following hypotheses have been developed:

Hypothesis One: H1. At greater entrepreneurial orientation, the level of innovation in SMEs is increased.

Hypothesis Two: H2. At greater entrepreneurial orientation, the practices and / or level of market orientation in the SME are increased.

Hypothesis Three: H3. At greater entrepreneurial orientation, the level of profitability in SMEs is increased.

Market Orientation, Innovation and Profitability

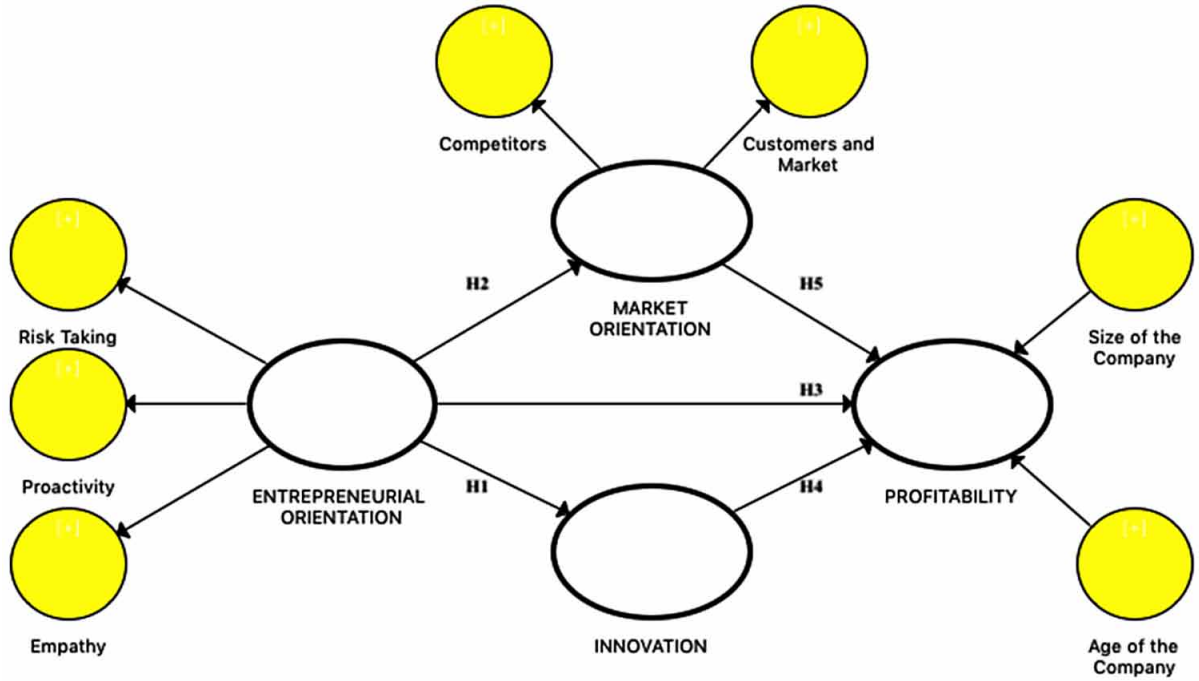
Market orientation and innovation have long been key factors on raising profitability in companies (Chang, Franke, Butler, Musgrove, & Ellinger, 2014). However, their measurement and impact on competitiveness and organizational performance has not been an easy task to quantify (Langerak, Hultink, & Robben, 2004). The models most studied in the literature and in the field of business management, are those developed by OECD (2005), Chesbrough (2010) and Teece, (2010). These models of innovation contemplate the use of resources and capabilities of the interior and exterior to develop the creativity and skills of employees, develop new products, satisfy customers with the purpose of competing in global markets. Some researchers have concluded that there are SMEs that have successfully developed their products and processes with market orientation through empirical knowledge and which, at the same time, have been more competitive and have obtained long-term financial returns (Chang et al., 2014). Additionally, in recent studies there have been informing that market knowledge has allowed entrepreneurs to establish effective strategies with investment in R&D (Research and Development), thus, there have been developing innovative products, which could impulse SMEs towards consolidation in a short and medium term (Hervas-Oliver et al., 2014). These business practices have been having a significant impact on the profitability of SMEs. In this same direction, the capacity for innovation in products and processes developed by some companies and SMEs, has been improving through the incorporation of open innovation and employee experience (Anderson, Acur, & Corney, 2018; Valdez-Juárez, De Lema, & Maldonado-Guzmán, 2016). These actions have contributed substantially to the marketing processes, customer satisfaction and financial performance improvements (West & Bogers, 2014). In addition, more recent studies have corroborated that entrepreneurs' learning in conjunction with innovation modes and capacity, impacts in a positive manner the SME´s performance (Apanasovich, Heras, & Parrilli, 2016). From the above, the following hypotheses have been structured:

Hypothesis Four: H4. To greater innovation practices, the level of profitability in the SME is increased.
Hypothesis Five: H5. As well the capacity of market orientation enhances, the level of profitability in the SME is increased.

METHODOLOGY

The structure of the sample is based on the principles of stratified sampling for finite populations. The population is formed by SMEs in the industrial sector (manufacturing and agribusiness) and services (telecommunications and real estate) established in the Northwest of Mexico, which were segmented according to the activity criterion. The number of companies in each of the strata constructed has been obtained from the most recent Economic Census information prepared by the National Institute of Statistics and Geography (INEGI, 2014). The sample size was determined to make the maximum margin of error for the estimation of a proportion (relative frequency of response in a specific item of a question) less than 0.03 points with a 95% confidence level. The technique for collecting information was through a personal interview (questionnaire) addressed to the general manager of SME. The data collection was carried out from September to December 2016. Companies that refused to participate in the project

Figure 1. Theoretical model
Source: Own elaboration



were replaced by a similar company (chosen randomly) of the same business and geographical area. The bias of response was not analyzed (Nwachukv, Vitell, Gilbert and Barnes, 1997). The responses of the companies that responded in the first round of interviews (80% of the sample) were compared with those that responded by replacement (20% of the sample). No significant differences between the two groups emerged from the variables considered, using t tests and chi-square tests. In addition, common method variance (CMV) bias was analyzed, since the data came from a single source of information through a single questionnaire. It is possible that the relationships between the variables were inflated as a consequence of CMV. To identify the existence of such bias, we used Harman's single-factor test, as suggested by Podsakoff, P. M., & Organ (1986) and Reio (2010). The survey is composed of 4 variables. The first variable: Entrepreneurial Orientation, is constructed by 3 factors with a KMO (Kaiser-Meyer-Olkin) of 0.891, Bartlett sphericity test of 0.000 and the explained variance of 56.8%. The second variable: Innovation, is constructed by 1 factor with a KMO of 0.787, Bartlett sphericity test of 0.000 and the explained variance of 63.6%. The third variable: Market Orientation, is constructed by 2 factors with a KMO of 0.810, Bartlett sphericity test of 0.000 and the explained variance of 60.6%. The fourth variable of the model: Profitability is composed of 1 factor, with a KMO of 0.775, Bartlett sphericity test of 0.000 and the variance explained is 78.8%. These results all suggest that the common method bias was not a big concern in our study. Finally, a sample of 1012 companies was obtained, 47.7% belongs to the services sector, 29.1% to the commerce sector and 23.2% % to the industry sector. The composition and characteristics of the sample can be seen in Tables 1 and 6.

Table 1. Sector and size of the companies

Sector	No. of Companies	SE	ME	% Total
Services	483	349	134	47.7
Trade	294	249	45	29.1
Industrial	235	191	44	23.2
Total	1012	789	223	100.0

Source: Own elaboration. SE= Small Enterprise (4 a 50 employees), ME=Medium-sized Enterprise (51 a 585 employees).

Measurement of Variables

One most critical criterion to correctly analyze the variables of the model is to understand the nature and direction of causality between the constructs (Esposito, Chin, Henseler, & Wang, 2010; Henseler, Ringle, & Sarstedt, 2015). This type of analysis determines the statistic to use and allows us to understand and assess more accurately the measurement model and the structural model technique (Hair, 2016; Schuberth, Henseler, & Dijkstra, 2018). According to the design and the characteristics of the questions in the questionnaire, the research was developed with variables of the reflective type (see the table 2, 3 and 4). Reflective variables were used in the study. The main feature of these models is that the direction of influence ranges from the construct toward indicators. The indicators and/or observed variables constitute a reflection or expression of the construct that is not observed but that is linked (Bollen & Lennox, 1991; Henseler, Ringle, & Sarstedt, 2016; Jarvis, MacKenzie, & Podsakoff, 2003). Reflective variables are characterized by all indicators of a construct being highly correlated (co-variant); they are interchangeable, and the theoretical significance of the construct having similar content is not altered to remove any indicator (Jarvis et al., 2003; Wetzels, Odekerken-Schröder, & van Oppen, 2009).

Entrepreneurial orientation. For the measurement of this variable, the main theories which address with entrepreneurial behavior and entrepreneurship orientation have been studied as means to increase innovation and profitability (Lumpkin, Cogliser, & Schneider, 2009). Derived from this theoretical and empirical analysis, managers of SMEs have been asked to answer the questions measured on a Likert scale of 5 points (1=total disagreement, 5=total agreement). This variable of second order has been measured: (1) Risk taking, measured by 2 structured questions taken as reference the studies of Matsuno et al. (2002) and Wiklund and Shepherd (2005), (2) Proactivity activities, measured by 3 questions developed based on the research of Lumpkin and Dess (2001) and Hughes and Morgan (2007), and (3) Empathy activities, measured by 3 questions developed based on the research of Covin & Lumpkin (2011), see table 2.

Innovation (INNO). This variable was measured based on the OECD (2005) and Teece (2010) models. The questionnaire gathers answers from SME managers about the degree of importance of the main practices and innovative activities which are developed in the enterprise. For this, a scale (Likert type about 5 points, where 1= not important and 5= very important) is utilized. The measurement of this variable is composed by 4 questions, which can be seen in table 3.

Market orientation (MO). In the analysis of the literature, a great variety of instruments and/or scales to measure market orientation in business could be found. For this study, the models developed by Kohli, Jaworski, and Kumar (1993) and Matsuno et al. (2002) have been considered. These models and scales have been the main references to measure the importance of OM in business in terms of the results of business innovation and profitability (Kirca et al., 2005).

Table 2. Internal consistency and convergent validity by construct (Second Order)

Variable	FL	CR	CA
Entrepreneurial orientation		0.866	0.823
Risk Taking:			
The company develops projects with high risk	0.837***		
The company values the external environment to make decisions	0.851***		
Proactivity activities:			
The company has greater capacity to realize its vision	0.848***		
The company has greater capacity to identify new opportunities	0.857***		
The company initiates actions for competitors to react	0.733***		
Empathy activities:			
Creativity is encouraged in employees	0.792***		
Innovation is easily accepted by managers	0.853***		
Innovation is encouraged in our organization	0.815***		

Source: Own elaboration. Note: FL=Factor load, CR=Composite reliability, CA=Cronbach's alpha

Table 3. Internal consistency and convergent validity by construct

Variable	FL	CR	CA
Innovative activity:		**0.878**	**0.813**
The company actively seeks for innovative ideas	0.757***		
Innovation is promoted in our organization	0.852***		
We are actively looking for innovative product and service ideas	0.860***		
Innovation success rate is relative to competitors	0.731***		

Source: Own elaboration. Note: FL=Factor load, CR=Composite reliability, CA=Cronbach's alpha

Therefore, market orientation has been designed and measured under the criteria of a second order variable. Due to the analysis elaborated, it has been requested to SME managers to answer 8 questions structured in the questionnaire to rate the degree of importance of the effects of market orientation on competitors, customers and market in the last 2 years. For this purpose, a 5-point Likert scale was utilized where 1=not important and 5=very important, see table 4.

Profitability. Historically this variable has been a proxy difficult to quantify accurately in the organization, due mainly to its complexity, nature and the resources that are applied in the routine processes (Garengo, Biazzo, & Bititci, 2005), this is aggravated in the SME. In this study, managers answered the questions to classify the competitiveness results of SMEs based on profitability results, using a 5-point Likert scale where 1= poor performance in the previous 2 years and 5=high performance in the Last 2 years. This variable was measured by 3 questions elaborated based on the studies of Quinn and Shapiro (1991) and Chenhall and Langfield-Smith (2007), see table 5.

The age of the company was measured with the number of years since the constitution or start-up of operations of the company, and size of the company, this variable was measured with the natural logarithm of the number of employees in 2016 (see table 6). Traditionally, researchers have added these control

Table 4. Internal consistency and convergent validity by construct (Second Order)

Variable	FL	CR	CA
Market Orientation		**0.896**	**0.867**
With regard to competitors, your company:			
Often analyzes SWOT of competitors	0.810***		
Responds quickly to competitive actions	0.835***		
Has investigated competitors for the last three years	0.793***		
We know the potential market	0.698***		
With regard to customers and Market, your company:			
Has the best products and/or services on the market	0.840***		
Gets success by market and customer information	0.780***		
Reports and communicates customer experiences	0.826***		
We have a focus on customer satisfaction	0.826***		

Source: Own elaboration. Note: FL=Factor load, CR=Composite reliability, CA=Cronbach's alpha

Table 5. Internal consistency and convergent validity by construct

Variable	FL	CR	CA
Profitability		**0.930**	**0.891**
Your company in the last 2 years:			
Has increased the percentage of its sales	0.877***		
Has increased its profits	0.902***		
Has achieved return on equity	0.928***		

Source: Own elaboration. Note: FL= Factor load, CR= Composite reliability, CA= Cronbach's alpha

Table 6. Size and age of the company

Characteristic	Minimum	Maximum	Mean	Typical Deviation
Age of the company	1	85	10.38	10,580
Size of the company (number of employees)	4	585	20.42	57,508

Source: Own elaboration

variables to their models to analyze the influence they generate in organizations (Bagnoli & Vedovato, 2014; Benitez, Castillo, Llorens, & Braojos, 2018; Valdez-Juárez, Solano-Rodríguez, & Martin, 2018). The size of the company has frequently been related to organizational growth and economic and financial performance (Sigler, 2011). There are economic models to measure the size of a company (Felin & Foss, 2012; Winter et al., 2005). The dynamic capabilities of companies determine the magnitude of an organization through total assets, total employees, and total revenues (Teece, 2016; Zahra, Sapienza, & Davidsson, 2006), which are also key to improved performance (Teece, 2007, 2010). The age of the company determines the degree of consolidation and maturity within a market, which is explained through

evolutionary theory (Nelson, 2009; Winter et al., 2005). The economic and organizational growth of a company is based on the age of the organization (Felin & Foss, 2012). These two variables are recurrent in different disciplines and are related to determining value, growth and the competitiveness of an organization (Barney, Ketchen, & Wright, 2011; J. Barney, Wright, & Ketchen, 2001).

RESULTS

Measurement Model

The reliability and validity of the instrument used was determined through a structural equation model (SEM) to avoid measurement errors and multicollinearity (Hair, 2016). The SEM based on variance and/or covariance is a statistic with high precision that is frequently used by researchers in the areas of social and administrative sciences (Hair Jr, Sarstedt, Hopkins, & Kuppelwieser, 2014; Sarstedt, Ringle, Henseler, & Hair, 2014). Our study analyzes the variables of the theoretical model through SEM based on variance, which provides the best fit to our research objectives. The main reasons for this second-generation technique are that it allows us to do the following: 1. estimate the measurement error; 2. estimate the relationships between different constructs (observable and unobservable); and 3. explore or confirm simple and complex theoretical models (Esposito et al., 2010; Henseler et al., 2016). The partial least squares (PLS) method was used to address the relationships between research variables with a focus on variance-based SEM (Barclay, Higgins, and Thompson, 1995; Hair, Jr., Sarstedt & Ringle, 2017). PLS-SEM is a technique that is used in research in different disciplines for its consistency and accuracy (Hair, Sarstedt & Ringle, 2017). This method is based on the prediction of the empirical findings and contrasts them with the theory (Bagozzi & Yi, 1988; Henseler et al., 2016). The use of the PLS methodology involves a two-phased approach (Barclay, Higgins, and Thompson, 1995; Hair, Sarstedt & Ringle, 2017): the measurement model and the structural model. The measurements are based on confirmatory factor analysis (CFA) to rule out the indicators that have a low correlation with respect to the remainder of the scale. In addition, the internal consistency and convergent and discriminant validity are analyzed (Fornell & Larcker, 1981; Henseler et al., 2015).

To evaluate the measurement model with variables of reflective type, the composite reliability of each item, the internal consistency of the scale and the convergent validity are analyzed. To measure the individual relation and reliability of each item, a standardized load of the factor higher than 0.707 is recommended (;). The results obtained in the present investigation are in the range of 0.698 to 0.928, close to and above 0.707. In our model, we have decided to include the value with a load of 0.698 for the following reasons: 1. It is significant at a level of 0.001; 2. It is very close to the acceptable threshold of 0.707; 3. This item is important for maintaining construct validity (Benitez-Amado & Walczuch, 2012; Hair, Ringle & Sarstedt, 2011). The composite reliability indicates values ranging from 0.866 to 0.930, thus the requirement that the indicator should be above 0.80 for basic research, according to) and) is accomplished. Cronbach's alpha is considered satisfactory over 0.700 (). The results obtained indicate values between 0.813 and 0.891, demonstrating a high reliability of the construct. The mean extracted variance indicates the mean amount of variance explained by the construct indicators. In this investigation, the AVE values range from 0.50 to 0.81. These results are above the threshold of 0.50, as proposed by). Finally, the discriminant validity of the constructs in the model was verified by the analysis of the

square root of the AVE. The results (diagonal) of the vertical and horizontal AVE are below the correlation between the constructs. This test does not detect any anomalies (see Table 7). The results provide adequate validity and reliability (convergent and discriminant).

Table 8 indicates the results of the estimation with PLS. There is empirical support for all hypotheses structured in the model. The results of the hypotheses: The H1 and H2, are the relationships that have greater strength within the structured model, the results indicate that entrepreneurship orientation has a significant and positive effect on innovation and market orientation. This according to the values of ($\beta = 0.645$***) and of ($\beta = 0.636$ ***). In this same direction, the findings of the H3 indicate that the entrepreneurial orientation has a significant and positive influence on the financial results of SMEs, according to the value of 0.142***). The H4, reveals that the innovation that develops in the SME, has a significant and positive effect on profitability, according to the value of ($\beta = 0.151$***). In addition, the results of H5 have revealed that market orientation has a significant but negative influence on the profitability results of SMEs, according to the value of ($\beta = -0.090$**). This shows that with less focus on market behavior and little concern for customers, SMEs tend to reduce their sales and profits. Finally, there were examined the effect of control variables: age and company size in contrast with performance. The results indicate that these variables have a significant and positive influence on the profitability in the SME according to the values of: ($\beta = 0.206$***) and ($\beta = 0.131$***). These results show that SMEs, with greater age, who have more time in the same market or a sector, help that they are more likely to achieve higher results of financial profitability. In this same direction, the results show that SMEs with a more solid organizational structure and with a larger number of employees (larger size) help the organization obtain greater financial return benefits. In summary, these two control variables allow obtaining better and greater results of financial profitability for this type of companies.

Table 7. Discriminant validity of the theoretical model

Variable	AVE	EO	INNO	MO	PROF
EO	0.501	**0.670**			
INNO	0.643	0.645	**0.802**		
MO	0.519	0.636	0.546	**0.721**	
PROF	0.815	0.183	0.194	0.083	**0.903**

Source: Own elaboration. Note: AVE: average variance extracted, EO: Entrepreneurial Orientation, INNO: Innovation, MO: Market Orientation, PROF: Profitability

Table 8. Hypothesis test results

Hypothesis	Value of Beta	T Score	P Value	F^2	Confirmed/ Rejected
H1. EO -> INNO	0.645***	21.389	0.000	0.711	Confirmed
H2. EO-> MO	0.636***	20.575	0.000	0.680	Confirmed
H3. EO-> PROF	0.142***	2.691	0.000	0.010	Confirmed
H4. INNO-> PROF	0.151***	3.319	0.000	0.013	Confirmed
H5. MO -> PROF	-0.090**	2.190	0.000	0.007	Confirmed

Source: Own elaboration. Note: *: $p < 0.1$, **: $p < 0.05$, ***: $p < 0.01$

To evaluate the adjustment of the model in the SEM techniques are based on the covariance, in PLS it is not possible to estimate these measures. However, on PLS there are analyzed the value of trajectory coefficients, the analysis of (R^2) and the values of (F^2) which are significant individual measures to explain the predictive capacity of the structural model (Chin, 2010). The trajectory coefficients around 0.2 are considered economically significant. For the analysis of the explained variance and the prediction quality of the model through (R^2), the value (F^2) measures and provides the effect size included in the model. The Q^2 statistic test (cross-validated redundancy index) is utilized to evaluate and prove the predictive relevance of endogenous constructs in a structured model with reflective variables. The model was evaluated through the blindfolding technique (Hair, Ringle, & Sarstedt, 2013). The values higher than (0), indicate a remarkable predictive quality (Hair et al., 2006). The data can be observed in the tables 8 and 9. In summary, it can be confirmed that this analysis provides an excellent predictive and explanatory capacity of the model. To further explanation about the predictive effect of our model, it has been added a goodness adjustment test performed by PLS. Thus, it has been taken the standardized residual mean square indicator (SRMR) when this value is in a range of (< 0.08-0.1), there is an acceptable adjustment (Hair & Hult, 2016). The result of 0.084, confirms that the proposed model has an acceptable predictive quality and demonstrates that the empirical results are aligned with the theory.

DISCUSSION AND CONCLUSION

Within the framework of the literature on the entrepreneurial orientation and the efforts focused on the demands of the market, SMEs have been considering these business practices to consolidate themselves in high competitiveness environments. In this section, there are discussed our findings in the context of the theory of entrepreneurial behavior and dynamic capacities, theoretical currents that encompass business practices related to opportunities for entrepreneurship, market orientation, innovation and business profitability (Teece, 2012; Zahra et al., 2014). To answer the research questions and meet the stated objective, the findings indicate, in the first place, our results have affirmed that the entrepreneurial orientation is positively related to the market orientation, innovation and to profitability, in accordance with that, it is verified that the companies that exploit to the maximum their resources and capacities towards the analysis of Markets, supervising the competitor and meeting the latent demands of consumers, may develop more innovative activity (Lessard et al., 2016). These results are in line with the theory and several empirical studies, affirming the close connection between these two variables which generate competitiveness and innovative activity for companies (Matsuno et al., 2002; Zahra et al., 2014). Additionally, we have discovered that the combination of entrepreneurship orientation and innovation activities substantially increase profitability results in SMEs. Therefore, when companies

Table 9. Predictive quality and model adjustment

Variable	R^2	Q^2
Innovation	0.415	0.401
Market Orientation	0.404	0.393
Profitability	0.045	0.037

Source: Own elaboration.

are able to discover their capabilities and focus their resources on the market, there is a higher tendency towards customer satisfaction, incensements on sales and incensements on business profits (Engelen, Gupta, Strenger, & Brettel, 2015). These assertions are based on the theory of dynamic capacities (Teece, 2007). However, the findings inform us that market orientation has a negative influence on profitability results. This indicates that the companies that do not execute the resources and capacities towards the satisfaction of the clients, the improvement of the quality of the products, investigate the competition and in the competitiveness of the global markets, their profitability decreases significantly (Laskovaia, Shirokova, & Morris, 2017; Porter & Kramer, 2019). Finally, it was found that the age and size of the company have a positive and significant influence on profitability results. Results that follow those which are established by evolutionary economic theory explaining that as the company is growing its results express the same trend (Nelson & Winter, 2009).

In the research, the entrepreneurial orientation and market orientation developed by SMEs to exploit their innovation capacities and achieve greater profitability results have been analyzed as focal points. In order to comply with the objective and the research questions, the results indicate that: 1) SMEs are executing entrepreneurial resources and capacities to obtain greater success in their innovative activities and in the execution of market-oriented practices; 2) the activities that SMEs are executing are having a positive impact on financial results; and (3) despite the fact that market orientation is a trigger and determinant growth and financial sustainability, SMEs are not focusing their dynamic capabilities on these strategic actions.

The results of the research have generated important implications for the development and consolidation of SMEs. 1. It is fundamental that SME managers continue to take advantage of internal and external opportunities for the development of entrepreneurship (Jantunen et al., 2012; Rodrigo-Alarcón et al., 2017). 2. In addition to investing in R&D and financing to undertake, it would be desirable to establish collaborative networks with research centers and universities for the development of new products (Leydesdorff, 2013). It is also convenient that SMEs focus their resources and capacities on global markets, 3. SMEs through their managers must exploit their dynamic capabilities, in order to visualize themselves as constantly moving and innovating companies that adapts themselves to highly competitive global environments, and 4. It is important that SME leaders focus their efforts and resources on the generation of creativity, on the formation of intellectual capital in order to take their entrepreneurial skills to a higher level and consolidate local markets to improve their competitiveness (Teece, 2016; Zahra & Nambisan, 2012). The research indicates some limitations and on the other hand, it opens a significant opportunity for the development of future lines of investigation. The first limitation is the use of a single source of information. This, because the data were collected from self-reports and subjective perceptions expressed by managers of SMEs, which may bias the results. Secondly, the sample has been focused on various sectors of industry (services, trade and industry), in the future it could be focused on a particular sector to analyze their behavior during a certain time. The last limitation refers to the measurement scales utilized, since only reflective variables with scaling adaptations of other studies were considered. In the future, in order to face certain limitations, it could be convenient to improve on the conceptual model, by including a greater number of constructs. Finally, due to the importance given to EO and MO as platforms for business development and growth, it is expected to develop research that will complement this study by incorporating variables such as leadership, human capital, e-commerce and open innovation. In addition, it might be convenient to continue evaluating the development, growth and competitiveness of SMEs over time with longitudinal and causal studies.

ACKNOWLEDGMENT

Funding: This project received funding for its development and publication by the Program for Strengthening Educational Quality (PFCE, 2017-2018) of the Secretariat of Public Education of Mexico.

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Chapter 3
Entrepreneurial Orientation and Dynamic Capabilities: The Case of Family Firms

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ABSTRACT

Currently, small and medium enterprises that are family businesses (SMEFs) assume an important role in the global economy. Further, innovation and flexibility became vital to firms' survival and prosperity in the market during these volatile times. Firms should not only possess critical resources, but also be able to recombine them. Characterized by resource restrictions, SMEFs can rely on dynamic capabilities to access resources and be competitive in the market. In this regard, networking capabilities (NC) and resource combinations (RC) such as exploitative and explorative product development and on market-related capabilities emerge as key dynamic capabilities. This chapter examines the role of Entrepreneurial Orientation (EO) on NC and RC. Using a qualitative method of in-depth case study, the chapter analyzes 12 Portuguese SMEFs.

INTRODUCTION

Small and medium-sized enterprises (SMEs) have an important weight worldwide. They contribute to the majority of the economies' value creation and jobs (Burke & Jarratt, 2004; Lubatkin, Simsek, Ling & Veiga, 2006). In the USA, SMEs represent 70% of all jobs, while in Europe, including Portugal, that contribution is as high as 99.8%, (Caldeira & Ward, 2003; European Comission, 2017). Despite

DOI: 10.4018/978-1-5225-8479-7.ch003

its relevance, SMEs are characterized as possessing scarce resources (e.g. human, physical, financial and intangible resources), scarce bargaining power, less structured organizational hierarchies, informal management practices (process), and possess limited information available to the firm (Caldeira & Ward, 2003; Lubatkin et al., 2006; Weerawardena, Mort, Liesch & Knight, 2007; Wiesner, Macdonald & Banham, 2007). In consequence, SMEs are highly sensitive to the increasing globalization of the world economy (Caldeira & Ward, 2003; Kraus, Rigtering, Hughes, & Hosman, 2012).

A significant among of SMEs are of family nature (Donckels & Frohlich, 1991; IFERA, 2003). The small and medium-sized enterprises that are family business (SMFEs) provide important contributions to gross national products, job generation and wealth creation (Anderson & Reeb, 2003; Astrachan & Shanker, 2003; Family Firm Institute, 2017). Specifically in the case of Portugal, 70%-80% of firms are family businesses, which represent 50% of the workforce and contribute for more than 60% of the Portuguese GDP (APEF, 2018; Coimbra, 2008). Still, family businesses are mainly underrepresented in the literature (e.g. Dyer, 2003).

Nevertheless, family businesses have peculiarities that call for academic interest. A family business is characterized by the interplay of three distinct subsystems: family, ownership and management (Gersick, Davis, Hampton, & Lansberg, 1997). In what regards the first subsystem, the family's specific role in the business makes these firms unique (Astrachan, 2010) and influences the way they manage and deploy resources (Chrisman, Chua, & Zahra, 2003). In fact, family businesses benefit from the support of family members and committed workforce, and have goals, values, relationships and resources different from the ones from non-family businesses (Dyer, 2003). For instance, values such as altruism and paternalism are cherished by family businesses and influence value creation of these businesses (Chirico, Nordqvist, Gianluca, & Edoardo, 2012; Dyer, 2003). The second subsystem, ownership, allows family firms the power of undertake the final strategic decisions (Chrisman, Chua, Pearson, & Barnett, 2012). Finally, concerning the management subsystem, family firms tend to focus on business longevity, and provide for long-term strategies (Miller & Le Breton-Miller, 2005; Zellweger & Sieger, 2012). In that regard, the owner/manager takes advantage of past experiences and accumulated firm-specific knowledge and skills, which consequently allows him to adopt the best decision-making strategies for the firm (Hirigoyen & Labaki, 2012). Moreover, these firms develop valuable social relationships (Kellermanns, Eddleston, Barnett, & Pearson, 2008), and favor a combination of financial and non-financial goals (Stafford, Duncan, Dane, & Winter, 1999).

With all their particularities, SMFEs are a flexible and customer oriented source of innovation, (Arregle, Naldi, Nordqvist, & Hitt, 2012; Classen, Carree, Gils, & Peters, 2013; Welsh & Raven, 2006). However, today they face a new reality. The world economy has been changed dramatically in the last decade. The globalization and the rapid market alterations, with the increasing complexity and demanding character of customers along with the environmental turbulence represent major challenges to SMFEs (De Massis, Frattini; Majocchi, & Piscitello, 2018; Kraus et al., 2012; Zain & Kassim, 2012). In these circumstances, firms need to rethink their operations and find new ways to compete.

Previous literature stated that firms could gain momentum over others due to the possession of strategic resources, such as entrepreneurial orientation (EO) (Barney, 1991; Covin & Slevin, 1991; Habbershon & Williams, 1999; Lumpkin & Dess, 1996). According to Lumpkin & Dess, EO consists of the *processes, practices, and decision-making activities that lead to new entry* (1996, p. 136). It involves not only the actions, but also the intentions of decisions makers. EO is perceived as an important strategic resource that can lead the firm to seek out new business opportunities and benefit from them. However, the mere possession of resources, even if valuable, rare, inimitable, and nonsubstitutable, doesn't seem to fully

explain performance differences (Newbert, 2007). In fact, while previous studies posited a relationship between EO and performance (e.g. Casillas & Moreno, 2010; Casillas, Moreno, & Barbero, 2010; Cruz & Nordqvist, 2012; Lumpkin, Brigham, & Moss, 2010; Nordqvist, Habbershon, & Melin, 2008; Revilla, Perez-Luno, & Nieto, 2016; Schepers, Voordeckers, Steijvers, & Laveren, 2014; Stenholm, Pukkinen, & Heinonen, 2016), some failed to find significance in such relationship (e.g. Slater & Narver, 2000; Walter, Auer, & Ritter, 2006; Wiklund & Shepherd, 2005; Zahra, 1991).

Unlike what was assumed in the past, to be able to survive and outperform competitors, rather than merely possessing strategic resources, firms need to integrate, create, extend and reconfigure their capabilities, that is, to develop dynamic capabilities (DC) (Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece and Winter, 2007; Teece, 2007; Teece, Pisano & Shuen, 1997). DC are the organization's capacity *to purposefully create, extend, or modify its resource base* (Helfat, et. al, 2007, p. 4). In the current context, DC allow firms to improve, and change the way they make a living and obtain a sustainable competitive advantage (Helfat & Winter, 2011). While their relevance is pointed out to firms generally, they appear to be particularly important to SMFEs. Though SMFEs are seen as being embedded with an entrepreneurial spirit (Block, 2012; Patel & Chrisman, 2014; Sirmon & Hitt, 2003; Wiklund, 1999), they tend to lack the resources to go forward with some actions (Fernández & Nieto, 2005; Madsen, Alsos, Borch, Ljunggren, & Brastad, 2007; Zahra, 1991). For that reason, more than relying on many resources, these firms need to be able to take the best out of what they have and adapt to changing market environments.

Against this background, and the SMFEs' unique challenges, more debate is needed. In line with Casillas, Moreno and Barbero (2010), there is not only a need for more EO studies, but also a plea for deeper understanding about each of its dimensions and implications. It is a promising research path, with academic and managerial potential (Short, Payne, Brigham, Lumpkin & Broberg, 2009). This research builds upon this appeal, and focuses on acquiring in-depth knowledge about EO and DC, within the context of SMFEs. Particularly, it starts by identifying the EO dimensions and dynamic capabilities that are more pertinent to SMFEs and analyzes the intricate relationships between these two elements. To do so, the authors opted for a qualitative research method through in-depth interview to CEOs and managers of Portuguese SMFEs.

BACKGROUND

In this section the authors start by conceptualizing and acknowledging the importance of small and medium firms that are family businesses. Further, we present the two main concepts of the chapter, entrepreneurial orientation and dynamic capabilities, and then reflect on the relationship between these concepts.

Conceptualization and Importance of SMFEs

Family businesses are recognized worldwide as one of the oldest forms of businesses (Astrachan, 2010). The family's involvement, either through ownership, control or organization and management, is a differentiation element. Family businesses also stand out due to their heterogeneity and complexity, which provides for their unique approach to the market (Wright & Kellermanns, 2011). Hence, a possible definition of family business is *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 fam-*

ily or a small number of families in a manner that is potentially sustainable across generations of the family or families (Chua, Chrisman, & Sharma, 1999, pp.25). In fact, the family involvement provides a combination of two systems, family and management, which contributes to the creation of economic and non-economic values (Chrisman, Chua, & Sharma, 2003). These characteristics influence, and also limit, the firm's strategy decision, entrepreneurship behavior and consequently its performance.

Although the literature acknowledges the importance of both family businesses and SMEs for the global economic development (Ibrahim, Angelidis, & Parsa, 2008), it is surprising to find few empirical studies on SMFEs (Fernández & Nieto, 2005). Some authors point out some reasons for this gap, namely the fact that family businesses are considered a new field of study and the lack of primary and secondary data sources. These complications makes it more difficult to develop extensive field studies or comparative studies in family businesses (Ibrahim & Samad, 2010; Ibrahim et al., 2008; Zahra, 2018).

Entrepreneurial Orientation

In order to earn sustainable competitive advantages, create value and pursue business opportunities, firms need to assume an entrepreneurial posture (Naldi, Nordqvist, Sjöberg, & Wiklund, 2007). An entrepreneurial firm searches for sources of opportunities and takes action to discover, evaluate and exploit such opportunities (Miller, 1983; Shane & Venkataraman, 2000). In this regard, EO is a strategic orientation that reflects this out of the box firm philosophy of to conducting business and being competitive (Gatignon & Xuereb, 1997; Hughes & Morgan, 2007). It is one of the firm's most important strategic resources (Covin & Slevin, 1991; Lumpkin & Dess, 1996) and involves distinct dimensions such as innovativeness, proactiveness and risk-taking (e.g. Covin & Slevin, 1991; Miller, 1983; Wiklund, 1999; Zahra & Covin 1995). Some authors also consider competitive aggressiveness and autonomy (e.g. Hughes & Morgan, 2007; Lumpkin & Dess, 1996; Short, Broberg, Cogliser & Brigham, 2009).

Innovativeness reflects a firm's tendency to promote new ideas, creative processes and research and development (Lumpkin & Dess, 1996). Proactiveness consists in the predisposition of the firm to anticipate and act on market trends, and assume a forward-thinking perspective (Lumpkin & Dess, 1996). Risk taking refers to the degree to which firms are willing to make large resource commitments with a reasonable chance of failure and uncertain outcomes (Lumpkin & Dess, 2001). Competitive aggressiveness reflects the firm's predisposition to openly challenge its competitors and develop actions to outperform them whereas autonomy reveals the propensity to act independently so as to bring forward ideas (Lumpkin & Dess, 1996).

While the studies in the field of entrepreneurship provided researchers and managers knowledge about the activity, and the decision-maker (e.g. Shane & Venkataraman, 2000), entrepreneurship in a family business context needs more understanding (Block, 2012; Dess, Pinkham, & Yang, 2011; Hall, Mellin, & Nordqvist, 2001; Lumpkin, Brigham, & Moss, 2010; Patel & Chrisman, 2014; Wiklund, 1999). First, it is challenging, considering the interaction between the family and the business system (Chirico, Sirmon, Sciascia, & Mazzola, 2011). Second, there is no consensus; while some authors state that family businesses are entrepreneurial, creative, dynamic and flexible (e.g. Aldrich & Cliff, 2003), others refer that family businesses are rarely entrepreneurial, due to their conservatism, risk-aversion and resistance to change (Naldi et al., 2007; Nordqvist & Melin, 2010). A third group of researchers argue that, in family businesses, some dimensions, such as risk-taking or competitive aggressiveness, are less important than others, namely innovativeness and proactiveness (e.g. Zellweger & Sieger, 2012).

Dynamic Capabilities

The concept of dynamic capabilities emerges as an extension of the Resource Based View (RBV), in order to respond to dynamic markets, whose behaviors are hard to predict (Eisendardt & Martin, 2000, Teece et al., 1997). RBV assumed that firms should own a set of valuable, rare, inimitable and non-substitutable resources and capabilities to achieve sustainable competitive advantages (Barney, 1991). Resources are observable (but not necessarily tangible) assets, namely physical capital (e.g. physical technology, plant and equipment, geographic location, and access to raw materials); human capital (e.g. training, experience, judgment, intelligence, relationships, and insight of individual managers and workers in a firm; and organizational capital (e.g. formal reporting structure, formal and informal planning, controlling, coordinating systems, and informal relations among groups within a firm and those in its environment) (Makadok, 2001). Capabilities are not observable, and can only change as a whole unit. They reflect intricate coordinated configurations of skills and knowledge that, over time, become embedded as organizational routines and assist the employment of resources (e.g. Teece et al., 1997).

Although the RBV is an important theory to understand the sources of value creation, it disregards the dynamic nature of markets (Helfat & Petraf, 2003). For that reason, researchers called for the consideration of this aspect, leading to the appearance of the dynamic capabilities extension. The DC perspective incorporates the processes related to the firm's ability to reconfigure its resources base in order to respond efficiently to changes occurring in their markets (e.g. Ambrosini & Bowman, 2009; Helfat, 1997; Teece et al., 1997).

Considering the increasing complexity of markets, competition and demanding customers, firms are pressured to develop organizational and market processes that enable them to introduce changes overtime (Chirico & Salvato, 2008; Kraus et al., 2012). While this is challenging to most firms, it can be particularly difficult to SMFEs (e.g. Chirico et al., 2012; Chirico & Salvato, 2008). These firms tend to be smaller and more resource restricted (e.g. Madsen et al., 2007). In view of that, networking capabilities and resource combinations emerge as crucial to SMFEs. Networking capabilities refer to development, maintenance and exploitation of relationships with various external partners. They involve firms' capabilities to interact to other entities and manage these relationships efficiently (Mitrega, Forkmann, Ramos, & Henneberg, 2012). The importance of these capabilities to the SMFEs lies on that these businesses interactions gives SMFEs the opportunity to access resources, acquire information and knowledge and transform them (Wright & Kellermanns, 2011). Resource combinations represent the change and combination of assets and resources (Ambrosini, Bowman, & Collier, 2009). Hence, these capabilities allow SMFEs to change their resource base and to overcome their resource constraints.

Networking Capability (NC)

For entrepreneurial SMFEs to be competitive, it is determinant to overcome the size-related and resource constraints. Although having such limitations, SMFEs can access additional resources and capabilities or discover, assess and learn how to implement capabilities through their interaction with businesses partners (McEvily & Marcus, 2005). Collaboration with customers may assist the search for new ideas; relating to suppliers may allow input quality improvements or cost reductions from process innovations; competitors networking aim to benefit from potential synergies or complementary effects; interacting

with public agencies, focuses on funding and supporting innovative projects; whereas the link to universities and research institutes, may promote the development of innovative products and services (Classen, Gils, Bammens, & Carree, 2012).

The generation of new resource configurations, integration, reconfiguration, gain and release of resource combinations allowed by networking can be sourced in the firm's existing relationships or via the development and exploration of new ones (Mort & Weerawardena, 2006; Mu & Benedetto, 2012). Either way, NC plays an important role as dynamic capability (McGrath & O'Toole, 2013; Mitrega et al., 2012; Mort & Weerawardena, 2006; Mu & Benedetto, 2012; Walter et al., 2006).

Conceptually, networking capability is *the ability to initiate, maintain and utilize relationships with various external partners* (Walter et al., 2006, pp.546). It involves four dimensions: coordination, relational skills, partner knowledge and internal communication (Kale, Dyer, & Singh, 2002). Coordination reflect not only the connections between firms but also interactions between individuals within a network (Kale et. al., 2002). Relational skills represent the ability of managing business relationships, which involves communication ability, conflict management skills, empathy, or emotional stability, among others (Marshal, Goebel, & Moncrief, 2003). Partner knowledge is characterized by all information acquired for the firm-business partners' relationship (Kale et. al., 2002). Internal communication is important to benefit from partners' information, and involves bringing such information inside the firm and sharing it with the collaborators (Kale et. al., 2002).

Resource Configurations (RC)

Resource configuration refers to the ability of firms to transform and combine assets and resources (Ambrosini, Bowman, & Collier, 2009). Firms can do so by identifying existing opportunities and recombining current resources, ie, exploitation, or by building on new opportunities and combining new resources, that is, exploration (March, 1991). Exploitation is evident when the value is created through the use of firms' resources, assets and capabilities, whereas exploration relates to resources, assets and capabilities which add new value to the firm by processes of searching and learning that involving a new pool of inputs (Pittino & Visintin, 2011). Resource configuration can be applied in both technical and non-technical areas, specifically product development and market. Product development exploitation refers to the firm's ability to improve and expand its existing product development knowledge, skills, and processes and product development exploration describes the firm's ability to develop new product development knowledge, skills, and processes (Lisboa, Skarmeas, & Lages, 2011). Market-related exploitation refers to the firm's ability to improve and expand its existing market and customer knowledge, skills, and processes, while the market-related exploration involves the firm's ability to develop new market and customer knowledge, skills, and processes (Lisboa et al., 2011).

Proposed Relationships

EO is a strategic orientation that the decision-making styles, processes, and methods that guide firms activities (Lumpkin & Dess 1996). While it is an important strategic resource, its full potential may only be captured when deployed in capabilities (Eisenhardt & Martin, 2000).

Entrepreneurial Orientation and Networking Capabilities

The SMFEs are characterized by having scarce resources. These resources are necessary and fundamental to reach higher standards of performance, and advantages in a very competitive market. The complexity of technological development firms face nowadays, and all the risks of developing innovating technologies, lead firms to develop business networks. On doing so, each firm fulfills its needs, using the network to surpass its lack of resources (Hakansson & Ford, 2002).

In the present study, NC is used as the firm's capacity to manage the relationships between its different business partners. Previous works defend that it is vital to develop a network of relationships in the family businesses, namely to improve firms' competitiveness (Ibrahim, Mcguire & Soufani, 2009). Similarly, Aldrich & Cliff defend that having a network of relationships can supply important and needed resources to the family businesses (2003). In fact, there is evidence in the literature regarding the importance of exchanging resources, knowledge, and information with firms' external business partners in firms' innovation (Gianiodis, Ellis & Secchi, 2010).

Firms that embrace this innovative attitude, especially the SMEs, develop and maintain healthy external relationships with business partners. Further, such firms have better chances in establishing long-lasting business relationships than any other firms (Ostendorf, Mouzas & Chakrabarti, 2014). By being part of a business network with external business partners, firms must learn how to create value so as to benefit all parts in the negotiation (Hite & Hesterly, 2001). Given the multiple possible partners, to truly benefit from business networks, firms must manage different networks for different needs (Chiaroni, Chiesa & Frattini, 2011).

In an increasingly competitive and global environment, firms must be proactive in searching, selecting and creating their business networks, in a way to obtain information, advice, ideas and business opportunities (Hoang & Antoncic, 2003; Walter et al., 2006). Fossas-Olalla, Minguela-Rata, López-Sanches and Fernandez-Menéndez highlight, for example, that developing cooperative technological projects with suppliers could contribute to the development of new innovative products (2015). Walter and colleagues also defend that firms benefit from a solid relationship with their suppliers, by contributing with inputs, so as to improve time management (2006). Further, these researchers defend that a close relationship between the firm and its clients could be very beneficial. It helps firms understand and obtain a better perception of their clients' needs and demands. However, the relationship with clients can also enclose disadvantages. For instance, when a firm chooses to launch a radically new product, some clients are reluctant and inflexible towards new products. Hence, firms can choose to develop close relationships with other partners. Relationships with universities and other institutions allow differentiating resources (human and technological) and access to collaborative projects that involve research, investigation and development, with low investments and risks (Perkmann & Wash, 2007). The development of relationships with direct competitors allow firms to acquire and develop relevant knowledge, though with high risk of opportunity loss (Bouncken & Fredrich, 2016).

While the development of business networks can open new and interesting synergies and paths, the proactive search, selection, and development of business relationships to add to the firm's business network may end up being a waste of time and resources (Mitrega, et al., 2012; Sigfusson & Harris, 2013). For that reason, the way a firm manages its business network becomes crucial. In what regards SMEs, especially the family business ones, they tend to establish strong contacts with their family members and close friends first, and then they broaden their network. They do so by establishing contacts with

the weaker ties, which allows them to acquire precious knowledge to develop innovative services and products (De Massis, Frattini, & Lichtenthaler, 2013; Hite & Hesterly, 2001; Salvato & Melin, 2008).

The firm's predisposition in assuming a certain amount of risk will have direct implications in the development of its business network. A firm that chooses to have an innovative and proactive attitude will always be prone to a higher risk, simply because it will have to deal with uncertainties, experimentations and the possibility of never creating anything new (Lee, Park, Yoon & Park, 2010). The risk impact of a firm choosing to develop a business network is mainly time and firm resources, which are often scarce, and the unknown nature of the outputs (Sigfusson & Harris, 2013).

Concluding, firms that opt to innovate prompt the development of business networks with different partners, given that their internal resources, information and knowledge might not be enough for those activities and processes. Through the business network, the partners provide knowledge, know-how and resources to develop innovative products. Yet, to be able to benefit from a business network, firms must have a proactive attitude. The innovative and proactive posture imply a certain amount of risk, which has its own implications in the development of the business network. Following this, we propose

Proposition 1: Entrepreneurial orientation influences positively networking capability

Entrepreneurial Orientation and Resource Combination

Entrepreneurial orientation involves not only the firms' ability to be aware of opportunities, but also the ability to create them (Jantunen, Puumalainen, Saarenketo, & Kyläheiko, 2005). As such, it is necessary to reconfigure firms' resources base in order to pursue opportunities and take advantage from them. Habbershon, Nordqvist, & Zellweger (2010) defend that EO and resources are interconnected. If EO reflects a strategic posture, resources are the means to implement such posture. EO acts as a stimulus to the resource combination (Chirico et al., 2011). Firms can possess resources, but if they don't have a certain level of EO, they will not be aware of the market opportunities or take advantage of new forms to combine their resources. As Chirico and colleagues state, an EO level allows businesses to take the knowledge and experiences passed on from generation to generation, to achieve a specific goal (exploitation and/or exploration strategies) (2011). These resources current and new combinations provide flexibility that can assist firms to deal with dynamic markets(Eliason, Wiklund & Davidsson, 2002; Madsen, 2010). Thus, although an EO attitude influence on flexibility in resource combinations is complex, it can be highly beneficial, especially in dynamic environments (Jantunen et al., 2005). As such, we propose

Proposition 2: Entrepreneurial orientation influences positively resources combination

METHOD

Research Context: SME Family Businesses Located in the North of Portugal and Their Representativeness Within the Traditional Sectors of Activity

The research setting is Portugal, due to the prominence of SMFEs in this country and their importance in the Portuguese economy. Particularly, according to the definition of European Commission (2017), 99.8% of the Portuguese firms are SME (Caldeira & Ward, 2003; INE, 2017). Further, in Portugal, 70%-

80% of firms are family businesses and represent 50% of the workforce contributing for more than 60% of the Portuguese GDP (APEF, 2018; Coimbra, 2008). Not only are SMFEs representative in terms of number, but they also provide an important volume of invoices for the national economy (Howorth & Ali, 2001). In addition, a recent study developed by Marques (2018) named Roadmap for the Portuguese Family Business, tried to overcome the lack of information regarding family businesses and provided a family business database regarding the family businesses registered in the North of Portugal (41.496 firms). The author characterized these firms by their regional location, firm age, size (considering the number of employees), industry, among other data. This study indicate that these firms exist in diverse and traditional sectors of Portuguese activity, such as wholesale and retail trade, manufacturing, construction, services and accommodation. Within this context, the present research focused on traditional industries SMFE located in the North of Portugal.

Data Collection and Sample

This research proposes a deeper understanding of EO and dynamic capabilities in the complex, understudied context of SMFEs. Given the nature of the research, the authors opted by a qualitative study. In order to have the complete information, multiple sources of data collection were used to provide triangulation of sources, including in-depth interviews and secondary data, namely published information, brochures, newspapers articles, industry reports, web sites, policy documents and internet. The literature shows evidence that sometimes a consensus does not exist among authors in the number of cases considered ideal to be included in the investigation in a qualitative study (Romano, 1989). Some authors defend that researchers should use between four and ten cases (Eisenhardt, 1989), others defend a minimum of two (Perry, 1998), a third group of authors posits no more than fifteen cases (Miles and Huberman, 1994), and even others refer to a maximum of four or five cases (Kraus, Kallmuenzer, Stieger, Peters & Calabrò, 2018; Lambrechts, Voordeckers, Roijakkers, & Vanhaverbeke, 2017). In agreement with Bowen (2008), the present research opted for 12 case studies, number of case studies in which data saturation was reached.

Following Salvato and Corbetta (2013), the present study's authors used secondary data from sources such as firm websites, trade magazines, and newspapers (regional and national). The analysis of these sources allowed to get acquainted with the different firms, their history, family involvement and firm values, and select the ones to include in the sample. In line with Chetty and Holm (2000) and the recommendation of Eisenhardt (1989), the selected firms had different characteristics, namely operate in distinct industries and markets. In what regards the industries, the firms operate in traditional manufacturing and service industries. We adopted a family business definition provided by Chua et al (1999) and selected established firms with family members involved in the business to better understand the firm's history and adopted strategy, evolution and background. Table 1 presents the selection criteria.

The firms were contacted by telephone to participate in the study and identify the key respondent. All contacted firms accepted to participate in the research and the research team developed in-depth interviews with the identified key respondents, namely the owners and managers of the family businesses.

Table 2 presents a brief characterization of the SMFEs included in the study. Specifically, they represent a range of traditional Portuguese industries, including wine (1 firm), textile (3 firms), footwear (2 firms), jewelry (2 firms), transportation (1 firm), canned fish (1 firm) and food products (2 firms).

Table 1. Criteria of selected cases

1. Family firms that are Small and Medium Enterprises
2. Firms that belong to the traditional Portuguese industries
3. Interview has to be with the owner or the CEO of the firm
4. Family members are involved in the business
5. Family's intention is to maintain the business in the family

Source: Authors

Table 2. Characterization of the firms included in the research

Firm	Current Location	Generation	Industry	Interviewee	Management	Ownership	Additional Family Involvement	Size	Year of creation
A	Póvoa de Lanhoso	Second	Jewelry	Owner/Manager	Father	Father	Sons (part-time)	Micro	1970
B	Riba d´Ave/ Guimarães	First	Textile	Owner/Manager	Brother	Brother and sister	Sister	Small	2010
C	Felgueiras	Second	Shoes	Owner/Manager and daughter	Husband	Husband and wife	Daughter	Medium	1992
D	Atei/Mondim de Basto	Third	Traditional food	Owner/Manager (son)	Son	Son and mother	Mother (part-time)	Small	1997
E	Guimarães	First	Textile	Owner/manager and commercial manager	Brother	Brothers	Wives	Small	1987
F	Matosinhos	Third	Canned fish	Manager (son)	Son	Father and non-family entrepreneur	Father and wife (part-time)	Micro	1940
G	Guimarães	Second	Jewelry	Owner/manager and product manager	Father	Father	Son	Small	1987
H	Guimarães	Second	Transportation	Owner/manager and daughter	Father	Husband and wife	Two daughters	Small	1999
I	Lixa-Felgueiras	Second	Wine	Owner/manager	Brothers	Two brothers and a cousin	Daughter	Small	1992
J	Guimarães	Third	Home textile	Owner	Diverse	Brothers, daughter and cousins and others non-family members	Brothers, sons, and cousins	Medium	1921
L	Cabeceiras de Basto	Second	Food	Manager (son)	Two sons	Mother	Two sons and husband	Micro	1999
M	Felgueiras	Second	Shoes	Manager (son)	Son	Father and son	Father	Small	2007

Source: Authors

Cases

By adopting a multiple-case study, the researchers can more likely understand complex phenomena under a real life context. This methodology, designated by Yin (1989) as multiple experiments, allows an in-depth knowledge of firm's history, strategy and decisions. We first provide a description of each individual case and later perform a comparative analysis of all cases so as to identify similarities between

them. Some additional secondary information provided by firms (e.g. published information, brochures, newspapers articles, industry reports) was used to complete their profile information.

Firm A

The founders of firm A, a father and son, began trading gold in 1918 at some local markets in the North of the country. Later, at the end of the 70s, the jewelry store was passed on to the third generation. During that time, the founder's nephew produced and created jewelry gold objects, specializing in filigree objects. He started at a very young age working in some filigree workshops initially working during his school holidays and after finishing basic school, he worked a full-time position. In 2000, the founder's nephew collected various gold objects, gold production instruments, rebuilt his workshop and decided to open a Gold Museum. Later, in 2002, he and his sister invested in their 1742 family house and they started exploring it as housing tourism. The firm's fourth generation is already aboard - the founder's nephew's son, an architect and university teacher that helps part-time coordinating the Gold Museum's activities and two daughters, one with a jewelry store in Cabeceiras de Basto and the other an university teacher that assists the firm in some marketing and promotion activities. Nowadays, the founder's nephew does not produce any jewelry gold objects but if a customer wants to buy a specific object, he contacts a local filigree craftsman and responds to the clients' request. The firm has 2 full-time employees. The interview was conducted with the owner also the CEO of the firm.

Firm B

The family started the manufacturing business of textile products in 1989. The firm started with the father investing in a business thinking about his daughter, who accumulated strong experience working in the textile sector in several Portuguese textile firms. In 1995, the business was prospering and his son joined the business. By the time the firm was founded, it had 15 employees but with the firm's growth, the number of employees rose to 47 which lead the family to buy a new and larger factory. Still, the firm faced problems when its main market, Germany, failed with the payments. The firm was forced to close in 2010 with only 28 employees. A new firm opened in that same year, with the two brothers taking precautions in relation to the mistakes experienced in the past.

At this moment, the firm has 14 employees - the original firm founder's son is the CEO of this new firm and his sister is helping him. Due to personal issues, she is not working in the family business nor does she have any official link but there is an agreement that when she solves such issues, she will be a partner in the firm and become its CEO together with her brother. The firm is specialized in mesh material, and specific clothes such as work clothes. It exports 99.9% of its sales to France, Spain and Denmark and works for various clients. As an example, the Eurodisney Park is the firm's main client. The firm's strategy focuses on reducing costs, delivering the products on time, producing with quality and having a diversified group of clients so as not to depend heavily on one specific client. The interview was conducted with the owner and the CEO of the firm, the founders' son.

Firm C

Firm C is specialized in footwear components. It was established in 1992. The owners are husband and wife with a share of 60% and 40% of the firm, respectively. The husband is the firm's CEO. His daughter

is the firm's commercial manager. This firm started with 6 employees and today it has 150 employees. In 1995, the firm moved its manufacturing place since it was growing, and the original location did not have enough space to produce and satisfy its customers. In 2003, the owner visited the Germany Technology Market and made an investment of 185 000€ in machinery. This equipment allowed adaptations to the shoe soles' production, with increased productivity. In 2005. the firm started prototyping and locksmithing to prepare its own molds and further develop customer loyalty. Nowadays. the creation of prototypes is done through 3D drawing, 3D printing and laser lithography. In 2008, when the European financial crisis started, the firm bought 32 rubber injection molding machines, unique equipment in the market to increase its production capacity. In 2012, the firm acquired a new factory and moved the manufacturing place again in order to have a broader view of the entire production process from research, development and design of the firm's own collections to the high quality of the final product. The enterprise is equipped with a quality control laboratory and employs qualified human resources to work in this laboratory to develop new experiments and tests. Their production has sold 97% in the domestic market and only 3% in the international market (specifically Canada, England, France, Spain, Belgium and the Netherlands). The firm's most recent investment was in a new machine to recycle the automobile tire. It was a strategic move, so as to not depend on the rubber supplier (the firm's main raw material), and to recycle some products without polluting the environment. This last aspect, the preservation of the environment, is an important concern of the owner. The interview was conducted with the commercial manager (the owner's daughter) and the owner/CEO of the firm.

Firm D

Firm D was founded in 1997. The business goes back to the great grandparents of this firm's founder when they started producing regional sweets from Atei (location), a product that was much appreciated by the Atei residents. The founder's grandparents offered him the business and today he works with his mother. The business is already in the fourth generation. The regional sweets are well known for their artisanal production method and are made with local ingredients, which gives them a unique flavor. The firm's brand image is the Atei sponge cake, but the firm produces a diversity of regional products such as regional donuts, or biscuits, among others. These products are appreciated not only by Atei residents, but also by the tourists. In fact, the clients recognize these products quality, and the firm sells to other locations, namely Braga, Guimarães, Felgueiras, Oporto and Lisbon. Furthermore, although the firm does not have an internationalization strategy, from time to time it receives orders from markets abroad, such as France, Luxemburg, Switzerland or USA. It employs 8 employees, and in special occasions, such as Easter and Christmas time, the firm needs to hire part-time employees. The interview was conducted with the owner and the CEO of the firm.

Firm E

Firm E was established in 1987, in Guimarães, by two brothers. It is in the clothing industry and its mission is related to great quality standards, which are ensured by careful attention to raw materials and a skilled workforce. In order to commercialize clothing, it soon generated the firm's brand and specialized in knitwear in a ready-to-wear context. Nowadays, the firm operates the logistics, creates and designs

clothes under an own brand, and offers such services to other clients with different brands. The firm focuses on the design and creation of clothes, but they are made outside of the firm. Due to this focus, it has a dedicated designer team that designs its clothes to national and international markets (e.g. Spain and France). The firm has a total of 12 employees - both brothers are the firm's CEOs, and their wives also work in the firm. The interview was conducted with the commercial manager (non-family employee) and one of the owners and the CEO of the firm.

Firm F

Starting in 1897, the origins of firm F is the second oldest canned fish factory in the region of Matosinhos, and its name is indelibly associated to the Portuguese canned fish industry. At that time, the family had a semi-preserved factory. Firm F was officially only founded in 1940, appearing as continuation of the previous project. The emergence of firm F represented the prolongation of the family's heritage, bringing up to the present day all the secrets, traditions and know-hows that, since 1897, successive generations of the family have carried out with them. The founders of firm F were three brothers and one non-family member. Today, the firm is owned by two of the founders, one of the family members, owning 99.9%, and the non-family member, with 0.1 percent, both retired. The firm's CEO is the son of the owner and the firm has two employees. The brand name exists since 1896, and the export activity started in 1920 with the Greek market. Currently, this firm does not manufacture, only commercializes. It buys the product from one supplier, with whom the firm has a good and long term family relationship. The main client is still the Greek market (with 90%), and the firm offers a medium quality product, that is sold in supermarkets, via distributors. At the moment, this firm is rebuilding its image, and exploring a niche of gourmet market in Portugal, Poland and England. In regards to this new image and product, it has superior quality in comparison to the one mentioned before, and is commercialized through distributors. The interview was conducted with the firm's CEO, who is the owner's son.

Firm G

Firm G was established in 1987. The founder started working at the age of twelve years old. Later on, he was challenged by an important jewelry businessman to open his own business. His father lent him some money, to buy merchandise, and he opened the enterprise. By that time, he benefited of having one of the best commercial businessman as his client, who gave him great assistance. Today, they are good friends, still have a good relationship, and that businessman, who possesses the best jewelry store in Lisbon, is one of the firm's best clients. The firm is specialized in manufacturing various noble metals with new materials, producing objects ranging from rings, pendants, necklaces, bracelets, crosses to other jewelry objects. Currently, the firm employs 14 employees and produces, commercializes and creates jewelry objects and collections. It has two own brands, which provides quality image, differentiation and exclusiveness. Furthermore, it has some national and international recognized clients such as the more known jewelry stores, and fashion designers with high reputation. The firm's strategy focuses on producing quality jewelry objects and selling them to some well-known national and international clients, while simultaneously having its own collection. The firm's differentiation is also based on the firm's flexibility and ability to provide its clients a variety of jewelry objects for each station. The interview was conducted with the owner and the CEO of the firm, and with the firm's production manager.

Firm H

Founded in 1999, firm H is a firm in the transport services industry. The founder and his wife are the owners of the firm. They have two daughters, also involved in the firm, given that they work in the firm's office. Today the firm has 30 employees and 20 trucks. The firm has some domestic clients, but operates mainly to international clients, particularly in Spain and France. During the time that the financial crisis started, in 2008, the firm faced financial problems that only could be surpassed through the commitment and the persistence of the owner and his team. By the end of 2013, the firm got a new venue, where the trucks could easily load and unload the goods. This new venue also incorporates the firm's offices, a meeting and training room, and a bar where clients and employees can take a break. The firm also invested in a new truck and they are introducing a new informatics system where the fleet manager has information regarding control costs while ensuring driver safety and satisfaction, and still meeting environmental requirements. The firm is concerned to reduce the costs and to offer fast, flexible and quality services. The interview was conducted with the CEO who is the owner also and his daughter.

Firm I

In 1986 the family owned some vineyards located in the Lixa village and decided to start a Portuguese society of wines. The founders were two brothers and one cousin. By that time, the firm produced wine and commercialized it in bulk, but the firm soon realized that, to improve wine quality, it should change the package and start commercializing wine in bottles. In 1992 they bought a farm and changed their name to the farm's name. This is a very well-known wine brand name nowadays. At the moment, the firm has 17 employees. The CEO of the firm is one of the founders, and his daughter is the quality control manager and is responsible for the wine's production. With the evolution of wine production, the firm renewed the space and the wine cellar, invested in production lines (complete and automatic), and is always looking for constantly improving technology. In fact, the firm is waiting for new equipment that will allow the firm to introduce a new product in the market, and did some investments towards increasing the vineyard diversity. It invests in the best technology, to obtain economies of scale without damaging wine quality. This firm won the prize SME Excellence, for the first time in the history of its industry. In 2000 the firm started internationalizing, and today it sells to 31 countries, being the most recent one Colombia and the main markets USA, Germany, Netherlands, Switzerland and Austria. Currently, the firm exports more than 50% of its production and it also produces and commercializes other products, such as cheese, honey, olive oil, wine accessories, and products related to the wine therapy. The interview was conducted with one of the owners who is also the CEO of the firm.

Firm J

Firm J was founded in 1921 by a university lecturer, his brother, who was a former military officer, and a non-family person who was a merchant in Oporto. Later, one of the founders invited a brother-in-law, which had some money to invest, to join the firm. Additionally, other brothers and brothers-in-law, his mother, and non-family members – who also had some money to invest – were also invited. Nowadays, one of founder's son and his brothers have a considerable quota, his daughter also bought 25 percent (some days before the interview) and his cousins also have a participation. Within the family members, they possess more than 50 percent. The firm has many partners (57), but some only have 0.01 percent

of the firm. Initially, the firm dedicated to manufacture linen fabrics, mostly sheets and towels. Later, the firm evolved and expanded its range of products to products made of cotton, polyester/cotton and terry toweling. Today, the enterprise possesses total control of the production process, from design and development, weaving preparation, weaving, bleaching, dyeing and printing, to finishing and making up. It is recognized as a benchmark in the textile production of bedding products, bath products and tableware. The firm is equipped with advanced textile technology and qualified human resources. The firm employs 145 employees and is characterized as a firm that innovates, differentiates, provides products with high quality and has the best relationships with its clients. The firm exports 80% of the production to Europe, Africa and America, mostly to the hotel industry (39% of its production). The interview was conducted with the one of the owners of the firm.

Firm L

In 1992 a couple of emigrants decided to return to Portugal and started producing homemade regional products such as cured meat and sausages. The idea was to sell these products in local markets as a way of living. In 1999 they founded the firm and used the wife's name as the firm's name. Later, two sons and the founder's sister joined the firm. One of the sons is the commercial manager, and the other is in the production sector, with his mother and aunt. Later, the founder's sister left the firm to work by herself. Nowadays, the firm has three employees. In the beginning the firm sold the products in different towns, in local markets, but today it only operates in some selected local markets. Specifically, it decided to sell in a market close to their house, given that the firm already has some loyal clients there and no need to travel away. The firm does not think about internationalization, but has some emigrant clients, that buy the products when on holidays to offer friends in their country of residence. Today, the firm's' products are other than cured meat and sausages, such as homemade bread, homemade bread with cured meat and quiches. In order to increase their productivity, the firm invested in new machinery, but still keeps the traditional way to produce its products. The products are recognized by their high quality, traditional flavor and traditional production. The interview was conducted by the son, who is the commercial manager.

Firm M

The firm appears with the extinction of a footwear firm, owned by the father and a partner. This new firm was founded in 2007 by father and son. The firm started with some hardships such as: lower liquidity, few resources and some financial difficulties. The enterprise has a total of 35 employees. In the beginning, the father decided to keep domestic customers who came from another firm, but because the firm did not have a key domestic competitive factor – low price to low/median quality – it decided to abandon the domestic market. The firm offers a high-quality product and the father and son want to keep this focus in their strategy. It produces high quality product to the international markets. Today, the firm exports 100% of its production to Nordic markets such as Denmark, Norway and Island, as well as Russia and more recently Japan. In 2013, the firm won the 2013 Leader award. The interview was conducted with one of the owners and the son, who is the CEO of the firm.

All the interviews were recorded, transcribed and coded using Nvivo Software. The interviews ranged between one hour and five hours. In the day of the interview, some firms felt comfortable to include a second person in the interview so as to provide more precise and complete information. Such was the

situation of firms C and H, who had as the second person the owner's daughter; and the case of firms E and G, whose second person was the commercial manager and the production manager respectively.

Interview Development

The interviews comprised open-ended questions which helped the contextualization of the firm's historic path, its industry and the strategy adopted through the years. These questions included the type of business ownership, management and the firms' characterization (e.g. firm's age, size considering the number of employees, industry). Then the interview proceeded to the identification of the interviewed person (e.g. name, his/hers family generation position and role in the firm) and other key actors in the business or the family (family members and nonfamily members). In addition, to get in-depth knowledge regarding the relationships between entrepreneurial orientation, networking capability and resource combination, the research team used open questions following a semi-structured guide. The interview also assisted the understanding of the owners/managers' perceptions of the constructs involved, namely entrepreneurial orientation, networking capability and resource configuration. To do so, the research team used questions based in the literature (e.g. entrepreneurial orientation by Miller, 1983; networking capabilities by Walter et al., 2006; and resource combination by Ambrosini et al., 2009 and Lisboa et al., 2011).

Data Analysis

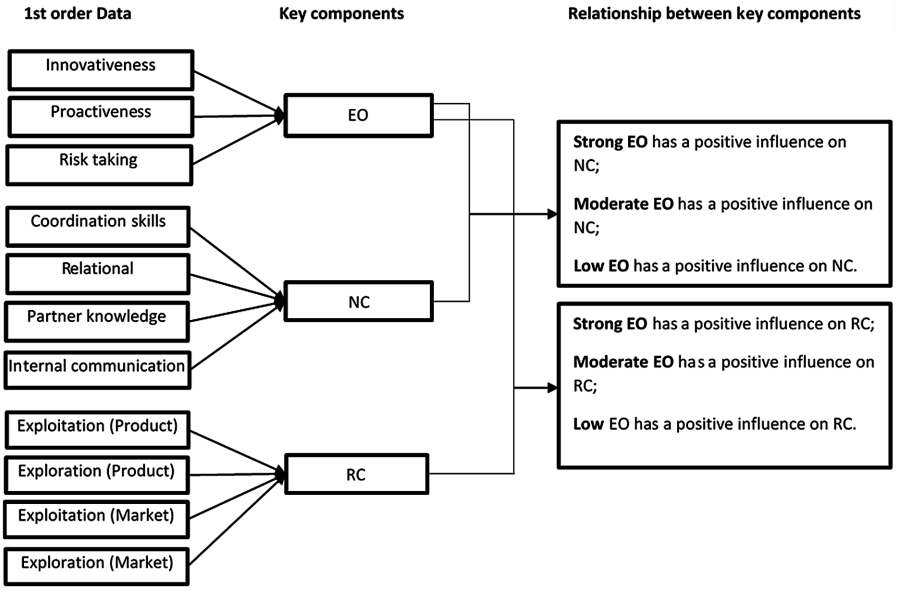
The data obtained from the in-depth interviews was analyzed using qualitative data analysis methods, through the NVIVO 9 software. This allows the examination of the firm's strategic decision evolution, of the management of resources and of the development of network connections, as well as the understanding of if these findings add value to SMFEs. Each case was analyzed and coded via nodes. Building on the literature review, 11 nodes were identified. Still, in the course of the analysis, new nodes emerged, namely personal resources (one source, two references), financial resources (five sources, seven references) and investment (one source, two references).

In what concerns entrepreneurial orientation, it is an important dimension, being mentioned 286 times. Firm G, firm C and firm F were the firms that cited it more times (48, 35 and 33 times, respectively). Firm L, firm A, firm E and firm D were the ones that quoted it fewer times (specifically, 14, 15, 17 and 17 times). Additionally, risk-aversion was the second dimension most cited (112 times), followed by innovation (110 times) and proactiveness (91 times). Regarding dynamic capabilities, resource configuration appeared as an important dimension, being referred to 634 times, whereas networking capability was mentioned 376 times. Specifically, firms invest more on product development exploration (mentioned 244 times) and to market exploitation (cited 240 times). Product exploitation and market exploration were quoted less times (238 and 232, respectively). Figure 1 presents the coding structure.

FINDINGS

The present chapter investigates the relationships between entrepreneurial orientation and dynamic capabilities in the relevant, yet understudied context of SMFEs. In this background, the chapter proposed to identify which EO dimensions are more evident in SMFEs, related dynamic capabilities, and investigate how these elements are linked to SMFEs dynamic capabilities.

Figure 1. Coding structure
Source: Authors



In what regards EO, rather than classifying SMFEs as entrepreneurial and non-entrepreneurial, one should consider a conceptual continuum ranging from conservative to entrepreneurial. In this sense, firms can be conservative, moderate or entrepreneurial.

The first proposition proposed a positive influence of entrepreneurial orientation on networking capability. This research found that all firms acknowledge the importance of developing relationships with business partners. Quoting firm E CEO, *this interrelationship between the firms and what we can extract through innovation, entrepreneurship, and communicating with the networks is important… this communication, this sharing of knowledge makes workers evolve. I think it is… [through] the partners,… what we put in our firm through the meetings we have and the formal and informal communication … [that, we learn through the knowledge shared.*

All firms developed coordination activities, had experience and strong market knowledge. As to relational skills, firms highlighted the ability to build good personal relationships with their business partners. They can develop relationships with partners, but do not always solve problems constructively, especially with some clients. With regards to partner knowledge, overall the examined firms have strong partner knowledge. However, if the partner is a competitor, the firm is not aware of all its competitor's products, services or procedures (e.g. firms A and L). In what concerns internal communication, all firms evidence the importance of sharing information with their collaborators but confess they could do better. Particularly, some firms stated they should have more meetings to diffuse the acquired information, but fail to do it due to lack of time (e.g. firms B, C, E, M and H). Nonetheless, this is partly overcome via informal contacts (e.g. firms L, G, A, F, D and I). One of the firms said that given the necessity of having information in real time, nowadays the firm diffuses it by email (firm J).

Further, although all the examined firms developed and used distinct business networks, conservative, moderate and entrepreneurial firms opted by different networks. The types of the relationships mentioned

involve clients, distributors/agents and suppliers, business and industrial associations, universities/ professional schools and others. All firms invested in relationships with clients and suppliers, and exchange knowledge and information with these partners. Some firms developed constructive relationships with their suppliers, and help each other in situations of increased demand (e.g. firms A, F, J and L). Some firms with international operations also highlight the links established with agents abroad (e.g. firms M and B). Other firms evidence the role of professional schools (e.g. firm A), and universities (e.g. firms G, J, I, A and E) when it comes to project development. Still, these firms would like to benefit more from these links. The link to industrial associations, which provide important information about national and international markets is also pointed out by firms I and J. Interestingly, firm I also referred the importance of complementary business partners, given its potential role in boosting firm's activity and reaching new markets of difficult access. Table 3 sums the analyzed SMFEs' networks.

Conservative firms, such as firms A and L show a conformist posture regarding risk, innovativeness and proactiveness. These firms have significant experience in their industry and reveal a strong tradition and knowledge in the production of their products. Their EO posture leads them to develop a networking capability, but has a weaker intensity. They do not proactively look for new partners, and they are a risk-averse firm, which limits the development of new business relationships. The traditional nature of these firms' production also restricts their innovation. Firm L CEO refers that *the way we work also evolves every day… but innovation is always conditioned by the traditional character of the product.* Further, in what regards firm A, it assumes that it opts not to innovate because it does not want to manufacture anymore. Firm A CEO/owner said *promoting innovation…now we don´t have great influence on the issue of innovation, because we don't produce.*

Both firms have good, long-term relationships with their customers and suppliers, which allows them to acquire and develop a very significance degree of trust and loyalty. To quote firm A CEO/owner, *the goldsmiths have a curious professional ethics, when they need to deal with people who are not known they do not relate, when they are acquaintances they trust directly.*

In what regards moderate firms, this study identified two situations, 1) moderated firms that resulted from the extinction of previous firms, and 2) original moderated firms. The first situation is the case of firms B and M, which emerged from the bankruptcy of other firms. Probably due to this background, these firms are relatively cautious towards risk, and do not act proactively in that concerns the develop-

Table 3. SMFE business partners

SMFE		Business Partners
Strong EO	C G H I J	Business associations, industrial associations, universities, customers, suppliers, competitors, complementary business partners
Moderate EO	B D E M F	Clients, suppliers, universities, agents, indirect business partners and distributors
Conservative EO	A L	Clients, suppliers and professional schools

Source: *Authors*

ment of new business partners. They have trustful and loyal relationships with export agents with who they have been working for a few years. Their diverse business partners (customers, suppliers, agents and indirect business partners) become an important source of market knowledge, namely of market trends, and provide know-how. Firm B CEO said *I benefit from my clients' knowledge, especially from the big clients, because they have R&D laboratories.…I also benefit from the suppliers' relationship, because they need to be certified, as a matter of fact 90% or 95% of my customers require it.* Similarly, firm M CEO referred that *this positive business network forces us to be side-by-side with the client and I ask the same thing from my suppliers… and this has happened regularly.*

The second situation occurs with firms D, E and F that have a moderate posture towards risk and innovation. The strategy of these firms is to have solid grounds. Given the social and economic prestige of the family name, the managers of these firms assume calculated risks when building new relationships with new business partners and tend to choose partners who convey trust and loyalty. Though these firms do not search proactively for new business partners, they are open to new relationships with new trustful business partners. Moreover, these firms tend to maintain long-term relationships with loyal and trustful partners. In fact, firm D CEO stated *our business partners are usually our friends…* and *we are a well-established firm, loyal to the business partners, which is fundamental for me, was born with my education.*

Finally, firms such as firm C, firm G, firm H, firm I and firm J show a strong entrepreneurial posture, especially in what concerns innovativeness and proactiveness. Still, when it comes to propensity to risk, they clearly differ. Whereas some firms (namely firms J and C) assume that they do not take risks, others (H and I) say they take some risks and a third group (e.g. firm G) have risk propensity.

Proactively, some of these firms participate in reputable international trade fairs, explore new opportunities and new business partners (e.g. J, I, G) and also participate in well-known international technological fairs (e.g. C, I). The involvement in trade and technological fairs allows these firms to share knowledge and information with multiple business partners and exposes them to new relationships. It may also act as an inspiration. Quoting firm G, *it is almost mandatory to go to Italy every year, I need it, it makes me stay active, dreamier, avant-garde, inspired, that's what inspires me, I need this vitamin.*

The enrolment in the industry association (e.g. I, H, J and C) facilitates their professionalized and less expensive presence in trade fairs. The relationship with universities (e.g. J, G) allows firms to access specialized human resources (e.g. J) and enables them to innovate and differentiate in the increasingly competitive market.

By adopting a strong EO posture these firms can meet business partners with differentiated information and knowledge. Furthermore, this risk behavior assumed by these firms is closely related with the innovation they propose to achieve. For instance, firm C CEO said *for me it is more important in certain business areas to have partners well informed about technology, along with customers, because if I have a good informant, and internally apply good technologies, customers follow me.*

Also, firm J highlights how important is proactiveness in building relationships with new business partners. In order to innovate firms need to take the best of their business partners and they also need to know which partners are required to each situation. For instance, firms need to know when to obtain the information from their agents and when to deal directly with customers. In this regard, firm J CEO alerts that *I think I can only win if I have a very direct connection with several strategic partners, starting with clients, because we do a lot with direct clients; … I used to have agents, the agent was an intermediary, many times we weren't aware of many things, we just knew what the agent said; we don't have agents now, we now have people here who… talk to clients. Therefore, we are intimately connected with the client.*

The second proposition proposed a positive influence of entrepreneurial orientation on resource combination. Relatively to resource configurations, the product development capabilities can be sourced via external partners or internally. In the first case, external partners such as clients and suppliers can assist in providing information and knowledge about product design, or raw materials (e.g. firms B, E, M and I). In the second case, firms can build on the experience acquired throughout the years and then use its physical, human and technical conditions to invest in innovation (e.g. firms C, I, D and L), or appeal to their partners to obtain such conditions (e.g. firms A and F). In what concerns market development capabilities, some firms commit to exploit the markets they already operate in (exploitation), reinforcing their position and established relationships (e.g. firms A, B, C, D, E, H and L), while others try to discover new markets (exploration) (e.g. firms G, I, J, F and M).

More conservative firms have minimal resource investment, and not incur in market search. For instance, firm L CEO referred that *we are very afraid, and only invest (in resources or new markets) when it is really necessary* and that *we need to go very slow… nowadays we opt to go to the best national trade fairs and the ones closer to our location… in the old days, we travelled all over Portugal to go to the diverse trade fairs; currently we have less clients, people buy less, the situation it is not easy… we introduce new products (bread), trying to attract clients… but we adopt a defensive posture, moving step by step.* Moreover, firm A pointed out the handcraft nature of its products to explain its limited propensity to innovation. At the extreme, this firm feel forced to abandon the production process. Firm A CEO mentioned *at this point we have zero influence in what regards innovation, given that we no longer produce, we don't even invest in technological resources*.

Moderate firms such as firms B and M, due to their past difficulties, do not act proactively to change their production process as to innovate. They apply some market and potential clients' information, information provided by their agents, but are conditioned by their moderate entrepreneurial orientation. Firm E also adopted a moderated posture and advocates the focus on a certain product line, not taking the risk of being too different (product exploitation). Quoting firm E CEO, *we need to be in the market, so we need to be entrepreneurial, but in order to be in the market we know that we need be carefull.*

Finally, firms C, G, H, I and J show a strong entrepreneurial posture in what regards innovativeness and proactiveness. Still, when it comes to risk propensity, these firms differ. Whereas some of them assume not taking risks (firms J and C), others admit incurring in some level of risk (firms H and I) and a third group shows risk propensity (e.g. firm G). The first group strongly invests in innovation and promote proactiveness, but have low risk. They consider that merely being proactive and investing in innovation does not pawn their businesses. In fact, they consider that their operations do not implicate risk, given that they use similar resources and resource combinations, and already possess the physical, human and technological resources required to develop new products or services. Firm J owner's comment is an illustration of this perspective: *considering the risk degree of this firm, fortunately the firm is very solid and does not have any risk*. The second group does not encourage taking risk yet, when necessary, they take it. For instance, citing firm I CEO *we work so that we can move forward, and conquer new markets; this is not easy and often takes time.* This is a cautious firm, which takes time in when it comes to important decisions. Further, all new projects or ideas are embraced in a way not to imperil the investments made by the firm in the past. One other example of this profile is firm H, whose CEO said *within our means, we have to take some risks, due to market instability.* This firm considers that if it does not incur in some degree of risk, it can be surpassed by its competitors. Similarly, firm I believes it is crucial to attend different fairs (market exploration), where they can find diverse technology and adapt it to their businesses in order to innovate (product exploration). According to firm I CEO, *if we do*

not exchange ideas and opinions with other people, we won't be aware of new ways to act in the market and to invest… for example, we recently went to Italy to see new equipment and meet firms that could bring fresh ideas to the firm… at the moment we are waiting for a new equipment to implement in the development in a new product. As a matter of fact, being a member of an industrial association allows that firms from the same industry, though having scarce resources, can join forces in order to compete in international markets (e.g. firms I and J). Citing firm I CEO, *we are members of some associations. We believe that it is crucial that producers of wine come together in order to benefit from synergies and reach foreign markets.* Finally, risk propense firms, such as firm G, are willing to take risks. According to this firm owner and CEO *the risk assumed by the firm was high, very high* and it is mainly due to the firm's industry: *specifically, this industry is suffering a crisis, there is a strong fluctuation of the price of precious' metals, and the firm has to have such posture.*

As a conclusion, this research findings provide evidence that the firms adopt a different EO posture that have a positive influence on their resource's combination. Specifically, the individual dimensions of EO appear to be used distinctively and they have different influence in their resource combinations.

DISCUSSION

This chapter intends to better understand entrepreneurial orientation and dynamic capabilities, namely the networking capability and resources combination, in the SMFEs context. There is no consensus between academics about the level of EO in the context of family businesses (Casillas, Moreno, & Barbero, 2010, Naldi et al., 2007). While some family businesses show being proactive, risk-taking and innovative, adopting an entrepreneurial behavior (Aldrich & Cliff, 2003), others are conservative, risk-averse and non-innovative (Naldi et al., 2007; Zahra, 2005). Consequently, rather than classifying SMFEs as entrepreneurial and non-entrepreneurial, one should consider a conceptual continuum ranging from conservative to entrepreneurial (Covin & Slevin, 1989). In this sense, firms in this study were characterized as conservative, moderate or entrepreneurial.

Our data corroborates with previous studies in considering EO critical to access, develop and manage networking capability. Classen and colleagues (2012), for instance, advocate that to cultivate family businesses' networking ability, the decision maker – usually the owner/manager – has an entrepreneurial behavior. The level of the family businesses' EO can lead firms to benefit from their networking capability. Yet, developing relationships with partners is not always a win-win situation. It takes time and effort to do so, to build trustful and committed relationships. Moreover, not all relations generate the best interest to the firm and the prospective profits are uncertain. The decision maker needs to manage the firm's networks effectively so as to not only have access to knowledge and information, but also to know how to use such knowledge and information to benefit the family business. Also Mort and Weerawardena (2006) demonstrated that innovative SME sometimes need to find new markets to launch their new products. Yet, these firms may not have enough resources to search for those new markets. To overcome this, they may proactively find new partners that can assist with the critical and necessary resources.

This research brings a deeper understanding of the way SMFEs operate and can develop different resources combinations (Salvato & Merlin, 2008; Casillas, Moreno, & Barbero, 2011, Naldi,et al., 2007). It reiterates the importance of the resources combination (Davidsson & Honig, 2003; Habbershon, Nordqvist, & Zellweger, 2010; Kor, Mahoney, Michael, 2007; Navarro-Garcia, Schmidt, & Rey-Moreno, 2015) and adds knowledge to existing literature, by analyzing how entrepreneurial orientation contributes

to the development of resource combinations. This study concludes that different levels of EO (namely, conservative, moderate and entrepreneurial) have different implications for resources combinations. In particular, firms with higher entrepreneurial levels tend more strongly to combine resources. More conservative firms can combine resources, but in a lower degree.

FINAL CONSIDERATIONS

Despite SMFEs' importance to world economy and the research that emerged this last decade, there is still much work to be done. The purpose of this chapter was to obtain a better understanding of SMFEs entrepreneurial orientation and dynamic capabilities, namely networking capability and resource combination. In this sense, the main contribution of the present work is threefold. First, this chapter examined and classified the entrepreneurial orientation of SMFEs, distinguishing between conservative, moderate and entrepreneurial firms. Within this classification, the individual dimensions of EO appear to be used distinctively. Additionally, the level of firm's EO influences positively the development of networking capability. This study shows that firms with higher entrepreneurial orientation present not only higher capacity to develop business networks, but their networks also tend to be more diverse, constituted by different business partners. These firms seem to be eager to find new business partners that can help them innovate or to find new markets. Firms with moderate EO do not actively look for new business partners, but if there is an opportunity to do it, they will consider it. These firms want to maintain their networks based on loyalty and trust. More conservative firms tend to have limited networking capability and do not want to acquire more business partners. They also want to preserve their loyal and trustful networks.

To develop networking capabilities and benefit from them, it is necessary not only to find the right connection with another firm, but also interact with it. This interaction will determine if the other firm is the right partner. All examined firms believe that the development of relationships with external partners is crucial nowadays, so as to be competitive in the market and to overcome SMFEs' size and resource constraints. They recognize these relationships are vital to access resources and acquire important market and product information and knowledge. The evidence shows that though all firms acknowledge the importance of networks, the development of networking capability is influenced by the level of EO.

Second, the research recognizes the development of networks as crucial for SMFEs, and pinpoints which networks relationships are favored by these firms. Some business partners appear to be relevant to explore some international opportunities. This is the case of complementary business partners, business associations and industrial associations. Interestingly, firms with strong entrepreneurial spirit evidence the significance of direct customer relationships, and find the need to abandon the indirect business partners (e.g. agents and distributors) in order to benefit from privileged information.

Third, this research advances current understanding regarding resource combination, namely in the product development technical area and market non-technical area. The study evidences that firms characterized by strong entrepreneurship take the best out of their resource combination, not only through product exploitation and exploration, but also through market exploitation and exploration. Hence, EO positively influences resource combination.

Overall, this study is but a first step toward a better understanding of EO-DC link in SMFEs. There is continuing debate concerning which resources and capabilities that add value to the SMFEs, specifically considering the peculiarities of such firms, and theoretical as well as empirical research along these lines is sorely needed.

FUTURE RESEARCH DIRECTIONS

Although this chapter leads to better understanding of entrepreneurial orientation and dynamic capabilities in the context of SMFEs, and advances the literature in these areas, it has some limitations and opens new research paths.

First, this research is a qualitative research that focused on how EO and DC are perceived and applied considering the idiosyncrasies of SMFEs. This research used secondary data and in-depth interviews with the firm owner/manager. Future research can build on present findings and complement them by developing qualitative research that includes both family and non-family intervenient. It is an interesting research path given that some SMFEs have non-family members influencing the decision strategy.

Second, due to this study's qualitative nature, the findings cannot be generalized to other firms. Future works can use quantitative methods to test a EO-DC conceptual model. This model can be tested in distinct relevant contexts. Specifically, a potential research avenue is to apply the mentioned model to both family and non-family businesses SME and examine the differences. The present research demonstrated that in family businesses the strategic posture may encourage innovation, proactiveveness and risk taking, but aspects such as family name, reputation, or passing the firm on to succeeding generations are inherent. This is not likely to occur in non-family businesses. The extent to which these aspects affect how the EO strategic posture acts in SMFEs can be more manifest when compared to non-family SMEs.

Finally, the research was limited to traditional Portuguese industries. Future research can replicate the study to other countries, in order to compare the results. Moreover, given that this study included EO, with its innovativeness, proactiveness and risk-taking dimensions, it should be interesting to compare the traditional industries with high-technology industries in the SMFEs context. It is likely that in high-tech industries, the role of the risk-taking dimension is more evident.

ACKNOWLEDGMENT

The authors gratefully acknowledge the financial support of the Fundação para a Ciência e a Tecnologia (FCT) and Centro2020 through the Project references: UID/Multi/04044/2019 and PAMI - ROTEIRO/0328/2013 (Nº 022158).

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KEY TERMS AND DEFINITIONS

Dynamic Capabilities: Firm's processes related to its capacity to generate, integrate and recombine resources, skills and capabilities to adapt to dynamic markets.

Family Business: Business owned and/or administered by a family with the intention to pursue the vision of the family business in a sustainable way across generations.

Networking Capability: Firm's ability to interact to other business partners and manage these relationships efficiently in a dynamic market.

Resource Configuration: Firm's ability to transform and combine assets and resources in dynamic markets.

SME: Micro firms with fewer than 10 employees, small firms with 10 to 50 employees, and medium firms with 50 to 250 employees.

Chapter 4
The Moderating Effect of Family Firm Status on the Entrepreneurial Orientation–Performance Relationship:
An Empirical Study With SMEs From Portugal

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ABSTRACT

Although management literature mostly reports a positive association between entrepreneurial orientation and firm performance, it also recognizes that different business contexts may prompt different manifestations of entrepreneurial orientation. Considering that family firms constitute the backbone of most economies across the globe, and based on arguments from socioemotional wealth perspective, this research aims to examine the moderating effect of being a family firm on the relationship between entrepreneurial orientation and firm performance. The empirical study is based on primary information obtained from the chief-executive-offices of 402 small and medium-enterprises (SMEs) from Portugal, a country located in southwestern Europe, and one that has been scantly investigated by the literature in the confluence between entrepreneurial orientation and family firms. Results show that the family firm status weakens the relationship between entrepreneurial orientation and performance in the Portuguese SMEs.

DOI: 10.4018/978-1-5225-8479-7.ch004

INTRODUCTION

As a driving force behind the organizational pursuit of entrepreneurial activities, the phenomenon of entrepreneurial orientation arose from strategic management literature and has been the subject of more than 30 years of theoretical (e.g., George & Marino, 2012; Lumpkin & Dess, 1996; Wales, 2016) and empirical inquiry (e.g., Covin & Slevin, 1989; Hughes & Morgan, 2007; Zellweger & Sieger, 2012), becoming a construct of central interest in management studies (Sciascia, Mazzola, & Chirico, 2013). The promise of the entrepreneurial orientation concept lies within its ability to further understanding of the entrepreneurial activities pursued by organizations (Covin & Wales, 2012). For this reason, entrepreneurial orientation has become a subject of increasing interest for research (e.g., Wales, Gupta, & Mousa, 2013) and constitutes today a key construct within strategic management and entrepreneurship literature.

Over these years of research, orientation toward entrepreneurial activity has received a variety of labels in literature, including entrepreneurial orientation, entrepreneurial intensity, entrepreneurial style, entrepreneurial posture, or entrepreneurial propensity, although in the end the most widely used term has been entrepreneurial orientation. It refers to a business' strategic orientation and captures specific entrepreneurial aspects of decision-making styles, methods and practices (Lumpkin & Dess, 1996). That is, while entrepreneurship is defined as new entry (entering new or established markets with new or existing goods or services or launching a new venture), entrepreneurial orientation describes how new entry is undertaken, which involves processes, practices and decision-making activities (Lumpkin & Dess, 1996). From this perspective, entrepreneurial orientation represents the process aspect of entrepreneurship, and has been generally reported as a driver of firm performance (e.g., Rauch, Wiklund, Lumpkin, & Freese, 2009).

However, the literature also indicates that the extent to which entrepreneurial orientation can predict the nature and success of a business may be contingent on factors such as country context (Adams, Adams, & Mensah, 2017) or business context (Hernández-Linares & López-Fernández, 2018). Thus, and despite the fact that the family business field did not begin to pay attention to entrepreneurial orientation until the mid-2000s (Zahra, Hayton, & Salvato, 2004), existing literature reveals that family firms share special characteristics that may influence their entrepreneurial intentions and activities (Cruz & Nordqvist, 2012; Naldi, Nordqvist, Sjöberg, & Wiklund, 2007). Considering these arguments, the main objective of this research is to examine whether family status moderates the relationship between entrepreneurial orientation and firm performance in the case of small- and medium- sized enterprises (SMEs) from Portugal, a country located in the southwest of Europe and that, with few exceptions (Hernández-Linares, López-Fernández, Naranjo, & Fielden, 2019; Pimentel, Couto, & Scholten, 2017), has been scantly researched by the literature on the confluence on entrepreneurial orientation and family firms (Hernández-Linares & Lopez-Fernández, 2018). To reach this research objective, the authors have conducted an empirical study based on primary information obtained with the application of a survey issued to 402 CEOs from Portuguese SMES. Results show that the positive association between entrepreneurial orientation and firm performance is weaker when the company is a family firm.

This research makes, at least, two contributions to the literature. First, it sheds light on the complexity of the EO–performance link in the singular context of SMEs, contributing to a more nuanced understanding of the drivers of performance heterogeneity across SMEs. In particular, this work emphasizes the need to focus on family firms because, despite the fact that studies of the relationship between entrepreneurial orientation and firm performance have so far dominated the general literature on entrepreneurial orientation (Wales, 2016), literature on entrepreneurial orientation began to pay attention to family firms only

about fifteen years ago (Zahra, Hayton, & Salvato, 2004), as has been recently confirmed by a literature review performed by Hernández-Linares and López-Fernández (2018). This same review highlights that many national or cultural contexts, such as in African countries or some European countries, remain under-investigated. The present research highlights the singular context of family firms in Portugal, which constitutes the second contribution of the present study.

The remainder of the chapter is structured in the following way. The next section presents the literature review, where the theoretical framework is introduced. Here the principle concepts relevant to the study are presented, including: entrepreneurial orientation, business performance and family firm status, as well as the socioemotional wealth approach (henceforth SEW, Gómez-Mejía et al., 2007). A thorough review of the relevant characteristics of these areas lead to the justification for the study hypothesis. The third section describes the research methodology, including study population and sample, data collection methodology, and variable measurements in detail. Next, the data analysis and results are presented and discussed in the fourth section. The fifth section presents the conclusions of the study, highlighting how this research contributes to entrepreneurship and family firm literature. Finally, in the sixth and last section, the main limitations of this study and some important suggestions for future research are presented.

FRAMEWORK AND HYPOTHESIS DEVELOPMENT

Organizational Performance

An organization's performance refers to value creation for the company (Obeidat, 2016) and seems to be the basis for determining the success or failure of the firm (Markos & Sridevi 2010). For this reason, scholars have broadly examined different precursors of performance (e.g., Hernández-Linares, Kellermanns, & López-Fernández, 2018b; Miao, Qian, & Ma, 2016), reporting that entrepreneurial orientation promotes performance (Rauch et al., 2009; Rosenbusch, Rauch, & Bausch, 2013). Some of these studies have used performance measures based on financial or accounting indicators, such as return on assets and Tobin's *q* (Lee & Chu, 2017). However, due to the complexity of organizations and markets, mere financial measures, such as profit, are not considered appropriate and it is necessary to develop measures of performance that reflect what organizations have to manage in order to profit (Kaplan & Norton 1992). In addition, financial measure can fail to capture intangible relationships (e.g., Orlitzky, Schmidt, & Rynes 2003), which may be especially significant for family businesses. In order to overcome this weak point, and considering that subjective measures of performance yield more holistic evaluations than a single performance element (Rodríguez, Carrillat, & Jaramillo, 2004), the relationship between entrepreneurial orientation and competitive performance is investigated by adopting the performance's view from Arend (2013). This is done because this performance measure not only considers the financial aspects of performance, but also marketing-related or social aspects such as customer satisfaction or the ability to retain essential employees.

Entrepreneurial Orientation

The concept of entrepreneurial orientation is rooted in the Mintzberg (1973) theory on strategic decision-making. Mintzberg conceived of the entrepreneurial strategy-making mode as a managerial disposition marked by the active search for new opportunities in uncertain environments through which dramatic

growth might be realized. Later, in work exploring managerial decisions, Khandwalla (1977) discussed an entrepreneurial management style similar to Mintzberg's (1973), arguing that this style refers to a bold, risky, and aggressive approach to decision making, as opposed to a more cautious, stable approach. In the same vein, Miller and Friesen (1982, p. 5) argued that entrepreneurial firms "innovate boldly and regularly while taking considerable risks in their product-market strategies".

These works established entrepreneurial orientation as a managerial disposition entrenched in decision making. However, it is generally accepted that the concept of entrepreneurial orientation was originally proposed by Miller (1983), although he never actually used such an expression in this initial work. Miller (1983, p. 771) defined an entrepreneurial firm as "one that engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations, beating competitors to the punch". Since this pioneering definition, a plethora of other definitions has appeared in the literature (see Table 1) to conceptualize this firm-level construct (Covin & Slevin, 1991).

In line with his definition, Miller (1983) conceived entrepreneurial orientation as a construct composed of three dimensions: innovativeness, risk-taking and proactiveness. Following Miller's original conceptualization, several researchers have agreed that entrepreneurial orientation consists of the simultaneous exhibition of those three characteristics (e.g., Cools & Van den Broeck, 2007; Covin & Slevin, 1989; Matsuno, Mentzer, & Özsomer, 2002; Naman & Slevin, 1993; Richard, Barnett, Dwyer, & Chadwick, 2004; Stam & Elfring, 2008; Zahra & Neubaum, 1998). Nevertheless, Lumpkin and Dess (1996, p. 137) expanded this number of dimensions, arguing that the "key dimensions that characterize an entrepreneurial orientation include a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities", adding, in this way, two new areas to the three traditional entrepreneurial orientation dimensions: competitive aggressiveness and autonomy (Table 2 shows a definition of each dimension). This vision is more and more accepted by the recent literature (e.g., Boso, Story, & Cadogan, 2013; Hernández-Linares, Kellermanns, & López-Fernández, 2018a; Hughes & Morgan, 2007).

The Miller gestalt approach, measured mainly through the Covin and Slevin scale (1989), is the dominant one in entrepreneurial orientation literature (Rauch et al., 2009). The other main conceptualization used in the literature (Covin & Lumpkin, 2011) is the multidimensional approach propounded by Lumpkin and Dess (1996). The comparison of both approaches sums up the main ontological questions that remain unanswered in the literature (Anderson, Kreiser, Kuratko, Hornsby, & Eshima, 2015) regarding the nature of the entrepreneurial orientation concept as an attitude, a behavior, or both; the number of its component dimensions; the relationships among dimensions, and its measurement as a reflective or formative construct; and whether it is appropriate to use the term entrepreneurial orientation for both approaches.

Apart from these ongoing conversations in the academic community, entrepreneurial orientation has received substantial attention as a research topic, which has been reviewed by different papers (Wales, 2016; Wales, Gupta, & Mousa, 2013; Wales, Monsen, & McKelvie, 2011; Wiklund & Shepherd, 2011). Furthermore, different meta-analyses have sought to condense existing knowledge, confirming the positive effect of entrepreneurial orientation on firm performance (Rauch et al., 2009; Rosenbusch, Rauch, & Bausch, 2013), the mediating effect of entrepreneurial orientation on the environment-performance link (Rosenbusch et al., 2013), and the partially mediating effect of entrepreneurial orientation on the human and social capital-performance link (Miao, Coombs, Qian, & Sirmon, 2017). Researchers increas-

Table 1. Some definitions of entrepreneurial orientation

Author/s (Year: Page)	Definition
Covin & Slevin (1988, p. 218)	the extent to which the top managers are inclined to take business-related risks (the risk-taking dimension), to favor change and innovation in order to obtain a competitive advantage for their firm (the innovation dimension), and to compete aggressively with other firms (the proactiveness dimension)
Covin & Slevin (1989, p. 77)	entrepreneurial firms are those in which the top managers have entrepreneurial management styles, as evidenced by the firms' strategic decisions and operating management philosophies. Non-entrepreneurial or conservative firms are those in which the top management style is decidedly risk-averse, non-innovative, and passive or reactive
Merz & Sauber (1995, p. 554)	the firm's degree of proactiveness (aggressiveness) in its chosen product-market unit (PMU) and its willingness to innovate and create new offerings
Lumpkin & Dess (1996, pp. 136-137)	processes, practices, and decision-making activities that lead to new entry. (…) it involves the intentions and actions of key players functioning in a dynamic generative process aimed at new-venture creation. The key dimensions that characterize an entrepreneurial orientation include a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive toward competitors and proactive relative to marketplace opportunities
Zahra & Neubaum (1998, p. 124)	the sum total of a firm's radical innovation, proactive strategic action, and risk-taking activities that are manifested in support of projects with uncertain outcomes
Matsuno, Mentzer, & Özsomer (2002, p. 19)	the organization's predisposition to accept entrepreneurial processes, practices, and decision making, characterized by its preference for innovativeness, risk taking, and proactiveness
Voss, Voss, & Moorman (2005, p. 1134)	a firm-level disposition to engage in behaviors [reflecting risk-taking innovativeness, proactiveness, autonomy, and competitive aggressiveness] that lead to change in the organization or marketplace
Walter, Auer, & Ritter (2006, p. 549)	the propensities, processes and behaviors that lead to entry into new or established markets with new or existing goods or services
Avlonitis & Salavou (2007, p. 567)	an organizational phenomenon that reflects a managerial capability by which firms embark on proactive and aggressive initiatives to alter the competitive scene to their advantage.
Cools & Van den Broeck (2007, p. 27)	the top management's strategy in relation to innovativeness, proactiveness, and risk taking
Rauch, Wiklund, Lumpkin, & Frese (2009, p. 762)	the strategy making processes that provide organizations with a basis for entrepreneurial decisions and actions
Pearce II, Fritz, & Davis (2010, p. 219)	set of distinct but related behaviors that have the qualities of innovativeness, proactiveness, competitive aggressiveness, risk taking, and autonomy
Morris, Webb, & Franklin (2011, p. 956)	a construct capturing the degree to which a firm's posture is entrepreneurial versus conservative and concerns how the firm's top managers support key entrepreneurial activities
Anderson, Kreiser, Kuratko, Hornsby, & Eshima (2015, p. 1580)	the joint exhibition of observed entrepreneurial behaviors and a managerial inclination at the strategic decision-making level favoring actions with uncertain outcomes

ingly contend that entrepreneurial orientation is a family of concepts (George & Marino, 2011; Wales, 2016), given that it is expanding from its original firm-level to different levels of analysis (i.e., country, team, and individual entrepreneurial orientation) and contexts (international entrepreneurial orientation, social entrepreneurial orientation, and family firm entrepreneurial orientation), in which most of the debate on general entrepreneurial orientation persists (for a review of these issues in international EO, see Covin & Miller, 2014; and for a review on EO within family firms, see Hernández-Linares and López-Fernández, 2018).

Table 2. Definitions of entrepreneurial orientation's dimensions

Dimension	Definition (Author/s, Year, Page)
Risk-taking	willingness to commit resources to projects, ideas, or processes whose outcomes are uncertain and for which the cost of failure would be high (Covin & Wales, 2012, p. 694)
Innovativeness	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 (Lumpkin & Dess, 1996, p. 141).
Proactiveness	seeking new opportunities which may or may not be related to the present line of operations, introduction of new products and brands ahead of competition, strategically eliminating operations which are in the mature or declining stages of life cycle (Venkatraman, 1989, p. 949).
Competitive aggressiveness	the intensity of a firm's efforts to outperform industry rivals, characterized by a combative posture and a forceful response to competitor's actions (Lumpkin & Dess, 2001, p. 431)
Autonomy	independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion (Lumpkin & Dess, 1996, p. 140)

Entrepreneurial Orientation and Business Performance

Regardless of the vision adopted to conceptualize EO, and despite some exceptions reporting a negative direct relationship between entrepreneurial orientation and performance (e.g., Matsuno, Mentzer & Özsomer, 2002; Slevin & Covin, 1990), the larger body of evidence suggests that businesses adopting a more entrepreneurial strategic orientation have the ability to pursue new market opportunities to respond to changing environments, to gain greater competitive advantage ahead of other competitors, and therefore to yield superior performance (e.g., Keh, Nguyen, & Ng, 2007; Lee, Lee, & Pennings, 2001; Su, Xie, & Li, 2011; Wiklund, 1999; Wiklund & Shepherd, 2005; Zahra & Covin, 1995).

Literature reveals that entrepreneurial orientation is a key ingredient for business performance (Rauch et al., 2009), but also that different business contexts may prompt different manifestations of entrepreneurial orientation (Covin & Slevin, 1990; Wales, Monsen, & McKelvie, 2011). In this sense, the contextual issue has led to some debate regarding the firm-level entrepreneurial behavior of family firms because of their ubiquity (Chen, Chen, & Cheng, 2008; Prencipe, Bar-Yosef, & Dekker, 2014; La Porta, Lopez-de-Silanes, & Shleifer, 1999), but especially because their specific bundles of resources and capabilities (Dyer, 2006; Sirmon & Hitt, 2003) may influence their entrepreneurial activities (Habbershon, Williams, & MacMillan, 2003; Zellweger, Muhlebach, & Sieger, 2009). This is explained in more detail in the next section.

Entrepreneurial Orientation, Performance and Family Firm

Since Donnelley (1964) proposed the first definition of family firm in the literature, the interest of researchers in this singular type of firms has been increasing (Benavides-Velasco, Quintana-García, & Guzmán-Parra, 2013; López-Fernández, Serrano-Bedía, Pérez-Pérez, Hernández-Linares, & Palma-Ruiz, 2017; Xi, Kraus, Filser, & Kellermanns, 2015). However, a definitional consensus has not been reached (Hernández-Linares, Sarkar, & Cobo, 2018). Indeed, literature provides numerous definitions of family firms (some of them are provided in Table 3), which are based on different criteria (Hernández-Linares, Sarkar, & Cobo, 2018; Hernández-Linares, Sarkar, & López-Fernández, 2017). Thus, the term family firm has been understood, for example, as "a business in which ownership and policy making are dominated by members of an `emotional kinship group´ (Shepherd & Zacharakis, 2000, p. 29) or as "those

Table 3. Some definitions of family firm

Author/s (Year: Page)	Definition
Donnelley (1964, p. 94)	a company is considered a family business when it has been closely identified with at least two generations of a family and when this link has had a mutual influence on company policy and on the interests and the objectives of the family
Barnes & Hershon (1976, p. 106)	companies controlling ownership resting in the hands of an individual or of the members of a single family
Davis (1983, p. 47)	those whose policy and direction are subject to significant influence by one or more family units. This influence is exercised through ownership and sometimes through the participation of family members in management. It is the interaction between two sets of organization, family and business, that establishes the basic character of the family business and defines its uniqueness
Churchill & Hatten (1987, p. 52)	is either the occurrence or the anticipation that a younger family member has or will assume control of the business from an elder
Lyman (1991, p. 304)	the ownership had to reside completely with family members, at least one owner had to be employed in the business, and one other family member had either to be employed in the business, and one other family member had either to be employed in the business or to help out on a regular basis even if not officially employed
Lansberg & Astrachan (1994, p. 39)	a company that is owned or controlled by a family and in which one or more relatives is involved with management
Donckels & Lambrecht (1999, p. 174)	one in which the majority of the shares are in hands of one family and in which the general management of the business also belongs to the same family
Steier (2001, p. 260)	a business involving more than one generation of the same family
Dyer (2003, p. 402)	organizations in which the behavior of firms and the actors within them are influenced by the familial relationships that are part of the organizational landscape
Danes, Haberman, & McTavish (2005, p. 119)	business in which the majority ownership or control was within a single family, and two or more family members are or were directly involved in the business
Graves & Thomas (2008, p. 151)	one that is majority family owned and has at least one family member on the management team
Niedermeyer, Jaskiewicz, & Klein (2010, p. 296)	a business in which more than 50% of ordinary voting-shares are owned by members of the largest single-family group related by blood or marriage and that the company is perceived by top-management to be a family-business
Nordqvist, Wennberg, & Bau, Hellerstedt (2013, p. 1088-89)	firms that are owned by two or more family members either in a household (spousal couple) or in a biologically linked family (fathers, mothers and children) living in the same or another household
Belot & Waxin (2017, p.596)	a firm whose founder or a member of his/her family by either blood or marriage holds at least 5% of the firm's equity, individually or as a group.

that were either inherited or involve the work of an adult child or spouse" (Puri & Robinson, 2013, p. 427). However, one of the most broadly accepted definitions is that proposed by Chua, Chrisman, and Sharma (1999, p. 25): "a business governed and/or managed with the intention to shape and purpose 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".

But independently of the definition adopted, research has consistently reported that family firms offer a singular context for the study of entrepreneurial orientation (Hernández-Linares & López-Fernández, 2018) because the complexities of effectively integrating family and business make entrepreneurship extremely challenging (e.g., Chirico, Sirmon, Sciascias, & Mazzola, 2011).

The SEW approach (Gómez-Mejía et al., 2007), born as a general extension of behavioral agency theory (Wiseman & Gómez-Mejía, 1998), put the focus on the singularities of family firms. According to this theory, while all businesses pursue both economic and noneconomic goals, only family firms show signs of family-centered nonfinancial goals, such as the perpetuation of the family dynasty or the preservation of the stock of affect-related value that the family has invested in the firm (Gómez-Mejía et al., 2007; Gómez-Mejía, Makri, & Larraza-Kintana, 2010). The SEW framework is the only homegrown theory of the family business field (Berrone, Cruz, & Gómez-Mejía, 2012). However, despite the fact that corporate entrepreneurship had been signaled as one of the main managerial decisions influenced by the family character of the firm and, therefore, by their SEW preservation concern (Gómez-Mejía et al., 2011), a recent literature review (Hernández-Linares & López-Fernández, 2018) reported that just six articles have employed arguments from the SEW approach (by itself or in combination with other theories) in their investigations on entrepreneurial orientation within family firms. Within this limited group two approaches can be identified.

On the one hand, there are some works that employ arguments from the SEW perspective to try to offer explanations of empirical results but which do not show a direct measurement of the SEW of the company. Thus, Casillas et al. (2011) employ arguments from SEW to explain how the involvement of the next generation improves entrepreneurial orientation in dynamic environments and, how, in a more fine-grained analysis, both the involvement of members of different generations and the presence of non-family managers "brings a greater ability to assume risks in difficult situations" (Casillas et al., 2011, p. 98). This is one of the first cases that shows that when a family firm faces the risk of losing SEW, it is able to assume greater risks. Garcés-Galdeano et al. (2016) use a similar approach to explain why family firms seem to have a lower level of SEW due to the threat that the entrepreneurial orientation may exert over the SEW of the family firm. They suggest that the actions needed for increasing SEW suppose a potential threat to the family control over the company as well as to family cohesion and emotional attachment. They also find that the negative effect of being a family firm almost disappears when companies are in high technology sectors. Similarly, Zachary et al. (2017) employ arguments from SEW to explain the changes in the level of EO of companies' overtime. They propose that when family firms face crises associated with an environmental jolt, they will reduce their level of entrepreneurial orientation to protect both their finances and SEW. Finally, Arzubiaga et al. (2018) explain the negative moderator effect of family involvement in the board in the entrepreneurial orientation-performance link drawing on arguments from the SEW perspective. Namely, they explain that when there is high family involvement in the board, it is highly likely that family-oriented goals such as family control, firm survival, avoidance of riskier strategies or nepotism may arise, harming financial goals.

On the other hand, there is a second group of works that try to directly measure SEW. For example, Schepers et al. (2014) offer one of the first attempts to directly measure SEW using items from previous scales that try to measure the main dimensions of SEW. In their study, Schepers et al. (2014) find that the positive effect of entrepreneurial orientation on performance is hampered by growing levels of SEW in the family firms which means that, from a medium-level of SEW, the greater the level of SEW, the lower the ability of the family firm to transform their entrepreneurial orientation into performance. They also confirm that when the SEW is very high, family firms are no longer capable of transforming the former into the latter, offering empirical evidence for the existence of a dark side to the SEW preservation concern in family firms (Kellermanns et al., 2012). In their view, the main explanation of this result is that when a family firm is highly oriented toward the preservation of its SEW, it is no longer capable of efficiently managing their resources as suggested by previous research (Cruz et al.,

2012). Later, Kallmuenzer et al. (2018) employ a selection of items from the FIBER scale (Berrone et al., 2012) to assess the moderator effect of family-related goals on the relationship between the dimensions of entrepreneurial orientation and performance. Their findings show that only in the risk taking-performance link, do the family-related goals exert a negative moderator effect. Specifically, they find that in companies with a low level of family-related goals, the higher the risk-taking, the higher the performance. However, in companies with a high level of family-related goals, more risk-taking yields less performance. This result confirms the negative moderator effect of the concern for preserving the SEW in the entrepreneurial orientation-performance link.

Taking into account these previous arguments and results from the SEW perspective, the authors believe that it could be useful to employ the SEW perspective to explore the moderator effect of the family status of the firm on the entrepreneurial orientation-performance link. The arguments provided by the SEW framework are also supported by those studies that have reported that family firm status affects both the relationship between strategic posture and firm performance (Madison, Runyan, & Swinney, 2014) and the relationship between some dimensions of entrepreneurial orientation and firm growth (Casillas & Moreno, 2010), considered a proxy of business performance. In a similar vein, family involvement in management has a negative moderating effect on the relationship between entrepreneurial orientation and performance (Miller & Le Breton-Miller, 2011). Therefore, the following research hypothesis is proposed:

Hypothesis: The association between entrepreneurial orientation of Portuguese SMEs and their performance is moderated by the family business status. In particular, the positive relationship between entrepreneurial orientation and Portuguese firms' performance is weaker for family SMEs than for nonfamily SMEs.

This hypothesis was tested by an empirical study whose methodology, including both a description of the study's population and the sample, as well as a description of the measures employed, is described in detail in the next section.

METHOD

Sample

The data for this study, which is part of a wider research project, were collected using a survey instrument, which is a common method to obtain data in entrepreneurship, family firm and SMEs research (e.g., Cruz, Gómez-Mejía, & Becerra, 2010; Zellweger, Nason, & Nordqvist, 2012). In particular, the questionnaire was first developed in English, then translated into Portuguese (with the help of Portuguese-native speakers), and then back-translated into English to check for consistency. The Portuguese version was pre-tested and during the first half of 2015 personalized invitations to complete an online survey in *limesurvey* (www.limesurvey.org) were sent by e-mail, including an offer to share summary reports as an incentive, to CEOs of all Portuguese SMEs (33.897 companies) included in the Iberian Balance Sheets Analysis System (SABI) database (March, 2015), which has often been used in management literature (e.g., Hernández-Linares, Kellermanns, & López Fernández, 2018b; Soler, Gemar, & Guerrero-Murillo, 2017). Similar to other researchers, the definition taken for this study of SMEs is that these are non-listed private companies with 10 to 249 employees (e.g., Hernández-Linares, Kellermanns, & López-

Fernández, 2018a, 2018b; Naldi et al., 2007): small firms (10 to 49 employees) and medium enterprises (50 to 249 employees). In addition, in order to obtain a representative sample of the population, and in line with previous studies (Sánchez-Famoso, Maseda, & Iturralde, 2014), companies affected by special situations (liquidation, insolvency, or zero activity) were eliminated. Among all surveys received, 557 were usable. However, this study's sample was finally made up of 402 Portuguese SMEs, because only those responses received from the CEO were considered, since she or he is often the one who initiates and controls the business and the strategic planning and is considered to be a reliable source in upper-echelon research (Kellermanns, Eddleston, Barnett, & Pearson, 2008). This sample includes firms from all sectors and regions of the country. Table 4 provides the research data sheet.

Measures

All the constructs under study were taken from previously validated scales and all items used to measure constructs were five-point Likert-type scales, unless otherwise noted. Key informants (CEOs) were asked to rate their perception on each item with "1" being "totally disagree" to "5" being "totally agree" for the variables, except for performance. All Cronbach's alpha values showed acceptable values (> 0.80), surpassing the threshold point of 0.7 (Nunnally, 1978); except for affective commitment. However, in this case, the limit 0.6 was considered reasonable (Nunnally & Bernstein, 1994), since a high coefficient alpha does not always mean a high degree of internal consistency, as alpha is also affected by the length of the test or number of items per construct (Streiner, 2003; Tavakol & Dennick, 2011).

Dependent Variable: Performance

This was measured using an eight-item, subjective scale proposed by Arend (2013) with a five-point response format ranging from "much worse" to "much better " than industry competitors. Subjective performance measurement has long been used in management literature (e.g., Hernández-Linares, Kellermanns, & López Fernández, 2018b; Wiklund & Shepherd, 2003), because the literature reports the existence of a strong correlation between objective and subjective performance measures (Dess & Robinson, 1984; Stam, & Elfring, 2008; Wall, Michie, Patterson, Wood, Sheehan, Clegg, & Wett, 2004). Following the perspective that performance is an inherently multidimensional construct (Cameron,

Table 4. Research data sheet

Measuring universe	33,897
Geographical scope	National (Portugal)
Method of gathering information	Survey instrument (questionnaire)
Year of survey's application	2015
Sample	402 firms
Sampling procedure	Random sample
Type of population	Portuguese private SMEs
Maximum error sample	4.1%
Confidence level	95% (z = 1.96; p = q = .5).

1978), and considering that assessing a company's performance against its competitors provides more insight into performance than an assessment based solely from within a firm (Birley & Westhead, 1990; Wiklund, Patzelt, & Shepherd, 2009), the authors asked respondents to compare the performance of their companies with their competitors' performance in terms of finances and competitiveness. Then, as with all multi-item scales in the study, the combined mean of the scale measurement constitutes the variable score. The internal consistency was assessed by using Cronbach's alpha, which reaches a value of 0.856.

Independent Variable: Entrepreneurial Orientation

This was measured by using Hughes and Morgan's (2007) 18-item scale because, although Lumpkin and Dess (1996) added two new dimensions (competitive aggressiveness and autonomy) to the three traditional dimensions of the entrepreneurial orientation (risk-taking, innovativeness, proactiveness) from Miller (1983) and Covin and Slevin (1989), and later proposed scales for competitive aggressiveness and autonomy (Lumpkin & Dess, 2001), they did not propose a scale for all dimensions of entrepreneurial orientation. To remedy this, Hughes and Morgan (2007) developed a scale for all entrepreneurial orientation's dimensions, which has been recently applied in the literature (Hernández-Linares, Kellermanns, & López-Fernández, 2018a; Hernández-Linares et al., 2019; Shan, Song, & Ju, 2016). Cronbach's alpha determines the internal consistency of items of this scale ($\alpha = 0.874$).

Moderating Variable: Family Business

Among the plethora of family firm definitions, and definitional criteria appearing in literature (Hernández-Linares, Sarkar & Cobo, 2018; Hernández-Linares, Sarkar, & López-Fernández, 2017), and in line with previous works (Casillas, Moreno, & Barbero, 2010; Cooper, Upton, & Seaman, 2005; Hernández-Linares, Kellermanns, & López-Fernández, 2018a), in this research the *family firm* status was established according to an individual and subjective criterion: self-perception, which allows researchers to capture the essence of the family firm (Chua, Chrisman, & Sharma, 1999). Thus, the CEOs were asked whether or not they perceived their firm as a family business. The answers to this question were then codified using a dummy variable, where 0 = non-family firm, and 1 = family firm. Finally, the study sample is comprised of 250 (62.19%) family firms and 152 (37.81%) non-family firms, as is shown in Table 5, which lists the main characteristics of the sample in terms of size and industry.

Table 5. Sample characteristics

Variables	Family Business (n=250)	Non-Family Business (n=152)	Total (n=402)
Number of Employees (mean) Small Firms Medium Firms	30 212 (84.8%) 38 (15.2%)	35 126 (82.9%) 26 (17.1%)	32.15 338 (84.1%) 64 (15.9%)
Agricultural Sector	7 (2.8%)	2 (1.3%)	9 (2.2%)
Manufacturing Sector	82 (32.8%)	42 (27.6%)	124 (30.8%)
Construction Sector	18 (7.2%)	13 (8.6%)	31 (7.7%)
Services Sector	143 (57.2%)	95 (62.5%)	238 (59.2%)

Control Variables

Together with the dependent, independent and moderating variables, the multiple regression analysis performed in this work also included ten control variables that could impact SMEs performance. Authors first controlled for firm size considering that it determines much of the organization's needs (Hughes & Morgan, 2007), as well as the ability to take advantage of new opportunities (Rauch, Wiklund, Lumpkin, & Frese, 2009), the degree of access to external resources, and the availability of slack resources to be invested, which may affect entrepreneurship and performance (Zahra & Nielsen, 2002). As is common in family firm research (Barros, Hernández-Gómez, & Martín-Cruz, 2017), firm size was controlled by measuring the number of employees of the company, which was logged to minimize kurtosis (Zahra, Ireland, & Hitt, 2000). Then, considering that businesses in different industries may exhibit different organizational and environmental characteristics that may influence performance (Wiklund & Shepherd, 2005), authors controlled for industry effects. Similar to other management studies (Hernández-Linares, Kellermanns, & López Fernández, 2018b), three dummy variables (manufacturing, construction, and services sectors) were included as second to fourth control variables, whereas the agricultural sector was employed as the comparison industry. Then, and in line with previous studies (e.g., Eddleston, Kellermanns & Sarathy, 2008), the existence of strategic planning was included as a fifth control variable, by asking CEOs if the firm had a strategic plan including both business goals and the resources and capabilities required to achieve them, with a dichotomous response format (0= not, 1= yes). Next, the existence of financial stakeholders (not workers) was ascertained by asking key informants if financial stakeholders existed who did not work in the company. This variable is considered because the presence of stakeholders not involved in management can moderate the freedom of the stakeholders that are also managers to make decisions directly related to their own goals (Wong, Chang & Chen, 2010). The seventh control variable included in the regression analysis was affective commitment, understood as pride in belonging and emotional attachment to the organization (Perry, Hunter, & Currall, 2016). To measure affective commitment, the authors used a scale taken from Eddleston, Kellermanns, Floyd, Crittenden, and Crittenden (2013), derived from an organizational commitment scale developed by Porter, Steers, and Mowday (1974). The internal consistency of this scale was determined by Cronbach's alpha ($\alpha = 0.653$). The academic experience of the CEO was also controlled because workers' formal educations mirror their knowledge bases and cognitive abilities (Hambrick & Mason, 1984), and consequently individuals' educational abilities can be regarded as a useful measure of their stock of knowledge (Colombelli, 2009). Thus, the academic background of the CEOs was measured by applying four educational levels: primary studies (9.9%), secondary studies (23.3%), university studies (58.7%) and postgraduate studies (8.1%). Given that the executives and top managers establish firm strategy, it seems reasonable to think that women serving as CEOs will bring their special endowment of characteristics and qualities, such as their well-established higher risk-aversion compared to men (Block, Fisch, Lau, Obschonka, & Presse, 2016; Croson & Gneezy, 2009) to the company. For this reason, the CEO's sex was also included as a control variable, and similar to previous studies (e.g., Goktan, & Gupta, 2015), the answers were codified as "0" for female CEOs (21.9%) and as "1" for male CEOs (78.1%). Finally, environmental dynamism, which refers to the frequency of changes, the difference involved in each change, and the irregularity in the overall pattern of change characterizing organizational environment (Child, 1972), was also controlled. In this case, authors used a three-item index taken from Jansen, Van Den Bosch, and Volberda (2005), which has recently been used in family business studies (De Massis, Chirico, Kotlar, & Naldi, 2014), and whose internal consistency was supported by Cronbach's alpha ($\alpha = 0.817$).

Analysis

In order to test the research hypothesis, regression analysis was used, since it enables one to predict a target variable based on a set of values, and to screen variables to identify which ones are more important than others to explain the dependent variable (Yan & Su, 2009). In particular, data were analyzed by using hierarchical regression analysis because this type of regression analysis is commonly used for testing moderating effects (e.g., Serrano-Bedia, López-Fernández, & García-Piqueres, 2016), since it allows scholars to establish comparisons between alternative models with and without interaction terms (Stam & Elfring, 2008). So, according to Jaccard and Turrisi (2003), a moderating effect will exist if the interaction term contributes significantly to the variance explained in the dependent variable (in this case, business performance) over the main effect of the independent variable (entrepreneurial orientation).

In particular, the research model is presented in the following equation:

$$\text{Performance} = \alpha + \beta_1 \text{ Entrepreneurial x Orientation} + \beta_2 \text{ x Family Business} + \beta_3 \text{ x Size}$$

$$+ \beta_4 \text{ x Manuf} + \beta_5 \text{ x Const} + \beta_6 \text{ x Serv} + \beta_7 \text{ x Strat} + \beta_8 \text{ x SNW} + \beta_9 \text{ x AC} + \beta_{10} \text{ x CEOab}$$

$$+ \beta_{11} \text{ x CEO sex} + \beta_{12} \text{ x ED} + \varepsilon$$

Where: Size = firm size (logarithm for number of employees); Manuf = manufacturing sector; Const = construction sector; Serv = services sector; Strat = Strategic planning; AC= affective commitment; CEOab = CEO academic background; ED = environmental dynamism, and finally ε = residues.

RESULTS AND DISCUSSION

The descriptive statistics (mean values and standard deviations) and zero-order correlations of the variables included in this study are presented in Table 6. Multicollinearity does not appear to be a serious concern since all correlation coefficients are smaller than 0.559, which is under the recommended threshold of 0.65 (Tabachnick & Fidell, 2012). To further mitigate multicollinearity concerns, the variables were converted to Z-scores prior to performing analysis (Aiken & West, 1991), which is common in management literature (Hernández-Linares, Kellermanns, & López-Fernández, 2018a). Furthermore, and given that the data were collected via a cross sectional survey design, common methods bias was a potential problem. To address issues of common methods bias, and in line with previous studies (Walter, Lechner, & Kellermanns, 2016), a Harman's (1967) one-factor test on items included in the regression model was performed. Thus, as suggested by Podsakoff and Organ (1986), all items of the independent, dependent, and control variables were entered into a factor analysis, and eleven factors with eigenvalues > 1.0 were identified accounting for 64.99% of the variance. The results of the unrotated factor analysis showed that the first factor (23.16%) does not explain the majority of the variance, that is, no single factor was dominant, suggesting that common methods bias was not a threat in this study's data (Podsakoff & Organ 1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). In addition, four of the ten control variables were obtained, that is, size and industry (manufacturing, construction, and services), from a secondary source, the SABI database.

Table 6. Descriptive statistics and pairwise correlations[¥]

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Performance	3.592	0.546												
2. Entrepreneurial orientation	3.877	0.483	0.559***											
3. Family firm	0.620	0.486	-0.174***	- 0.100*										
4. Firm size[1]	3.116	0.747	0.019	- 0.013	- 0.064									
5. Manufacturing sector	0.308	0.462	- 0.186**	- 0.134**	.0.054	0.102*								
6. Construction sector	0.077	0.267	- 0.043**	- 0.049	- 0.025	0.001	-0.193***							
7. Services sector	0.592	0.492.	0.182***	0.139**	- 0.052	- 0.101*	-0.805***	-0.348***						
8. Strategic planning	0.760	0.428	0.277***	0.316***	- 0.020	0.081[†]	- 0.026	- 0.099*	0.052					
9. Stakeholders not workers	0.510	0.501	0.038	0.054	- 0.060	0.179***	0.022	- 0.051	0.023	0.131**				
10. Affective commitment	4.413	0.530	0.356***	0.459***	- 0.112*	0.023	-0.189***	0.045	0.157**	0.151**	0.026			
11. CEO academic background	2.850	0.721	0.073[†]	0.104*	-0.145**	0.250***	- 0.073*	- 0.058	0.112*	0.055	0.235***	0.124**		
12. CEO sex	0.781	0.414	0.088*	- 0.014	- 0.115*	- 0.013	0.002	- 0.005	- 0.023	- 0.017	0.044	- 0.102*	-0.041	
13. Environmental dynamism	3.715	0.843	0.212***	0.354***	- 0.057	- 0.036	- 0.140**	- 0.005	0.148**	0.078[†]	- 0.013	0.278***	-0.016	0.037

n = 402; [†] p < .10; * p < .05; ** p < .01; *** p < .001; [¥]Standardized regression weights; [1] number of employees logarithmized

The study hypothesis was tested using multiple regression analysis. The main results are presented in Table 7. In Model 1, four of the ten control variables were significantly related to firm performance: strategic planning ($b = 0.119$, $p < 0.001$), affective commitment ($b = 0.156$, $p < 0.001$), CEO sex ($b = 0.064$, $p < 0.01$), and environmental dynamism ($b = 0.052$, $p < 0.05$). These results show that the dynamism of the environment, the existence of strategic planning and of a strong affective commitment to the company, as well as the fact that the company is led by a male CEO make a dynamic contribution to higher firm performance.

Table 7. Results of linear regression analysis: four models¥

Variables	Model 1	Model 2	Model 3	Model 4
	B (S.E.)	Variables	B (S.E.)	Variables
Control Variables				
Firm size	0.005 (0.026)	0.016 (0.023)	0.014 (0.023)	0.018 (0.023)
Industrial sector	- 0.094 (0.079)	- 0.058 (0.072)	- 0.066 (0.071)	- 0.073 (0.071)
Construction sector	- 0.046 (0.050)	- 0.019 (0.045)	- 0.026 (0.045)	- 0.030 (0.045)
Services sector	- 0.030 (0.083)	0.002 (0.075)	- 0.008 (0.075)	- 0.017 (0.075)
Strategic planning	0.119*** (0.025)	0.060* (0.024)	0.060* (0.024)	0.063** (0.024)
Stakeholders not workers	- 0.004 (0.026)	- 0.007 (0.023)	- 0.008 (0.023)	- 0.016 (0.023)
Affective commitment	0.156*** (0.026)	0.068** (0.026)	0.064* (0.026)	0.067** (0.026)
CEO academic background	0.011 (0.026)	- 0.003 (0.024)	- 0.010 (0.024)	- 0.010* (0.024)
CEO sex	0.064** (0.025)	0.060** (0.022)	0.053* (0.022)	0.054* (0.022)
Environmental dynamism	0.052* (0.026)	- 0.007 (0.024)	- 0.007 (0.024)	- 0.010 (0.024)
Independent Variable				
Entrepreneurial orientation		0.250*** (0.027)	0.247*** (0.027)	0.303*** (0.042)
Moderator				
Family business			- 0.054* (0.023)	0.272 (0.192)
Interaction Effects				
Entrepreneurial orientation *Family business				- 0.328† (0.192)
ΔR^2	0.220***	0.140***	0.009*	0.005†
R^2	0.220	0.360	0.369	0.374
Adjusted R^2	0.200	0.342	0.350	0.353
F	11.018***	19.922***	18.967***	17.820***

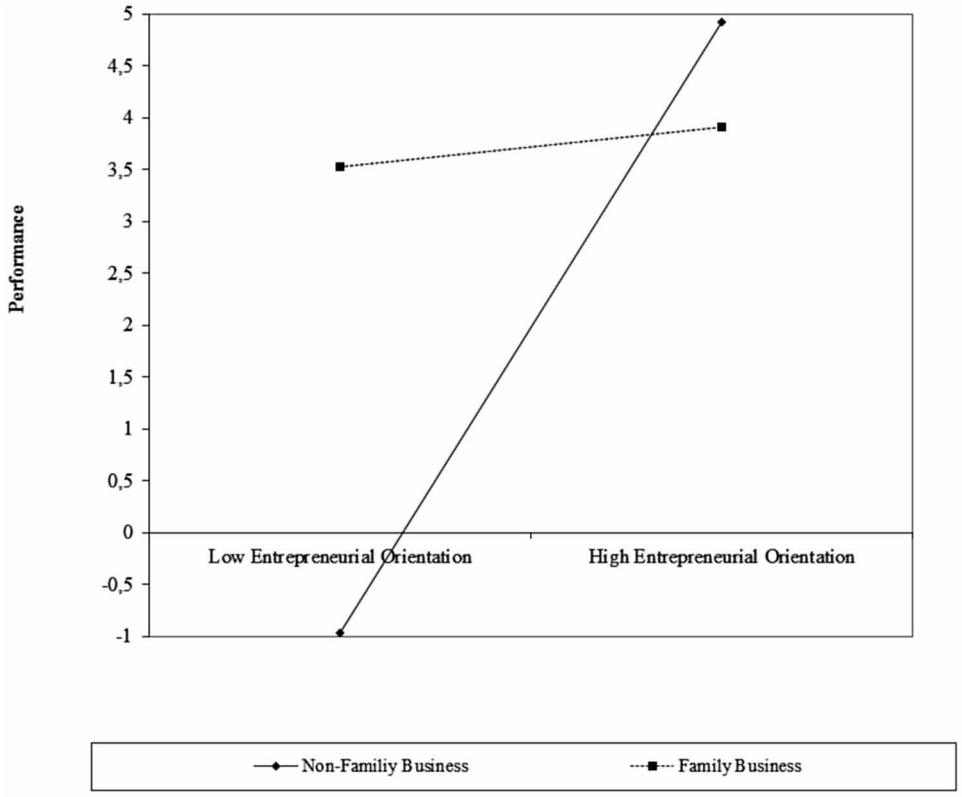
n= 402; † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$; ¥Standardized regression weights

The variable entrepreneurial orientation was entered in Model 2, and a significant change in R^2 was observed ($\Delta R^2 = 0.140$, $p < 0.001$). Entrepreneurial orientation ($b = 0.250$, $p < 0.001$) had a significant positive effect on family firm performance, corroborating that the mostly positive effect of entrepreneurial orientation on performance reported by previous literature (Rauch et al., 2009; Su, Xie, & Li, 2011) and by the family firm literature in particular (Arzubiaga, Iturralde, Maseda, & Kotlar, 2018) is also manifested in the case of Portuguese SMEs. Therefore, the impact of entrepreneurial orientation on Portuguese SMEs' performance is similar to the impact of such strategic orientation on performance in firms of other countries such as the United States of America (Madison, Runyan, & Swinney, 2014), Spain (Arzubiaga et al., 2018) or India (Gupta & Batra, 2016).

Next, in order to test the hypothesized moderator effect, authors first entered the moderating variable (family firm) in Model 3, where a significant change was observed ($\Delta R^2 = 0.009$, $p < 0.05$) and the family firm status showed a negative and significant effect ($b = - 0.054$, $p < 0.05$). Finally, the interaction term (entrepreneurial orientation* family business) was added in Model 4, where there was a significant change ($\Delta R^2 = 0.005$, $p < 0.1$), and as expected the interaction between entrepreneurial orientation and family firm showed a significant and negative effect ($b = - 0.328$, $p < 0.1$) on performance. This means that the research hypothesis, which proposed that the family business status would weaken the positive association between entrepreneurial orientation and firm performance, was supported by the results.

To facilitate the interpretation of the significant interaction effect, this interaction was plotted in Figure 1, which reveals that the positive association between entrepreneurial orientation and firm performance

Figure 1. Interaction: Entrepreneurial orientation and family business



is weaker for family firms than for nonfamily firms. When entrepreneurial orientation is low, however, family firms display more performance than non-family enterprises, whereas when SMEs are highly entrepreneurially-oriented, family firms show lower levels of performance than nonfamily firms. A gradient test revealed that the positive slope between entrepreneurial orientation and firm performance was significant for non-family SMEs ($t = 3.324$, $p < 0.001$) but was non-significant for family SMEs ($t = 0.259$, $p = 0.796$). These results mean that non-family SMEs are highly sensitive to the EO level and they need moderate and high levels of EO to reach positive performance. However, family firms are almost invariant to EO but always able to reach positive levels of performance which can mean that there are other factors to explain their performance, such as small business orientation (Madison et al., 2014). Although Schepers et al. (2014) report a strong association between the family businesses' entrepreneurial orientation and their financial performance, the results of this research corroborate the findings of Madison et al. (2014, p. 248), who argue that higher levels of entrepreneurial orientation "do not influence performance in family firms to the same extent that they do for nonfamily firms". The lower relevance of entrepreneurial orientation for family firms' performance found by the present study and by Madison et al. (2014) could be due to the fact that this research used subjective performance measures relative to competitors and others businesses in the industry, while Shepers et al. (2014) used one objective measure of performance (return on assets).

In short, this study reveals that family firm status weakens the positive relationship between the entrepreneurial orientation of the Portuguese SMEs and their performance, corroborating that the EO-performance link is unique to family firms. Therefore, this work helps academics and managers to understand the potential for distinctiveness in family firms from Portugal, in a country under-researched by the literature in the confluence of entrepreneurial orientation and family business, with a few exceptions (Hernández-Linares et al., 2019; Pimentel, Couto, & Scholten, 2017). This finding could be explained because the concern for SEW preservation often attributed to family firms (Gómez-Mejía et al., 2007, 2011) may mitigate the ability of family firms to transform their entrepreneurial orientation into firm performance (Schepers, Voordeckers, Steijvers, & Laveren, 2014).

LIMITATIONS AND FUTURE RESEARCH

Before discussing the implications of the research findings, and its contributions to literature, a few limitations of the present study should be noted. Such limitations, that must be taken into account when interpreting results, also suggest promising opportunities for future investigation. Firstly, and as mentioned in the method section, the study employed a cross-sectional design. While cross-sectional designs are common in strategic literature (e.g., Kellermanns et al., 2008), they do not allow scholars to infer causality from their findings. In addition, cross-sectional data fail to capture the dynamic interplay between entrepreneurial orientation and firm performance. Hence, a longitudinal design might help to elucidate the findings further; for example, whether the effect of different entrepreneurial orientation dimensions changes over time as the economic situation of the national economy evolves.

Secondly, data on independent (entrepreneurial orientation) and dependent (firm performance) variables were collected through the same survey. Although this is a common practice in this field (e.g., Dai, Maksimov, Gilbert, & Fernhaber, 2014; López-Fernández, Serrano-Bedia, & Palma-Ruiz, 2016), the study's data could be biased and reflect hopeful thinking rather than a factual state. Therefore, tests for common methods bias were conducted, which did not show any concerns (Harman, 1967; Podsakoff, &

Organ, 1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) and potential existing effects should not significantly affect the results (Doty & Glick, 1998). Additionally, the unambiguous nature of the self-reports for CEO sex or for CEO academic background, and the fact that some of the control variables (firm size and industry) have been obtained from a secondary database also should reduce the potential for common methods bias. Despite the small threat of common methods bias, readers are advised to interpret results with caution and the authors make a call for further research to replicate this study by using other measurements of these constructs, such as an objective measure of firm performance. Thirdly, because this study used a single-informant approach, future research could use archival data or other sources of information to examine the moderating influence of being a family firm on the relationship between entrepreneurial orientation and firm performance more accurately. Fourthly, given that the SABI database does not classify firms into family and non-family firms, companies here were classified by adopting a mono-criterion definition of family firm, based on the self-perception of the CEO. Although this definition has been validated by field research (Casillas, Moreno, & Barbero, 2010; Cooper, Upton, & Seaman, 2005; Hernández-Linares, Kellermanns, & López-Fernández, 2018a), the authors are conscious that literature tends to use multi-criterion definitions (Hernández-Linares, Sarkar, & Cobo, 2018), and that literature provides procedures for classifying firms in family and non-family in those countries where the custom of giving children two surnames (Diéguez-Soto, López-Delgado, & Rojo-Ramírez, 2015; Diéguez-Soto & López-Delgado, 2018; Rojo-Ramírez, Diéguez-Soto, & López-Delgado, 2011) exists. Accordingly, the authors call for replicating this study adopting a different definition of family firm based on more than one definition criterion. Finally, this research confirms that the family firm status negatively moderates the relationship between the SMEs' entrepreneurial orientation and their performance, reporting that the relationship between entrepreneurial orientation and firm performance is weaker in family firms than it is in non-family firms. However, this work has considered family firms as a homogenous set, while homogeneity among family firms does not exist (Chua, Chrisman, Steier, & Rau, 2012). Indeed, "a theory of the family firm must be able to differentiate family firms from non-family firms as well as explain variations among family businesses" (Chrisman, Chua, Pearson, & Barnett, 2012, p. 267). Therefore, the authors also support recent calls to consider the heterogeneity of family businesses (e.g., Chua et al., 2012) when researching the association between entrepreneurial orientation and SMEs performance. This might be able to contribute to transforming research findings into tangible and directly applicable practices for professionals and policymakers (Hernández-Linares, Sarkar, & López-Fernández, 2017).

CONCLUSION

Apart from limitations recognized in the previous section, in the following section the implications of this research to the growing body of literature on the confluence on entrepreneurial orientation and family firms is discussed (Hernández-Linares & López-Fernández, 2018). To begin with, the present study offers new insight onto the complex relationship between a business' entrepreneurial orientation and its performance, focusing in particular on the origins of performance heterogeneity across these enterprises. This research was undertaken in the unique context of Portuguese SMEs, an area in need of more research. What is more, it takes into consideration the family firm status itself, a point of focus that has not been thoroughly investigated before, as research has revealed (Hernández-Linares & López-Fernández, 2018). Another factor treated here that previously lacked investigation in the aforementioned

review (ibid) is the importance of context, in particular the cultural and national contexts surrounding the EO-performance relationship. Finally, a last area that was in need of more research was the lack of studies on Portugal in general. The present investigation helps to fill some of these gaps. Its results point to a negative moderator effect of the family firm status, as well as the strong effect of said moderation in the context of Portugal.

In conclusion, study of the family firm status can provide additional insight into understanding why some SMEs perform better than others and why it is so strong in this case. Therefore, the authors encourage scholars to continue with this research line.

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Chapter 5
Entrepreneurial Orientation of Family Business: A Case Study From Turkey

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ABSTRACT

Family businesses are considered as an important source of economic development and growth in that they create added value by providing new products, processes and technologies. Family businesses, where family values and perspectives dominate, have begun to experience problems in adapting to such a structure in the global economy, where the rate of change has increased, and the competition is intense. In the process of restructuring, entrepreneurial orientation is vital for these businesses. From this point of view, the aim of this chapter is to define family business, to explain their characteristics and to show the two perspectives on the entrepreneurial orientation of family businesses. The concept of "family entrepreneurship" and "transgenerational entrepreneurship" is also mentioned in the chapter. In relation to what is told in the chapter, how a conservative structure has been opened to the market by its third generation, a family business in Turkey that is going through its third generation and the innovations brought about by the new generation compose the case study.

INTRODUCTION

Family businesses form about 85% of all businesses worldwide (Chirico et al., 2011: 307). In parallel with this rate, family businesses make an important contribution to the creation of new employment opportunities, improvement of the quality of life of the people and the development of innovation processes in the country or region where they are located, (Mullens, 2018: 161). Family businesses are considered as one of the important sources of economic development and growth as they create added value to the economy by providing new goods, services and processes (Short et al., 2009: 9). The components of

DOI: 10.4018/978-1-5225-8479-7.ch005

family businesses; multi-generation participation, long-term strategic management, strong collective identity, extraordinary commitment to sustainability, and the valuation of both economic and socio-emotional results are better understood through many researches on family businesses which have been carried out as a result of these important contributions (Chirico et al., 2011: 307).

From the perspective of the family business, "growth" is seen as an important source of success, continuity and the transfer of family heritage for generations. However, growth is affected by dynamism, uncertainty and unpredictable variables in the market. In order to maintain sustainability in the competitive environment, family businesses need to align their behaviours and strategies with the uncertain and complex environments in which they operate. The first rule of family businesses to ensure this compatibility with the environment is the adoption of an "entrepreneurial mentality" (Stenholm et al., 2016: 697).

Family businesses emerge as a result of the entrepreneurial behaviour of one or more founders who discover and use an opportunity. However, in order to grow and survive, they have to maintain and increase their original entrepreneurial orientation for generations (Casillas et al., 2010: 27). It is of utmost importance that they develop an entrepreneurial mentality which allows them to define opportunities in the environment to ensure the continuity of family businesses for generations, as the competitive environment has become increasingly dynamic and uncertain (Kellermanns and Eddleston, 2006: 809).

Researchers have two explanatory perspectives on the entrepreneurial orientation of long-standing family businesses. The first point of view suggests that, beyond the founding generation (the first generation), families exhibited a conservative and less innovative attitude towards reversing risks and pursuing entrepreneurial strategies. In this case, family members, who have control, make an effort to protect their assets (Cherchem, 2017:87). As a result of the family's desire to preserve the expectations for the transfer of its wealth and heritage to future generations, family businesses avoid risks and monitor more conservative strategies for delaying or preventing the changes taking place inside and outside the enterprise (Chirico et al., 2011: 308). The second point of view implies that family businesses have offered an extremely favorable and unique environment to develop entrepreneurship within the organization for generations (Cherchem, 2017: 87). This point of view suggests that family property and management are like "oxygen" that feeds entrepreneurship. In other words, the long-term nature of family businesses through the transfer of property for generations encourages entrepreneurship by enabling businesses to distinguish the resources needed for "innovation and risk taking" (Chirico et al., 2011: 308).

The factors such as family businesses realize technological opportunities on time, desire for change, and the new generations, who participate in the management, analyse the changing conditions better will increase the tendency of the enterprise to entrepreneurship. In addition, owners in family businesses also believe that sustaining the existence of the enterprises depends on their ability to enter new markets and to revive their current activities to create new businesses (Zahra et.al., 2004).

The decision to invest in entrepreneurship activities is not always easy for family businesses. The risks and changes related to the entrepreneurial activities to be exhibited may limit the investment of a family enterprise in internal entrepreneurship because of the idea of preserving and maintaining family wealth (Carney, 2005). On the other hand, the decision to invest in entrepreneurship is seen as a situation specific to family businesses, since the interests and values of the family are an integral part of the goals and strategies of a family business (Agca and Kandemir, 2008).

The problematic of the continuation of the entrepreneurial spirit and the continuity of the family business has been researched and discussed in the literature by researchers for many years. Within the scope of this section, the conceptual definition of family businesses, their characteristics and the two perspectives of entrepreneurship activities of family businesses have been discussed in detail. The first

from the two perspectives is the entrepreneurial perspective that has been transferred from the first generation to the other generations. The second one is the perspective that deals with family businesses that are conservative about entrepreneurship. In this section, it is aimed to make general inferences on the properties of two perspectives and the basis of the study is shaped within this scope. In general terms, the perspective of the entrepreneurial spirit, which is considered as the sine qua non of the entrepreneurial spirit, and the dimensions of the entrepreneurship tendency which is taken into consideration in order to ensure the continuity of the family businesses for generations, have been discussed in detail. Finally, it has been aimed to demonstrate a case study that explains how a family business operating in Turkey has been opened to the international market by its third-generation owners unlike its conservative founder.

This study has four contributions to the field. The first is the establishment of relationship between family businesses and entrepreneurship. The second is to explain how the transfer of family businesses with entrepreneurial spirit to the descendants occurs. The third is to explain how the dimensions of entrepreneurship orientation are interpreted in terms of family businesses. The fourth one is to examine the concepts of family entrepreneurship and transgenerational entrepreneurship.

FAMILY BUSINESSES

The Context of Family Businesses

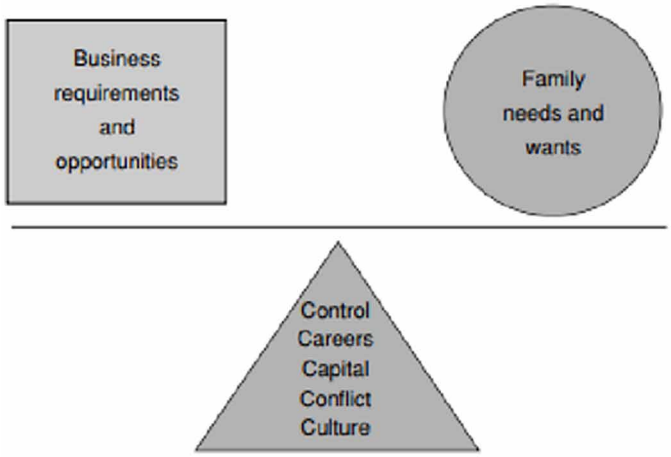
The family is the smallest social unit of society with an emotional structure (Enrique et al., 2007: 1). An enterprise is an organization that produces goods or services for consumers in order to profit and maintain its continuity (Taskin, 2012: 77). Freud observed that the intensity of family and work relations was formed by the conflicts between "love and work" (lieben und arbeiten). He argued that love and work are the main sources of self-esteem and pleasure in life, and they provide satisfaction when they are balanced (Carlock and Ward, 2001: 5). This contradictory but balanced relationship between family and work is grouped under "family business" (Fletcher, 2006).

Carlock and Ward (2001:4), have defined the family business as a scale that must be balanced between the business requirements and opportunities and the needs and desires of the family. The balance between work and family is based on five variables:

1. **Control:** A fair determination of the participants or decision-makers among the family members in the management and ownership of the business,
2. **Career:** To enable family members to be rewarded and promoted according to their performance,
3. **Capital:** Family members may re-invest and, if necessary, create systems and agreements where they can sell their investments without harming the interests of other family members,
4. **Conflict:** Due to the proximity between the work and the family, the necessary measures should be taken by addressing the conflict that may arise between the family members,
5. **Culture:** The family business culture represents the accepted family values. Family values should be taken into consideration while developing plans and actions.

If the balance, addressed in the five elements between family and work, is provided family businesses can ensure the continuity successfully. With this balance from past to present, family businesses form the oldest, most common and dominant business organizations in the world. In many countries, family

Figure 1. The Family Business Dilemma
Source: Carlock and Ward (2001:4)



businesses represent more than 70% of general enterprises and have a significant impact on the growth of the economy by playing a critical role in the employment of labour force (IFC, 2008: 11). Family businesses constitute two-thirds of all businesses worldwide, and 50-80% of the work is carried out by these enterprises (Charupongsopon and Puriwat, 2017: 151). Family businesses representing most of the enterprises create value through goods, service and process innovations that accelerate the growth in the country, in addition, they provide welfare and economic growth by generating employment in the country (Zahra et al., 2004: 363; Habbershon and Pistrui, 2002: 223).

Family businesses that provide economic growth and welfare vary from small and medium-sized enterprises to large enterprises in various sectors and countries (IFC, 2008: 11). Although the question "What is a family business?" seems to be easily understood by many people, it seems to be a very complicated phenomenon while trying to define it with a certain definition (Lansberg et. al.,1988: 1). As a result, although there is no clear consensus on the definition of family business, many definitions have been formed by the researchers as the number of researches on family business has increased from past to present. Handler (1989: 260) categorized the definitions of family businesses into four groups:

1. **Ownership management and ownership** (Barry, 1975: 42; Barnes and Hershon, 1976: 106; Alcorn, 1982: 23; Dyer, 1986: 14; Lansberg et al., 1988: 2; Galio and Sveen, 1991: 181). "Family business is the business where a family member or members of the family possess the legal control right and a large part of the capital belongs to the family (Barry, 1975: 42; Lansberg et al., 1988: 2; Galio and Sveen, 1991: 181)."
2. **Subsystems interconnected with the degree of family involvement in business** (Beckhard and Dyer, 1983: 6; Davis, 1983: 47; Hamlyn, 1994: 10; Carsrud, 1994: 40). "Family businesses, consisted of two sub-systems, are enterprises where one or more family members who are kindred have a significant impact on business ownership, management and determination of policies. This impact can be seen in business ownership and participation of family members in business management (Hamlyn, 1994: 10; Carsrud, 1994: 40; Davis, 1983: 47)."

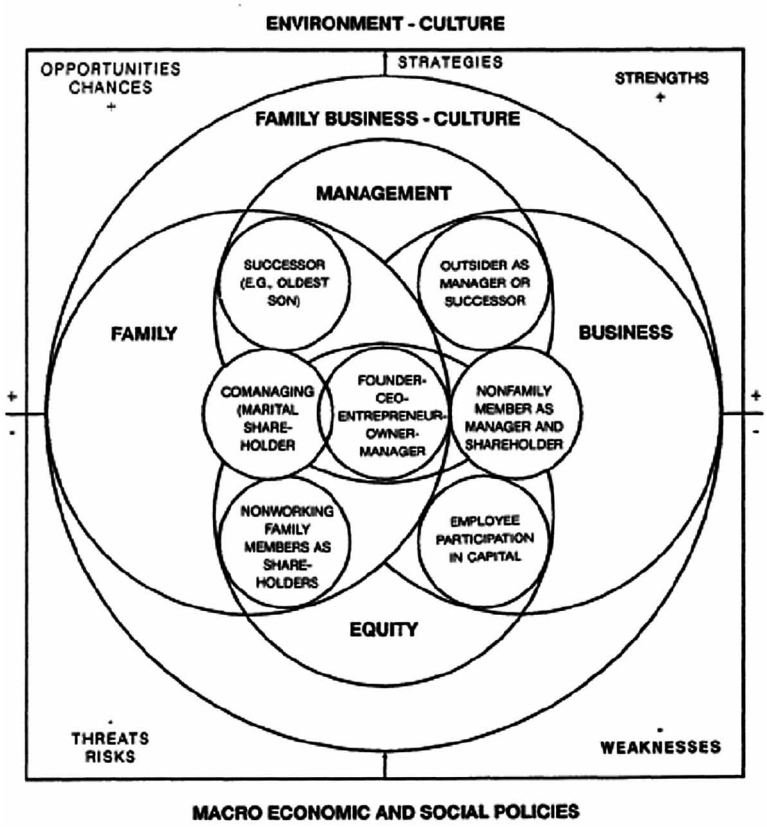
3. **Transition of the family business through generations** (Churchill and Hatten, 1987: 52; Ward, 1987: 252; Craig and Lindsay, 2002). "The family business is an enterprise that is managed by the members of the same family and it has the intention of taking over the management and control by the young members of the family in the future from the previous generation."
4. **Multiple conditions** (Donnelley, 1964: 94; Rosenblatt et al., 1985: 5; Gasson et al., 1988: 2; Smyrnios and Romano, 1994: 5; Cromie et al., 1995: 15; Chua et al., 1999: 20; Findikci, 2005:2):
    a. A family business is considered to be a family business when it is closely identified with at least two generations and this link has a mutual impact on the business policy, family interests and purposes.
    b. In family business, one of the most important concepts is ownership and they are enterprises where ownership control takes place in a single family and two or more family members are on duty.
    c. Family business is a corporate structure where at least one entrepreneur of the family starts the business, and most of the family is involved over time.
    d. Family business is type of enterprise where dominant characters and decision makers are members of the same family.
    e. All important and administrative duties are carried out by family members and the capital is under the control of the family.
    f. Business management is related to kinship or marriage.
    g. Business ownership is often combined with management control.
    h. Control passes from one generation to another in the same family.
    i. A significant portion of the upper management of the enterprise is taken from the same family.
    j. More than 50% of the property is held by a single family.
    k. The family holds most of the shares.
    l. At least two family members carry out the operation.
    m. Family business is a social structure in which family culture and tradition are reflected.
    n. Family business is an economic benefit to family members.

In general, family business is defined as that a family owns a large part of the family ownership, controlling most of the decision-making rights, affecting enterprise policies through family goals and interests at least during two generations, and transferring the management and control of the enterprise to the next generation in the future.

The Features of Family Businesses

Family businesses involve complex relationships between the environment and culture and work, framing both opportunities and risks. Figure 2 presents a holistic model of family business and its environment. This model helps to identify the main problem areas of family businesses, such as work against the family, management against equity, individuals or groups acting together or against one another, such as inheritance plans or employee engagement. The central position of the founder-owner-manager makes centre of the family business clear (Donckels and Fröhlich, 1991: 149-150). During the development of the family business the founder tends to be the one who has the dominance over three concepts such as family, management and ownership (Lansberg, 1988: 124).

Figure 2. A Holistic Model of Family Businesses and Their Environment
Source: Donckels, R., and Fröhlich, E. (1991:150)



In this holistic approach, what is considered to be the most important and new is the commitment between the four sub-systems, family, work, management and equity. The simple family business is in the subsystem of a more comprehensive family business culture and has an environmental culture that can promote or hinder family business. This culture of family business is determined by macroeconomic environment and social policies (Donckels and Fröhlich, 1991: 150). The personality of the founder, the value of the family and its vision, perspective and assumptions constitute the culture of the family business. This culture also affects the sustainability of the family business (Dyer, 1988: 37). As Hollander and Ellman (1988: 149) noted, business culture is often an implementation of the founder's personality. This culture later influences the mode of business, thus, the development of the work and the ability to respond to change. While the personality of the founder affects the business culture, culture also affects the development, change and sustainability of business. What is important for the founder is the existence of the company after him/her. It is supposed that the founder's personality, values and the culture family business are highly effective in transferring the enterprise from one generation to another. (Garcia-Alvarez and Lopez-Sintas, 2001, Stravrou et al., 2005).

The founder is in the centre of the enterprise in the family business. The founder is an entrepreneur who directs the his/her development and expansion based on his intuition, business idea and strategies, not on industry characteristics or rivals' moves. (Cruz and Nordqvist, 2012: 36).

Garcia-Alvarez and Lopez-Sintas (2001: 220-221) have divided the founders of family businesses into four groups according to their characteristics: traditional, success-oriented, strategist and inventor.

1. **The founder, following the family tradition**, attaches great importance to the concepts of ethics and family. It is determined by the family traditions that the founder decides to maintain the growth and continuity of the enterprise.
2. **Success-oriented founder** is defined as a person who makes short-term plans, who is job-oriented and task-oriented. These founders see their business as a way of getting the family life.
3. **Strategist founders** are success-oriented, however, their personality traits include giving importance to the long-term values and having internal control mechanism. Although these founders regard the business as a purpose similarly to traditional founders, their self-realization amount is dominant.
4. **Innovative founders** have personality characteristics that give importance to innovation, continuity of innovation, and family-orientation. The founder's personal development is based on the ability to continuously innovate and invent within the enterprise. This situation is the means of maintaining the life of the enterprise.

The most important problem of these four typologies specified for the founders of the family business is that the founders neglect the different roles of the family businesses in different periods (Garcia-Alvarez and Lopez-Sintas, 2001). However, the survival of a family business largely depends on the founders' beliefs, their role in building sustainable structures for growth and development (Muriithi et al., 2016: 562). Family businesses are created as a result of the entrepreneurial behaviour of one or more founders who discover and utilize an opportunity. However, to grow and survive, they have to maintain and increase their original entrepreneurial orientation through generations (Casillas et al., 2010: 27). Entrepreneurial activities ensure the growth and productivity of the enterprise by increasing the distinctive features of their products (Zahra et al., 2004: 363). Entrepreneurship activities in an enterprise are closely related to its founder, who is the most central actor for it. The founder of family businesses often shows entrepreneurial features that need success, internal control focus, creativity, innovation, risk taking and social networking (Muriithi et al., 2016: 562). As a result, it is expected that the first-generation family businesses can have a greater power as entrepreneurship activities are directly linked to the founder.

As the family business moves towards the second generation, the founding centre becomes smaller. Although the company has a founder and a member of the board of directors, there are more family members in the management position. Therefore, decision-making in the second-generation family businesses is less centralized and personal. The CEOs in the top management of second-generation try to find new ways of doing business by considering the environmental conditions to extend the family business beyond the legacy of the previous generation. As a result, in the second generation, that the CEOs give more importance to the external competition environment directs them to the demands of the enterprise, the demands of the sector and the industrial characteristics more than the first-generation founders. When entrepreneurial activities are compared to the first-generation founders, second generation managers have a greater ability to analyse the market and competitors as they are generally more educated and have external experience. In this period, the effort of adapting entrepreneurship activities to the demands of the environment is an important impetus of the second generation.

It is seen that entrepreneurial activities decrease as they move to third generation and beyond. Because third and next generation enterprises are usually managed with a professional management style. In most cases, professional management devotes more time to strategic planning. As a result, entrepreneurial

activities in third-generation enterprises are based on more planned and formal strategies rather than the founder's intuition or how the CEO perceives the competitive industry features. Therefore, the positive environmental characteristics of CEOs on entrepreneurial activities decrease in third or new generation family businesses compared to second-generation (Cruz and Nordqvist, 2012: 36-37).

ENTREPRENEURSHIP AND FAMILY BUSINESSES

Entrepreneurship has a critical importance as it enables the family businesses to be successfully transferred and survived for generations. Entrepreneurship activities, designed to revitalize the business, contribute to the competitive advantage of the enterprise in its environment while exploring the future opportunities and competencies. For this reason, family businesses can benefit from adopting entrepreneurial behaviours. The ability of the family businesses to realize the technological opportunities in a timely manner, the desire for change and the new generations who can analyse the changing conditions better, will increase the tendency of the enterprise to entrepreneurship. In a competitive environment, family businesses should adapt their behaviour to the uncertain and complex environments in which they operate. This requires the enterprise to adopt an entrepreneurial mentality (Pimentel et al., 2017: 445; Stenholm et al., 2016: 697).

Family businesses have several advantages to facilitate the creation of a favourable climate that supports and promotes entrepreneurship efforts and activities. These advantages are the freedom to act independently, the status of the family culture as a source of self-confidence, the ability to make quick decisions, a high level of commitment to the business, less bureaucracy, and the tendency to think and act more in hard times (Kets de Vries, 1993; Erdoğmuş, 2002).

The property classification of the family businesses is divided into three main categories: founder centric, sibling partnership and cousin partnership. These types of business differ in the role of the founder or owner in the family business. Each of the three business types has significant dynamics that can affect entrepreneurship.

Founder-Centred Family Business

The first phase in the development process of family businesses is the first-generation family business phase in which the enterprise and founder are fully integrated. In this period, the property and authority are collected in the founder. The founder is both the manager and the owner of the business. Most business-related decisions are taken by the founder (IFC, 2008: 15). The owner has more than 51% of the voting rights, has the authority to make unilateral decisions, is authoritarian and responsible for the other decisions (Panjwani et al., 2008: 274). The most important problem facing the family businesses at this stage is to establish the balance between the dominance of one person and the wishes of the stakeholders and to determine the appropriate ownership structure for the next generation (Gersick et al., 1997: 32).

The founder's characteristics play a major role in the identification of entrepreneurial activities in founder cantered enterprises. The founder's perception of the entrepreneurial ideas he/she has developed for the business and his/her ability to lead these ideas successfully has an important role in determining entrepreneurship. The individual characteristics of the founder, such as the ability to develop promising entrepreneurial ideas of the enterprise and the tendency to develop strategies based on perceived opportunities positively affect entrepreneurship. However, as entrepreneur activities are determined

by the founder, the values added by other managers and employees do not have a significant impact on entrepreneurial activities when the less resource utilization of founder-cantered family businesses is taken into consideration, the availability of financial resources encourages entrepreneurial activities (Salvato, 2004: 69-70).

The Sibling Partnership

The sibling partnership is the next stage in the evolution of property. At this stage, management and ownership are transferred to the children of the founder. Two or more siblings have the majority and control of the shares. As more family members are now in the enterprise, management problems tend to be more complex than those observed in the first phase of business entity. Some of the challenges of the partnership process are: ensuring the harmony of the brothers, formalizing business processes and procedures, and establishing efficient communication channels between family members (IFC, 2008: 15).

The Cousin Partnership

It is the last stage of the evolution of ownership in family businesses. Distributed business owners are usually third or fourth generation cousins. No one has absolute control, and the majority adopts a democratic decision-making process (Panjwani et al., 2008: 275). The ownership structure of family businesses is complicated by the fact that siblings of the sibling partnership allocate a very different share to their children. Since many of these members belong to different generations, there may be various ideas about how the business should be managed and how the overall strategy should be adjusted. In addition, conflicts between the brothers in the previous stage are probably transferred to the cousin generation (IFC, 2008: 15). On the other hand, the fact that cousins are not from the same parents, have different degrees of kinship and fortune can make cousin relations less intimate and more political. The families who can manage this complexity are the ones who can draw the precise line between being a family member and a shareholder (Gersick et al., 1997: 50).

In sibling/cousin partnership, different from the founder-centred family businesses, that heirs take place in the administrative level may have negative consequences for entrepreneurial activities. Among these negative outcomes, the fact that heirs do not have innovative features to support entrepreneurship may be in the first place. For heirs to be successful, they must have learned innovative skills. Heirs often increase these entrepreneurial abilities with previous experiences in family businesses or other businesses.

In sibling /cousin partnership, many family members have family property. Therefore, the fact that family members have limited financial resources adversely affects the development of entrepreneurship activities. In such enterprises, venture capital and financial resources from foreign investors provide support for the entrepreneurial activities of the enterprise. However, in some cases, the increase of external institutional shareholders may increase the complexity of decision making and slow down the business's desire to support entrepreneurship. Therefore, other non-family or non-institutional professional investors affect entrepreneurship negatively. Unlike founder centred family business, there is a need for the help of the whole enterprise in order to produce innovation in the entrepreneurial activities of the family businesses in the sibling / cousin partnership. The entrepreneurial activities of the family business in the sibling/ cousin partnership benefit from the presence of many managers and external members on the board of directors. These individuals increase the level of professionalization within the enterprise.

Similarly, the delegation in the organizational structure of the enterprise, the level of informality and the value added by the employees to the business increase entrepreneurship (Salvato, 2004: 69-70).

ENTREPRENEURIAL ORIENTATION AND DIMENSIONS

Entrepreneurial orientation can be seen as an evaluation mechanism that measures the tendency and orientation of firms and their senior executives to entrepreneurial activities and scales firms from very conservative to the entrepreneur (Zahra, 1991). Voss et. al. (2005) defined entrepreneurial orientation as firm level spirit to reflect the risk taking, innovation, proactiveness, autonomy and aggressive competitiveness, and to display a behavior that changes the organization and the market to change. Entrepreneurial orientation can lead companies to innovate or enter new markets in processes such as forcing them to develop new products. The most important point here is to explore entrepreneurial actions before competitors and to benefit from opportunities (Kuratko et al., 2005: 276).

The history of the discussion of the dimensions of entrepreneurship orientation and how many dimensions it will consist of is based on the concept of entrepreneurial orientation. In his study, Miller (1983: 770) has described the entrepreneurial enterprise as follows; It demonstrates product-market innovation, undertakes risky initiatives, and becomes the first mover by overcoming its competitors with proactive innovations. Miller (1983) has mentioned three dimensions of entrepreneurial orientation and Covin and Slevin (1989) have again addressed the entrepreneurial orientation in three dimensions, but Lumpkin and Dess (1996) have dealed with entrepreneurial orientation through five dimensions. Lumpkin and Dess (1996), have suggested two aspects that should be included in entrepreneurial orientation. These dimensions are competitive aggressiveness and autonomy. Lumpkin and Dess (1997), reported that proactiveness and competitive aggression are different concepts.

In this chapter, a total of five dimensions, obtained by adding the two dimensions proposed by Lumpkin and Dess (1996) to the three dimensions proposed by Miller (1983), will be examined in detail.

Innovation

Innovation is expressed by researchers as the most important and essential element of entrepreneurship orientation. It is necessary to focus on innovation to successfully implement entrepreneurial orientation in an enterprise. Therefore, several actions and processes are needed. These innovations will strengthen companies, create competitive advantages, support growth, create new business areas and increase capital (Hayton and Kelley, 2006).

Innovation is, "enabling new goods, services or new ideas and creative processes that can end up with technological processes and supporting these innovations" (Lumpkin and Dess, 1996: 142). Innovation is expressed by researchers as the most important or even essential element of entrepreneurial orientation (Nasution et al., 2011: 338). According to another definition, innovation is considered as the capacity and ability of the enterprise to develop new ideas, goods and services that will be offered to overseas markets (Freeman et al, 2006: 36). Innovation enables organizations to review achieving growth and profitability, and the information store of the organization that allows the development of new competitive approaches (Zahra and Garvis, 2000: 471).

Knight and Cavusgil (2004) have stated that innovation originates from two main sources. The first one is the R & D activities of the enterprise. R & D expenditures are considered as an important indi-

cator of the enterprises' innovation. (Dimitratos and Plakoyıannaki, 2003: 200). The second one is the imitation of innovation of other enterprises (Knight and Cavusgil, 2004: 126).

Innovation is necessary for a business to maintain its sustainability. This is a key source of new ideas that lead to product launches, service improvements, and management practices that ensure a successful continuity of the enterprise (Lumpkin et al., 2010: 247). Newly-established and small family businesses are more innovative than corporate and large family businesses (Zellweger and Sieger, 2012: 69).

Risk-Taking

The scientific definition of the entrepreneur concept, which is seen as the basic dynamics of economic development, was first made by the Irish economist R. Cantillon of French origin. Since Cantillon (1734) described the concept of entrepreneur as "the person who took the risk of profit or loss", risk taking has been seen as an important element of entrepreneurship (Antoncic ve Hisrich,2003:17). Risk taking has been seen as a fundamental element since Cantillon and has been the most commonly used concept to explain entrepreneur or entrepreneurship in the literature. According to Lumpkin and Dess (1996: 144), risk is "a huge pressure that consists of the feeling of uncertainty, the possibility of loss or negative results, and the debiting of resources or the undertaking to use a large amount of resources".

Risk taking is one of the most distinguishing features of entrepreneurial enterprises. That the firms with an entrepreneurial tendency act risky by running into high levels of debt or sharing high risk resources to generate a high income through the market opportunities are often considered as a sign of having willingness to take risks. For this reason, risk-taking at the enterprise level requires brave and wide-ranging actions to achieve the targets, and rapid funding through rapid action to utilize market opportunities (Covin and Slevin, 1989: 77; Naman and Slevin, 1993: 137).

According to Lumpkin and Dess (1996: 144), the risk is "the feeling of uncertainty, the possibility of loss or negative results, and the borrowing of resources or the commitment to use a large amount of resources". Risk taking is to act bravely by taking initiatives in uncertain environments (Charupongsopon and Puriwat, 2017: 151). It is therefore a distinguishing feature of many family businesses. Because family businesses take many risks as they generally work for themselves instead of working for someone else for a fee. Although family businesses can undertake higher risk levels, the family usually tends to choose conservatism rather than risk-taking especially when the ownership and control of the family are under threat (Short et al., 2009: 14).

Proactiveness

In the definitions related to proactivity, the proactivity of a business is associated with being the first to offer new products and services to the market, being fast in the market in providing new products, new technologies and managerial techniques, and being ahead of competitors in perceiving and utilizing the opportunities around it (Miller and Friesen, 1978: 923; Miller, 1983: 771; Venkatraman, 1989 cited Lumpkin and Dess, 1997).

According to Covin and Slevin (1988), proactivity means launching and executing some specific activities in such key business areas as new product or service promotion and new technologies and administrative techniques before the competitors rather than following them. Briefly, it leads its competitors by being a pioneer rather than following them in important areas such as new managerial techniques, new production technologies, creating new goods or services. (Lumpkin and Dess, 1996: 146).

Nummela et al.(2004) have considered proactivity as an understanding of future problems, needs, and changes in international markets and thus their importance. Rauch et al. (2009) have described proactivity as a prospective perspective, which is characterized by the new competitive products launches and looking for opportunities that are driven by the forecasting of future demand.

Being proactive is a supplementary to innovation and risk-taking. Proactive behaviours can provide the opportunity to take the first position in the competitive environment with all kinds of innovations (Antoncic and Hishric, 2001: 499). It encourages the enterprise to engage with a wide range of stakeholders in order to explore resources and opportunities in the external environment (Tang et al., 2013: 2).

Proactivity involves the monitoring of changes in consumer tastes and technologies by enterprises. Proactive family businesses with a short-term perspective, especially in areas such as technology and fashion, which are heavily influenced by consumer preferences, engage in entrepreneurial behaviours in order to get into action quickly, generate cash or get quick feedback on the market. (Lumpkin et al., 2010: 248).

While proactivity is associated with strong performance in entrepreneurial studies, this may not always be valid for family businesses. Indeed, the most common strategic approach of family businesses is the defence strategy that emphasizes cost control, efficiency and specialization rather than opportunity-oriented behaviours such as new product launches (Short et al., 2009: 14).

Competitive Aggressiveness

Covin and Covin (1990), have regarded competitive aggressiveness, which is a management trend, as a willingness of the organization to take over its competitors. Covin and Slevin (1991), have indicated that the entrepreneurial stance is partially reflected in the tendency to compete aggressively with its competitors in the industry, where the firm operates.

Lumpkin and Dess (1997) have defined competitive aggression as "a direct and intense challenge of an enterprise to enter the market or improve its position". Lumpkin and Dess (1997), have pointed out that proactivity dimension and competitive aggression dimension, which is regarded as a similar concept, are different and unrelated concepts. The dimension of both entrepreneurship orientations is based on gaining economic benefits of the opportunities in the environment. However, when the presence of the opportunity(s) is noticed in the existing markets and the competition is intensified in the same period, the enterprises trying to operate in the newly emerging markets are moving away from the current competition for a while. In this case, while some entrepreneurial enterprises tend to be proactive to create new markets, they can also show aggressive competitive behaviours in their current activity-field (Bulut et. al., 2008: 510).

Family businesses with a short-term perspective may choose to take an aggressive stance in order to respond quickly to threats from their competitors or to ensure that they have a temporary competitive advantage. However, this aggressive attitude (e.g. tactics such as increasing marketing activities) can reduce the profitability of the enterprise. This is particularly detrimental for young or small family businesses trying to fight larger or long-established competitors (Lumpkin et al., 2010: 250).

Autonomy

It is defined as "the independent activities of an individual or a team to create and finalize an idea or vision" (Lumpkin and Dess, 1996: 140). Autonomy is necessary to promote the tendency of an enter-

prise to develop new ventures and new business practices and to identify opportunities with the existing strength of the enterprise beyond its existing capabilities (Lumpkin et al., 2009). The level of decision making of employees also determines the level of autonomy. Autonomy in enterprises can be defined as the freedom of employees to plan their work, to determine appropriate tools and methods (Holt, 1990: 360). Therefore, autonomy motivates and encourages employees at all levels to act independently and take initiative (Lumpkin et al., 2010: 251).

One of the negative characteristics of family businesses in terms of autonomy is that the autonomy of family members may decrease in successive generations. The most important reason for this is that more family members in family business decision-making processes and the establishment of the board of directors may cause their autonomy to be limited (Zellweger and Sieger, 2012: 69).

Autonomy in enterprises can be defined as the freedom of employees to plan their work and to determine the appropriate tools and methods. The decision-making levels of the employees determine the level of autonomy. In this respect, it can be said that the employees of the state institutions do not have autonomy (Holt, 1990: 360).

ENTREPRENEURSHIP AND THE FAMILY

The entrepreneurial orientation of the enterprises is the result of the fact that the founders and / or top managers are made up of entrepreneurial people. The entrepreneurship process is related to the vision, stance and attitude of the founders and / or managers. The entrepreneurial orientation of businesses is a reflection of the fact that senior managers are composed of entrepreneurial people. The self-start of the entrepreneurship process is related to the vision, stance and attitude of the managers. As the entrepreneurial adventure begins as an idea, the process will continue as a reflection of managers (Wright et al. 2016:7). If the top managers are innovative, risk-taking and proactive, they have high entrepreneurial orientation. In particular, if the enterprise is operating in a very dynamic and fast changing market environment, it is important that the top managers consist of entrepreneurship oriented individuals.

In family businesses, the founders or senior executives usually consist of family members. The entrepreneurial personality traits of the first generation of family, who founded the company, will be transferred to younger generations and the entrepreneurial adventure will last for generations. In this regard, the important things to consider are the opinions, vision and mindset of the family members, especially of the founding generation. For a founding family member is effective not only in the vision of the business and but also the stance of non-family senior managers towards the business. The entrepreneurial stance of older generations and the transfer of this to younger generations affect the entrepreneurial orientation of family businesses. The entrepreneurial stance of older generations includes innovative, risk-taking and proactive structure, as well as the security and control of assets, a more stable approach to change and long-term vision (Wright et al. 2016:8).

Older generations gain entrepreneurial behaviour to younger generations and make them persist in three ways. These are role modelling, experimentation and development. If children in a family grow up in an environment of entrepreneurship and family business, it is probable that they will have learned and maintain in the future what they are exposed to within this environment. Krueger (1993), states that there are four ways that an individual is exposed to entrepreneurship that can decide whether or not an individual is going to perform such behaviour in the future as well. The first is that family members are interested in entrepreneurship. In order to gain experience since early ages, family members of family

businesses will take in entrepreneurship and take on the entrepreneurial behaviour of older generations. On the other hand, that older generations constantly transfer in a story-like manner what they have seen, which can include their experiences or the eras they have gone through, is another aspect that sustains entrepreneurship in family businesses.

The entrepreneurial orientation of the family and family members is one of the biggest and most important premises of entrepreneurial orientation of the business. However, the entrepreneurial stance, vision and behaviour of older generations alone is not enough. The strategies, organisational structure and financial resource status of businesses also play an important role. If all components come together, then 'Family Entrepreneurship' emerges.

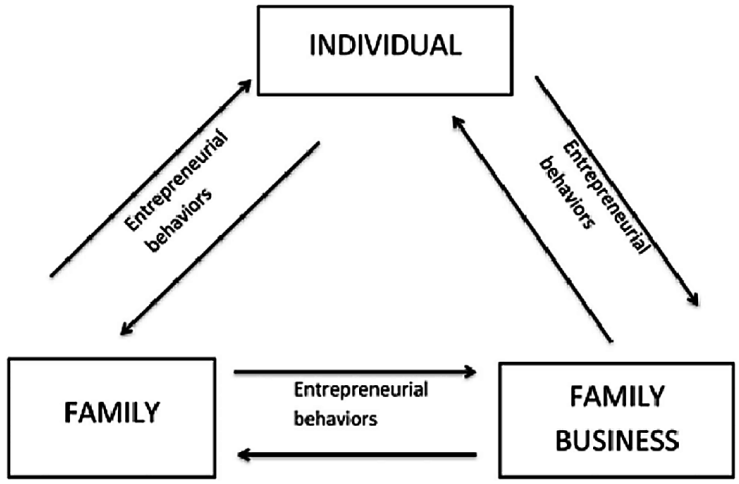
Family Entrepreneurship

The interaction of the concepts of family, family business and entrepreneurship has created a concept that we can express in the body of literature. This concept has been included in the literature as 'Family Entrepreneurship'. Although not yet fully mature, it is a new and emerging concept. "*Family entrepreneurship is dependent upon the futures of family, the futures of entrepreneurship, and the futures of family business"* (Randerson et al. 2016). Although there is no clear definition of the concept, its scope is based on variables as from event to event, from business to business, from country to country and other conditions. 'Family Entrepreneurship' is discussed as a concept that explains more than simple and narrow scope such as whether family businesses are entrepreneurs or not.

Shaped by entrepreneurial stance and entrepreneurial behaviour, the concept of family entrepreneurship, which eludes the traditional and bulky traits of family businesses that are often not transferred to third generations, has been formulated as follows (Bettineli et al. 2014).

Kellermanns and Eddleston (2006), a person who is willing to initiate change within family members can discover new technological opportunities, expand them into family and the business, and then this can affect the entrepreneurship of businesses in the industry in general. In particular, the so-called 'new blood' family members undertake such a task who are usually of second and third generations. Thus,

Figure 3. A Conceptualisation of the Family Entrepreneurship
Source: Bettineli et al. (2014:169)

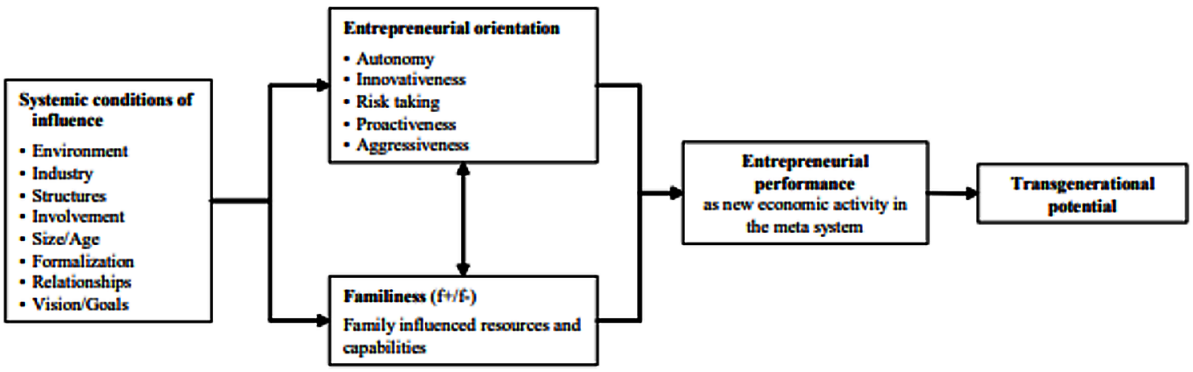


the innovative structure encompasses the family business and begins to shape it. Differences between generations contribute to the renewal and growth of family businesses. In fact, the structure meant by the concept of family entrepreneurship can be expressed as the ability of older and younger generations to cooperatively show entrepreneurial behaviours and the reflection of this on the family business and other individuals within the family business. Along with family entrepreneurship, another concept that is referred to in a broader context is 'transgenerational entrepreneurship'. This concept is defined as the "*processes through which a family uses and develops entrepreneurial mindsets and family influenced capabilities to create new streams of entrepreneurial, financial and social value across generations*" (Habbershon et al. 2010:1). The concept is basically based on two assumptions. First, family participation is the basis for unique and inimitable resources and capabilities. The second assumption involves the entrepreneurial orientation, processes, practices, and decision-making mechanisms of the business (Basco et al. 2018:1). Transgenerational Entrepreneurship is basically based on three dimensions; entrepreneurial orientation, familiness and cultural contexts. Familiness is the degree of specificity of the capital resources and capabilities of the family business from the interaction of the family and the business. It is examined in four categories consisting of human resource along with physical, financial and social capacities. Researchers refer to these resources and capabilities as the 'family factor' (f factor).

Transgenerational entrepreneurship is a concept that explains how family businesses are to ensure their growth and sustainability. It is a concept that reflects the combination of the resources, talents, and entrepreneurial way of thinking and the entrepreneurial stance that being transferred through generations. The conceptual framework of transgenerational entrepreneurship is given as follows.

Looking at the conceptual framework, some points attract attention and allow new questions about the field to develop. The conceptual framework consists of five basic factors in total. First, the focus of the analyses is the family business itself. The second one is the entrepreneurial orientation of the family business. The third is the conditions that affect the system while the fourth is the entrepreneurial stance and such way of thinking. Finally, the fifth is the entrepreneurial orientation and wealth creation. While entrepreneurial orientation and familiness have an impact on entrepreneurial performance, they also affect the wealth creation of family generations. As the concept of transgenerational entrepreneurship is explored and gets itself practised, it is to have an eminently positive impact on societies, economies of countries and the world economy in a broad sense by composing a wealth creation in economic and social conditions.

Figure 4. Conceptual Framework of Transgenerational Entrepreneurship and Its Antecedents
Source: Serrano et al. (2006:18)



A CASE STUDY: GENERATION TO GENERATION FAMILY BUSINESS

Family businesses are divided into two aspects: family businesses have been entrepreneurship throughout generations within the organization or beyond the founder generation, family business exhibited a conservative approach on entrepreneurial activities. Today, a family business must continue its entrepreneurial activities generation from generation to achieve sustainable advantage in both a local and international competitive environment. The real driver of entrepreneurship of family business is the founder generation. If entrepreneurship is permanent in the business, lower generations must be willing and commitment. To understand of importance of generational transition of entrepreneurship, this case study reflects this aspect.

Settings

XYZ family business, founded in 1960, operates in the automotive sector. It has 400 full-time employees. It manufactures fuel hose and pipe for the automotive industry. It exports directly to Central and Eastern European countries. The principles that the business targets in the sector; high quality and fast production and just in time delivery. While the quality and timely production is carried out, environmental sensitivity is prioritized. It attaches importance to social responsibility projects and cares about being a company that contributes to the region and the country in this sense as a principle.

Elements Analysed

The success of a family business is measured by sustainability from generation to generation. XYZ family business has been continuing since 2005 with the transfer to the third generation. It is underlined that the basic formula of a successful family business that has been going on for three generations is the realization of the administration turn over to the under-educated lower generations. The second and third generations have a comment in the family management, while the fourth generation has completed their training and they have different positions in the enterprise. Unlike the founder and the second generation of entrepreneurship, with the third generation, there has been a breakthrough in both international expansion and branding. This is the third generation of entrepreneurship activities in the production of technology to use in education. Innovations in this field have been influential in the decision to open up to international markets. The second generation did not show struggle against change in the innovations but took an active role in the decision-making process.

Method

Qualitative data can play important role in family business research. Among qualitative methods, case studies have been most used in family business research to date. According to our perspective, family business research has multiple theoretical approach and therefore, case study can reflect this diversity. A descriptive case study technique has been used in this chapter. A case study technique gives a detail portrait about family business. But in case study technique, there has been a critical point for researchers: A single case study or multiple case study? We have chosen a single case study. Transferring genera-

tion from generation is difficult for family business but this enterprise has succeeded it and because of this, the case has a rare qualification according to us. For this reason, we have used a semi-structured interview technique.

Main Findings

Since the management period was realized in time, it was determined that the family business continued to be under the control of the family. The basic institutionalization practices were meticulously followed and transferred to the lower generations.

Suggestions

We have suggested important implications for this family business. First one, to maintain the family entrepreneurship, it is necessary to ensure that lower generations take part in different positions in the business. Second, if this business wants to have a voice in the international arena, product innovation should be directed towards entrepreneurship activities. Third one is that entrepreneurial orientation is a strategic response for a business. For this reason, if lower generation wants to achieve a sustainable entrepreneurship orientation, they must have a strategic plan.

CONCLUSION

As family businesses are in the position of one of the actors leading the economy both in the world and in Turkey, this is an important concept on the focus of investors, government, researchers and companies engaged in related research. Although family business is a concept that has been discussed for many years, it continues to be a current concept mentioned by sustainability due to new processes and products brought by globalization and technological developments. In this section, the concept and characteristics of family businesses have been explained and the entrepreneurial orientation has been viewed from two different perspectives. It has been thought that this section differs from the researches in the literature with its entrepreneurial stance beyond the characteristics of the family enterprises, its transfer to the descendants and the introduction of the transgenerational entrepreneurship.

In family businesses property, management, control, the family itself, family values and family culture are important.

The main factors underlying the success and sustainability of family businesses are family values, family culture, the continuous investments of family members in family business and seeing the image of business products and the family image equal. However, studies have shown that the number of family businesses that continue to exist until the third generation has been gradually decreasing. In order to ensure sustainability, it is important to transfer the management to the descendants in a timely manner, to be open to new ideas and suggestions of the descendants and not to resist the change, and especially to institutionalize. The fact that family businesses can see and catch the opportunities in a timely manner, a quality brought about by technological innovations, their willingness towards change, leading the new generations participating in the management and allowing their efforts to understand the change emerge as factors that increase the entrepreneurial orientation.

While the issue discussed today for family businesses is whether it is entrepreneurship oriented or not, it is mainly about whether there is an entrepreneurial stance to have entrepreneurial activities. The entrepreneurial stance is related to the characteristics of the family members who call the tune in family business and what they transfer to younger generations. The founding family members, who carry the entrepreneurial spirit, establish the family businesses and take responsibility for their continuity (Poza, 2009: 49). From this point of view, entrepreneurial orientation is a concept that is present in family culture for family businesses and it is transferred from the older generations to the younger generations. Dyer (1988:37) suggests that components of culture are important when measuring success in the following generations of the first one. When Zimmerer and Scarborough (1998) have stated that the common value system of the family is at the root of the family business, Astrachan et al. (2002) have stated that family businesses are managed according to the values and beliefs of the family, and that the family heritage and family name is transferred to the next generations. In other words, the personality of the founder of the family business, the values of the family, its vision, point of view and assumptions make up the culture of that family business, and that culture affects the sustainability of the family business.

Entrepreneurial stance and values transferred from older generations to younger generations will ensure the sustainability and profitability of the family business. The concept of transgenerational entrepreneurship emerges when the unique, imperceptible resources and abilities of the family and entrepreneurial stance are combined. The fact that family businesses, which have significant added value for national economies, have transgenerational entrepreneurial orientation will create more added value. Particularly, discussion of this issue within academic fields will contribute to the determination of the new dynamics of entrepreneurial orientation at the level of family businesses. Issuing the matter using the Resource Based View approach is our suggestion to researchers working on this. Alternatively, the researchers can explore how the family entrepreneurship affects the value creation. We believe that our study contributes to the ongoing and important debate of family entrepreneurship and research about transgenerational entrepreneurship. We believe that, this chapter contributes to opening up black box on how family business success transferring generation from generation.

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KEY TERMS AND DEFINITIONS

Entrepreneur: Someone who exercises initiative by organizing a venture to take benefit of an opportunity and, as the decision maker, decides what, how, and how much of a good or service will be produced.

Family: Social unit of two or more persons related by blood, marriage, or adoption and having a shared commitment to the mutual relationship.

Family Business: Company owned by one or more family members. In some cases, a family business may be owned by more than one family.

Family Entrepreneurship: The intersection of the concept of family, family business and entrepreneurship.

Chapter 6
Perceptions of Entrepreneurial Ecosystem in Tourism Sector: A Study in Municipality of Setúbal

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ABSTRACT

Tourism is a strategic sector for the Portuguese economic and social development in general, and for Setúbal municipality in particular. Consequently, the existence of an effective ecosystem that promotes competitive business is crucial for the region. This chapter considers how the entrepreneurial ecosystem concerning tourism sector is perceived and operates in this Portuguese municipality. The authors chose a case study research strategy, in addition to documental analysis, through which we selected 45 stakeholders to participate as a focus group, related to the entrepreneurial activity in tourism in the municipality. The evidence shows that Setúbal municipality has relevant ecosystem elements, which are determinant for the development of the tourism entrepreneurial activity in this region. However, it is not functioning systemically in a way that can generate more effective results in the entrepreneurial activity. This result is also related with the fact that tourism activity in the region is in an initial phase and it is expected that, with its continuous development, the entrepreneurial ecosystem will also grow and become stronger, being able to create more synergies that will support new businesses.

DOI: 10.4018/978-1-5225-8479-7.ch006

INTRODUCTION

There is a trend in public policies that inspires the creation of entrepreneurial ecosystems involving different types of social actors, as a tool to promote local development. This process requires regional environmental conditions, particularly the presence of important elements identified in this chapter, as well as an effective combination among them.

It seems that entrepreneurship ecosystems have not received significant research attention in the field of tourism (Xiao, 2006; Xiao & Smith, 2007). However, because of the importance of the tourism sector to in the development of both local and national economies, it is important to understand the functioning of the entrepreneurial ecosystems in regions where this sector is relevant. The present study tries to understand how tourism entrepreneurial ecosystem is perceived and operates in Setúbal municipality.

This study pretends, specifically, on what tourism entrepreneurial activity is concerned:

1. To know the environmental region' conditions for its development;
2. To identify the elements that, combined, promote its development in the region;
3. To verify the region' capability to develop innovated tourism products and services;
4. To understand its constraints;
5. To understand if the adequacy of entrepreneurial ecosystem elements in the region;
6. To understand the existence of networks and collaborative relationships in the region able to promote its development.

We believe that the results presented in this study can contribute to useful insights about the basic conditions needed in Setúbal region, to build a local entrepreneurial ecosystem, and develop a climate of cooperation among stakeholders.

LITERATURE REVIEW

Entrepreneurship

There is no universally recognized definition of entrepreneurship. According with Morrison, Rimmington and Williams (2011), entrepreneurship can be related with: an economic function; ownership structure; degrees of entrepreneurship; size and life-cycle of firm; and a resource base. These economists are concerned with the subject of entrepreneurship because they see it as a means of stimulating the economy through the personal initiative in the creation of firms and jobs. The authors also understand a relation between entrepreneurship and ownership structure or the creation of a new enterprise. This approach excludes firms which have a different ownership structure, such as the shareholder-owned corporate groups, charities, or public-sector organizations because the process of entrepreneurship is not applied by, such organizations. However, authors also refer that entrepreneurship can be related with degrees of entrepreneurship and they notice that some efforts have been made to categorize the degree of innovative and creative behavior of entrepreneurship according with growth factors such as market size, return on personal investment, number of employees, and increased diversity of products/services. Also, for

these authors size and life-cycle of firm are important for the understanding of entrepreneurship. They refer that many firms seem to start out as dynamic and small entrepreneurial businesses and later they become mature, slower and more bureaucratic. Finally, they consider resources also relevant for entrepreneurship. For the authors this perception assumes that, within our social and economic system, there is an initial stock of entrepreneurial resource waiting to be mobilized.

Regardless the different perspectives on entrepreneurship, it is consensual that entrepreneurial activity is an important issue for economic and social development. The effort on this activity can explain regional disparities in economic growth.

In fact, the literature on entrepreneurship is vast, and there are different perspectives. According with Carvalho e Costa (2015) some perspectives associate entrepreneurship to innovation and use the figure of the entrepreneur to explain the concept of entrepreneurship (Drucker, 1985; Schumpeter, 1934), others relate entrepreneurship to the identification and exploration of new opportunities (Kirzner, 1973; Shane and Venkataramann, 2000), others link entrepreneurship to the new organizations' creation and focus on the process through which an organization is created (Gartner, 1989). Literature on entrepreneurship can still be organized into two streams according to Liao and Welsch (2005). The first stream focuses on the person, and on an individual's propensity and ability to undertake entrepreneurial projects. Research on the propensity to undertake is primarily concerned with the psychological and behavioral characteristics of entrepreneurs. The second stream emphasizes the influence of the environment in stimulating and promoting entrepreneurial initiatives, that is, in the influence of the market, politics or economic fluctuations and their impacts on entrepreneurship.

The studies about entrepreneurship start to increase during 1970s and 1980s and their focus was on issues related with entrepreneur's motivation, personal characteristics, or key components of the entrepreneurial process such as business planning, raising capital or managing employees. This early research payed to much attention to the entrepreneur or the company, ignoring important external factors such as the emergence of new market opportunities or the role of networks in supporting company growth.

Meanwhile some changes have occurred, and researchers understood that the focus should move from personality traits and internal motivations of entrepreneurs to external factors that influence business growth. This change of focus was supported by the real-life experience of high growth companies and the rise of technology-rich entrepreneurial ecosystems like Silicon Valley, Seattle and Boulder. These regions gave important clues concerning the importance of the role of local business culture in creating an "entrepreneur friendly" environment.

However, regional economic and institutional conditions differ, depending on how regions influence the entrepreneurial process. New firms are directly influenced by their locality, and its survival depends on their adaptability and capability to maximize entrepreneurial efforts, within a specific environmental setting.

The current research has analyzed this process in the context of local or regional entrepreneurial ecosystems; a concept coined by Moore (1993), that Isenberg (2010, p. 43) describes as "a set of individual elements - such as leadership, culture, capital markets, and open-minded customers - that combine in complex ways" to promote the entrepreneurial activity. Entrepreneurship researchers view regional ecosystems as providing both short-term and long-term benefits. Over the short term, entrepreneurial ventures are more likely to start and grow in regions with strong ecosystems. Over the long term, this virtuous cycle feeds on itself.

Entrepreneurial Ecosystem

An ecosystem can be defined as a complex network and an interconnected system (Khan,2013). This concept was used by Tansley in 1935 to refer to a basic ecological unit formed by the natural environment, the organisms and their relationships. Later, this concept was applied to the management field through. Moore (1993), which considers that a business ecosystem is like the biological one, where companies and stakeholders build several relationships in an environment called the ecosystem.

Entrepreneurial ecosystems are receiving sharp attention from scholars and entrepreneurs. Studies have focus mainly in the components of the entrepreneurial ecosystems, frequently without an integrated and deeply approach concerning their complexity. To address this omission in ecosystems research, few authors state that entrepreneurial ecosystems can be more fully understood if considered the inherent complexity science and its conceptualization as complex adaptive systems. Though recently research on entrepreneurial ecosystems has taken on speed, the response to the concept in tourism, is still limited. However, several authors have emphasized the importance of managing a varied range of shared capabilities towards common goals, and of collaborating to co-create and co-deliver sustained value for all network partners, revealing the need for effective alignment across the tourism business (Gereffi et al. 2005, Gligor and Holcomb 2012, Halldorsson et al. 2007, Lemmetyinen and Go 2009, Pechlaner et al. 2014, Romero and Tejada 2011, Stank et al. 2011, Wong et al. 2012).

An effective entrepreneurial ecosystem is important for economic development and growth and can be determinant for tourism entrepreneurial activity. However, the understanding of their usefulness depends on the capacity to create adaptive systems, that means the ecosystems' capacity to adapt to local conditions and to environmental evolutions.

The entrepreneurial activity needs a set of interrelated elements that evolve over time, forming a dynamic system that stimulates the creation of new companies (Neck et al., 2004). This system is called an "entrepreneurial ecosystem". According to Cohen (2006), an entrepreneurial ecosystem consists of a diverse set of interdependent actors that, within a geographic region, influence the formation and eventual trajectory of the entire group of actors and potentially the economy. Teece (2007) defines the business ecosystem as the community of organizations, institutions and individuals that impact the enterprise and its customers and supplies.

Thus, an ecosystem of entrepreneurship results from the interaction between its actors that evolve together and reinforce each other (Isenberg, 2011). This network between actor contributes to the performance of a community or region (Spilling, 1996) providing opportunities for new businesses, delineating boundaries of entrepreneurial action (Thornton, Ribeiro-Soriano, & Urbano, 2011; Welter, 2011), and consequently leading to the own sustainability of the entrepreneurial ecosystem (Cohen, 2006). Also Mason and Brown (2013, p. 5) presented a contemporary concept of entrepreneurial ecosystem: "A set of interconnected entrepreneurial actors (both potential and existing), entrepreneurial organizations (e.g. firms, venture capitalists, business angels, banks), institutions (universities, public sector agencies, financial bodies) and entrepreneurial processes (e.g. the business birth rate, number of high growth firms, 'blockbuster entrepreneurship' level, number of serial entrepreneurs, degree of sell-out mentality within firms and levels of entrepreneurial ambition) which formally and informally coalesce to connect, mediate and govern the performance within the local entrepreneurial environment."

So, for Isenberg (2001) the elements that constitute the entrepreneurial ecosystem, isolated, are important but insufficient to generate and maintain the entrepreneurial activity. However, when combined, these elements can drive business creation and growth. To do this, they need to be integrated

into a holistic system. This author also proposes a set of principles that can contribute to the tangibility and measurement of entrepreneurship in a region. Thus, the author recommends focusing on entrepreneurship and not on the job itself; geographic focus; a parallel work with the various elements of the ecosystem; a quantification and timing of the entrepreneurial activity; the creation of an independent and non-governmental team to carry out the work; the establishment of priorities and the development of actions, learning and creation of scale for the business.

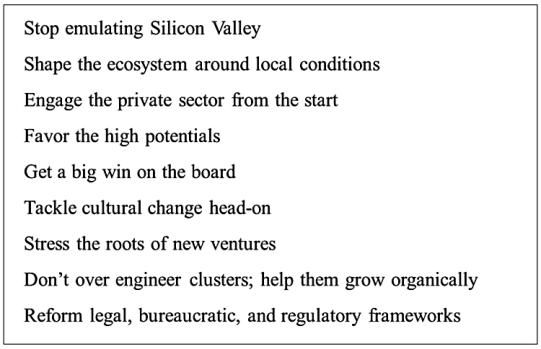
In order to create an environment conducive to innovation and entrepreneurship, several national, regional, local, and university actors have been creating specific policies and projects around the world (Autio et al., 2014). And according with Autio et al. (2014) the term entrepreneurial or entrepreneurial ecosystem began to gain importance from the 1990s as a way of analyzing the actors and relationships involved in the creation and development of firms, influencing the knowledge and the formulation of policies to energize these actors and relations.

Many researches on entrepreneurial ecosystem are supported on the success of Silicon Valley ecosystem. In fact, Silicon Valley has been a laboratory for many academic researchers who seek to verify how this ecosystem was formed and started to thrive, in order to replicate its model (Neck et al, 2004). However, many models in the literature (Leslie and Kargon 1996; Miller and Cote 1987; Hall and Markusen 1985; Rogers and Larsen 1984) failed to prove the success of the replication attempt (Neck et al, 2004).

Also, Isenberg (2010) refers that there is no precise success formula for creating an entrepreneurial ecosystem. However, to this author, public leaders should to consider nine key principles to establish an entrepreneurial ecosystem (see figure 1). Moreover, he emphasis the need of an adjustment of the entrepreneurial ecosystem to each region or local and specific responsiveness to local conditions.

Current research (Autio et al 2014; Cohen 2006, Isenberg 2011, Neck et al 2004, West and Bamford 2005) has gone another way, with a greater focus on understanding the effects of certain elements of the entrepreneurial ecosystem and creating new business ecosystems which foster entrepreneurship and innovation, as well as economic development. In fact, these authors refer that beyond their benefits for job creation, entrepreneurial ecosystems also bring other regional benefits, because it promotes diversity, it encourages dynamism, and it drives to greater deal flow. Ecosystems help regions to attract a diversity of entrepreneurs, as well as more competition and innovation, vital to create new opportunities (deal flow) for workers, customers or investors.

Figure 1. Key principles to build entrepreneurial ecosystems
Source: Isenberg, 2010

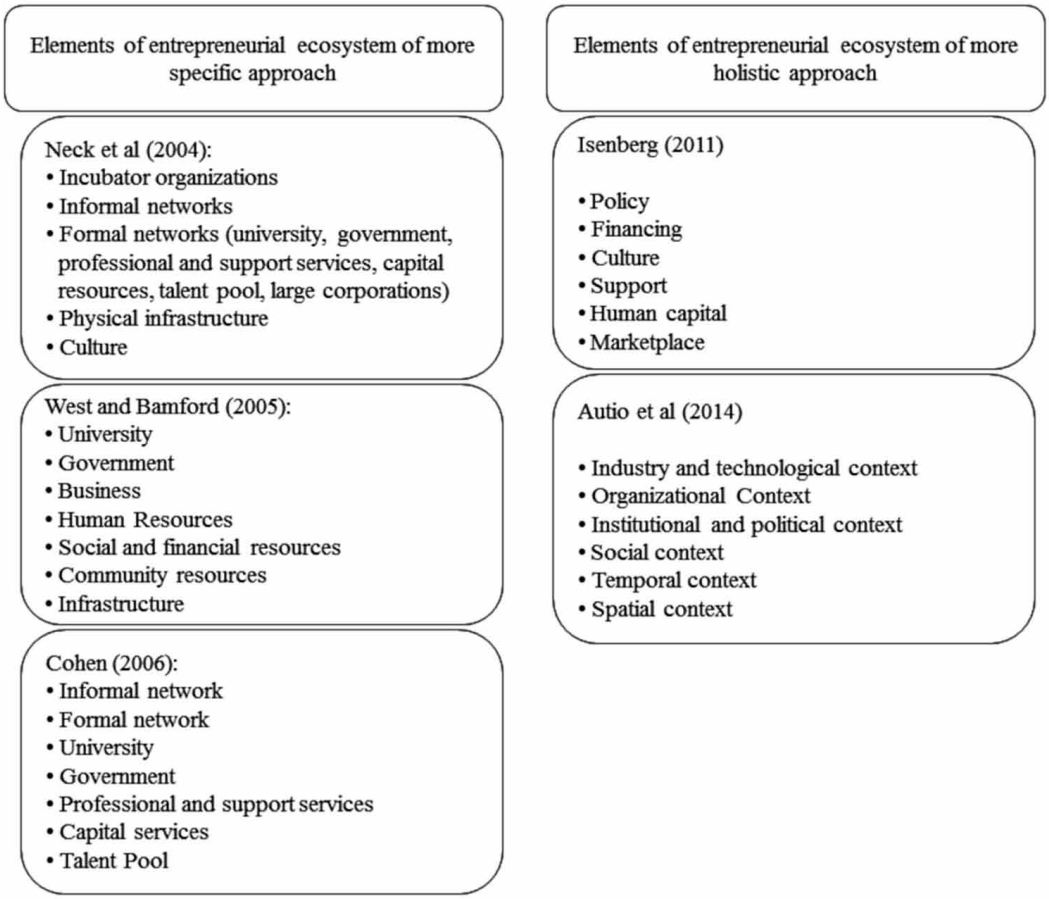


For Kantis and Federico (2011), most entrepreneurial ecosystem definitions converge to the concept of a set of interconnected actors within a specific area that includes at least: universities and R&D institutions, skilled human resources, formal and informal networks, governments, business angels and investors, professional service providers, and entrepreneurial culture, which connect in an open and dynamic way.

According with Costa, Galina and Sánchez-Hernández (2018) there are definitions of entrepreneurial ecosystem, referring more specific components (Cohen, 2006; Neck et al., 2004; West and Bamford, 2005) and others more holistic components (Autio et al. al., 2014; Isenberg, 2011). Regardless specific or more holistic definitions of entrepreneurial ecosystems, most authors agree that these ecosystems matter. They contribute both to the quantity and quality of entrepreneurial activity, and evidences reveals that regions with strong entrepreneurial ecosystems tend to have higher start-up and be more successful in creating larger numbers of high growth companies. Figure 2 illustrates these differences, comparing the elements of the entrepreneurial ecosystem proposed by several authors.

World Economic Forum (2013) identifies eight pillars with several important components to build a successful ecosystem. This report reveals that the more policy-makers understand what entrepreneurs view as important, the greater the potential for policies to be better aligned with the actions of com-

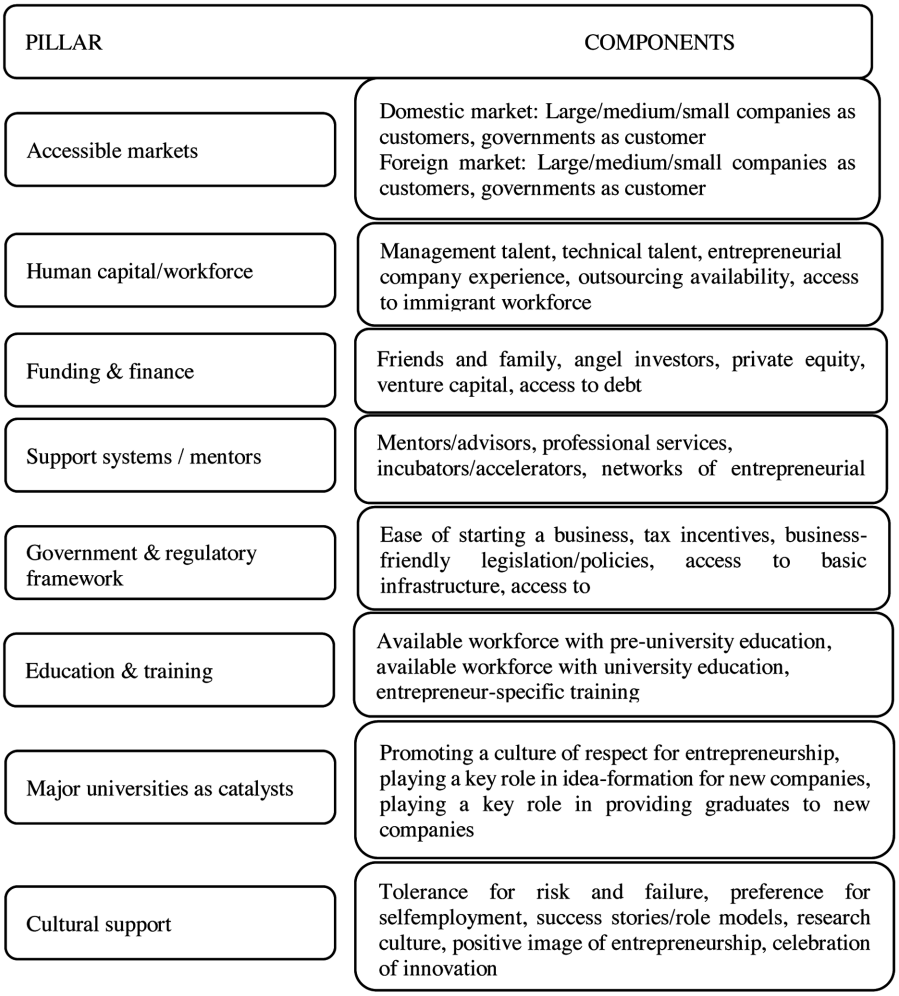
Figure 2. Elements of the entrepreneurial ecosystem proposed by several authors
Source: Authors



panies, which are the engine of a pulsating entrepreneurial sector. The report also shows that there are three pillars of the ecosystem which entrepreneurs consider to be the most important for the growth of their companies, namely accessible markets, human capital/workforce and funding & finance. Figure 3 illustrate the pillars of entrepreneurial ecosystem.

For Stam (2014:5) the entrepreneurial ecosystem approach presents a shift from traditional economic thinking on firms and markets (and market failures) to new economic thinking about people, networks and institutions (the formal and informal rules of the game). For this author "… these entrepreneurial ecosystem approaches provide useful pointers for public policy, they even perceive the role of the government to be very central. They all also emphasize the role of intermediaries and support services (from the private sector) and cultural change, while most of them also explicitly recognize the role of talent and finance. However, they do not provide insights into the fundamental causes of entrepreneurial ecosystems (cf. Acemoglu et al., 2005) and the subsequent possibilities for public policy actions.

Figure 3. Entrepreneurial ecosystem pillars and their components
Source: World Economic Forum, 2013: 6-7



Furthermore, Steam (2015) distinguish two types of entrepreneurial ecosystems: corporate ecosystems and community ecosystems. The author consider that corporate ecosystems are delimited by the legal boundaries of the corporation and community ecosystems. For a better comprehension of these two kinds of ecosystems, he refers the example of community ecosystem the existence of venture capital funds instead of finance departments, law firms instead of legal departments, universities instead of research departments or PR agencies instead of communication departments. On the other hand, he refers corporations that turn themselves into entrepreneurial ecosystems, with internal corporate venturing units, new ways of work and incentives to stimulate entrepreneurship amongst their employees (Hamel, 1999).

Lastly, Stam (2015) refers that regional policies for entrepreneurship are changing from the focus on increasing quantity of entrepreneurship to increasing quality of entrepreneurship. The entrepreneurial ecosystem approach shapes this new framework and considerers these changes. For this author the entrepreneurial ecosystem approach starts with the entrepreneurial actor but highlights the context of productive entrepreneurship. And entrepreneurship is not the only output of the system, entrepreneurs is also important players in creating the ecosystem and keeping it healthy.

Networks in Tourism

Tourism is an important sector in the world, that involves several links between stakeholders like tourists, firms, national tourism offices and several infrastructures, different providers are directly or indirectly involved in tourism. In recent decades, the contribution of the travel and tourism sector to the world economy has grown each year, until reaching around 9% of the global GDP according to the World Travel and Tourism Council (http://www.wttc.org). Consequently, tourism development is usually considered as strategic for stimulating local economies. Tourism development not only contributes to the creation of employment, but also represents an import source of tax revenue, cultural benefits, and improved infrastructure that will in turn have positive, indirect impacts on other industries (Ko & Steward, 2002; Lankford & Howard, 1994).

Tourism sector can be understood as a network of organizations interacting to produce and deliver a service (Scott, Cooper and Baggio, 2008; Van der Zee and Vanneste, 2015) and the final tourism product is the result of a variety of services and products provided by several stakeholders that can be simultaneously competitors and cooperators (McCabe, Sharples and Foster, 2012). This sector works in a multifaced environment that involves several networks among several and different partners. According with Costa and Simone (2016: 242) in tourism sector the resources can totally be owned by the entrepreneurs themselves but frequently they can be complemented by their social network, including friends, family, co-workers and other stakeholders. For Costa e Simone (2015), this network can be useful to obtain as well as to improve business idea, advice and to get social and emotional support for the development of the business. Some author refers the role of networks for the strengthen of cognitive skills, strategic capacity and management capacity to forecast alternative configurations of internal and external resources that enable a business to create and exploit opportunities (Narayanan et al, 2009; Pandza and Thorpe, 2009). Other recognize their importance for the development of innovation, knowledge sharing and competitiveness that involve different stakeholders, helping tourism firms to be more resilient, more efficient and more prepare to a fast-changing and competitive environment (Luthe, Wyss and Schuckert, 2012).

There seems to be a consensual understanding of the relevance of collaborative networks, whether formal or informal, for the generation of information and experiences, as a facilitator of cooperation

between companies (Martínez Fernández, 2005). These networks can contribute to the creation and development of integrated tourism products, taking advantage of synergies between companies and territories, generating opportunities for the creation of business in a collaborative format. This worthy connection has been studied in different countries, namely in Canada (MacDonald, Jollife, 2003) or in the UK (Novelli et al., 2006). In Spain, for example, and more specifically in the region of Extremadura, the results of the study by Romeiro and Costa (2010) demonstrate that network structures contribute to the creation of a cohesive destination, where resource sharing allows innovative local responses to the challenges of the tourist market.

In fact, the importance of networks and collaborative relationships in tourism sector are particularly relevant due with some characteristics of the sector, such as the fact that this sector is mostly composed by small and medium sized organizations, fragmented over a geographic region. Their survivance may depend on their capacity to form agglomerations of interrelated independent entities (Ammirato et al., 2015). Also important is their frequent use of both social networks (e.g., informal, personal contacts) and formal networks (e.g., associations) to support their businesses (Copp and Ivy, 2001). These types of networks can be formed spontaneously and helps in the development of new products (McCabe, Sharples & Foster, 2012). Finally, it seems that formal and informal networks influence the destination's success, because more frequent interactions might lead to more efficient information, knowledge and skills transfer and improve the competitive position of tourism firms and increase the overall tourist experience (Fuglsang and Eide, 2013).

METHODOLOGY

Considering the nature of the present study, predominantly qualitative, and the proposed objectives, a set of techniques was used. This is a qualitative methodology, with a focus on a case study. This methodological option is justified by the need to understand the phenomenon, with a high degree of depth. According to Yin (2005), the case study is an empirical investigation that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly defined.

In addition to a documentary analysis, a focus group was also created, consisting of 45 participants, who are stakeholders related to the entrepreneurial activity in tourism in the Setúbal municipality. The information gathered through the focus group aimed to collect data concerning vantages and disadvantages of the region for the tourism development, as well as advantages and disadvantages of the region for the development of tourism entrepreneurial activity. During each focus group four subjects were debated:

Subject 1: Perception of stakeholders concerning vantages of the region for the tourism development;
Subject 2: Perception of stakeholders concerning disadvantages of the region for the tourism development;
Subject 3: Perception of stakeholders concerning vantages of the region for entrepreneurial ecosystem;
Subject 4: Perception of stakeholders concerning disadvantages of the region for entrepreneurial ecosystem.

The 45 participants representatives from the tourism and economic activities of the Setúbal municipality, local development agencies, associations and cooperatives linked to the tourism sector, entrepreneurs, consultants, academics and researchers. They were organized in 4 groups coordinated in 4 tables. The subjects were introduced sequentially in each table and each the participants have 10 minutes to list 3

advantages and 3 disadvantages. After a first presentation per group of these results, each group had 15 minutes do debate these results and select, per table, the three most important advantages and the three most important disadvantages. At the end, the debate was open to all groups through 35 minutes, and a summary of the results was prepared by each table' moderator.

In order to carry out the analysis of the collected information, it was developed an analysis of content in order to achieve the specific objectives proposed.

EMPIRICAL STUDY

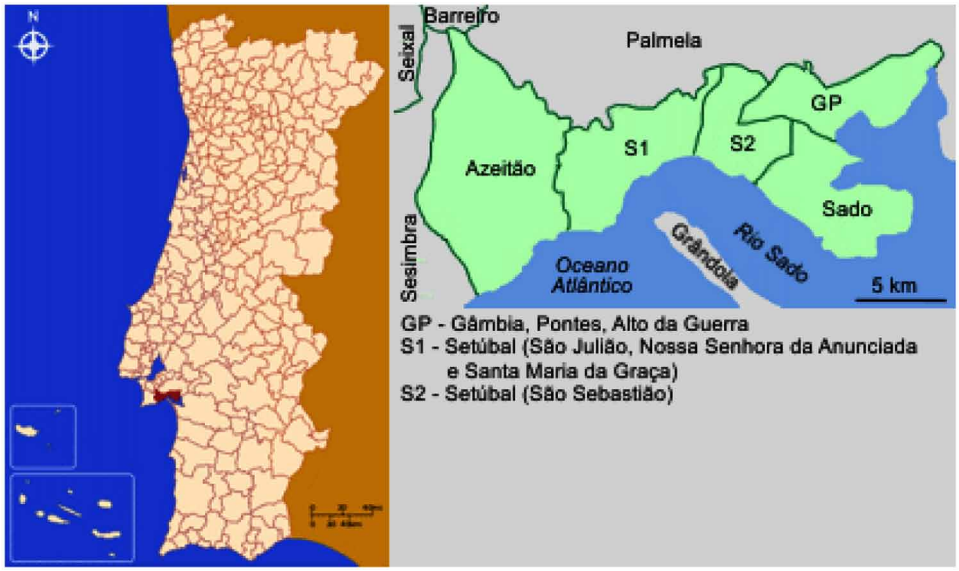
Brief Description of Setúbal Regions Municipality

Setúbal municipality is bordered to the west by the municipality of Sesimbra, to the northwest by Barreiro, to the north and east by Palmela, and to the south, the Sado estuary, which separates it from the municipalities of Alcácer do Sal and Grândola. The Troia peninsula, belonging to Grândola, is situated in front of the town, among Sado's estuary and the coast of the Atlantic Ocean. Setúbal municipality, about 40 kilometers from Lisbon, combining urban and rural characteristics in all five parishes.

With a territorial area of 230.3 km^2 and 121,185 inhabitants the region have important industrial and service centres are concentrated.

In the beginning of the 20th century, the main city of the region, Setubal was the most important centre of Portugal's fishing industry, particularly sardines, however none of the several factories then created are operating today. Yet, maritime ports, the new marines and economic activities keep the city links to the ocean and water.

Figure 4. Localization of Municipality of Setúbal
Source: https://pt.wikipedia.org/wiki/Distrito_de_Set%C3%BAbal



According to the censuses of 2011, Setúbal municipality had a population of active age of 58.514 people, among which 15.6% were unemployed. Among those who had jobs, 1.6% worked in the primary sector, 24.9% in the secondary sector and 73.5% in the tertiary sector. Setúbal is detachable by the pulp, paper, cement, fertilizer, pesticide, other plant protection products, thermoelectric energy, shipbuilding and naval repair industries. The port of Setúbal moved 7,008,000 tons in 2013, a growth of 950 million tons compared to 2012. In 2012, in terms of busy cargo, the port of Setúbal stood in 4th place between the ports of Portugal, with 7.4% of the busy cargo in the country.

The Entrepreneurial Ecosystem of Setúbal Municipality

The region has strong enterprises in such fields as, for example, paper and motor car industries, and holds a highly important geostrategic position, since it is a gateway to Europe. According with einforma – Diretório de Empresas (2018) Setúbal has 12 578 companies distributed by different activities. The most significant activities with mores concentration of companies are: 1) Wholesale and retail trade; Repair of motor vehicles and motorcycles with 5 44 companies; 2) Construction with 2223 companies; 3) Lodging, restoration and similar with 1667 companies and 4) Manufacturing with 1176 companies.

Setúbal municipality has the Polytechnic Institute of Setúbal, a public institution of higher education, which employs approximately 650 personnel and has approximately 6 500 students. Has two professional schools: Professional School Foundation of Setúbal (Fundação Escola Profissional de Setúbal) and School of Hospitality and Tourism of Setúbal. Has also several primary and secondary schools. The Municipal Council of Setúbal has a Business Support Office whose main objective are to promote relations with entrepreneurs or potential entrepreneurs, to provide information on financial support and incentives, formalities for the creation of companies, training, licensing, legislation and contacts. The IPS also has IPStartUp - IPS Business Idea Incubator, with capacity for 10 jobs and aims to promote the development of business ideas, to reinforce the monitoring provided by IPS teachers and technicians to the academic and local community, as well as to increase access to resources of this Institute, namely at the level its laboratories and other infrastructures. Also, the ADREPES - Regional Development Association of the Peninsula of Setúbal plays an important role in supporting entrepreneurship and development of important projects for the region. This association has supported many projects of entrepreneurs in the most diverse areas, especially in the tourism, hospitality and catering sectors. Another association that plays an important role concerning entrepreneurial activity is "Rota de Vinhos da Península de Setúbal", a private non-profit association, which intends to promote wine tourism and value the wines of the Setúbal Peninsula. This organization contributes in the development of activities and touring routes in the territory, with the aim of organizing a differentiating tourism offer.

The Mutual Agricultural Credit Box between the Tagus and Sado is also an entity associated with this project.

In Setúbal municipality and in relation to Support and Incentives, the business sector has available a series of supports that may be relevant in the development of projects. Several programs are available namely "Investe Jovem", "Horizon 2020", "Linha de crédito PME crescimento 2014" and "Apoios à criação do próprio emprego por beneficiários de prestações de desemprego". The aim of Investe Jovem program is promote the creation of new businesses by young unemployed people, by supporting the creation of own employment and micro-businesses and regulates the support to be granted in its scope. The Horizon 2020 - Community Research and Innovation Framework Program, with an overall budget of more than EUR 77 billion foe period 2014 to 2020, is a specifically targeted instrument for supporting,

through co-financing, research projects, innovation and demonstration. The target of Linha de crédito PME crescimento 2014 is PME and finally the last program is intended to assist self-employment projects promoted by beneficiaries of unemployment benefits if they ensure the full-time employment of subsidized promoters.

Finally, the municipality also has a Nest of New Business Initiatives of Setúbal that is a municipal equipment created to welcome and support new projects in the business sector. This infrastructure aims to contribute to the densification, diversification and rejuvenation of the economic activity through the reception of nascent business initiatives with a tertiary matrix (services) with innovative characteristics and growth potential. It also pretends to be an interinstitutional infrastructure that provides a qualified support to the development of embryonic companies and has an active role in the intermediation between these and all the relevant environment for the development of the activities.

Advantages and Disadvantages of Setúbal Municipality for the Tourism Development

The focus group allowed to understand the following perceptions concerning vantages of the region for the tourism development:

- Natural and cultural heritage that allows diversity of tourist offer
- Geographic location (proximity to Lisbon - which is overcrowded, Alentejo and Spain)
- Access to the region
- Meteorological conditions
- Urban growth potential and tourism support infrastructures
- Cost of living cheap compared to Lisbon
- International reputation of "Livramento market"

Also, allowed to understand the following perceptions concerning disadvantages of the region for the tourism development:

- Proximity to Lisbon (in terms of competition)
- Lack of accommodation in quantity and quality
- Lack of supply of integrated tourism products
- Bureaucracy related to legal procedures associated with tourism (APSS, ICNF, CMS)
- Lack of a strategic tourism development plan
- Lack of communication that integrates the different historical, cultural and natural resources of the region
- Image of the region associated with short-term tourism or support to the tourist activity of the city of Lisbon
- Lack of communication about the region's heritage and its potential
- Lack of qualified professionals
- Environmental constraints limiting investments in Arrábida
- High investment needs to transform the attractiveness of the riverine zone
- Lack of public and private partnerships in tourism
- Public transport (trains and buses) with difficulty of answer for eventual tourists

Advantages and Disadvantages of Setúbal Municipality for the Development of Entrepreneurial Activity

Similarly, the focus group allowed to understand the following perceptions concerning vantages of the development of entrepreneurial activity:

- Geographic location (near Lisbon)
- Accessibilities
- Diversity of potential products for tourism (nature, beach, gastronomy, sea - water sports, wines, historical heritage, among others)
- Possibility of developing tourism activities capable of combating the seasonality of tourism (much associated with the seasons of summer and spring)
- Existence of the hotel and polytechnic school of Setúbal and qualified human resources

Finally, allowed to understand the following perceptions concerning disadvantages of the region for entrepreneurial activity.

- Proximity to Lisbon (in terms of competition)
- Lack of infrastructure to support tourism (eg cruise terminal)
- Lack of qualification and qualification of entrepreneurs with investment capacity
- Exclusion of the majority of the European Community funds available for the country
- Lack of support for, and implementation of, and recent bureaucracy
- Presence of the city council in some business areas
- Lack of support services for certain targets (for example, more qualified hotels, spa's, tourist activities)
- Existence of large companies and manufacturing infrastructures that condition the region's image as a tourist destination
- Lack of association in tourism

Table 1 presents a summary of the information collected through focus group.

ANALYSIS AND DISCUSSION OF RESULTS

The description of the Entrepreneurial Ecosystem of Setúbal municipility through documentary analysis and direct observation allowed the identification of a set of relevant elements, namely several industries (paper and motor car industries) and services companies, attractive geostrategic position concerning commercial relations to other countries and continents, public institutions of education (higher, professional, secondary and primary education), a Business Support Office of Municipal Council, an incubator of ideas, IPStartUp - IPS Business Idea Incubator, ADREPES - Regional Development Association of the Peninsula of Setúbal, the existence of several programs that supports the creation of business and innovation, a nest of new business initiatives. These elements are determinant for business creation and development of innovative products and services in tourism. However, from this identification based in

Table 1. Structured summary of focus group data

Tourism develoment	Data summary	Entrepreneurial activity development	Data summary
Vantages of the region	Natural and cultural heritage	Vantages of the region	Proximity to Lisbon
	Offer diversity		Accessibilities
	Accessibility		Diversity of potential products for tourism (diversity of business)
	Tourism support infrastructures		Potencial development of tourism activities during all seasons
	Cost of living		Presence of High and Professional education institutions
Disadvantages of the region	Proximity to Lisbon	Disadvantages of the region	Lisbon competion
	Poor accomodation capacity		Lack of infrastructure to support tourism
	Lack of integrated tourism products		Lack of entrepreneurs with investment capacity
	Bureaucracy		Difficulty in the acess to European Community funds
	Lack of communication of tourism resources		Lack support to new entrepreners and bureaucracy
	Lack of tourism stategic planning		Presence of the city council in some business areas
	Need for more qualified professionals		Lack of support services in tourism activities
	Environmental constraints for investments		Presence of heavy industry not atractive to investments in tourism
	High investment needs		Lack of entrepreneurs association
	Lack of public and private partnerships		
	Deficient public transportations inside the region		

Source: Authors

documental analyses it was not possible to verify the interrelationship between these elements and the synergies created between stakeholders.

Still, the focus group allowed to obtain important information in order to know the advantages and disadvantages of Setúbal municipality to the development of tourism as well as to the development of entrepreneurial activity.

Concerning advantages and disadvantages of the region for the development of tourism, stakeholders' participants of the focus group highlighted the potential of natural and cultural heritage for the creation of various tourism products in different segments. Also the unique characteristics of the Arrábida mountain, the Sado river, the region's gastronomy and wines, the identity of the city and the neighboring towns (such as Palmela and Azeitão) with a relevant historical for example, castles and forts, churches and convents, farms and wineries and Livramento market), which could give rise to a quite complete offer of tourist services, sports and lodging establishments, among others.

In addition to the advantages of the region, some important aspects were highlighted at competitive level with the Lisbon region, namely the lower cost of living, a temperate climate in most seasons and the tranquility of the region's way of life, associated with a lower population density and proximity to natural spaces (beach, river, mountains and proximity to Alentejo) that can provide more leisure and well-being. Also "Rota de Vinhos da Península de Setúbal" was referred as important players that support the development of tourism activity in the region.

Furthermore, the fact that the region is very close to Lisbon (the main gateway for foreign tourists), has good road accessibility that facilitates the arrival of visitors and that there is a great potential for urban growth and infrastructure tourism support structures (such as the cruise terminal and the marina for recreational boats) that could contribute to tourism being a sustainable activity throughout the year, reducing the seasonality associated with the sun and beach segment.

Concerning the disadvantages of the region for the development of tourism, the stackeholders identified several, some of which could also be included in the disadvantages of the region for the development of entrepreneurship.

One of the most mentioned aspects was the proximity to Lisbon. Lisbon has a very rich heritage and is one of the main tourist references in the world and, therefore, it absorbs a good part of the tourism in national territory, reducing the potential of visits to the region of Setúbal. At the same time, public transport (trains and buses) between the region and Lisbon present some relevant constraints that reduce mobility and reduce the potential of visitors.

In addition, many of the stakeholders referred to the lack of a strategic plan for the development of tourism, as well as for the communication and dissemination of the region's natural and cultural resources. Setúbal is associated with a city's factory image due to the existence of large industries. Stakeholders also pointed bureaucracy of the legal procedures of the public entities as a relevant limit to the successful development of the tourist activity. More generally, the limitation of investments in the natural park of Arrábida and the degraded riverside frontier of the city of Setúbal were also mentioned as determinants of tourism development.

At the most specific level of tourism activity, the stakeholders mentioned several aspects that could negatively affect their development, namely, a poorly integrated supply of tourism products (especially in tourism activities that could make better use of the unique resources of the region), the existence of a small number of accommodations, which limits the capacity of absorption of new visitors, a reduced number of qualified professionals in the different areas associated with the sector, conditioning the quality of the services provided and the lack of public - private partnerships that can stimulate several business areas and make tourism a sustainable activity in the region.

Regarding the advantages of the region for the development of entrepreneurship, in addition to having mentioned again the strategic location of the region next to Lisbon and the existence of different accessibilities that allow the easy connection between both, stakeholders also highlighted the potential of development of different segments of tourist products (sun and beach, cetacean and bird watching, golf, water sports, sport fishing, trekking, history and culture, gastronomy, wines, among others) that could complement and reduce the seasonality of this activity. Also, ADREPES was referred as important player that support the development of entrepreneurial activity in the region.

Finally, the perception of the stakeholders about the disadvantages of the region for the development of entrepreneurship, focused mainly on the image of the city, very associated with the great industry, the proximity to Lisbon that was considered as the great competitor in the activity of tourism and the almost nonexistence of EU funds because the region is located in the geographical area classified as Greater Lisbon (which is considered to be the richest region in Portugal). In addition, the lack of infrastructure (such as the postponement of the construction of the cruise terminal and the marina for recreational boats) and support services were also mentioned as conditioning factors for the development of entrepreneurship activity, also mentioned was the lack of management training with reduced investment capacity (the region is characterized by having a population with a long tradition of working in large companies and with little experience in creating new businesses). The need to increase associative capacity in the different tourist activities was also referred by stakeholders. This issue is important in order to foster partnerships that allow the development of different complementary and qualified tourist products that guarantee greater added value for the various economic agents involved and for the region.

At the level of the City Council, excessive bureaucracy was also identified in legal proceedings and its performance in some activities, which limits the creation and development of companies in some segments of the tourist offer.

The inventory of resources for the development of the entrepreneurial activity provided by documentary analysis and direct observation, as well as the vantages pointed by stakeholders in what concern

vocation of Setúbal region for tourism development as and development of entrepreneurial activity confirmed the presence of several elements, such as, support services to business, incubator, development agencies, financial support programs, cultural and natural heritage and possible development of different segments of tourist complementary products (sun and beach, cetacean and bird watching, golf, water sports, sport fishing, trekking, gastronomy, wines, among others), urban growth and infrastructure tourism support structures (such as the cruise terminal and the marina for recreational boats), several accessibilities between Lisbon and Setúbal that facilitates commercial and industrial exchanges as well as between stakeholders (companies, public organizations, financial institutions). These evidences confirm the existence of some elements identified in literature review (Autio et al, 2014; Cohen, 2006; Isenberg, 2011; Neck et al, 2004; West and Bamford, 2005).

On the other hand, the inventory of disadvantages pointed by stakeholders (lack of hospitality accommodations capacity and integrated tourism products, high level of bureaucracy, lack of communication, poor strategic planning, lack of qualified professionals, environmental constraints for investments, lack of partnerships between public and private organizations, deficient public transportation inside Setúbal regions, lack of infrastructure to support tourism, difficulty in the access to European Community funds, weak support of services in tourism activities, presence of heavy industry not attractive to investments in tourism, lack of entrepreneurs association) show a lack of interconnection of the elements of the ecosystem, jeopardizing their effectiveness in creating business and boosting the local economy.

Consequently, these disadvantages referred by stakeholders concerning vocation of Setúbal region for tourism development as and development of entrepreneurial activity did not confirm that the ecosystem elements previously identified are combined or interrelated, in fact these components are not interdependent and don´t contribute together to the generation of new business creation over time. The business can continue to be created but not with the synergies creations that can generate value over time. In this sense the existence of the entrepreneurial ecosystem as described in literature review by several authors (Autio et al., 2014; Cohen, 2006; Isenberg, 2010; Isenberg, 2011; Neck et al., 2004; Spilling, 1996; Stam, 2014; West and Bamford 2005) was not confirmed.

The information from focus group, that means the lack of communication, poor strategic planning, the lack of partnerships between public and private organizations and the lack of entrepreneurs association, also allowed to understand that the role of networks and collaborative relationships for the strengthen of cognitive skills, strategic capacity and management capacity to forecast alternative configurations of internal and external resources that enable a business to create and exploit opportunities (Narayanan et al, 2009; Pandza and Thorpe, 2009) as well to understand the importance of networks for the development of innovation, knowledge sharing and competitiveness that involve different stakeholders, helping tourism firms to be more resilient and efficient (Luthe, Wyss and Schuckert, 2012). These evidences highlight the urgency of stakeholders of Setúbal region develop networks and collaborative relationships in tourism sector due with the characteristics of the sector (composed by small and medium sized organizations, fragmented over a geographic region). This urgency relates to the need of the region not only to improve entrepreneurial activity but also to differentiates through innovation in a very competitive sector, creating networks to support the development of new products (McCabe, Sharples & Foster, 2012; Thornton, Ribeiro-Soriano, & Urbano, 2011; Welter, 2011) using collaboration to co-create and co-deliver sustained value for all network that participate across the tourism business (Gereffi et al. 2005, Gligor and Holcomb 2012, Halldorsson et al. 2007, Lemmetyinen and Go 2009, Pechlaner et al. 2014, Romero and Tejada 2011, Stank et al. 2011, Wong et al. 2012).

Finally, stakeholders also pointed the important role of ADREPES and Rota de Vinhos da Península de Setúbal. They considered that these associations support tourism entrepreneurial activity in a very regional perspective considering the resources and vocation of the Setúbal region, working together with several stakeholders namely wineries, catering and accommodation, five public institutions and a private institution (The Municipalities of Montijo, Palmela and Setúbal, the Regional Wine Commission of the Setúbal Peninsula and the Regional Tourism Entity of Lisbon). In fact, these associations seem to give an important contribute to the adaptation of the "potential entrepreneurial ecosystem" to local conditions. These evidences confirmed the opinion of Isemberg (2010) that defends 9 principles the need of this ecosystem be sensitive to local conditions, and appear to point about the possible failure of trying to replicate a Silicon Valley ecosystem model, as referred in literature review by (Leslie and Kargon 1996; Hall and Markusen 1985; Miller and Cote 1987; Rogers and Larsen 1984) failed to prove the success of the replication attempt (Neck et al, 2004).

CONCLUSION

The literature review presented different perspectives about entrepreneurship, as well as diverse approaches of entrepreneurial ecosystem. Similarly allowed to understand the importance of tourism networks for the development of tourism business.

The discussion of results revels that Setúbal municipility has relevant elements and conditions that can promote tourism entrepreneurial activity in the region. However, these elements are not yet well interconnected, and consequently the elements of entrepreneurial ecosystem are not merged. This result is also related with the fact that tourism activity in the region is in an initial phase and it expected that with the continuous development of this activity the entrepreneurial ecosystem will also grow and become stronger creating more synergies in order to support new business in tourism.

The study also revealed that stakeholders of Setúbal region need to develop networks and collaborative relationships in tourism sector due with the characteristics of the sector (composed by small and medium sized organizations, fragmented over a geographic region), since the region needs to improve entrepreneurial activity and achieve some differentiation supported by innovation in a sector so competitive creating networks to support the development of new products.

Despite the lack of an ecosystem in all its conceptual completeness, and considering the positive evidence of the presence of important elements but the lack of a systemic functioning that can generate more effective results in the entrepreneurial activity, it is expected that in the medium term this ecosystem will gain greater robustness and could contribute in a very positive way for the dynamization of the economy in the region of Setúbal. This optimistic perspective in the future is also related with the presence of important conditions for tourism activity and consequently business in this area, but with the youngest vocation and involvement of the region in a sustainable tourism activity, were new products and services must be development (many are already developed) in order to maximize the resources, location and richness of the region and changing definitively the vocation of the region very marked by a past of tourism supply manly supported by "sun and sea" offer, as well by an image very associated with heavy industry.

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Chapter 7
Academic Entrepreneurship, Knowledge Transfer, and Academic Spin-offs

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ABSTRACT

Academic entrepreneurship literature has been covering a wide array of subjects, including studies on the role of universities in the process of transferring knowledge, the role of governments in spin-off processes and on the creation of new companies (start-up) and also with several scopes of research, such as the role of university policies in the creation, development and relative performance of spin-offs. These new companies are an important mechanism for transferring knowledge, but their performance/survival rate is considered low. Despite their importance in knowledge transfer, there are still few studies on this mechanism, which demands further research. In this chapter, the aim is to understand the phenomenon of academic entrepreneurship in its diverse dimensions, the process and the different mechanisms of knowledge transfer; and to ultimately understand the role of academic spin-offs in the conversion of knowledge produced in universities.

INTRODUCTION

During the last centuries, one of the main roles of universities and other public research organizations has been the creation of new knowledge through scientific research and its subsequent publication. Traditionally, universities functioned as an "ivory tower" (Link & Scott, 2005), in which the knowledge produced by research was disseminated through teaching and academic publications.

However, throughout time, the role of academic institutions has been evolving and assuming an increasing important role in society.

DOI: 10.4018/978-1-5225-8479-7.ch007

In the last decades, as a result of the combination of a number of factors, universities have been on the spotlight of several discussions on the production, diffusion, and conversion of knowledge in economic and social value. Indeed, the increasing globalization of the economy and growing competition have made knowledge one of the crucial factors of competitiveness in modern economies, reinforcing the role of institutions responsible for their production (Debackere & Veugelers, 2005).

It is within this context that the so-called "entrepreneurial university" emerges, a term coined by Etzkowitz (1993) to describe a series of changes in the relationship between universities and society, and particularly the transfer of knowledge to the economy. Universities have been gradually assuming a more active role in the direct commercialization of in-house research results, and new and different transfer mechanisms of knowledge to external entities have recently appeared. One of these mechanisms concerns the creation of new companies, to which knowledge is transferred, and is ultimately responsible for the commercialization and conversion of knowledge in economic value.

This process, which can be classified as "academic entrepreneurship", has been gaining more attention, both in terms of academic research and in the political scene (Grinstein & Goldman, 2006; Grilli, 2014). In part, this is due to the evolution of the universities' role in the national innovation programs, and the greater importance of the so-called "third mission", which allows these entities to play a more active and direct role in the economic and social development, beyond the traditional research and teaching mission (Etzkowitz, 2003).

Although academic entrepreneurship is a phenomenon which has been present throughout history, it has recently assumed a prominent role in the political agenda. Governments and public authorities have begun to consider universities as important actors in the local development where these are located, given its ability to create knowledge, attract companies to settle in its environment and promote qualified jobs creation through new companies (Zahra & Wright, 2011; Meyer, Libaers, & Park, 2011).

These new companies, born from knowledge produced in Higher Education Institutions (HEI), which will be addressed as ASO - Academic Spin-off (used by some authors), are of the most effective mechanisms in knowledge transfer from universities to the economy and society. These mechanisms have been scarcely studied and, thus, demand further research and analysis.

This category of companies have some specificities, namely: independent, small dimension, young and high qualifications of its founders, a high and systematic investment in Research and Development (R&D), keen on innovation and, in some cases, a need of significant capital at their early stage of development, and especially their connection to centers of knowledge production, such as universities, other high-education institutions or R&D centers (Ensley & Hmieleski, 2005; Clarysse, Wright, & Van de Velde, 2011; Ganotakis, 2012).

This article aims to establish a cause-effect link between the production of knowledge and its conversion into economic and social value through the link between academic entrepreneurship, knowledge transfer and the creation of academic spin-offs.

This chapter has an exploratory character (Malhotra, 2001) and its specific goals are: 1) to understand the phenomenon of academic entrepreneurship in its diverse dimensions; 2) to understand the process and the different mechanisms of knowledge transfer; and 3) to understand the role of academic spin-offs in the conversion of knowledge produced in universities; 4) establish a causal link between the three topics addressed in this chapter which allows a better understanding of the relationship and interdependence between knowledge production, stimulus to entrepreneurial activity (intention and entrepreneurial orientation of HEIs, students, teachers and researchers) and knowledge conversion in economic and social value through the creation of academic spin-offs.

Following a methodical approach, this study is based on an extensive review of the aforementioned goals. The chapter is divided into 6 sections: introduction; methodology; academic entrepreneurship; transfer and knowledge exploitation - the role of universities; Academic spin-offs as mechanisms of knowledge transfer; discussion and conclusions.

METHODOLOGY

The methodology adopted in this chapter is based on an extensive and systematic review of the literature on the three main topics covered, namely academic entrepreneurship, knowledge transfer and creation of academic spin-offs.

First, it is reviewed the literature on academic entrepreneurship by choosing to do so based on five "position papers" which are themselves literature review articles on this topic. In addition and in parallel, it is presented a review on the production and transfer of knowledge as basic conditions for the generation of academic spin-offs. We also conduct a literature review of public policies and programs to support technology-based entrepreneurship.

The literature review is based on research in databases such as B-on - the online knowledge library with access to Web Knowledge and a great diversity of publishers, namely, Elsevier, Wiley, Springer, Kluwer, SAGE, EBSCO. It is also used the databases of Proquest, JSTRO, Science Direct, Wiley Library Online, complemented by searches through Google and Google academic. Using specific search terms, the literature about the core concepts is explored and cataloged. The critical analysis of this literature and the connection between the concepts and their contribution in the process of the conversion of knowledge into economic and social value is made throughout the chapter, but with greater emphasis on the discussion and conclusion.

ACADEMIC ENTREPRENEURSHIP

The analysis of this topic will be based on five position papers which, in a differentiated yet complementary way, outlined an overview of the field of academic entrepreneurship. It refers to the works of Djokovic and Souitaris (2008), Yusof and Jain (2010), Rothaermel, Agung, and Jiang (2007), Lockett, Siegel, Wright, and Ensley (2005) and O'Shea, Allen, O'Gorman, and Roche (2004). These authors highlight the increasing importance of academic entrepreneurship in multiple universities around the world and the growing attention of researchers to the phenomenon, measured by the number of published articles, especially since the nineties of the last century.

The approach of Djokovic and Souitaris (2008), based on the analysis of 102 articles on academic entrepreneurship, aggregates research at three levels, according to the unit of analysis: (1) macro-level studies on the role of government and industry in spin-off processes, including ways to support the creation and development of ASO as a mechanism for transferring knowledge to the market; (2) meso-level studies on the role of universities in the knowledge transfer process, such as ways to encourage the creation and development of ASO among academics, evaluation of their effectiveness as a mechanism for knowledge transfer, and determinants of the university for the development of spin-offs; (3) micro-level studies of individual entrepreneurs and ASO founders' teams, primarily focusing on the role of human and social capital in their performance.

From a second approach, Yusof and Jain (2010) divided the research areas within the scope of academic entrepreneurship. The authors have identified three categories, namely: (1) the entrepreneurial university; (2) the academic entrepreneurship; and, (3) the transfer of academic knowledge.

In the first category, studies on institutional issues are included such as the policy for higher education (Gibb & Hanon, 2006), the triple helix model (Etzkowitz & Leydesdorf, 1995; Etzkowitz, Webster, Gebhardt, & Terra, 2000) and the national and socio-economic development policies (Etzkowitz & Klofsten, 2005; Wennekers, 2009).

In the second category, the studies are predominantly related to management field and its relation with entrepreneurship. This group focuses on the results, particularly, the creation of spin-offs as a mechanism for the conversion and exploitation of knowledge (Klofsten & Jones-Evans 2000; Powers & McDougall 2005; Ganotakis, 2012) or the identification of facilitating factors and barriers to academic entrepreneurship (Laukkanen, 2003; Audretsch, Keilbach, & Lehmann, 2005; Carlsson, Acs, Audretsch, & Braunerhjelm, 2009).

The third and last category encompasses knowledge transfer, an area in which there is a greater number of studies, comparing to the two previous categories, covering questions about the antecedents and consequences of knowledge transfer. As for the antecedents, some of the examples are studied, such as the tradition, experience and culture of the university, the internal resources, and the university policies for knowledge transfer (O'Shea, Allen, Chevalier, & Roche, 2005). The field of consequences, includes studies on the commercialization of research through patenting, licensing, or spin-off creation, as well as studies on the different contexts, namely: the individual context, which covers the roles of individual agents such as scientists and technology transfer agents; the institutional context, which includes science parks and incubators; and the organizational context that involves organizational design, processes and incentives to knowledge transfer (Phan & Siegel, 2006).

The third approach is the one of Rothaermel et al. (2007), who analyzed 173 papers published in several academic journals between 1981 and 2005, which focused on any aspect that was related to academic entrepreneurship. Although the analysis covers a period of 25 years, they emphasize most of the studies were published between 2000 and 2005, due to the growing interest the theme has aroused within the academy, but also to the appearance of academic journals or special editions focused on entrepreneurship, as previously mentioned.

Even though the articles analyzed were distributed by 28 Journals, 72% of articles were published in only 5, and the "Research Policy" published the majority (47 articles or 27%), followed by the Journal of Technology Transfer (32 articles or 18%), "Technovation" (18 articles or 10%) in third place, "Journal of Business Venturing" (16 articles or 9%) in fourth place and, lastly, "Management Science" (13 articles or 8%) in fifth place.

From the review of the 173 articles, four major areas were suggested: (1) First, similarly to Yusof and Jain (2010), the entrepreneurial university emerges (86 articles), concentrating mainly on the factors that promote or prevent universities to develop the third pillar of activities (besides the traditional roles of research and education); (2) the second area of study is based on the productivity of knowledge transfer organizations and their role in the contribution of the university to economic development (16 articles). Knowledge Transfer Offices (KTO) have been the main research focus, because they are often considered as the formal "gateway" between the university and industry (Rothaermel et al., 2007). Most entrepreneurial activities are concentrated around commercial outputs, such as the number of sold licenses and their licensing revenues, capital ventures in spin-offs, the number of patents registered and granted, and the efficiency in generating new patents; (3) The third group of studies concerns the creation of

new companies (start-up), with several scopes of research, such as the comparison of universities in the field of standards used in the creation process and the number of ASOs created, factors that influence the creation and relative performance of ASOs, types of spin-offs, the process of creating and developing ASOs, the role of founder teams and the role of networks in the creation and development of ASOs (42 articles); (4) the fourth and last area, the context, which includes innovation networks, technology parks, incubators and geographical location (29 articles).

Concerning innovation networks, several studies have shown evidence that the inclusion of a company in social networks improves its ability to survive (Lockett, Wright, & Franklin, 2003; Murray, 2004). On the other hand, studies on technology parks have not found enough evidence of their contribution to the performance of the companies (Westhead & Storey, 1994; Lindelof & Lofsten, 2003). The third aspect of the business context is related to incubators of technology-based companies owned or co-owned by universities. The literature shows that studies have been attempting to answer questions about their effect on the performance of incubated companies, in particular, related to the availability of support services (e.g. training, consultancy, the business plan and network support) (Peters, Rice, & Sundararajan, 2004; Rothaermel & Thursby, 2005).

The geographical location of universities has also attracted the interest of researchers. An important issue is the integration of universities into clusters when they exist (Audretsch & Stephan, 1996). A significant number of studies shows that the geographic proximity between spin-offs and universities is determined by the necessity of recruiting workers, or access to specialized consulting (Vedovello, 1997). Evidence also reveal a positive impact of this geographical when accessing new knowledge by ASOs, and its influence on their performance (Lindelof & Lofsten, 2004).

In fourth place, still in the scope of "positions papers", the review study of Lockett et al. (2005) is presented. These authors have focused on the analysis of studies on academic spin-offs and identified three main approaches. The first concerns broad factors which prevent the formation and growth of spin-offs, including informational gaps, unrealistic expectations, lack of competence of founder teams, resources shortage cultural problems (Chiesa & Picccaluga, 2000; Steffensen, Rogers, & Speakman, 2000; Franklin, Wright, & Lockett, 2001). The second refers to the identification of the factors of success of the process of creation and development of new companies. The third approach is based on the influence of entrepreneurs' contact networks, exploring the frequency, typology, and intensity of the founder's interactions with external partners such as companies, investors, research institutes or public organizations (Nahapiet & Ghoshal, 1998; Grandi & Grimaldi, 2005).

Finally, in fifth place, the study by O'Shea et al. (2004) suggests the existence of six primary domains of research in academic entrepreneurship, namely: (1) attributes and personality characteristics of academic entrepreneurs; (2) the available resources and capacities of the university; (3) the structures and policies that facilitate the commercialization of university knowledge; (4) environmental factors that influence academic entrepreneurship; (5) the performance of ASOs; and (6) studies which attempt to measure the economic impact of spin-offs on regional economies.

With regard to the first field of research, a number of studies highlights the role of individuals, in knowledge transfer and in the creation of ASO. The second group of studies aims to establish a relationship between the spin-off activity and the capacities and resources of universities, such as the amount and nature of research funding, the quality of researchers or the presence of transfer technology offices and technology incubators. The third research stream assumes as a central principle that spin-off activity is a reflection of institutional behavior.

This set of studies suggests that universities which have a culture of supporting the entrepreneurship activity will have higher levels of commercialization and higher rates of spin-off activity. The fourth domain of studies emphasizes the impact of external factors on the creation of ASO. Three external factors that may influence spin-off activity are pointed, namely access to venture capital, support infrastructures and incentives for entrepreneurship in the region. The fifth group of studies is about the performance of ASO. Although there are few studies on this topic, most of them focus on survival rate as an indicator of performance (Gimmon & Levie, 2010; De Cleyn, 2011). Finally, the sixth field of studies relies on the economic impact of ASOs. Most of the studies are centered on the American context and tend to consider ASOs as an important subgroup due to the impact many of them have on the economy of places of their location and the international success of others (Buganza, Gerst, & Verganti, 2010; Robb & Coleman, 2010).

In addition to the position papers, other areas of research have been explored, namely in the field of training for entrepreneurship or public policies, which ultimately support academic entrepreneurship.

With regard to previous studies on educational courses and training programs in academic context, a significant number of authors have addressed this subject, such as Fayolle and Gailly (2008); Klofsten (2000) or Katz (2003).

Concerning studies focused on public policies to support academic entrepreneurship, the vast majority follows different approaches such as funding (Almus & Czarnitzki, 2003; Colombo & Grilli, 2006; Brinckmann, Salomo, & Gemuenden, 2011; Colombo, Giannangeli, & Grilli, 2013), R&D support (Stam & Wennberg, 2009), incubation support (Bathula, Karia, & Abbott, 2011), consulting support (Aaboen, Lindelof, Koch, & Loften, 2006), support to trademark (Feldman, Feller, Bercovitz, & Burton, 2002; Siegel, Waldman, Atwater, & Link, 2004) and support for proof of concept (Kakati, 2003; Bradley, Hayter, & Link,2013).

Despite of its importance and the fact that the number of articles published in academic journals has been growing steadily in recent years (as stated in the above studies), some topics are yet scarcely studied, and further research is needed, particularly in terms of the factors that contribute to the success of spin-offs (Rothaermel et al., 2007; Djokovic & Souitaris, 2008; Yusof & Jain, 2010).

Hence, the different approaches to research on academic entrepreneurship will be further analyzed in this article, as well as the standard conditions which help to promote it, such as the processes and mechanisms of knowledge transfer and the creation of academic spin-offs, which ultimately act as privileged vehicles for the conversion of knowledge into economic and social value.

TRANSFER AND EXPLORATION OF KNOWLEDGE: THE ROLE OF UNIVERSITIES

The growing role of universities in the economy can be seen as natural and partly as a consequence of changes that have been taking place in development models, which are increasingly based on intensive knowledge on which high-tech clusters play a central role (O'Shea et al., 2004). Especially in Western countries, these transitions have increased the importance of universities and other research organizations, given their condition as important actors in the production of new knowledge and spillovers for other economic and social agents (O'Gorman, Byrne, & Pandya, 2008).

Nevertheless, the relationship between the production of knowledge and its conversion into economic value is not linear, automatic and easy to manage and stimulate, with different levels of effectiveness

between countries and regions, namely between Europe and US (European Commission, 2004; Wright, Clarysse, Mustar, & Locket, 2007). It means that, since the production of high-quality knowledge is a necessary condition, it does not seem to be sufficient for its transformation into an economic value to take place. In this sense, it will be in this field that universities could play a central role, not only as main players of scientific production but simultaneously as agents of conversion and transfer of this knowledge to society. As mentioned Guerrero, Urbano, Fayolle, Klofsten, & Mian, (2016) "the role of university has been understood as a provider of knowledge (technology) with its innovative context as an important source of economic growth" (p. 553)

In the following section this article will analyze the factors, processes, mechanisms, and structures to support the conversion of the knowledge generated by scientists in the universities to the market, with a special focus on the creation of academic-based spin-offs.

Factors That Influence Knowledge Transfer

Since knowledge transfer is a complex process, with the participation of multiple actors with divergent interests and visions, there are often barriers and difficulties associated with a multifaceted and diversity of factors (Miller, McAdam, & McAdam, 2014). Their management is a challenge for both universities and companies, as a result not only of the different missions pursued by both entities but also due to mutual mistrust (Slaughter & Leslie, 1999).

In effect, a clear contrast can be identified between the centrality of profit as the most relevant goal in private firms and the complexity of objectives and interests prevailing in universities, involving educational and social objectives, a complex bureaucracy with their own rules, a system of rewards and idiosyncratic incentives, as well as the diversity of interests of its members, from academic managers to teachers and researchers (Bercovitz & Feldman, 2006).

At this point, we will address the factors which could influence the knowledge transfer, related to the knowledge producing institutions (mother organization) and their support structures (KTOs) to the transfer of knowledge produced in-house.

First, we can identify factors related to the production and scientific excellence of the university, including the quality and extension of the teaching staff, the volume and quality of scientific research and the university's disciplinary base.

A key resource for technological development and its transfer to the economy and society is the access to people with high level of expertise. The faculty members of the university (professors and researchers) are a primary source of knowledge. According to Powers and McDougall (2005), universities that have a high-quality faculty staff and resources, which takes considerable time to achieve, are likely to be the most successful in their knowledge transfer efforts and will obtain better results.

Another aspect mentioned by Di Gregorio and Shane (2003) is the reputation or institutional prestige of knowledge producing entities. According to these authors, the reputation and recognition of universities are important criteria used by external agents to evaluate the commercial potential of technologies, leading the inventors of the most prestigious universities to obtain the return of the effort placed on their R&D activities more accurately.

In addition, the disciplinary base has an impact on the creation of spin-offs, being more likely to be influenced this activity information and communication technologies, biotechnology and health-related areas (Callan, 2001; Clayman & Holdbrook, 2002). This tendency increases when curricular plans integrate curricular units of entrepreneurship and business creation (Teixeira & Davey, 2008).

A second group of factors is linked to university policies around the transfer of internally generated knowledge. These include factors related to incentives to intellectual property protection, support for the business development of new business, and the university's entrepreneurial culture.

When conducting a study on intellectual property, Lockett et al. (2003) found a significant correlation between expenditure on patent registration and the creation of spin-offs. Di Gregorio and Shane (2003) suggest university licensing policies, in regard to the distribution of royalties to inventors, may influence transfer mechanisms. In fact, lower royalty rates could represent an incentive to start a new company to develop a certain technology

Another important factor in the knowledge transfer process is the entrepreneurial culture of the university. Being one of the factors that most influence the process of knowledge transfer, it is also the most difficult to mold, for it requires vision, strategic action and adaptation time of the different stakeholders. O'Shea et al. (2005) identified three differentiating factors in the entrepreneurship capability of universities: institutional resources, human capital, and financial resources. The combination of the three factors turn the university more predisposed to the commercialization of knowledge, but it will only materialize if the university incorporates a number of extensive measures to support the development of a culture of entrepreneurship in its medium-long term development strategy.

Siegel et al. (2004) suggest that to foster a culture of entrepreneurship, universities should center on five organizational factors: (1) reward systems for knowledge transfer; (2) practical models used by their knowledge transfer offices, when these exist; (3) university policies to facilitate the transfer of university knowledge; (4) increased level of resources allocated to knowledge transfer; and, (5) work to eliminate cultural and informational barriers which prevents the knowledge transfer process.

In third place, institutional factors more directly related to individuals are also important. In this field, the models of an academic career progression, the rewards system associated with each mechanism of knowledge transfer, and the lack of resources and capacities of researchers in areas considered vital for the success of the transfer process were identified as more relevant.

According to O'Gorman et al. (2008), academic career progression models in most universities represent a barrier or at least a disincentive to the creation of ASOs. Since these models value research (production and publication of articles), teaching activities or the involvement in academic management more than they value the commercialization of knowledge, they have a limited or almost non-existent impact on academic career progression.

In this way, several authors consider the academic rewards system should be adapted to recognize and encourage the researchers' efforts to transfer knowledge through the creation of new businesses and to deal with potential conflicts between the academic career progression achieved through research and publication, and the progress achieved through the commercialization of intellectual property or the creation of new companies in a balanced way (Bieńkowska & Klofsten, 2010).

Vohora, Wright and Locket, (2004) suggest that, in the case of the creation of academic spin-offs, the main barriers that scientists face in obtaining the return of economically useful knowledge can be classified in terms of the resources and capacities required. These are dynamic and will vary throughout the company's lifecycle.

In this process, the authors mentioned above identify a wide range of conditioning factors, including the lack of prior knowledge of scientists and market operation, university incentive structures, personality traits of founding scientists, the inability of scientists to integrate in social and commercial networks, the incapacity to ensure the necessary resources at every critical moment, the difficulty in assuring commercial viability and accelerate growth, or the formation of the top management team.

A fourth set of factors is related to the existence of a network of work relations between universities and external organizations. This relationships network may be crucial to the effectiveness of knowledge transfer and may be associated with factors such as access to external business partners, relative ease of access to resources, or access to potential suppliers or customers.

Regarding the access to resources such as finance, external networks along with the financial sector may be especially important for the development of spin-offs, given the traditional non-commercial environment of universities (Manigart, Baeyens, & Hyfte, 1996). Di Gregorio and Shane (2003) argue that the relative proximity of universities to places where there are a significant number of venture capital firms, business angels, and other start-up funding agencies can be an important predictor of overcoming difficulties in funding, especially for technology-based spin-offs.

In some cases, these entities are available to support spin-offs in their initial stages, through seed capital, which can enhance the commercialization process in several ways, namely by financing the access to specialized professional managers, intellectual property rights protection, as well as the construction of a prototype, supporting the preparation of a business plan, covering legal costs, etc. (Gras, Lapera, Solves, Jover, & Azuar, 2008).

According to Lockett et al. (2005), business angels and seed capital investors can also participate in management and, especially, in the commercial part by assisting the company in their early sales and developing contacts for future rounds of capital raising if necessary (Franklin, Wright, & Lockett, 2001).

The characterization of the process and the main transfer mechanisms, which have been used by HEI will be discussed through the analysis of the influencing factors of knowledge transfer.

Process, Mechanisms and Structures to Support Knowledge Transfer

According to Bozeman (2000), the topic of knowledge transfer has aroused a strong interest among academic researchers and policymakers. This can be illustrated by some key indicators, such as: the creation of legislation related to the subject, with a strong focus in the US (e.g. the Bay-Dhole Act) and which has spread to other countries (Licht & Nerlinger 1998); the existence of magazines dedicated to technology transfer (Journal of Technology Transfer); the emergence of specialized agents in the transfer process (e.g. consultants, lawyers, etc.); and the publication of scientific articles whose title incorporates the term "technology and / or knowledge transfer".

However, the conversion of knowledge into economic value requires fluid processes, adequate resources, and dedicated, dynamic and well-organized structures.

The Process of Knowledge Transfer

The process of knowledge transfer is complex, time-consuming, with high risk, and could implicate considerable costs. In addition, it will also tend to fail a number of times (Bozeman, 2000), due to the diversity of actors involved in the different phases and levels and the different objectives they pursue (Mustar, Renualt, Colombo, Piva, Fontes, Lockett et al., 2006). These levels include government, universities, departments, research groups, researchers and other academics, as well as external players such as companies, investors, and other supporting entities (Miller, McAdam, & McAdam, 2014).

According to Laranja (2007), this process tends to be influenced to a great extent by the linear model of innovation and by the neoclassical framework of analysis of innovation activity and production and knowledge transfer. The neoclassical approach classifies the process as very risky, full of uncertainties,

high costs, and partial appropriable, as the outcome of the investigation may be left to the hands of a competitor or even a client (Guerrero et al., 2016).

In this sense, if private profitability for the innovator is uncertain and potentially low, although the collective benefits may be high, this means that we are in the presence of "market failures." According to the neoclassical framework, these shortcomings in the functioning of the market justify public support by subsidizing infrastructures, providing incentives for R&D activities, distributing direct subsidies, granting tax credits, supporting incubation or other forms, which ultimately are linked, in general, to physical supports, or "hard" supports in the terminology of Klofsten and Jones-Evans (2000).

This neoclassical view contrasts with the evolutionist / structuralist view that, by considering technology as applicable knowledge that can only be partially appropriated, since part of it is tacit and specific, the transfer of knowledge ceases to be a linear and automatic transmission process of information and becomes an interactive and complex learning process in which several actors play different roles and intervene as producers, mediators or consumers of this knowledge (Cohendet, 1996; Salter, D'Este, Pavitt, Scott, Martin, Geuna, Nightingale et al., 2000).

The main difference between these two approaches is the transition from a unilateral "information transfer process", in the neoclassical approach, to a multilateral "knowledge transformation process" in the evolutionary approach, where learning relations are established between the "sender" and the "receiver". From a linear process of knowledge transfer from a knowledge-producing entity to another, which uses or converts it into products or services, associated with the neoclassical approach, it becomes, in the evolutionist approach, a non-linear and interactive process where the various entities involved have the technical and organizational capacity to absorb and develop initial knowledge and to learn mutually from each other (Georghiou, Rigby, & Cameron, 2002; Laranja, 2007).

By placing knowledge and learning as central in the whole transfer process, in the evolutionary approach, the support instruments support will depend on the context and on the circumstances, varying from agent to agent, between sectors, clusters, regions, institutions, etc., and not on standardized process (Zahra, Van de Velde & Larraneta, 2007).

The main issue which justifies public intervention in the transfer process is the "learning gaps" both at the agent level and in the interactions as a system (Teubal, 1998). In other words, knowledge transfer starts from an entity which has specific scientific or technological knowledge to another that shows an interest in obtaining the right to use that knowledge in a process of circulation, recirculation and mutual learning, giving great importance to the establishment of long-term relations between the entities involved in the process (e.g. between the institution of origin and the ASO).

In short, if "hard" support is important in the process of converting knowledge into economic value, its sustainability depends more on soft instruments, related to learning and interaction between the agents involved.

After analyzing the process of knowledge transfer based on the neoclassical framework and the evolutionary approach, in the following point, we will characterize the main transfer mechanisms that can be used by HEI.

Formal and Informal Mechanisms

The literature review allowed us to verify the existence of a great diversity of transfer mechanisms (Salter & Martin, 2001) used by the HEI, with only a minority of the relations between universities and companies being directed towards the creation of marketable products (Rogers, Takegami, & Yin,

2001). This variety of mechanisms includes licensing, patents, spin-offs, service provision, publications, conferences, informal inter-exchanges, consulting, bilateral collaborative research or consortium, contracted research, advanced training for companies, or staff inter-exchanges between the company and the university (Klofsten & Jones-Evans, 2000; Lichtenthaler, 2005; Trott, 2008; Abreu, Grinevich, Hughes, & Kitson, 2009). As the formal channels are of great importance in the formalization of contractual relations, the informal channels established between members of universities and companies, especially through conferences, publications, joint projects or services, also play a particularly important role in building trust relations among the people involved in these activities (Cohen, Nelson, & Walsh, 2002; Aranduel & Geuna, 2004; Abreu et al., 2009).

According to Debackere and Veugelers (2005), behind formal relations, there is a set of informal contacts and personal networks that are crucial to secure connections in the present and promoting new relationships in the future. Bercovitz and Feldman (2006) also mention the importance of understanding the informal mechanisms of knowledge transfer, suggesting they are heavily influenced by corporate strategies, university policies, as well as by technology transfer structures, and government policy.

As far as the commercialization of knowledge is concerned, from the several mechanisms mentioned above, the main ones are licensing, service provision and, in particular, the creation of academic spin-offs (Phan & Siegel, 2006).

Licensing is usually the most studied mechanism due to its potential for additional revenue for the university itself. One of the defining moments and drivers of patenting was the approval of the Bayh-Dole Act in the US in 1980 and replicated (with appropriate adaptations) in other countries, especially in Europe. This legislative package marked a new stage in the commercialization of publicly funded research and has changed the attitude of many scientists towards the commercialization of research results (Aldridge & Audretsch, 2010). There has been an increase in university transfer initiatives through patenting and licensing in order to obtain extraordinary income from this additional source of funding.

Nevertheless, according to Mowery, Nelson, Sampat, and Ziedonis (2001), the impact of Bayh-Dole was much higher in the increase of the activity of patenting than in revenue, which ranks quite moderately when compared to other research funding sources (Valdivia, 2013). Thursby and Thursby (2011), based on the AUTM questionnaires, state that licensing revenues in 2007 covered only 4.31% of total R&D expenses of respondent universities. In the same way, Valdivia (2013), in a study of 130 American universities, estimates that 84% of KTOs in these universities did not generate revenues (via licensing) to cover operating costs.

These are the reasons why channel diversification is fundamental, namely service delivery, applied research in partnership with companies, consultancy, advanced training for companies, or the creation of academic spin-offs, among others (Bercovitz & Feldman, 2006).

National and international public bodies have frequently created incentive programs for such mechanisms to flourish, for example, in the case of the European Union, which has been supporting the interaction between universities and companies or the knowledge transfer through a variety of channels, namely: support for the creation of new qualified enterprises within the framework of their scientific and technological policies and support for entrepreneurship; framework programs for research and development promotion; financing of several initiatives to support interface infrastructures (European Commission, 2012).

With regard to the creation of spin-offs as a conversion mechanism of knowledge, this topic will be further developed. The next section will analyze the influence that support structures can exert.

Structures Supporting the Transfer of Knowledge

In addition to the factors, processes, and mechanisms which influence the knowledge transfer, the role of intermediation structures and the link between the HEI to the market is also relevant. According to Ndonzuau, Pirnay and Surlemont (2002), on the supply side, academics are not always able to identify the commercial potential of a given knowledge, due to lack of business experience, while on the demand side, actors in the market have difficulty accessing knowledge and consequently, the possibilities of using this knowledge to solve concrete market needs. It means that, if an intermediation structure has adequate skills, it can help to avoid this information asymmetry.

Aware of this difficulty, HEI have created structures that support the conversion of knowledge into economic and social value (Siegel, Waldman, & Link, 2003; Clarysse, Wright, Lockett, Van de Velde, & Vohora, 2005). These organizations have a variety of functions, including prospective and diagnostic activities, evaluation and support to the protection of results, accreditation, support for marketing, support for the creation and development of academic spin-offs, among others (Di Gregorio & Shane, 2003).

They are also important in order to "connect" the multiplicity of agents which gravitate in the ecosystem of innovation and knowledge transfer and that includes scientists, engineers, managers of companies, managers of technology transfer, deans and administrators of HEI and centers of investigation, business angels, venture capital companies, industrial property agents, among others (Shapin, 2008). These structures can be of different types, and the most common is support offices of knowledge transfer, business incubators, and science and technology parks.

Assuming different designations, such as Technology Transfer Office (TTO), Licensing Technology Office (LTO), Intellectual Property Office (IPO) or Knowledge Transfer Office (KTO), knowledge transfer offices in HEI are designed to mitigate the communication between the production of knowledge, its application in the business environment and the creation of new companies based on R&D results.

These offices can be important in the process of maturing, supporting and launching ideas and structuring the relationships between entrepreneurs and investors, linking knowledge to their market potential.

However, there are some aspects that influence their performance, related to how they are organized, their alignment with university strategy, age or external factors.

First, some studies have shown that the choice of the organizational structure regarding subordination relationships, the degree of autonomy, incentives, and marketing strategy will affect the performance of KTO (Bercovitz, Feldman, Feller, & Burton, 2001; Feldman et al. 2002; Markman, Phan, Balkin, & Gianiodis, 2005).

For example, some studies have shown KTOs that are financially independent of the home university tend to encourage more business creation than licensing agreements (Bercovitz et al., 2001; Feldman et al., 2002). These studies also provide insight that shows the skills of KTO practitioners are one of the key elements.

It is necessary to know very well both the culture of the university and the sensitivity of its members to the various forms of transfer, as well as the needs of the industry, in order to identify licensing opportunities with existing companies as well as creative opportunities of new businesses. Thus, KTO professionals are fundamental actors in the commercialization of a technology, acting as moderators between the different cultures and interests associated with higher education institutions and companies (Gras et al., 2008).

Secondly, another aspect that affects KTO performance will be its alignment with the university strategy. Markman et al. (2005) established that licensing and contracting of sponsored research are the most preferred transfer mechanisms among the 72% of KTOs included in their study.

They are considered a disconcerting result since the majority of the universities in which they operated had invested in incubators to accelerate the development of spin-offs. These authors consider that these results suggest that HEI are more interested in generating short-term immediate income than investing in the development of new firms whose results tend to be long-term and involve a higher level of risk.

According to Chukumba and Jensen (2005), KTOs prefer to license because it is much easier than starting a new company. In a study based on the AUTM data, between 1995 and 2004, Swamidass and Vulasa (2009) established that, in American universities in the intermediate range of research (not top-of-range), only one new company was created every 7 years, by each university.

To reinforce this study, Nelson and Byers (2005) also based on AUTM data, but between 1999 and 2003, they established that only 10-15% of university licenses were for start-ups, 50-55% for small companies (up to 500 employees), and 30-35% for large companies.

Thirdly, the question of the age of the KTO arises, showing that institutions with established offices have better results, perhaps because of the long period of time required to develop the specific skills needed for different forms of transfer (Roberts & Malonet, 1996). Bray and Lee (2000) established that senior KTOs are more likely to create spin-offs than younger KTOs because of the accumulated experience of their staff.

Fourthly, external factors contribute to explaining differences in KTO performance. As a matter of example, the phase in which the technology is found (embryonic or more mature state) is related to the rate of disclosure of inventions and to the commercialization strategy. Thus, the more advanced the process of knowledge development is (i.e. existence of a prototype in the beta phase), the more likely it will be converted into economic value, either through licensing or through the creation of spin-offs (Thursby, Jensen, & Thursby, 2001; Markman et al., 2005).

In addition, the university resources (both tangible and intangible), research support and its location, have been referred as KTO performance input factors (Siegel et al., 2003). Moreover, there are other relevant structures in knowledge transfer support through the creation of ASOs, in particular company incubators, which can either be owned by universities, as a result of partnerships with regional or local entities, and which are often located either on university campuses or nearby these (Phan, Siegel, & Wright, 2005; Clarysse et al., 2005).

By providing a favorable environment for potential entrepreneurs during the development of the development and the early stages, incubators can contribute to the success of academic spin-offs (Grandi & Grimaldi, 2005). Its mission is to reduce costs and provide services to the most promising companies on academic campuses at an early stage. According to Zedtwitz and Grimaldi (2006), incubators should offer space and access to physical infrastructure, support to the company's initial creation and development process, access to capital, administrative services, ease of access to internal and external contact networks, and ultimately, this will only be effective in supporting entrepreneurs when all of these features work in an integrated and professional way.

Since the creation of ASO through entrepreneurship initiatives is one of the most visible and effective aspects of the knowledge transfer process, this topic will be developed in the following section, by analyzing the review of the literature on this type of mechanism and finalizing with the concept of ASO.

THE SPIN-OFFS ACADEMIC COMPANIES AND THE TRANSFER OF KNOWLEDGE

Studies on academic spin-offs represent an emerging field of research (Van Burg, Romme Isabelle, & Gilsing, 2008). Similar to what happens in the field of entrepreneurship, from a broader perspective, research on the nature, antecedents and effects of entrepreneurial activities at a university level have also grown rapidly over the past three decades, and more prominently in the last few years, due to the publication of special editions in several newspapers, such as the Management Science, Journal of Technology Transfer, Research Policy and Journal of Business Venturing (Rothaermel et al., 2007) or others such as Technovation, European Small Business Journal, Strategic Entrepreneurship Journal or Entrepreneurship: Theory and Practice. In this section, the role of ASOs in converting knowledge as well as the concept of ASO will be discussed in the context of this chapter.

Academic Spin-Offs as Mechanisms for Knowledge Transfer

However, the intensity with which this mechanism can be used depends on how the different factors influencing the creation, development, and performance of university spin-offs are managed, namely incentive systems, university status, location, culture, intermediate agents, university experience and goals, or support structures (Rothaermel et al., 2007).

Bearing in mind their relevance and for being the object of this chapter, we will discuss the interest of creating academic spin-offs as a mechanism for knowledge transfer, the factors that influence their effectiveness and the policies and practices which universities can adopt in order to maximize the benefits of its usage.

Several studies highlight the importance of stimulating the transfer of knowledge through the creation of academic spin-offs, especially in high technology areas designed to markets with high growth potential (Valente, Dominguinhos, & Dantas, 2016; Stam & Wennberg, 2009; Valdivia, 2013).

The expression "spin-off" emphasizes the fact that the process of formation of the new company arises from a pre-existing organization. References to the provenance of these companies are made through the use of terms such as academic, university, research-based, and science-based.

Thus, *academic spin-off* (ASO), *university spinout organization* (USO), *research-based spin-off* (RBSO) and *academic new technology-based firm* (ANTBF) are some examples of nomenclatures commonly found in scientific articles in the field (e.g., Djokovic & Souitaris, 2008; Mustar et al., 2006; O'Shea et al., 2004). According to Rothaermel et al. (2007), the concept used by researchers depends to a large extent on the nature and characteristics of the data collected and the objectives of their studies.

In several European countries, similar as in the US, there has been a substantial increase in the number of academic spin-offs created (Moray & Clarysse 2005; Chiesa & Chiaroni, 2005; Clarysse, Wright, Lockett, Mustar, & Knockaert, 2007). This evolution has been accompanied by a shift in government policies that encourage universities and institutions to commercialize their research results.

In spite of these changes, in many HEI, publications still remain the main channel for technology and knowledge transfer, regardless of its disadvantages in terms of efficiency (Rogers et al., 2001). According to Debackere (2000), ASOs provide a much more efficient mechanism, since they tend to shorten the period of time between knowledge creation and its application in commercial products and services.

Rasmussen, Moen and Gulbrandsen (2006) point out three reasons which may lead HEI to stimulate the creation of ASO, to the detriment of other forms of transference: (1) firstly, because the companies

that are created from the activities developed in the universities are in better conditions to recognize their competencies and establish solid relationships, and could become future contractors and ensure more effective long-term relationships. Through this link, ASOs, apart from generating employment for graduates, could also provide some funding for university R&D and actively participate in the process of circulation and recirculation of knowledge; (2) secondly, because the ASO process is less sensitive to changes in the global economic climate when compared to licensing agreements with established firms, which will tend to work in a counter-cyclical fashion. In other words, in periods of economic difficulty, while established companies tend to decrease the intensity of the relationship, the conditions for the creation of new ASOs can be improved, as a result of the support of governments through incentive programs to mitigate the negative impacts of economic crises; and, (3) the third reason is the visibility of spin-off companies. The impact of collaborative interaction with industry (via licensing, for example) in terms of job creation or innovative products is difficult to track, while in the case of spin-offs it is relatively easier to measure indicators.

Another distinguishing aspect of the spin-offs in the transfer process is the object and the subject of transference. Thursby and Thursby (2003) concluded that more than half of the inventions licensed by US universities cannot be commercialized without the cooperation of university members. That is, knowledge and technology transfer cannot be dissociated from its creative act and its author, identifying two types of knowledge associated with the subject, namely explicit or codified knowledge and tacit knowledge.

Codified knowledge, or explicit, is more easily transferable even if is never automatic and there are several prerequisites for success, as Jensen, Johnson, Lorenz, and Lundvall (2007) suggest. In opposition, tacit knowledge is much more difficult to transfer and may require different transfer platforms. By considering knowledge only in its explicit form, there will be a risk of underestimating the real effort needed to transfer it.

However, the completeness of the process could only be achieved with the transference associated with its tacit dimension, which typically requires human interaction, physical proximity, and the development of trust and learning bounds among the agents involved in the process (Link and Scott, 2005).

In the process of creating new companies, explicit and tacit knowledge are transferred (Goldfarb & Henrekson, 2003; Fontes, 2005). The individuals, in this case, the academics, are the receivers of knowledge (explicit and tacit) and, by transferring it to the outside would imply, in the majority of cases, the displacement of the individual for a new project or the close monitoring of the same. Thus, in the ASO creation process, both the object and the subject are transferred which, provides a greater credibility and sustainability to the transfer process, since this knowledge, especially the one of tacit nature, has unique characteristics, where the degree of appropriation is very high and only researchers are able to modify and develop it (Karnani, 2013).

However, these unique skills are not static. They evolve with the advancement of knowledge and the accumulated experience of the entrepreneurs. And as mentioned Jantunen, Puumalainen, Saarenketo and Kyläheiko (2005) the performance and success of new companies depends not only on the entrepreneurial orientation of the promoters but also on their dynamic capacities and their continued deepening.

After identifying the advantages of spin-offs in the process of knowledge transfer, the concept of ASO will be clarified in the context of this chapter.

The creation of a new company to transfer knowledge and university technology is the mechanism that involves greater connection between the inventor, the transferred technology and the market in which it is applied (Bercovitz & Feldman, 2006).

The ASOs, as previously mentioned, are one of the most important and effective mechanisms for converting and using the knowledge of the education system to the market, it appears relevant to discuss the concept of the academic spin-off and clarify the definition adopted in this study.

Definition of Academic Spin-Off

The first finding is that there is no single common agreed definition. Djokovic and Souitaris (2008), in a literature review article regarding ASO argue that the definition should contain three main elements: the outcome of the process, the main players involved and the main elements to be transferred.

Studies on the outcome of the ASO process are quite consensual. An ASO is a new company with its own legal personality (Djokovic & Souitaris, 2008). According to Klofsten and Jones-Evans (2000), this characteristic linked to the creation of a new company is one of the cornerstones of ASO.

The second central aspect of the ASO process concerns the main agents involved. Roberts and Malonet (1996) identified the following: (1) the parent organization, from which the technology is developed; (2) the originator of the technology, i.e. the person or team bringing the technology from a basic R&D stage to a point at which the technology can be transferred; (3) the entrepreneur who tries to create a new business focused on this technology, and (4) the risk investor who provides funding for the new company.

The third key aspect of the ASO definition involves the core element to be transferred from the home institution to the new company. The transfer of some intellectual rights, such as goods, ideas or knowledge, are key elements in ASO's creation and development process (Clarysse & Moray, 2004; Bathelt, Kogler, & Munro, 2010). Some authors use a very narrow definition, requiring that the transferred rights be of an exclusive technological nature (Nicolaou & Birley 2003; O'Shea, Chugh, & Allen, 2008).

In this sense, for example, Wright et al. (2007) state that the inclusion of a new company in the category of ASO will occur only when they are created through licensing or cession of intellectual property rights. Other authors argue that such rights may include both codified knowledge (e.g. in the form of patents or copyrights) and tacit knowledge (Chiesa & Piccaluga, 2000; Hindle & Yencken, 2004). Based on the nature of the transferred knowledge, Hindle and Yencken (2004) made a distinction between research spin-offs (transfer of formal intellectual property such as patents or copyrights), technology transfer companies (tacit knowledge or know-how) and indirect spin-offs (created by former employees or students based on tacit knowledge or know-how acquired during their stay in the university).

Regarding the link between entrepreneurs and the institution of origin, the European Commission (European Commission, 2004) uses the employment relationship with the home institution as a criterion of delimitation, with the basic argument that the transfer, to be complete, must be accompanied by the agent who generates knowledge, particularly the tacit knowledge. However, there are authors (e.g., Pirnay, Surlemont, & Nlemvo, 2003) who include graduates or students who do not have this job link and did not have a previous involvement in university research activities, where the rationale is based not on the agent, but on the nature of knowledge which should be new (Nicolaou & Birley, 2003).

This generic framework immediately indicates a wide diversity of perspectives, confirmed by the literature, and covers a wide range of definitions ranging from very broad to more focused definitions in certain target audiences.

From these contributions, we define ASOs as new independent companies, whose products or services are based on scientific/technical knowledge, created by undergraduate and post-graduate students of higher education, researchers and professors with the purpose of commercializing the knowledge, technology or research results developed by them in their research activity in the HEI.

In summary, regardless of the concept adopted, the promotion of spin-off companies, with the purpose of commercialization of HEI research, is nowadays a more visible phenomenon, which, because of its importance, attracts the attention of public decision-makers and private entities at a transnational, national and local level, all over the world (Shane, 2004, Phan & Siegel, 2006, Rothaermel et al., 2007, O'Shea et al., 2008).

DISCUSSION

The literature review of the topics covered in this article shows that several authors have been establishing a positive relationship between the stimulation by universities of academic entrepreneurship, the production and conversion of knowledge in economic and social value, and the creation of academic spin-offs.

However, the relationship between knowledge production and its conversion into economic value is not linear, automatic and easy to manage and stimulate, with different levels of effectiveness between countries and regions, namely between Europe and the US. It means that, since the production of high-quality knowledge is a necessary condition, it does not seem to be sufficient for its transformation into economic value to take place. It will be in this field that universities can play a central role, not only as main players of scientific production but simultaneously as agents of conversion and transfer of this knowledge to society.

The way HEIs interpret their role in society over time has been slow, diversified, and heavily influenced by regional and national contexts. In the last decades, there has been a profound change in this role, and today it is called to carry out activities of economic and social valuation of knowledge, using a variety of mechanisms, ranging from patent commercialization, licensing negotiation, contracted or sponsored research, or support to the creation of spin-offs.

Despite the role of other entities (public laboratories, companies, technological centers), HEIs are prominently becoming the center of the knowledge-producing system (Godin & Gingras, 2000; Rasmussen, Borch, & Sørheim, 2008), contributing to the empowerment of an economy in a variety of ways, including the production of highly qualified human capital, the creation of new knowledge, the transfer of knowledge to industry or the creation of spin-offs that tend to be located in neighboring areas of universities (Lazzeroni & Piccaluga, 2003).

Academic entrepreneurship is therefore closely related to the issue of "commercialization of academic activities" (Lacetera, 2005: 2). In fact, academic entrepreneurship is associated with the conversion of knowledge produced in HEIs into commercially viable products, services or processes (Teasley & Lockwood, 2008). However, the entrepreneurial process depends on the efforts and activities carried out by universities, their human capital and their partners in the expectation of commercializing the results of research carried out by their teachers, researchers, students and other agents (O'Shea et al., 2004).

In this context, the commercialization of research done by universities has gained importance to the point that new university policies and public incentives have emerged to promote such activity (Zahra & Wright, 2011). Since the mid-1980s, there has been a rapid growth in the commercialization of publicly funded research - especially in the US but also in Europe and Japan (Mowery & Sampat, 2004; Rasmussen et al., 2006).

Following this, university policies are one of the most influential variables in the process of knowledge transfer (DeGroof & Roberts, 2004; Bercovitz & Feldman, 2006). In a context in which universities have

been playing an increasingly important role in economic and social development, academic spin-offs have become a relevant mechanism for knowledge conversion and a central element in this process.

Several studies indicate that, in this process, is crucial the role of HEI leadership and its ability to include in its strategic plans the stimulation of entrepreneurship, the conversion of knowledge into economic and social value, and the creation of an ecosystem where academic spin-offs flourish.

As reported by Leih and Teece (2016) in a study comparing and contrasting the strategic decisions and leadership propensities of the UC Berkeley and Stanford University chancellors, a proactive management of the university associated with the development of its innovation to increase the chances that their institutions will continue to thrive in an increasingly competitive, uncertain and exposed environment.

In sum, it is noted that the academic and political interest in these issues, and especially regarding the creation of ASO, has increased significantly throughout the world in recent years. These companies, created to commercialize the results of scientific research, are considered important because they contribute to the creation of qualified employment and local economic development. Yet their importance also comes from the fact that they are an essential mechanism for the transfer of knowledge produced in HEIs, which is crucial for innovation and for raising competitiveness levels in the local and regional business sector.

CONCLUSION

Studies such as Rothaermel et al. (2007), Djokovic and Souitaris (2008), O'Shea et al.(2004), or Yusof and Jain (2010) provide an overview of the field of academic entrepreneurship, namely with regard to the understanding of the phenomenon of the conversion and exploration of knowledge, the researchers' increasing attention to the phenomenon and the identification of some patterns in this field of study.

HEIs and other public and private entities have been encouraging the involvement of students, researchers and university teachers in the transfer of knowledge through various mechanisms, among which are the ASOs. In order to support its creation and development, with greater emphasis in the first years of life, various support infrastructures (KTOs, incubators, C & T parks...) and public programs directed specifically to this type of companies as well as others with a more general scope have been created, which dedicate specific support programs to them.

The main implication for public policy in support of entrepreneurship and the creation of new businesses is to understand why governments should or should not intervene and interfere with free competition.

As far as ASOs are concerned, one of the most common reasons for justifying specific public support is the so-called "market failure" that legitimizes any policy to stimulate entrepreneurship (Storey, 2003).

The need for state intervention to mitigate these inefficiencies in the functioning of markets is relatively consensual, and there are different views on the justification for such intervention, including the neoclassical and evolutionary approaches described above.

Although different paths and supporting frameworks are involved in terms of public intervention, it is important to reconcile both perspectives in an integrated approach leading to a mix of measures and instruments capable of supporting the development of intangible skills and the tangible resources invested by companies that are appropriate to the specific context of each region or country.

Another important issue is the cooperation between the university and the company. This topic has been widely studied and identified as a key element for access to external technological resources and for improving the innovation capacity of companies and regions (Fritsch & Amoucke, 2013). In the context of intensive knowledge in which ASOs operate, there seems to be a positive relationship between cooperation in technology development and the success of the new company. In fact, the relation between the academic individual and the university can influence the way in which it acts within its environment, how it relates to the mother organization, as well as its motivation to endeavor (Brennan, Wall, & McGowan, 2005).

One of the main implications for HEI is to reconcile the excellence of scientific production with the conversion of its results into economic and social value by stimulating the creation of spin-offs.

Finally, through this study, we get a better understanding of the phenomenon of academic entrepreneurship, its scope and the great diversity of perspectives of analysis. We have also analyzed the process, the mechanisms and the main influencing factors in the transfer of knowledge from universities and academic institutions to the market.

In particular, we have looked at the role that transfer offices play in the process, which linking mechanisms exist between the spin-offs and their universities of origin, and the difficulties experienced along the process. Finally, we have described the role and advantages of spin-offs in the transfer of knowledge because it is the one that involves the greatest connection between the inventor, the transferred knowledge and the market in which it is applied.

LIMITATIONS

This study has several limitations. The most significant is its exploratory nature, which is suggested to be developed through complementary studies, not only based on an extensive review of the literature but also through quantitative studies involving large populations of spin-offs from various universities in different countries. Another important limitation is related to the scope of the analysis, which may reduce the number of perspectives and important authors in this field of study.

FUTURE RESEARCH DIRECTIONS

Academic spin-offs, companies created from knowledge produced in HEIs, are one of the most effective mechanisms of knowledge transfer from universities to the economy and society but are still scarcely studied and, therefore, need be better understood.

Hence, in order to overcome the above limitations, it would be important to analyze which factors influence the creation, survival, and performance of this type of companies. One field of research, which has not been explored, will be to try to understand why some (few) spin-offs are successful and others disappear after a short time. Another side of research may be the study of the influence of public support on the performance of new companies, an aspect that is crucial for policymakers. Finally, another line of research is the influence of the human capital of the entrepreneurial teams in the survival and performance of spin-offs.

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Chapter 8
Good Entrepreneurial Intentions, No Entrepreneurial Action: Contradictory Perceptions Among Undergraduates

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ABSTRACT

Against the background of the extremely high youth unemployment rate in South Africa, a survey was conducted among final-year undergraduate business students, asking them to rate the importance of five entrepreneurial processes: 1) obtaining entrepreneurship-related education, 2) searching, 3) planning, 4) marshalling, 5) implementing. Responses indicated that they recognized the importance of all five and also displayed personality traits positively related to individual entrepreneurial orientation and entrepreneurial intent. Continuing deterioration in youth employment nonetheless suggests that good entrepreneurial intentions do not translate into sustainable entrepreneurial action. Respondents failed to recognize the importance of their lecturers' role in their business education and seemed not to perceive that they needed intensive support from their lecturers to become entrepreneurial. They also failed to recognize the crucial importance of solid ground-work before starting a new business. These gaps in knowledge have an important bearing on the high unemployment rate.

INTRODUCTION, BACKGROUND AND PROBLEM

Globally entrepreneurship pedagogy which embrace deep learning approaches to develop entrepreneurial self-efficacy (ESE) amongst nascent entrepreneurs play a pivotal role in developing the heart of an entrepreneurs. ESE relates specifically to the journey that aspiring entrepreneurs undertake in searching, planning, marshalling and implementing nascent business ideas (Van der Westhuizen, 2019). The levels

DOI: 10.4018/978-1-5225-8479-7.ch008

and inclination of ESE that potential entrepreneurs develop influence directly the sustainability of their business development. Youth entrepreneurship is a pivotal necessity in creating employment because it reduces the number of unemployed and makes a positive contribution to national economic status and prospects of economic growth (Akinyoade & Uche, 2017). In countries such as South Africa it is vitally important to encourage the youth because they are aware of the evident problems in societies today and with the help of technology and developed infrastructure they can make successful use of the resources available to them. It is expected that universities and other tertiary institutions take action to help stem unemployment among graduates that they produce. A crucial factor in business start-ups that should be addressed by tertiary institutions is the high failure rate of small businesses. Tertiary institutions are a crucial training ground for business students, with most students going straight into starting up their own businesses after they graduate. But whereas universities tend to encourage small business start-ups they do not go into much detail on how to manage the businesses and keep them sustainable. The teaching institutions therefore have a responsibility to ensure that they equip their students with sufficient training and skills so that they are able to manage for at least the first few years as small business owners. Encouraging entrepreneurship and entrepreneurial action at university level will this produce business entrants who are not afraid of taking the risk of being entrepreneurs – whether as formal or informal traders, since both types create employment opportunities.

Crucial barriers that can be identified as exacerbating youth unemployment are the policies which are in place and the lack of understanding about entrepreneurial requirements that demotivates these graduates from keeping going in their business start-ups. Significant examples of these barriers can be listed as follows:

- Intent is not translated into entrepreneurial action among unemployed graduates, despite entrepreneurial education, (Yang, 2016).
- Little throughput despite heavy public and private investment in entrepreneurship (Alton, 2016).
- Poor sustainability despite incubation and business development agencies (News24, 2017).

Van der Westhuizen (2016) identifies five key processes in starting a new business: a) obtaining entrepreneurship-related education and training, b) searching, c) planning, d) marshalling, and e) implementing. The study reported in this chapter investigated what level of importance students attached to each of these five business start-up processes.

The research objectives were as follows:

Research Objective 1: To determine the perceived importance of entrepreneurship education

Research Objective 2: To determine if students regard information searching as a key aspect when starting a new business

Research Objective 3: To determine how important planning is considered to be when starting up a business

Research Objective 4: To determine how important marshalling is considered to be when starting up a business

Research Objective 5: To determine how important implementation of business strategies are considered to be when starting up a business

LITERATURE

Entrepreneurship, as the pursuit of business opportunities, may appear at odds with the long-term perspectives of sustainability (Anderson, 1998). According to Small Enterprise Development Agency - SEDA (2010), an entrepreneur is a person who, having to face risk and uncertainty, starts a business with the intention of achieving profit and growth by seeking opportunities and having the required resources to capitalise on the available opportunities. Action can then be defined as the fact or process of doing something, typically to achieve an aim (Macmillan Dictionary, 2015). Any and every entrepreneur can be said to have taken the step of entrepreneurial action insofar as they have begun doing something in order to achieve an aim of some sort. Sustainability after this initial step – maximizing your longevity in the market (Asson et al., 2017) – is therefore key when looking at entrepreneurial action. For Schumpeter, the fullness of entrepreneurial action is to be seen when an individual flash of creativity stemming from deep insight, combines with vigorous action and charismatic leadership such as to inspire those individuals who are engaged in the same market (Berglund, 2005). Practices are sustainable if they are in harmony with or enhance both current and future potential to meet human needs and aspirations are unlikely to occur, if entrepreneurs are exploiting opportunities in the pursuit of profits alone (Berglund, 2005). According to Crals and Vereeck (2009), sustainable entrepreneurship is a business approach that seems almost exclusively reserved for large industrial companies. This is because what we get from the definition of sustainability is that it is all about maximizing one's longevity in the market, but small business can also do this if they implement the correct strategies. According to Dean and McMullen (2007), sustainability depends on the existence, discovery and exploitation of environmentally relevant opportunities. Fiol (1994) states that for sustainability the entrepreneurship needs to be taken to institutional level, which changes the rules of the game. For sustainability from within a single line of approach is not always ideal; openness to different views and approaches is the key.

Low and MacMillan (1988) state that the modern definition of entrepreneurship that we, as researchers are presented with, is about transforming the world by solving the small and big issues which are seen to hinder unemployment and economic growth at large. Entrepreneurship not only serves economic issues, it also initiates social change at large on how we view the importance of entrepreneurs and entrepreneurship. DeMers (2017) agrees, stating that one of the most important aspects of entrepreneurship is problem solving, as the founder is responsible for identifying issues and coming up with solutions that the business will seek to fulfil. Low and MacMillan (1988) and DeMers (2017) make valid points on the positive effects of entrepreneurship development and problem solving.

Entrepreneurship is a skill that some people are born with, and some people learn to become entrepreneurs; you can become an entrepreneur by having the entrepreneurial mind set and skills to go with it (Davidsson, 1995). Our investigation looked at the factors that hinder the growth of entrepreneurs and the importance of a good education system in the grooming of successful entrepreneurs.

According to Kautonen (2013), entrepreneurial intention is what induces entrepreneurial action, while Khuong and An (2016) state that entrepreneurial intention plays a major role in the creation of business ventures. This shows that entrepreneurial intention is an important instrument for the entrepreneur if, entrepreneurial action is to take place. According to Nieman and Nieuwenhuizen (2014), entrepreneurial action is vitally important when it comes to the existence and longevity of the entrepreneurship, and is influenced by factors such as family, culture, education, role models and personal information. One of the factors which has been recently noted as having a vital impact on the firm's growth and the level of profitability is entrepreneurial orientation (Lavrakas, 2001).

THEORETICAL FRAMEWORK

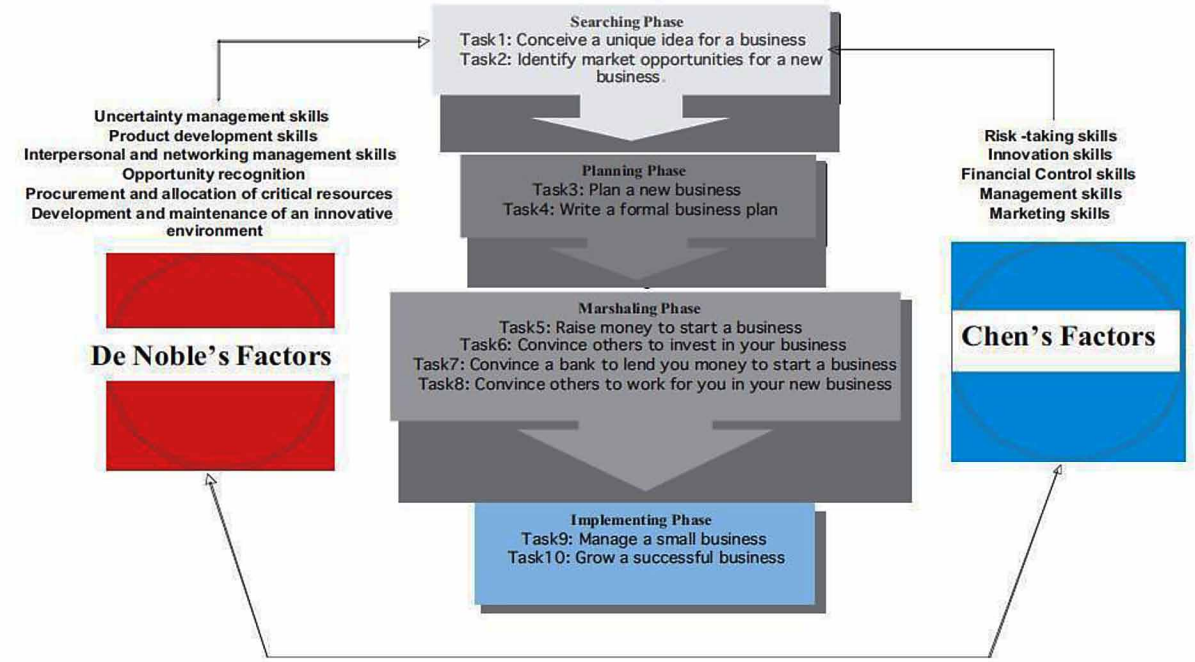
Cox, Muller and Moss's (2002) outline a comprehensive theoretical framework of entrepreneurial self-efficacy factors determining the success of an entrepreneur, which extends to ten task-specific elements in four venture-creation phases (searching, planning, marshalling, and implementing) and incorporates specific skill sets identified by De Noble (1999) (uncertainty management; product development; interpersonal and networking management; opportunity identification; procurement and allocation of critical resources; developing and maintaining an innovative environment) and by Chen et al. (1998) (risk-taking, innovation, financial control, management and marketing).

Although there is now greater recognition and understanding of the foundation steps of entrepreneurial cognition and strategic action, there is not much understanding of the mechanisms which are responsible for both (Shepherd, McMullen & Jennings, 2007). With the help of the right person, an individual who is seeking for an opportunity but is uninformed about the beliefs and foundation steps will then be made aware of the stages by which their belief in realising an opportunity can evolve to a stage of personal actualisation, where he can recognise the opportunities for themselve and understand entrepreneurial cognition and strategic action (Shepherd et al, 2007).

Entrepreneurship Development (Global, African and South African Perspectives)

According to SEDA (2010), an entrepreneur is a person who starts a business, facing risk and uncertainty, seeking to achieve profit and growth from available opportunities and having the required resources to

Figure 1. Conceptual framework for entrepreneurial self-efficacy in the business start-up process
Source: Cox et al. (2002)



capitalise on these opportunities. As has been noted by various authors, entrepreneurship plays a critical role in the development of a country and of the unemployed people of that country. Fernández-Serrano, Berbegal, Velasco and Expósito (2018) define an entrepreneur as an individual who identifies a need and starts a business to fill that void.

Looking at both definitions we therefore arrive at the conclusion that an entrepreneur takes a risk in starting a business either to fill a gap in potential employment or just capitalising on an opportunity that has arisen. Now that we have defined and understood what an entrepreneur is we can now define what entrepreneurship is. According to the *Business Encyclopedia* (2018), entrepreneurship is how businesses are created as well as the actual process of starting a new business venture. Ferreira (2018) states that entrepreneurship is the process of creating a new venture and scaling it to generate a profit. In line with the Business Encyclopedia account of entrepreneurship, Fernández-Serrano et al. (2018) rightly describe entrepreneurs as individuals who start a process of forming a viable business venture in the hope of generating a profit.

Increasing global inequality in national economies has an effect on whether or not there is a positive shift on the entrepreneurial activity of a country. According to US NEWS (2018), Germany is the highest rated country with regard to entrepreneurial development, as indicated in research done by the Global Entrepreneurship Index. Germany is a country that is highly developed and dedicates a significant portion of its gross domestic product to research and development. This same allocation is used in investing in entrepreneurial programs and training which not only creates positive energy from upcoming entrepreneurs but also highlights the importance of entrepreneurship to the up and coming German youth. Colson (2017) argues that the top entrepreneurial countries are the countries that have a strong entrepreneurial heritage, a high quality of life and standard of living, and an openness for business.

Developed countries give high priority to the development of entrepreneurship, setting an example for developing countries seeking to escape from poverty. The top developed countries are ahead entrepreneurially because from the early development stage these countries focused their attention on improving the skills of the people, and these same people are the entrepreneurs who seek to solve the issues of unemployment in their native countries. The top five countries for entrepreneurial development are Germany, Japan, the United States, the United Kingdom and Switzerland (Colson, 2017).

According to Mbele (2017), African governments need to invest in entrepreneurship, especially in agriculture and construction that represent two high growth sectors of the economies of most African countries. This said, although Africa is a continent that depends a lot on its agriculture, we as Africans do not have enough entrepreneurs who specialize in agriculture. Construction is a sector that also needs to be looked at, according to Mbele (2017), because we are slowly moving away from being developing countries and more into being developed countries. Akinyoade and Uche (2017) agree with Mbele (2017), speaking of the need for Africa to invest in itself in order for the continent to grow as a whole. Mbele (2017) also speaks of the need for African governments to encourage entrepreneurship in their domestic policies in order to see stronger economic growth.

According to Obonyo (2016), the African continent now has to turn to its entrepreneurs in order to change the economic development state of the continent. Obonyo (2016) also states that entrepreneurship in Africa has so far yielded great returns; more African countries investing in entrepreneurship will therefore not only create employment but will also give rise to new businesses that focus on delivering the basic services to the people. With all of this being said, what we have learnt from Mbele (2017), Akinyoade and Uche (2017) and Obonyo (2016) is that Africa has the potential to shed the reputation of being a poor continent. What all these authors have in common is that they all agree with one an-

other and they all have different ideas on ways in which Africa can grow entrepreneurially. Embracing entrepreneurship in domestic policies will not only encourage governments to promote entrepreneurs but will also give the youth of African countries a sense of hope and prosperity.

Showing why entrepreneurship is booming in Africa, Ekekwe (2016) tells the story of how he came across an entrepreneur in Nigeria who was a painter and depended on raw materials that come from abroad to mix his paint. Because there were interruptions which caused the raw materials to be delayed, the painter then sourced local raw materials to come up with the paint he needed, which turned out to be a better version of what he was used to using. From this case it can be observed that if Africans stop depending on goods sourced abroad to make a success of their businesses then Africans can expect a major increase in the economic growth of the continent as a whole. Sull, Ruelas-Gossi and Escobari (2004) argue that while the perception that world-class innovation comes from developed countries still persists in peoples' mind, and because Africa is still trying to solve issues which developed countries have long overcome, the continent is thus left behind when it comes to economic growth. Giving such a statement some thought, you realise that indeed that is true because we as Africans are still grappling with socio-economic factors that would at least put Africa on the same page as the Western world. Therefore, as Africans, if we stop depending on the developed countries to ignite our entrepreneurial flame and start believing in ourselves as a continent, we can then start investing more in entrepreneurship.

As stated in the above paragraphs, we have come across factors which contribute to the slow increase in entrepreneurial activity in Africa. Putting the focus on South Africa, Makinane (2015) argues that the real barriers in South that hinder entrepreneurship are funding, risk aversion, policy and regulation, and access to markets. Frankel (2014) states that South Africa lacks successful entrepreneurs because they fear taking risks and are intolerant of failure – two critical characteristics of entrepreneurs. This said, both these authors come up with valid points about entrepreneurship in South Africa: entrepreneurs fail to start their own businesses because of risk aversion, funding, and failure intolerance. As an entrepreneur, you need to be able to come up with a business plan that attracts investors, thus circumventing the funding barrier. As for risk aversion, it's only human nature to fear taking risks. Therefore, we as South Africans even fear taking risks that could bring great rewards. Once we understand this, we can then expect to see a bit more economic growth. A barrier most authors do not mention when speaking of entrepreneurship is job security. According to Newsroom (2015), job security fell in 2015 because of a sharp drop in the employee confidence index. Job security is what stops a lot of people from becoming entrepreneurs; some people might have the best of ideas but they fear taking the risk of being entrepreneurs as no salary is guaranteed at the end of the month.

A study done by the Seed Academy on whether any growth is apparent among South African entrepreneurs found that from 2015 to 2016 there was a decline in youth entrepreneurship from 63% to 57%. Similarly, the Global Entrepreneurship Monitor reported a 40% decrease in youth entrepreneurship (Herrington & Kew, 2016). This decline in youth entrepreneurship is caused by many factors and variables.

According to Rossouw (2017), lack of formal education for some entrepreneurs in South Africa is evident in the high failure rate in small and medium enterprises (SMEs) and in the frequency in which South Africans abandon their entrepreneurial dreams. One reason why the failure rate of new entrants in the SME market is staggeringly high is because of the poor level of education in South Africa. The poor education system leaves learners ill-equipped for the labour market either as employees or as potential business owners. According to News24 (2017), South Africa has one of the worst education systems in the world; a London-based publication ranked South Africa 75th out of 76 countries in a ranking table of education systems. This confirms the key issue in South Africa's lack of young and older entrepreneurs;

the problem is not just lack of funding for our would-be entrepreneurs; rather, it is at the more deeply fundamental level, which is education.

Because South Africa has such a poor education system it does not equip the recipients of the education with anything solid. Rossouw (2017) indeed mentions that we lack formal education, and for South Africa to see a rise in the level of entrepreneurship, studies on business and business finances need to be introduced because this will give the students a bit of understanding of what they can expect when entering the world of entrepreneurship. The South African education system must also teach the learners that they should expect to see themselves not only as employees but also as employers, because the mindset that the education system instils in the learners has an impact on the outcome when it comes to career opportunities.

South Africa has a lot of prospects for future entrepreneurs but if we narrow the scope down you realize that every province also has a unique feature that makes it stand out and can be the foundation for entrepreneurs to work on in building something for themselves. According to Arde (2016), South Africans need to be positive about business prospects, especially in KwaZulu-Natal (KZN). Agriculture in KZN is flourishing in spite of the drought and the province is rich in farm land. With the right policies in place and with government intervention entrepreneurs need to take advantage of the opportunities and look into diversifying into agricultural business as it is one that plays a huge role in relation to national gross domestic product. Entrepreneur Mag (2009) states that there are support services which are available for KZN entrepreneurs. These services not only help businesses that are already developed but also help those which are starting out, since most businesses in South Africa shut down within two years of operating. Narrowing down the entrepreneurial direction in KZN, tertiary students need to choose wisely in where to study, as most institutions nowadays have a support structure which is in place for students that can be a stepping stone for them when they want to be active as entrepreneurs.

Entrepreneurship development therefore should be aimed at creating a conducive environment for young entrepreneurs to access relevant entrepreneurship skills, knowledge, values and attitudes for their businesses (Ngcobo & Keswa, 2017). Developing the study of entrepreneurship is a great investment whether it is done on a global scale, a continental scale, or narrowed down to a specific country and province. We as global citizens need to develop the next generation's entrepreneurs. The authors mentioned above emphasise that developing entrepreneurs is not only about giving them the resources which they need when the businesses are up and running but about the basics of formal education. Agreeing with all the authors mentioned above, formal education is needed if we hope to have a global environment with successful entrepreneurs.

Entrepreneurial Education

Entrepreneurship is a skill that anyone can learn. To be a successful entrepreneur you do not have to be born as one. It is only a matter of developing the entrepreneurial mindset and skills. Education is indeed the key to success, as people have been insisting for decades and decades. As stated above, in entrepreneurial development we looked at the factors that hinder the growth of entrepreneurs and the importance of a good education system in the grooming of successful entrepreneurs. Bienkowksa (2018) states that entrepreneurial education prepares people to be responsible and enterprising individuals. Polzin (2015) urges the importance of entrepreneurial education in the education systems of countries as it not only enlightens the youth on what to expect but highlights the fact that being entrepreneur also requires skills

that need to be taught. Both these authors define how they understand entrepreneurial education and its importance in being a successful entrepreneur.

A broad statement by Yang (2016), who is situated in the United States, is that the entrepreneurship education being given to students does not work. This is not because the teachers are at fault but because there are structural difficulties in teaching entrepreneurship. According to Ruskovaara (2013), since there are no clear guidelines on how to teach entrepreneurship, it is all based on the teaching ability of the teacher/lecturer. Seikkula-Leino (2010) states that to make sense of entrepreneurial education we need to ensure that those teaching it are individuals who are well equipped and know more than the average person, because teachers are the promoters of entrepreneurial education. Both Ruskovaara and Seikkula-Leino emphasise that entrepreneurship is difficult to teach because of the changing dynamics in changing times, and the educator needs to be an individual who has a passion for entrepreneurship.

This is because the complexity of entrepreneurship requires entrepreneurship educators to have a passion for the study, as they can be regarded as the "promoters" for those that they are educating. Teaching entrepreneurship is a huge task because at some stage of the teaching process, practical's need to be done, and the individual learners need to have it in them to do it. Skills are also a key element in entrepreneurship. Therefore, we need to look at the role that teachers play whether at foundation phase or at a tertiary level.

Role Teachers Play in Teaching

According to Tewari (2016), the teacher should not be just an educator to the students but also a mentor, motivator and a source of inspiration. Teachers have a unique way of supporting the student's academic and social development throughout their schooling level. The level of interaction between the teacher and student sets the atmosphere as the preferable learning mood is in a comfortable, safe and secure learning environment. According to the Read Foundation (2014), teachers play an extraordinary part in the lives of children at the foundation phase of their growth and development.

According to Harrison and Killion (2007), teacher leaders assume a wide range of roles in supporting school and student success. Roles played by teachers can be assigned formally or shared informally; they build the capacity of the entire school to improve, and this is because teachers lead in a variety of ways. According to Bennett (2012), a good teacher not only helps a student to improve and maintain their grades, he or she also teaches a student life lessons which continue long after the student leaves school. These are the kind of teachers which are ideal for students as they have a lasting effect on students; they end up having a soft spot for students, treating students like their own children.

According to TeamTom (2015), teachers change lives of students in different ways:

1. Minimize the interruption of the school in every way they can;
2. The classroom is a safe environment with a culture of care and support;
3. Establish ways to celebrate each student;
4. Focus on life;
5. Talk to students about their mindsets, focus on growth;
6. Every encouragement is a way of shaping students;
7. Interpreting the nonverbal communication;
8. Focus on motivated learning instead of motivated compliance.

In South Africa there have been a lot of issues in the past about the quality of education, and the accessibility of education has been a talking point for a number of years. Versamy (2015) states that there are some subjects that haven't shown any progress in pass rates, creating a bottleneck in the expansion of the university system and of employment for many young people.

At tertiary level there are significant differences compared to primary and secondary levels. When you get to tertiary level there are many more support structures which are in place to help out students who want to pursue entrepreneurship after they complete their degrees. At the University of KwaZulu-Natal students now have a programme called SHAPE (Shifting Hope, Activating Potential Entrepreneurship). This programme is in place for students who are in their final year of study. It works as a platform for networking and individual growth as a future entrepreneur. The programme helps students to have an idea of what to look forward to once they are entrepreneurs. What is also a help for students at the University of KwaZulu-Natal is UKZN Incubate. This works as a start-up hub for students that want to start businesses while they are still a part of the university, and the university assists the students at every step. This a perfect opportunity to start their businesses while they are still in school; in this way the hub gives students the assistance that they deserve.

Entrepreneurial Intention

According to Kautonen (2013), entrepreneurial intention is what induces entrepreneurial action, and Khuong and An (2016) state that entrepreneurial intention plays a major role in the creation of business ventures. This indicates that entrepreneurial intention is an important instrument that an entrepreneur should possess in order for entrepreneurial action to take place.

Bird (1988) states that the environment and personal traits both influence entrepreneurial intention, which is also confirmed by Wagner and Sternberg (2004) who state that the demographics and personality traits of an individual stimulate an individual's decision to start a business (Wagner & Sternberg, 2004). Individual entrepreneurial intention is an important variable to predict entrepreneurial behaviour and it can be divided in three categories (Wagner & Sternberg, 2004): Individual/psychological factors, family background factors and social environment factors.

Individual/Psychological Factors

According to Drennan (2002), the level of business ownership is still significantly higher for men than for women. Moreover women from an early age have lower entrepreneurial intentions than men. Many researchers have found that men have stronger entrepreneurial intentions (Matthews, 1995). Some argue that the reason for lower entrepreneurial intentions in women is their low self-efficacy. According to Fernández-Serrano et al. (2018), balancing family life and business is difficult because both require an individual's full attention, resulting in women opting to focus more on family life and leave the business life to men. Personality traits are an important factor that comes into play.

Unlike other people, entrepreneurs display specific personality traits like strong achievement orientation, strong individual control, willingness to take risks, endurance, and intelligence (Shaver, 1995). According to Boyd (1994), self-efficacy influences not only the purposes but the chances and hopes of creating a firm in the future. McClelland (1961) indicates that the career choice of adults can be influenced by their entrepreneurial competence from childhood.

Some researchers found that prior entrepreneurial experiences may have impact on an individual's entrepreneurial intentions (Krueger, 1993). These experiences not only develop an individual's entrepreneurial intentions, they also accumulate experiences and skills for future entrepreneurial activities. Some researchers indicate, however, that past entrepreneurial experiences have only a minor effect on an individual's knowledge of entrepreneurship and do not significantly influence their attitudes (Davidsson, 1995).

Family Background Factors

Some researchers discuss the impact of family background factors on individual's entrepreneurial intentions. Current research explains families' impact on individual entrepreneurial intention mainly from a role-modelling perspective and suggests that parents play an important role in children's entrepreneurial careers. According to Joer (2016), for most entrepreneurs high success rate is due to the fact that they were exposed to the family business at an early age, so that starting their own venture is not as difficult as it could be for another individual who was not exposed to a family business from an early age.

Social Environment Factors

According to Stephen, Urbano and Van Hemmen (2005), social environment factors such as legal factors and government support structure remain an important influence on an individual's entrepreneurial activity. Scholars state that the social environment factor is an adjusting variable which affects individual entrepreneurial intention through interaction with individual attitudes. Social factors play a vital role when it comes to encouraging entrepreneurship. In fact it was the extremely cooperative culture that made the industrial revolution a glorious success in Europe and strongly affected entrepreneurial behaviour, which contributed to entrepreneurial growth. The social setting in which the people grow shapes their basic beliefs, values and norms (Relivingmbadays, 2012).

A connected aspect is the attitude of the society towards entrepreneurship. Some societies encourage innovations and novelties, and thus approve entrepreneurs' actions and rewards like profits, as entrepreneurship benefits not only the entrepreneur but also the society as a whole. Other societies do not tolerate changes, and in such circumstances, entrepreneurship cannot take root and grow (Nyamunda & Van der Westhuizen, 2018).

Individual Entrepreneurial Orientation

According to Nieman and Nieuwenhuizen (2014), individual entrepreneurial orientation is vitally important when it comes to the existence and longevity of entrepreneurship, and is made up by factors such as family, culture, education, role models and personal information. One of the factors which has been recently realised as having a vital impact on a firm's growth and level of profitability is entrepreneurial orientation which is characterized by inovativeness, proactiveness and risk-taking (Lavrakas, 2001).

Taking into account the previous table, the Innovativeness is the propensity to pursue creativity and experimentation. Some innovations improve on an existing product or service. According to Shukula (2017), the economy is composed of enterprises and businesses and survives because industry leaders have been able to adapt to the changing times and supply the community's general needs. Entrepreneurs are innovators of the economy; it is not just the scientist who invests and comes up with the solutions.

Table 1. Concepts of innovativeness, proactiveness and risk-taking

Propensities of Individual Entrepreneurial Orientation	
Innovativeness – The tendency to pursue novel ideas, creative processes, and experimentation.	Looking at the manufacturing of phones in the past decade, previously phones had buttons that were used to operate them. Due to the innovativeness of smartphone manufacturers, smartphones are now operated by touching the screen.
Proactiveness – The tendency to anticipate and act on future opportunities rather than solely on existing products and services.	Organisations have systems analysts in place to always ensure that there are no breakdowns that will interrupt future production. What they are merely doing is thinking ahead and being proactive to prevent having to react to problems that might pop up.
Risk-taking – The tendency to take bold actions rather than being cautious.	Sir Richard Branson's Virgin Galactic – a company that plans to offer suborbital spaceflights to commercial passengers – reflects his love of high-risk reward ventures.

Source: Entrepreneurial orientation by Certo, Moss and Short (2009; 52)

According to Haar and Renko (2006), the innovation element in entrepreneurship is important for the sustainability of a business. Business persons and industries begin with a need. They see the need among the community and among themselves and come up with a solution. They grasp the opportunity to innovate to make the lives more comfortable. The solutions keep on evolving to make it better, easier and more useful. Entrepreneurs need to ensure that they always keep themselves well-informed with current trends and demands.

In respect to the Proactiveness is acting before anything can have a negative effect on the individual or the organisation, so acting beforehand will help when it comes to acting on opportunities for new products and services (Van der Westhuizen, 2017). According to Prabhu and McGuire (2012), being proactive means creating change, not merely anticipating it. It involves flexibility and adaptability for an uncertain future. To be proactive is to take the initiative in improving business. At the other extreme, behaviour that is not proactive includes sitting back, letting others make things happen, and passively hoping that externally imposed change "works out okay" (Bateman, 1999).

Finally, the Risk-taking is the tendency to take bold actions rather than being cautious (Van der Westhuizen, 2017). According to Genever (2017), the successful entrepreneurship requires taking a lot of risks. If you are not comfortable with risk-taking you may want to rethink being a business owner, as risk-taking is what differentiates between an employee and a business owner. Countless entrepreneurs have taken risks to get their businesses to where they are now. However, taking risks does not mean going into business blindly and then expecting great results. Taking risks in entrepreneurship involves careful planning and hard work. Taking risks is a scary thing to do, even if you are going all-in during a friendly game of poker or even quitting a long-time career to pursue a dream of yours. Most people avoid risks when possible, because inaction is often safer than action, but most successful people tell you that they took the risks nobody else was willing to take and it paid off (Alton, 2016).

METHODOLOGY

The research design was exploratory and followed a quantitative approach. The tool was a survey based on the theoretical framework of entrepreneurial self-efficacy as depicted in Figure 1. The study site was the University of KwaZulu-Natal Westville campus, in South Africa, and the target population was final-

year undergraduate students in the School of Management, Information Technology and Governance. A single business class was targeted; the sample therefore comprised all the students in this specific class, which can also be interpreted as a census.

The sampling strategy was non-probability convenience sampling with a sample of n=75. Data was collected through self-administration where questionnaires were personally handed to and collected from the sample. To ensure validity and reliability of the data, the questionnaire was subjected to a series of expert assessments and adjusted accordingly. The sample size is a limitation in this research because only 75 students attended class on the day that the data was collected, and it is recommend that a future study be done among the same target group but with a larger sample, and expanding it to other institutions to be able to compile a demographic comparison.

FINDINGS

With concerning to the sample, 75% of the respondents, were male and 25% were female. The majority were aged 21 years and a few were older than 23. All respondents were South African and the ethnicity of the sample was 70% South African blacks and 30% South African Indians. The sample's field of study was management, entrepreneurship and marketing.

Research Objective 1: To determine the perceived importance of entrepreneurship education

A majority of the respondents (more than 75% of the sample) agreed or strongly agreed on various measures of the importance of entrepreneurship education in the success of an entrepreneurship venture, as assessed from their perceptions in response to the following statements: a) that *entrepreneurs need to be educated to be successful*, b) that *education is the key to success*, c) that *having an educational background plays a key role in the success of an entrepreneur,* and d) that *education plays an important role in developing the African continent*. However on the *importance of the role played by teachers in developing a foundation for youth*, a majority (75%) were either in disagreement or neutral, with only a minority (25%) indicating an agreement with this statement.

The students seemed to be very well aware of the importance of entrepreneurship education and its potential in creating jobs for themselves. However, they failed to acknowledge the crucially important role of their teachers, which may imply that they perceive themselves as "educated enough" to tackle a business start-up alone. The staggering figure of 62% youth unemployment for 2017 in South Africa is evidence that youth do not know how to start up and sustain new businesses. They might perceive themselves as knowledgeable on the topic of entrepreneurship and therefore display some form of entrepreneurial intent and have an inclination towards individual entrepreneurial orientation, but the individual entrepreneurial orientation, and the entrepreneurial intent lead to little action. Therefore, it might appear as if youth in South Africa have a false sense of entrepreneurial self-confidence and see the entrepreneurship process as an easy way to create an income and be independent. This false sense of self-esteem might create a belief among youth that they can create and sustain a business alone, where scholars such as Scharmer (2011) and Van der Westhuizen (2018) emphasise, through the underpinnings of Theory U, the importance of co-initiating, co-sensing, co-inspiring, co-creating and co-developing business aspects. Perceptions that entrepreneurial education may be important but not necessarily the role of their lecturer, might be influenced by technological advancement within the Fourth Industrial Revolution.

Online content such as podcasts, YouTube videos, online tutorials and the virtual classroom create new lenses through which students view their lecturer – online content from someone who might not even be an academic content expert but just an individual hosting an interesting and informative online platform. The unemployment rate suggests that entrepreneurial action by youth entrepreneurs is not sustained and plunges them back into unemployment. Van der Westhuizen (2018; 2017) highlights the crucial importance of systemic collaboration and systemic intermediaries to support the development of youth entrepreneurs. It is the entire society's responsibility to tackle the massive problem of youth unemployment in South Africa. The unemployment rate has been steadily increasing since 2011 and unless there is a radical change in the mindset of youth South Africa might face a national disaster. There seems however to be a mismatch in which support structures are on offer to students who wish to become entrepreneurs but the students don't take up the opportunities provided by these support structures. This study suggests and recommends that community and university leadership should more frequently and strongly encourage youth to take up entrepreneurship educational opportunities and collaborate with their lecturers to reinforce their entrepreneurial disposition.

Research Objective 2: Determine if students regard information searching as a key aspect when starting a new business

In assessing the importance of information searching as an important aspect in establishing a new business, the following five statements were investigated: a) *information searching plays a key role in the growth of the organisation*, b) *information searching done well can help the organisation know how to be ahead of its competitors*, c) *any form of information regarding the organisation is very useful*, d) *research and development is a department that adds a lot of value to the organisation*, and e) *knowledge is power and so researchers are key assets in the organisation*. Findings revealed that respondents were unanimously (100%) in strong agreeance with all these factors statements.

The students seem to be very aware of the importance of establishing sound knowledge of the business they might start up, or of continuously applying strategic business research when the business is up and running. This is again a sign that the students do display elements of individual entrepreneurial orientation and entrepreneurial intent, but the problem is that their cognitions do not lead to sustainable entrepreneurial action or even to maintaining a job. There seems to be a big gap between students obtaining business information and applying the knowledge to create jobs for themselves or applying it in the workplace to expand business viability. Van der Westhuizen (2017) and Nyamunda and Van der Westhuizen (2018) conducted action research during 2015–2018 at the institution where the study sample was located. Their sample was exit-level students, and it was found that the entire sample indicated that they needed more information on starting a business and being more entrepreneurial. In the 2015-2018 action research sample and in the 2018 sample used for the present research, ample information were made available to the students on various aspects of entrepreneurship. The information was distributed to the students via online platforms, social media platforms and hard copy. The University of KwaZulu-Natal also established a Student Entrepreneurship Policy which enables students to conduct business on campus under mentorship or with partnership of the institution. However, surrounded with all this information and these opportunities, there seems to have been little absorption of information that translates into tangible entrepreneurial action.

Support initiatives rolled out by Department of Trade and Industry (DTI) to assist South African youth include access to finance through organisations such as the South African Micro-Finance Apex

Fund (SAMAF), Shanduka Black Umbrella, National Empowerment Fund and the Small Enterprise Development Agency; support for women-owned enterprises through organisations such as SAWE (South African Women Entrepreneurs' Network) and TW (Technology for Women in Business); incubation and technology acquisition and transfer, with programmes such as SEDA Technology Programme and the Tshumanisano Trust; skills development with an array of SETAs (Sector Education Training Authorities); and NGO and university programmes that implement a variety of curriculum- and non-curriculum-based programmes (Van der Westhuizen, 2016).

Despite all the support services, initiatives, programmes and funds provided by the DTI, South Africa still faces a severe problem with over half of its youth unemployed in 2017 and a very low number of youth entrepreneurs (Herrington & Kew, 2016). It seems that yet again the South African youth has good entrepreneurial intention but very little sustainable action.

Research Objective 3: To determine how important planning is considered to be when starting up a business

To examine how important planning is considered when starting up a business, four statements were assessed. Strong agreeance (100%) was noted on two statements: a) *without the planning stage an entrepreneur's success is not guaranteed*, and b) *if planning is done well the entrepreneur will be successful in business*. A split was observed between those who were neutral (50%) and those who strongly agreed (50%) on the statement that *the planning stage is important for an entrepreneur before they start a business*. Lastly on the statement that *the planning stage is important for any business*, half (50%) of the respondents were found to be neutral with the remainder evenly split between agreeing (25%) and disagreeing (25%).

The literature on entrepreneurial self-efficacy (indicated above) highlighted the essential importance of the planning phase when thinking of starting up a business (Cox, Mueller & Moss, 2012). Entrepreneurship courses at universities commonly focus on entrepreneurial management and planning skills but often without addressing entrepreneurship skills such as risk-taking, innovation and proactivity. More specifically, youth development courses in entrepreneurship tend to teach technical skills with little or no focus in their planning of cognitive or belief systems on the part of the student which might underpin entrepreneurial attitudes and perceptions (Van der Westhuizen, 2016). Although agreeing unanimously on the importance of obtaining entrepreneurship education and the continuous search for business information, it seems that the students were not willing to spend the time required to do market research or proper business planning. The findings that they perceived themselves to be sufficiently capable to tackle business without support of teachers or mentors, but were not willing to put in the tremendous amount of effort it requires to start up a business is concerning – and possibly related to high unemployment rates in South Africa. These millennial students seem also to have a lazy attitude to putting in extra effort in the workplace (should they be employed) to perform strategic business planning research.

Research Objective 4: To determine how important marshalling is considered to be when starting up a business

All respondents (100%) were in agreement that marshalling is vital for resource accumulation and that it should not be neglected by entrepreneurs. Also half of the respondents (50%) were in agreement on marshalling leading to financial freedom, with an even split between those who disagreed (25%) and

those who were neutral (25%). There was an even split between those agreeing (50%) and those strongly agreeing (50%) that resource marshalling gives the organisation opportunity to take advantage of the existing markets and should thus not be left out in planning the future of the organisation. Half of the respondents (50%) agreed, 25% strongly disagreed (25%) and 25% were neutral regarding the statement that marshalling helps to give the entrepreneur or the organization financial freedom.

Marshalling refers to raising money and getting others to invest in one's business (Cox et al., 2002; Van der Westhuizen 2016). Collaborating with the business ecosystem, especially having investors, is crucial to business success. The students were mostly 21 years of age and had therefore been studying fulltime since they had completed secondary school. This leaves little scope for them to have extensive business experience or gain personal business experience of collaborating with investors. Therefore they can only imagine themselves in a business position and what contributes to financial freedom. Their responses in relation to this research should be seen rather as a their perceived entrepreneurial self-efficacy in relation to marshalling and not actual entrepreneurial self-efficacy. Not recognising the importance of financial success might indicate their inexperience of real world-of-work problems and engagement in the marshalling of funds. The students seemed to contradict their own opinions: strongly agreeing that marshalling should not be neglected by entrepreneurs, yet regarding marshalling to gain financial freedom as not important in a business set-up. This again might indicate their inexperience with business marshalling. Raising funds and working with investors would still be a distant idea for them in the final year of their studies; they did, however, show individual entrepreneurial orientation and entrepreneurial intent inclinations towards business marshalling.

Research Objective 5: To determine how important implementation of business strategies is considered to be when starting up a business

Repeating the trend in the previous findings on the objective statements, all students perceived factor statements on implementing business strategies as important (agree to strongly agree): a) that *good implementers are vital to the success of the organisation*, b) that *a well implemented strategy increases chances of success for the organisation*, and c) that *taking risks and action helps the organisation in being steps ahead of the competitors*. On d), that *market research can lead to good results*, responses were mostly (75%) neutral on the statement, and 25% disagreed.

With the sample still being students, not working and none having experience in being an entrepreneur, it might be difficult to position themselves from within a perspective of making business ideas a reality. Agreeing to implement business plan actions seems to be obvious, but doing the actual groundwork for implementation seemed to be an issue for the students. The responses to most survey question items seem to be in contradiction, because whereas the respondents acknowledge the importance of all the stages relating to the entrepreneurial start-up process and therefore demonstrate some form of entrepreneurial self-efficacy, these are still propensities relating to their entrepreneurial mindset, (Cox et at, 2002) and their entrepreneurial intentions (Van der Westhuizen, 2018) rather than conceptions that translate into sustainable entrepreneurial actions. It should indeed be a matter of prime national concern in South Africa that good entrepreneurial intentions among the country's youth do not result in entrepreneurial action, and unless this problem can be resolved, the unemployment rate in South Africa will continue to soar.

The responses relating to marketing research suggest that there is a worrying blindness towards the importance of solid marketing research and having solid market knowledge when starting a business or being in a job. Because these were undergraduate students they had little experience of executing research

and had not as yet completed any research methodology modules; they therefore had no knowledge about what marketing research is, how it is done, and what its value is. This is a big gap in business knowledge because without researching a potential start-up and getting to know what to expect from the market place there is no ground for business strategies to guide decision making. This might be related to youth not being able to sustain new entrepreneurial activities, because they do not know the importance of executing sound market research and lack the necessary groundwork knowledge before venturing into a start-up.

Possible Roots of South African Youth Unemployment and Possible Solutions

At the root of South Africa's current catastrophically high youth unemployment are complex and deeply embedded systemic issues. A possible listing would be a) societal influences that either over- or under-inspire the youth and potentially give them a false sense of realities – a serious deficiency in leadership support structures to continuously support youth on their entrepreneurial journey; b) national, regional and local government in which leaders are not engaging with youth and inspiring them to create business directed towards a national vision; c) corporations and large organisations who are not engaging enough with youth; d) adult or mature entrepreneurs of small and medium-size businesses who are not transferring skills to youth entrepreneurs, and educational institutions that fail to provide entrepreneurially orientated programmes that resonate with the youth's preferred learning methods; and e) deficiency in the youths' own entrepreneurial skill set, mind set and heart set, and in their awareness of what it takes in reality to become an entrepreneur and sustaining the business (Dhliwayo, 2008; Krieger & Van der Westhuizen, 2017; Van der Westhuizen, 2017). All these aspects from various systemic role-players and various systemic levels need to be seen as interrelated and integrated systemic components, not separate silos. It seems that the fundamental problems of youth unemployment in South Africa might be rooted in an entire system in crisis (Scharmer, 2011; Van der Westhuizen, 2017).

Possible solutions to reverse the high unemployment will be complex and will need all systemic role-players – society as a whole – to be willing to start collaborating and co-creating a future. Scharmer (2011) suggest a process which has been implemented successfully in a few developing countries that consists of co-initiating, co-sensing, co-inspiring, co-creating and co-evolving. Scharmer calls this process "Theory U". Van der Westhuizen explored the application of Theory U in an systemic action learning and action research project called SHAPE (Shifting Hope, Activating Potential Entrepreneurship), launched in 2013 and currently still active, in which young entrepreneurs interacted with the systemic role-players as set out above. A survey done in 2017 of SHAPE participants from the 2014–2015 cycle showed that nearly all of them were strongly committed to continuing their academic education: 49% were now in their honours year at university and 36% were doing postgraduate courses such as a Master's degree. Furthermore, of those still at university, 36% were in part-time employment, well above the national employment rate for this age group, and an incredible 59% were engaged part-time with entrepreneurial activity and furthering postgraduate studies. In the 2016–2017 cycle, 200 youth participants volunteered and sustained their entrepreneurial education through attending 90% of the workshops. From this group, 73 new business concepts were prototyped and were ready for the next incubation phase (Van der Westhuizen & Krieger, 2018).

Van der Westhuizen and Krieger (2018) presented other possible solutions at the Innovative Youth Incubator Awards during the 6th International Conference on Innovation and Entrepreneurship (ICIE). The conference was hosted by the University of the District of Columbia, Georgetown University, and George Washington University, in Washington DC, in the United States. The possible solutions were:

1. Universities to develop a youth entrepreneurship policy framework with authoritative power, which is currently being pioneered by the University of KwaZulu-Natal in South Africa. This policy is senate approved and in the public domain so that other institutions can replicate this model.
2. A mandate from national government for universities to include elements of entrepreneurship in all curricula, no matter the discipline or scholarly field. In this way the institution becomes an entrepreneurial institution. This is already happening in South Africa and in 2017 the Department of Higher Education established a special unit – Entrepreneurship Development in Higher Education (EDHE) – which is tasked with tackling issues around youth unemployment and presenting South African youth with more opportunities and support to sustain potential entrepreneurial action.
3. All-round mentorship from different systemic role-players; everyone in the socio-economic system has a responsibility to help reverse South Africa's high youth unemployment. The knowledge gap needs to be closed and more skills need to be transferred to youth by experienced business owners or managers in large companies.
4. Promoting experiential learning and more action-based training. Universities should not only provide knowledge and education through their undergraduate and postgraduate programmes. They should also include business incubation for students through mentoring, partnerships, and networking.
5. National representation: Address youth unemployment problem on national scale: the Department of Higher Education and Training launched three Communities of Practice which are tasked to engage with the 28 public universities in South Africa and focus on: i) academic entrepreneurship, ii) student entrepreneurship and iii) entrepreneurial institutions.

CONCLUSION

It appears that the students had good entrepreneurial self-efficacy, individual entrepreneurial orientation and entrepreneurial intentions. They were able to recognise important elements of the entrepreneurial process in a) obtaining entrepreneurship-related education and training, b) searching, c) planning, d) marshalling and e) implementing the business. But they failed to acknowledge necessary aspects of doing good groundwork before venturing into unknown business pastures and relied on intermediaries to support them along the way. In other words, they do not know what they do not know. Further, the high youth unemployment rate in South Africa (62% in 2017) is an indicator that the students, aged mostly 21, are likely to end up unemployed after graduation. There are fundamental gaps in their knowledge on the crucial importance of entrepreneurship lecturers and other intermediaries in their education, and of the hard work it takes to gain employment. Gaining employment, whether self-employment or having a job, takes plenty of effort and requires hard groundwork as well as market research, which the students failed to recognise. It appears as if they are blind towards the realities of the world of work. More research is needed on the dimensions of the gap between the students' propensities for entrepreneurial self-efficacy, individual entrepreneurial orientation and entrepreneurial intent and their relation to sustainable jobs (either self-created or in employment).

The finding of "good intentions but no action" seems to be a big problem relating to youth unemployment in South Africa.

ACKNOWLEDGMENT

This work is based on the research supported in part by the National Research Foundation of South Africa (Grant Numbers: 107003)

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Chapter 9
Importance of Entrepreneurship in the Organizational Performance of Higher Education Institutions

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ABSTRACT

The traditional mission of higher education institutions (HEIs) are training, research, and the transfer of knowledge to society. Nowadays, the third mission has been gaining importance, considering the increasing relevance given to the creation of value by HEIs for society. Entrepreneurial activity is one of the components with more impacts that value creation, but it is still seen as an activity parallel to the main missions of HEIs, where training still takes on special importance. At the same time, the generalized movement of analysis of the organizational performance of HEIs, associated to its strategy but essentially associated with national agencies for accreditations and the rankings, have been direct impacts on its external image and the capacity to obtain students and financing. For the entrepreneurial activity to move from an activity parallel to a prominent activity within HEIs, it must firstly have a strategic framework, but also have measurement mechanisms, based on indicators, that allow to understand the evolution of performance in this area.

INTRODUCTION

The centrality of knowledge and innovation in today's societies has placed major challenges to higher education and its institutions, both in terms of their competitiveness and their sustainability. The recruitment of more and better students, the evolution of new forms of teaching and learning, teachers with more and better qualifications, creation of highly relevant research structures, the innovative nature of

DOI: 10.4018/978-1-5225-8479-7.ch009

the research developed, the capacity to transfer knowledge to society, the improvement of the quality and performance of the institution and the satisfaction of the needs of the stakeholders, are some of them (Rytmeiter, 2009).

For Nóvoa (2013) the most important challenge facing Higher Education Institutions *(*HEIs) lies in the link between universities and society in the way that education and science, training and knowledge can contribute to the development of societies of the 21st century. Jongbloed, Enders and Salerno (2008), in the article on the interconnections and interdependencies between the Higher Education (HE) and its communities (local, regional, national or international), understand that from HE is not only expected to have excellent education and excellent research. It is also expected to have mechanisms that allow this excellence to be relevant to the productive process and to the construction of the knowledge society, as the legitimacy, reputation and prestige of the HE will increasingly be determined by the nature, quality and evolution of the bonds with external stakeholders and not only according to internal rules and academic results.

The complexity of the missions of HEIs and the diversity of the information needs of the different stakeholders on the performance and effectiveness of the HEIs have, however, led to a huge difficulty in defining global indicators of performance measurement that can give a complete response (Evenbeck & Kahn, 2001; Bhatia, 2009). The role of HEIs in today's society, shared between teaching, research and the third mission (Mano, 2015), implies that the evaluation and measurement of organizational performance must have the capacity to simultaneously contribute to a continuous improvement of HEIs in which each one has clearly differentiated characteristics and objectives (Cherchye, De Witte, Ooghe, & Nicaise, 2010), but also to contribute to meeting the needs of external stakeholders and to improving the economic and social well-being of the Societies where they are inserted (Alves, Mainardes, & Raposo, 2010).

Despite the numerous studies, there has been a huge difficulty in defining global indicators (Cherchye et al, 2010), particularly in the relation with society. Thus, leading authors and politicians to argue that performance measurement should be in line with the objectives set by the institutions themselves, in an internal logic, aligned with their mission, and not only on the basis of blind indicators, in an external logic (Johnes & Yu, 2008; Grilo, 2010).

The objective of this chapter is to analyse a set of indicators of organizational performance that allow to measure the contribution of HEI to entrepreneurship and to the creation of value for society. The development of this chapter was based on a study of indicators of organizational performance for HEIs, where was identify a reduced number of indicators that can measure the relationship between HEI and society. Thus, considering its importance of this relationship and capacity to create value, in particular through the entrepreneurship activity, an exploratory study was conducted to analyse a set of potential indicators that can measure that relationship, based on the characteristics associated to the performance indicators. The chapter is divided into 7 sections: introduction; organizational performance and importance of performance indicators; organizational performance in Higher Education Institutions; performance indicators in Higher Education Institutions; entrepreneurship as a variable of organizational performance in Higher Education Institutions; monitoring the entrepreneurial activity of Higher Education Institutions; and conclusions.

ORGANIZATIONAL PERFORMANCE AND IMPORTANCE OF PERFORMANCE INDICATORS

The issues associated with Organizational Performance Indicators (OPI), understood as a set of systems and tools that allow organizations to assess the extent to which their objectives are being met, are gaining increasing importance in supporting the management of organizations. Therefore, a set of new systems and tools have emerged incorporating more comprehensive perspectives, in a vision of the Organizational Development that combines the internal perspective, essential mechanism to improve the management of the organizations, with the external perspective, essential mechanism to improve the answers to the needs of the different stakeholders (Gião, Gomides, Picchioni, Corrêa, & Júnior, 2010). According to Neely, Adams and Kennerley (2002) Organizational Performance can be broken down into three concepts: (a) performance measurement, which consists of the process of quantifying the efficiency and effectiveness of past actions; (b) the performance measure, which is the parameter used to quantify the efficiency and / or effectiveness of these actions; and (c) the performance metric, which consists of the scope, content, and components of a broad-based performance measure. According to the authors, a performance measurement system allows informed policy decisions to be made, as it quantifies the efficiency and effectiveness of previous policies through the acquisition, compilation, classification, analysis and interpretation of data, being the Performance Indicators, the key factor for that system (Pinheiro, 2011).

According to the Organisation de Coopération et de Développement Economiques (OCDE) (2002), a performance indicator is factor or variable quantitative or qualitative that provides a simple and reliable means of measuring and reporting on changes linked to intervention or helping to appreciate the performance of a development actor. From an organizational point of view, indicators can be understood as criteria to quantify meaningfully, each objective and each key variable (Jordan, Neves, & Rodrigues, 2003), taking particular importance for the management of organizations, because they allow to guide them to the main long-term strategies, but also to the effectiveness of short-term decision-making (Walsh, 2006). In addition, indicators are important to eliminate subjectivity, reinforce commitment, identify ambition and encourage continuous improvement, and it´s an important mechanism to inform the organization about the level of results achieved so that it can be compared with the pre-established goals (Caldeira, 2009). The set of OPI indicators should therefore reflect a balance between the short and long term objectives, of a financial and non-financial nature, of time and importance, and of the internal and external perspective (Kaplan & Norton, 1996), in a multidimensional approach where it is of particular importance (Bourne, Neely, Mills, & Platts, 2003):

- Not to be an end in itself, but as a mechanism of improvement that helps to prospect the future, quantifying the results achieved and to which should be added other tools of a more qualitative order.
- Be developed based on defined strategy, considering the crucial role they play in monitoring the strategic objectives.
- To be an integral part of the management and planning and control system, considering that its use has consequences on the organizational environment, influencing the behaviour of individuals and groups, sometimes being a guiding element of the activities.
- Be used to assess the impact of actions on stakeholder satisfaction, not only about customers, but also about employees and the local community.

From an internal perspective, it is not possible to dissociate the objectives from the indicators. In a hierarchical and coherent logic that has the organization's mission at its top, indicators are the crucial elements in the measurement of the key variables that are to be controlled (Rascão, 2008) and the link between strategic intentions and the organizational process (Willson, Roehl-Anderson, & Bragg, 1998) (Figure 1). Being sure that an organizational leader should have as a starting point the mission of the organization, identifying the key priority variables, and only then reflect on the measures and metrics of these variables (Selmer, 1998), it is recommended that, where there is no track record, organizations first establish the indicators in order to identify trends and then establish the objectives (Pires, 2012).

In the external perspective, the alignment between the indicators and the expectations of the external stakeholders is of particular relevance, since the relationship between an organization and its environment has not only the dimension of the coincidence between its mission and the needs of the environment, but also the dimension of creating competitive advantages over other organizations that share that environment (Jabnoun, Khalifah, & Yusuf, 2003). An alignment that is dependent on a correct analysis of the stakeholders, both in terms of their importance and interest in the objectives of the organization (Golder & Gawler, 2005), both in terms of satisfaction patterns and levels of trust (Dervitsiotis, 2003). This perspective that can also be seen based on indicators that help to read the external context of the institution, resulting from opinions, investigations or statistics (Cave M., Hanney, Henkel, & Kogan, 1997), which provide better and more reliable information on the performance of a sector, a comparison between institutions, an organization's own performance assessment, an analysis of policy developments and a contribution to accountability (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2001).

There are those who see performance measurement as an art or as a science, given that sometimes the main added value of performance indicators is psychological, leading to behaviours more than the measure itself and therefore, when poorly implemented, can cause more harm than good (Willson et al, 1998). The process that guides the choice of the OPI should therefore not be neglected, given that improving one indicator can lead to the degradation of another indicator, as is often the case with indicators of quality and cost, which often move in opposite directions (Atkinson & Epstein, 2000). The use of OPI in performance measurement system can be seen as a diagnostic methodology that should have

Figure 1. Internal perspective of Organizational Performance
Font: (Willson et al, 1998, p. 16)

as main objective to contribute to the personal and professional development of each of the employees of an organization, seeking to improve the productivity and performance of the organization as a whole (Almeida, 2004), so must be closely related to the definition of the variables and goals, the competences of each person and the performance in each job (Steel & Scotter, 2003). Martins (1999), in a comparative study between different authors, identifies 11 characteristics that an OPI assessment model should have: (1) be in line with the strategy; (2) have diversified measures; (3) be oriented towards continuous improvement; (4) identify trends and progress; (5) be a facilitating mechanism for understanding cause-effect relationships; (6) be easily understood by all employees; (7) cover the entire organizational process (from supplier to customer); (8) make information available to the entire organization in real time; (9) be dynamic; (10) being able to influence people's attitudes; (11) be oriented to organizational logic and not to individual logic.

Although in a period of 30 years, between 1980 and 2010, about 30 models of organizational performance measurement system have emerged (Lisiecka & Czyż-Gwiazda, 2013), one of the most serious problems is that there is rarely consistency and integration in OPI assessments, either between each other, either between indicator and the defined strategy (Neely, 2002). More important than the definition of models is its effective implementation, use and revision (Franco-Santos, et al., 2007).

ORGANIZATIONAL PERFORMANCE IN HIGHER EDUCATION INSTITUTIONS

With Organizational Performance (OP) playing a central role in State reforms, in recent decades there has been an adaptation to the public sector of a large number of theories on this subject, not only with regard to the monitoring of the activity developed, but also with regard to decision-making processes and accountability to external entities (OCDE, 1997). Public sector OP management is also seen as a necessary activity promote good policy and good service delivery and is understood as a set of activities of governments and / or their agencies in the planning, implementation, reviewing, evaluating and reporting on the effectiveness of its policies, programs and projects (Mackie, 2008). According Kuhlmann (2010), also the OP in the public sector, especially in its measurement component, can be approached from an internal and external perspective.

From an internal perspective, the public sector is subject to the same constraints and has the same instruments and mechanisms as any other organization. The OP presenting a meaning very similar to the meaning of the private sector (except in the necessary adaptations), which can be seen as a cycle in which, after the performance objectives of the programs and activities have been set, the actual performance is measured and is the subject of a report (Conselho Coordenador de Avaliação de Serviços [CCAS], 2010). The creation of the Common Assessment Framework (CAF) by the European Institute of Public Administration in 2000 is an example of this similarity, since it is based on the European Foundations for Quality Management (EFQM) model of excellence and on the model of Speyer, from the German University of Administrative Sciences, as an instrument for self-assessment, conceptually similar to the principles of total quality management, which helps public organizations, with their specifics, to improve their performance (Direcção Geral da Adminstração e do Emprego Público [DGAEP], 2007), The main objective of introducing this model is facilitating in the Public Administration the principles of Total Quality Management (TQM), such as self-assessment, PDCA (Plan, Do, Control and Act) and continuous improvement, facilitating bench learning among public sector organizations..

From an external perspective, the reality of the OP in the public sector differs from other sectors, especially in relation to the role of the State, considering the diverse set of organizations providing public services, be they governmental, private, profitable or voluntary, in a fragmentation of the supply and with problems of control and evaluation of the institutions (Araújo, 2007). A reality fuelled by the new approaches to the public sector that, according to the author, have caused changes at five levels:

1. In the activity of ministers, more focused on political issues than on administrative issues;
2. In the control of services, based on performance reports and not in the hierarchical structure;
3. In public servants, reducing their number, but increasing their quality and introducing mechanisms of flexible remuneration and incentives;
4. In the power of citizens, reinforced by their involvement and greater information on the performance of services;
5. In the coordination and relations between different organizations, based on negotiation processes and not on rules enforcement processes.

In conceptual terms, the Organizational Performance in the scope of Higher Education follows the same line, combining the internal perspective, with the internal structures of governance assuming the central role, and the external perspective, with special focus on the role of the State, Regulatory Entities and Society. However, in both perspectives there are two essential problematics about Public Higher Education: the autonomy and the mission.

The autonomy levels of HEIs have led to the debate on the necessary balance between internal and external responsibilities for the Organizational Performance of these institutions (Legislative Program Review and Investigations Committee, 2010). At the internal level, the complexity and requirements that these institutions are increasingly subject, with increased accountability, transparency, efficiency and growth expectations in the creation of partnerships with the private sector as a way to facilitate the transfer of technology and the commercialization of research (Bradshaw & Fredette, 2009), have put pressure on the main decision-makers in the strategic area (Vilkinas & Peters, 2014). Increased autonomy has also had an impact at the external level, accompanied by a strengthening of the external evaluation of the HEI and new financing mechanisms based on pre-established indicators performance (OCDE, 2003). As regards the mission, based essentially on knowledge, on its different aspects - education, training and research (Gago, 1993), the current context has given relevance to the pragmatic vision of HEI that is at the origin of the diversification of Higher Education (Pacheco, 2003). Diversification not only in terms of the functions of HEIs (Özdem, 2011), but also in terms of form, function and location, closer to where people live and work (Parry, 2013), which implies to look at the mission of HEIs beyond the macro perspective of the three missions of HEIs (teach, research and provide services) (O'Banion, 2010), adding a micro perspective, where the relationship with the outside, responsibility of the internal management bodies, began to assume a differentiating character between HEI and with impacts on its Organizational Performance (Hénard & Mitterle, 2010).

The identification of external stakeholders and their different expectations before the definition of strategic priorities of HEIs is also relevant, as teaching and research activities are being re-evaluated based on their contribution to improving economic and social well-being (Alves et al, 2010). There are gaps between the perspective that students, employers, policy-makers and institutions have on the HE, at the level of objectives, access and results (Pre-Doctoral Leadership Development Institute Class, 2013), the incorporation of different visions into the internal management practices of HEIs and the

implementation of new management methodologies that incorporate globalization and technological advances have allowed to reinforce the global vision of the external ambient of these institutions, allowing the emergence of new approaches to their management and to the relationship and the construction of synergy with the different stakeholder (Al-Turki, Duffuaa, Ayar, & Demirel, 2008).

The specific characteristics of HEIs and the increasing complexity of the contexts where they operate, have fostered the need to use internal management practices that allow them to identify areas of change (Scott, 2003). Governance, leadership and management are essential requirements for HEI to develop, and it is necessary to define policies, structures, procedures and implement cultures that guarantee a transparent balance of the interests of different stakeholders, building, leading and managing the organization according to a vision of the future, directed to external needs (Deuren, 2013). Requirements that put permanent, variable and difficult management problems to all HEI managers, the most successful of which are those that are able to maintain an open and flexible posture, understanding the problems and making informed and supported decisions in new management methodologies (Bell, Warwick, & Galbraith, 2012). At the same time, there has been an increase in the use of process management methodologies, much derived from the importation of the quality movement into the HEIs, which has implications for the organization's vision, methodological planning, goal setting and measurement of their progress and improvement (Saraiva & Lacerda, 2005). In spite of the specific characteristics of Higher Education, as in the teaching / learning activity, the one that has the greatest impact on the activity of an HEI, which is characterized by being a process with very long cycles and with high levels of transversally, where the decision-making processes involve multiple actors, the adaptation and implementation of process management to HEIs is understood as a way to keep them competitive and to improve the satisfaction of their various clients (Reine, 2012). The pressures to increase the efficiency levels of HEIs have led to the renewal and reformulation of organizational structures and management practices, with process models being seen as a useful and powerful tool for better understanding, analysing and improving existing processes (Vukšić, Bach, & Tomičić-Pupek, 2014).

PERFORMANCE INDICATORS IN HIGHER EDUCATION INSTITUTIONS

The internal perspective of OP has been reinforced in the last years, considering the diversity of HEI and of their stakeholders (students, teachers, parents, employers, public officials, local leaders, society in general, government, syndicates, among others), which vary in function on of the characteristics of each HEI (Evenbeck & Kahn, 2001) and the diversity of their interests, some more concerned with financial issues and service quality levels, others with student preparation for the job market and others with the assurance that the HEI is carrying out the their mission and to achieve results in line with their public utility purposes (Bhatia, 2009).

However, it is in the OP external perspective that references about OPI are more easily found. UNESCO has played a relevant role in the external perspective on the measurement of HEIs. Following the World Conference on Higher Education, organized by UNESCO itself, with a view to highlighting the need for renewal and reorientation of higher education (both at the systems level and institutions level), in the study on accountability and the international cooperation in the renewal of the HE, were identified ways that States are using to measure the progress of HE and enumerated a set of indicators that can be used and others available in need of development (UNESCO, 2001). Based on the different national and international experiences of quantitative information, in 2003 it published the study on possible strategic

indicators for the monitoring of the development of higher education systems in the 21st century, both by UNESCO itself and by States and their HEIs (UNESCO, 2003), presenting a preliminary framework of indicators based on four dimensions - (1) political issues, (2) resources, (3) participation, access and retention levels, and (4) economic and social outcomes. More recently in 2011 it has issued a practical guide to the development of a system of indicators for the HE which includes a set of general guidelines and tools for the development and presentation of indicators, the framework necessary for the creation of such systems and the objectives and the methodology for creating such systems (UNESCO, 2011).

The OCDE has also been increasingly concerned with the issue of performance measurement, not only in HE but in the all public sector, with the publication in 1997 of the comparative study of public sector performance management practices in nine countries (OCDE, 1997). In the field of education, it has been publishing since 1998 the annual report "Education at a Glance", which includes analyses of the different levels of education, including analyses about HE like the level of education of adults, the number of students that, per country, is likely to finish ES, the level of influence that parents' education has on the participation of children in HE and the implications of schooling for participation in the labour market (OCDE, 2015). Since 2013, The State of Higher Education report, integrated into the OECD Higher Education Programme (IMHE), which carries out the monitoring and analysis of HE policies, data collection and the sharing of new ideas, as well as the reflection on past experiences, in a set of comparative data that aims to stimulate thought, reflection and the signalling of trends and potential sources of tension. (OCDE, 2014).

Currently rankings play a relevant role in the measurement the organizational performance of HEIs and are seen as one of the consequences of increased competition between HEIs and between states to attract better students and better teachers, and which can function as an important source of indicators for national systems, as well as a comparison mechanism that helps to explain aspects of regional and international HE systems (UNESCO, 2011). Of the set of rankings stand out:

- Academic Ranking of Word University (ARWU, 2015) - Under the responsibility of a group of researchers from the University of Shanghai, study the world-class HEI since 2003, being one of the oldest rankings. It has the advantage of using a solid, stable and transparent methodology that focuses on HEIs that have Nobel Prizes, medallists, highly cited researchers or articles published in the journals Nature or Science, or HEI with a significant number of articles indexed by the Science Citation Index Expanded (SCIE) or Science Citation Index Social (SSCI). It bases the analysis on four criteria: quality of education, quality of the faculty, research results and teachers' performance.
- QS Top University (QS, 2015) - Based on research performed since 1990, it was first published in 2004. It has been evolving in its analyses and has since created QS Stars which provides a broader framework for measuring the characteristics of institutions based on eleven criteria (to which 50 indicators are associated). They are: research, teaching, employability, internationalization, support services, distance learning, social responsibility, innovation, art and culture, inclusion and specialty criteria.
- THE, Word University Ranking, (WUR, 2015) - Responsibility for the Times Higher Education publication has existed since 2004, being the only HEI performance listing that focuses on the essential missions of HEIs, teaching, research and knowledge transfer, to which it adds the international perspective. Based, since 2011, in 5 dimensions (to which 13 indicators are associated). They are: teaching, research, citations, international perspective and industry revenues.

- Ranking of National Higher Education System U21 (U21, 2015) - Operating since 2012, it has different goals from the previous ones. It seeks to measure the performance not of the individual institutions, but of the higher education systems, comparing the countries based on four areas (to which 22 indicators are associated). These are: resources allocated to Higher Education (in terms of financial resources related to teaching and research activities), the environment (in terms of the type and amount of regulation), connectivity (in terms of links with society and the internationalization of education and research) and output (in terms of the qualifications of graduates and the contribution to knowledge).

From the comparative analysis of studies, proposals and rankings (Lourenço, 2017) it is possible to identify more than 150 OPI associated with HE, of which 44 appear in more than one. Of these 44, grouped based on the traditional missions of HEIs - teaching, research and knowledge transfer - it is found that research and teaching are those with the highest number of indicators, 18 and 15 respectively, with a relatively small number of indicators related to knowledge transfer (2) and a set of indicators (9) that are not directly related to any of the three missions (Table 1)

One of the most common requirements for goals and performance indicators is to be SMART (Comissão Europeia, 2001; Harris & Enfield, 2003) namely: (1) Specific: they should not be general or vague, but practical and concrete; (2) Measurable: must answer the questions - how much? when? to what extent?; (3) Achievable: must take into account the human and material resources required to achieve them; (4) Realistic: must be achievable; and (5) Time-bound: must take into account the deadlines to achieve them. However, in addition to addressing these issues, the indicators present a set of characteristics that are essential to be consider when choosing which ones to use to measure organizational performance. Of the set of characteristics of the OPI, stand out the following:

- **Relevant:** Should propose to measure, as nearly as possible, the intentions implicit in the objectives (Caldeira, 2009), and must be "characteristic and representative of what is being measured" (Selmer, 1998, p. 68).
- **Useful:** Must offer a benefit of their use (Silva, 2014), helping to answer the following questions: "(1) How are we doing? (2) Should we act or not? (3) What actions can we take? (4) How can we do better? " (Willson et al, 1998, p. 12).
- **Credible:** Must be "fair, accurate, reliable and reproducible" (Selmer, 1998, p. 69), accuracy, reliability and comparability. (Martin & Sauvageot, 2011).
- **Economic:** It should be relatively easy to obtain, maintain and use (Silva, 2014), so that the outcome calculation should not be too time-consuming or expensive (Caldeira, 2009).
- **Simple:** They must be "simple, logical and repeatable (...), defined in a comprehensible way in operational terms" (Willson et al, 1998, p. 17), synthesizing information without distorting it (Martin & Sauvageot, 2011).

The frequency of indicators is also of particular importance, based on the need for trend analysis (Willson et al, 1998) and associated with the duration of the decision cycle (Selmer, 1998). Equally important is the consistency between indicators, allowing for a comprehensive, structured and multifaceted analysis, linking indicators (Martin & Sauvageot, 2011), which allows for unequivocal readings and complementarity of qualitative and quantitative analyses, since the latter do not always take into account the nature of the activities or processes they intend to monitor (Pires, 2012)

*Table 1. Organizational Performance Indicator by mission of Higher Educations Institutions**

Teaching	
1	Rate of students who entered 1st option
2	Ratio enrolled 1st year 1st time/Number of places
3	Average rating of new students
4	Number of training offers available
5	Market share of students
6	Number of international students
7	Average rating of graduates
8	Non-graduation rate
9	Average number of enrolments to complete the course
10	Value added to students by the institution
11	Rate of graduates who continued their training
12	Employability rate of graduates
13	Expenditures per student
14	Ratio Personal/Student
15	Ratio Students/Doctorate teachers ETI[1]
Research	
1	Number of articles published
2	Number of citations per College or School
3	Ratio Patent/Doctorate teachers ETI
4	Number of international research co-authorships
5	Ratio of Expenditure on research/Doctorate
6	Number of researchers
7	Number of research students
8	Memberships, prizes and medals of Scientific Societies
9	Research Reputation
10	Ratio Students/Doctorate teachers ETI
11	Ratio Teaching/Teaching staff
12	Faculty fee in research units funded by FCT[2]
13	Percentage of teachers with doctorates obtained abroad
14	Former students with Nobel or medals
15	Teachers with Nobel or medals
16	Financing obtained for research
17	Ratio of Expenditure on research/Doctorate teachers ETI
18	Ratio Doctorate teachers/Teachers
Knowledge Transfer	
1	Ratio financing by industry/Teachers ETI
2	Employers' evaluation
Others	
1	Total Revenues
2	Private Budget Revenue
3	Positioning in international reputation rankings
4	Ratio international teachers / national teachers
5	Results of external evaluations
6	Quality of information
7	Parents' average level of schooling
8	Peer evaluation
9	Institution Reputation

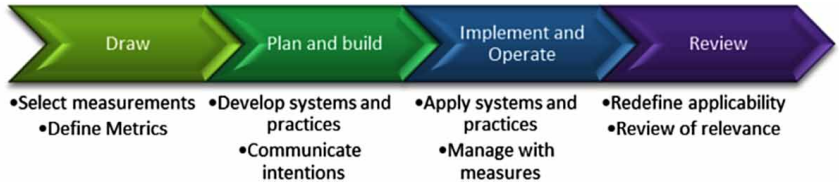
continued in next column

Table 1. Continued

* Note: The assignment of the Organizational Performance Indicators to the missions of the HEIs (Teaching, Research and Knowledge Transfer) was done considering the direct and objective relationship between each indicator and each mission. When this relationship could not be established, the indicator was included in the Other Indicators group.

The credibility of information is a critical success factor, vital for the monitoring process to not lose relevance within the organization (Caldeira, 2009), so if the sources of information do not allow such credibility, it will be preferable for organizations to choose to look for substitution information that comes close to the intended information (Jordan et al, 2003). Neely et al (2002) have proposed four processes for choosing and constructing a system of performance indicators (Figure 2): (1) designing, related to the initial need to understand what should be measured and the definition of how it should be measured; (2) planning and building, including planning of ways of accessing the required data, construction of the indicator system, configuration of data processing and distribution, and overcoming political and cultural concerns regarding of; (3) implement and operationalize, related to the management of the indicators, using them as a mechanism to understand the reality of the organization; and (4) review, associated with procedures that ensure that the system is constantly reviewed and redefined, ensuring that performance measures remain relevant to the needs of the organization.

Figure 2. Process of Building a System of Performance Indicators
Font: adapt from (Neely et al, 2002, p. 33)



ENTREPRENEURSHIP AS A VARIABLE OF ORGANIZATIONAL PERFORMANCE IN HIGHER EDUCATION INSTITUTIONS

Since 70's there has been an intense debate on the necessary changes in the relationship between HEIs and Society, and it is possible to find institutional declarations at European level that expressly refer to the social dimension of the HE and its institutions, such as the Graz Declaration/2003 and the Bergen Declaration/2005) (Jorge, Hernánde, & Cejas, 2012). For the European Commission (2004) knowledge transfer is directly associated with research, and can take four forms:

- Open diffusion of knowledge, where the knowledge of HEIs is seen as a public good, which should be available in a free and accessible way.
- Commercial transfer of knowledge, where the knowledge of HEIs is seen as a tradable asset that links HEIs to the productive industrial context.
- Transfer by organized grouping of knowledge, where the knowledge of HEIs is transferred to companies through two-way cooperation mechanisms that allow the exchange of skills and competences.
- Transfer of knowledge through spill-overs, where knowledge of HEIs is transferred through the creation of autonomous organizations, with essential factors being the knowledge incorporated in human resources and the research produced in HEIs.

Trends such as the growth of the global number of students in higher education, a greater number of graduates, a greater dispersion of students by different formations, increased mobility and distance learning, among others, have boosted students' training as been more important than obtaining a diploma, as well as for HEIs, employability and skills development have become recurrent themes (Lourtie, 2013). A process of social and economic devaluation of academic qualifications and valorisation of aspects that bring added value to the graduates (prestige of the institution, acquired competences, existing partnerships, etc.), which has altered the processes of student choice and requiring from HEIs new approaches, such as the management of students, their preparation for the labour market, the development of institutional brands and the evaluation of the OP (Mainardes, Alves, & Raposo, 2010). Entrepreneurship is one of these variables, and the questions is to know to what extent it will undertake it be an important variable of the organizational performance of higher education institutions, considering that besides being a mechanism of knowledge transfer, it is also a mechanism of creation of value for the society.

Most studies in this area find a positive effect between entrepreneurship education and the intention of future graduates to have an entrepreneurial activity (Walter & Block, 2016). However, according to the authors, it is also possible to find studies that identify a negative effect that discourages students

from entrepreneurship, suggesting that the conditions of the environment can play a relevant role in the entrepreneurship of graduates. According to the same authors, the characteristics of the countries may influence entrepreneurship, especially about entrepreneurship-friendly regulation, the availability of financial capital, the availability of educational capital, control of corruption and the public image of entrepreneurs. This may mean that the very environment created by HEIs and the support given in the field of entrepreneurship can have a significant impact on the greater or lesser appetite for the creation of the entrepreneurial spirit, both in graduates and in society in general (Ribeiro, Oliveira, & Araujo, 2014). According to the same authors, although HEIs are increasingly concerned about connections abroad, they are still far from being able to respond to the needs of society, necessitating a greater approximation to the business fabric and to the daily life of companies.

According to the Kauffman Foundation, an American foundation dedicated to entrepreneurship, refers that entrepreneurship "is a dominant force in contemporary America. It generates ongoing innovation and improvement of our goods, services, and institutions. It makes them more efficient, affordable, and, thus, effective. Entrepreneurship enhances the quality of our collective and individual lives. It changes the way we work, the way we communicate, the way we live. Innovation and improvement depend on intelligibility. In the final analysis, we cannot devise or enhance the incomprehensible." (Kauffman Foundation, 2008). In this sense, states that he must be in higher education for four main reasons:

- It is critical to understanding and succeeding in the contemporary global economy.
- It is already an expanding area in the learning processes of American higher education.
- It is becoming a basic part of what universities themselves do.
- It meets many of the objectives of quality higher education.

In Europe there has been a strengthening of the importance of entrepreneurship and its relation to higher education. The report Survey of Entrepreneurship in Higher Education in Europe (NIRAS Consultants, FORA, ECON Pöyry, 2008), at the request of the European Commission, which focuses on entrepreneurship education as a way for the European Union to exploit its entrepreneurial potential more comprehensively, not only with a view to transforming its economy, but also to make it more competitive. However, the results suggest a high level of concern, considering that it is estimated that more than half of Europe's higher education students do not have access to entrepreneurship education, that is, about 11 million students do not have the opportunity to participate in extracurricular activities that can stimulate their entrepreneurial spirit. The same report identifies the strategic dimension of HEIs, in particular the recognition by senior management of HEIs of the importance of teaching entrepreneurship, both in terms of value to the institution and to society as a whole, as crucial to develop the education superior for entrepreneurship. This assumption stems from the fact that it is in this dimension that the greatest differences are found between the leading institutions and the most backward institutions in this respect. According to the same report, the strategic dimension should be developed in three sub-dimensions: entrepreneurial policies, entrepreneurial goals and strategic insertion.

In Portugal, the bet on entrepreneurship has had important developments in the last years, in particular after the creation in 2009 of a program of financial support for the creation of new companies, derived from the discontinuity of the self-employment promotion program, very associated with the fight against unemployment (Agência Piaget para o Desenvolvimento, 2014). The National Strategy for Entrepreneur-

ship, launched in 2016 by the Ministry of Economy, allowed that entrepreneurship gain a new strong. According to the report published in 2018, the program allowed a significant increase in startups and incubators, a network that has 135 certified entities that directly support more than 3,000 startups, in addition to a significant number of newly created technology companies that have given international visibility, allowing a greater capacity to attract new investor (Ministério da Economia, 2018)

According to the study developed in Portuguese Public Higher Education Institutions (Lourenço, 2017), it was verified that they have a high concern with the Society and with the external environment, confirming the idea that the Society has a decisive role in the future of HEIs. This concern manifests itself in the fact that the External Links appear as one of the most relevant organizational performance variables and in the fact that there is widespread acceptance of the participation of external members in the General Council, the highest body of the institutions, with responsibilities at the level of strategic decision and election of the Rector/President. However, the same study reveals that the levels of overall consistency in the approach to organizational performance are not high. More than 50% of the times an inquired identifies an organizational performance variable does not identify an indicator to measure it. This problem is bigger in the External Links and in the entrepreneurship for three reasons:

- First, the restricted number of performance indicators identifiable in the bibliographic review that have some relationship with this variable (some of them far too diffuse) namely: 1) Ratio financing by industry/teachers ETI; 2) Employers' assessment; 3) Ratio patents/teacher doctorate ETI; 4) Revenue from private budget; 5) Reputation of the institution; 6) Results of external evaluations
- Second, even considering the small number of initiators related with this variable, all of them, except for the ratio of patents, do not have a direct relation with the entrepreneurial activity, neither with regard to the internal activity in this field, nor the impacts of this activity in the society.
- Third, only two of these indicators were identified by the respondents in global terms as being very relevant for de organizational performance of HEI: the results of external evaluations and the reputation of the institution. Two indicators that are already debatable based on the concept of indicator.

In order for entrepreneurship to be seen as a variable of organizational performance of HEIs, being even seen as the fourth mission, responding to the basic idea that entrepreneurship must be born within HEIs, it is essential that be seen as a clear variable in the institutions' strategy, with direct impacts on their performance, and requiring the implementation of internal and external mechanisms to monitor their activities. It is also essential that there be external recognition that this is a relevant activity for the development of HEIs, implying not only more effective public policies for Higher Education, but also mechanisms for social and scientific valorisation of this activity. It should be noted, for example, that the rankings described above, have a very significant importance in the research results, and only one, the Ranking of National Higher Education System, refers to the connection with society (which is not representative of entrepreneurial activity), and another, QS Top University, which refers to innovation (which also is not representative of entrepreneurial activity). In none of them do we find analytical variables such as the impact on the generation of value for society or the impact in terms of the economic and social development of societies through the creation of companies.

MONITORING THE ENTREPRENEURIAL ACTIVITY OF HIGHER EDUCATION INSTITUTIONS

For entrepreneurship assume a relevant role in HEI activities, particularly in Portugal, considering the points description on this chapter, it is recommended development four realities: a) the strategic importance of creating value for society; b) creation of incentives for entrepreneurial education; c) monitoring of graduates; and d) structured and monitored data of the entrepreneurial activity.

Strategic importance emerges as one of the most crucial conditions, as already discussed in this chapter. It can turn out on several levels. It starts by including the creation of value for society as one of the strategic objectives of HEI, allowing to value not only the entire relationship with the environment, but also all activities that directly or indirectly create value for society, where, of course, entrepreneurial activity can play a very significant role. In recent years, had arisen studies that intend to accurately measure the economic impact of HEIs in the areas where they are implemented. Although these are only economic studies, leaving out a set of other variables, such as social, environmental and even cultural variables, these studies have shown that the fact that HEIs are implemented in certain zones has an impact, both in job creation and in the per capita GDP growth of these regions. Of course, from these studies, it is not possible to draw conclusions about the importance of entrepreneurship in these impacts, and they cannot be expected to be very significant, given the significant number of projects that are unsuccessful. This is an analysis that must be done in the long term. It is also important that the top strategic perspective be translated into the individual perspective of the different actors of the activity of an HEI, in particular the teachers, because only then will it be possible for the strategic expectations and the respective objectives to be translated into real and empowering activity of development.

In entrepreneurial education, it is not enough, but important, that the concepts associated with entrepreneurship be passed during the basic training of students (Carvalho & Costa, 2015). According to the authors, entrepreneurship education has gained increasing importance in educational programs in several countries, emphasizing the importance of reflection on pedagogical methods and the dimensions of this same education. This will not be possible if there is neither a set of curricular units that stimulate the entrepreneurial activity, or a project-based learning perspective, that allows a trainee to develop his idea throughout his training. One of the hypotheses will be for the students to be able to carry out academic internships from the very beginning of their training, so that they have contact with the business reality as soon as possible. The entrepreneurship education it is closely associated with innovation and the possibility of allowing students to develop innovative ideas, whether associated with academic projects or associated with research projects. It is particularly relevant here the integration of students from the beginning of their training in research activities, enhancing their research activity in a logic of invocation.

About the monitoring of graduates, it is linked to the fact that, as mentioned earlier, the social impact of entrepreneurship cannot be measured in the short term. First, because the number of successful projects is not very significant, second, because, even if they succeed, in the first years they may not have an effective return, it is necessary to wait for their sustainable implementation for this return to be effective, and third, because a graduate may not start an entrepreneurial activity at the beginning of his career, but may do so a few years later, after having a more concrete knowledge of the characteristics of the market. This implies that HEIs must have the capacity to accompany their graduates and can understand their professional career. In this aspect the important thing is to analyse the level of entrepreneurship and the creation of companies of the HEI graduates as well as the relevance of these companies in society.

Finally, for all of this to be possible, and the entrepreneurship activity as an important role in organizational performance of HEIs, there is a need for structured and analysable information, not only to understand the phenomenon in each HEI, but also to understand the levels of evolution and to allow the definition of objectives and policies for the purpose to develop the entrepreneurial activity within HEIs (Vesper & Gartner, 1997). For that is essential to define and select a set of indicators that allow monitor this activity (Nappi & Kelly, 2018). The following is a set of indicators, analysed based on the characteristics of the indicators described in this chapter, with the purpose of contributing to the discussion on the best indicators to measure the entrepreneurial activity of an HEI.

1. Entrepreneurship Education Enhancement Indicators

1.1. Number of Curricular Units Associated With Entrepreneurship

- Meaning: It represents the initial level of strategic investment of HEIs in the acquisition of skills in entrepreneurship by students.
- Positive Characteristics: Credible, economical and simple

It is relatively easy to collect and understand, since the name of the curricular unit is formally defined and identifies the relationship with the area of entrepreneurship.

- Negative Characteristics: Not very useful and not relevant

It is only associated with the input of entrepreneurship, the acquisition of skills, not measuring the main output of entrepreneurship, the creation of direct added value for society. In addition to not allowing conclusions to be drawn about the actual implementation of entrepreneurship projects, it is based on a closed perspective of entrepreneurship, without interconnection between different areas of knowledge.

1.2. Number of Pedagogical Projects Associated With Entrepreneurship

- Meaning: It represents an improvement over the previous indicator, increasing the level of strategic betting the HEIs in the acquisition of skills in this area by the students
- Positive Characteristics: Useful and pertinent

It translates a broader perspective on entrepreneurship and how competences are acquired in this area, not only associated with curricular units, but introducing the idea of interdisciplinarity, supported in pedagogical projects such as Project Based Learning or activities parallel to the academic curriculum. To some extent already has associated some level of potential realization of ideas.

- Negative Characteristics: Slightly credible, expensive and complex

In addition to being not formally defined, making it difficult to identify the pedagogical project associated to entrepreneurship, it is dependent on the classification of the pedagogical project typology as being an enabler of entrepreneurship and information provided by the HEI itself, and can be difficult to understand, especially when compare HEI.

1.3. Number of Trainings Associated With Entrepreneurship

- Meaning: Represents the highest level of strategic investment of HEI in the acquisition of skills in this area by students.
- Positive Features: Useful, credible, economical and simple

It allows to understand the specific strategic bet in the education for the entrepreneurship in a certain HEI, being easy to gather information because it is formally defined and in which the name of the formation usually identifies the relation with the area of the entrepreneurship.

- Negative Characteristics: Slightly relevant

It continues to be essentially associated with the input of entrepreneurship, the acquisition of skills, still without much relevance in creating value for society. In addition, entrepreneurship and business creation do not always result from specific training in the area, but from a set of factors that foster the entrepreneurial attitude.

1.4. Number of Specific Incentive Programs and Support For Entrepreneurship

- Meaning: It represents a broader strategic approach to entrepreneurship education by HEIs, not only based on the formal component of skills acquisition.
- Positive Characteristics: Useful, economical, simple and pertinent

It allows us to know to what extent the HEI enhances the emerge of ideas that can create value for society. It is relatively easy to collect information, as these programs are usually formally defined, and the name of the program usually identifies the relationship with the area of entrepreneurship.

- Negative Characteristics: Slightly credible

It is totally dependent on information from HEIs because the fact that the programs exist does not mean that they work or that they have a significant number of projects, even if the projects have a significant impact both in terms of innovation and in terms of social impacts.

1.5. Number of Students Involved in Training and Incentive Programs for Entrepreneurship

- Meaning: Represents the capacity of HEI to attract students to entrepreneurial education.
- Positive Characteristics: Useful, economical and simple

It allows to understand the involvement and interest of the students in the formations and incentive projects associated to entrepreneurship, without which the effective process of creation of companies can become more complex. Is relatively easy to collect because is an official datum.

- Negative Characteristics: Slightly credible and slightly relevant

It is totally dependent on information from HEIs, and the fact that students participate in training actions associated with entrepreneurship may not have any meaning, especially when these formations are part of the curriculum, that is, they are compulsory.

1.6. Number of Students Involved in Research Projects

- Meaning: Represents the involvement of students in research activities.
- Positive Characteristics: Useful, simple and relevant

It allows to understand the involved of the students in research activities during the training process, an activity that is conducive to the generation of entrepreneurial ideas after the end of this training.t.

- Negative Characteristics: Slightly credible and expensive

Is a non-formal information, being dependent on the information of the HEI itself, and a structure is needed to validate this information.

2. Indicators for the Results of Entrepreneurial Education

2.1. Number of Candidate Projects for Entrepreneurship Support Programs

- Meaning: It represents the entrepreneurial spirit and the ability to generate innovative ideas on the part of the HEI students.
- Positive Characteristics: Useful, simple and relevant

It allows to know the dynamics of ideas creation within an HEI, and the accompaniment of its evolution is a mirror of the results of entrepreneurial education. Being associated with indicator 1.4, it is relatively easy to understand and collect information.

- Negative Characteristics: Slightly credible and expensive

It is totally dependent on information provided by the HEI, and it is not always possible to identify projects that apply for programs outside the HEI, requiring a good structure to collect information. In addition, the number of candidates does not by itself mean that the projects are genuinely innovative or have a relevant social impact.

2.2. Number of Startups Incubated and Integrated Into Entrepreneurship Support Programs

- Meaning: It represents an improvement over the previous indicator, representing the capacity of the entrepreneurship of HE students to generate ideas with potential for growth.
- Positive Characteristics: Useful, simple and relevant

It allows knowledge about the value of the ideas created within the HEI, since the processes of incubation and support to entrepreneurship are always subject to a process of prior evaluation and selection.

- Negative Characteristics: Slightly credible and expensive

The collection of information is dependent on the HEI itself, and the number of incubated startups does not always represent the number of startups in operation, either because they have never actually worked or because they have already worked but are no longer incubated. In addition, as in the previous indicator, a good information-gathering framework will be required to gain access to information from program-supported startups not integrated in the HEI.

2.3. Number of Awards in Entrepreneurship Contests

- Meaning: It represents the certification of the capacity of the innovative spirit of the IES students to generate innovative ideas and with social impact.
- Positive Characteristics: Useful, credible, simple and relevant

It allows to assess the recognition that is given to innovative ideas and with social impact, being a safe source and associated with the process of evaluation and selection based on specific criteria associated with the growth potential.

- Negative Characteristics: Expensive

If the competitions are not within the HEI itself, the information is dependent on external actors, requiring a network to collect information on all the competitions and on the origin of the candidates, in order to identify those woes are from the HEI.

2.4. Number Created Startups

- Meaning: It represents the true entrepreneurship capacity of HEIs.
- Positive Characteristics: Useful, simple and relevant

It is centred on the most important output of entrepreneurship, the creation of value for society, and for this reason it allows us to know the real value of HEIs for the creation of companies and the generation of value for society.

- Negative Characteristics: Slightly credible and expensive

In addition to requiring a very advanced information collection structure, which included the ongoing monitoring of former students, on the one hand, the information collected does not always represent the totality of newly created companies (usually err underneath) and, on the other hand, not always the number of companies means a high value for society, nor is it necessarily related to the area of formation of HEI.

3. Indicators for the Results of Entrepreneurial Activity

3.1. Ratio Number of Patents/Startup Created

- Meaning: It represents the capacity of innovation of HEIs.
- Positive Characteristics: Useful, simple, credible and relevant

Although patents are essentially associated with invocation and not directly to entrepreneurship, the combination with established startups allows to know the level of innovation certified by HEIs with real potential to bring added value to society in the long term. In this case, the patent process depends on an official body, so the information is credible and relatively easy to obtain.

- Negative Characteristics: Expensive

Given that it depends on the number of startups created, it presents the same problem of collecting information associated with indicator 2.4.

3.2. Ratio Jobs Created/Startup Created

- Meaning: Represents the social value of the entrepreneurial activities of HEIs
- Positive Characteristics: Useful, simple and relevant

It allows to know the dimension of the companies created through the entrepreneurial activity and, as such, the social impact that the entrepreneurial activity of the HEI has in society. The combination with the number of stargazes created allows to know the average size of these companies, introducing interesting levels of comparability on the typology of companies that result from entrepreneurship activities.

- Negative Characteristics: Expensive and Unreliable

Given that it depends on the number of startups created, it presents my problem of collecting information associated with indicator 2.4. In this case, the information still suffers from another problem since information on the number of jobs may not be public and, even if it is, it may not be sufficiently updated.

3.3. Ratio Investment/Startup Created

- Meaning: Represents the economic value of HEI entrepreneurship activities
- Positive Characteristics: Useful, simple and relevant

It allows to know the economic impact of the companies created through the entrepreneurial activity, and the combination with the number of startups created, allows to know the average impact on the economy of these companies, also introducing interesting levels of comparability.

- Negative Characteristics: Expensive and Unreliable

Given that it also depends on the number of startups created, it presents the same problem of collecting information associated with indicator 2.4. Information, like the previous indicator, still suffers from another problem since information about the level of investment may not be public.

3.4. Mortality Ratio of Projects / Startup Created

- Meaning: It represents the effective impact of the entrepreneurial activity of HEIs in society
- Positive Characteristics: Useful, simple and relevant

It allows us to know the effective level of creation of value for society in the long term, which combined with the number of startups created allows us to know the number of companies that can be kept in the market beyond the initial idea.

- Negative Characteristics: Expensive and Unreliable

Given that it also depends on the number of startups created, it presents the same problem of collecting information associated with indicator 2.4. Information, like the previous indicators, still suffers from another problem since information about the actual activity of the company is not usually public.

Many other indicators could be identified. In addition, the information of each of the indicators is always very rich, but simultaneously closed, and it is only possible to have an effective perspective of the entrepreneurial activity of an HEI and its real importance for its performance if there is an integration of indicators, which allow a global reading, and that can create causal relationship between education for entrepreneurship, the results of that education and the results of the entrepreneurial activity as a whole. As it was already discussed in this chapter, the most important is the choice of indicators in the creation of the measurement performance system in this area. There are several dangers associated with errors in the development of performance indicator systems, including the fact that the measures are designed to satisfy customers, employees, shareholders and other stakeholders, but are not oriented towards the key variables that lead organizations to achieve this satisfaction, and the fact that they do not take into account the need for data that allows organizational learning (Pires, 2012). Some of the major problems in assessing organizational performance are more related to obtaining relevant data than to using a model or system (Clarkson, 1995). The development of clear procedures for the creation of a system of performance indicators, metrics and information sources has proved to be central to OP measurement processes (Russ-Eft & Preskill, 2001), highlighting three aspects:

- **Agreement between stakeholders:** Since the OPI represent the formulation of a management contract between the different hierarchical levels, its definition must start from an agreement between the different actors (Jordan et al, 2003).
- **Definition of the number of indicators to monitor:** While on the one hand it is accepted by the scientific community that there is a limited capacity for information processing by users and it should be avoided to include too many indicators (Sousa & Rodrigues, 2002), on the other hand, there is a need to extend the field of analysis to enrich it by monitoring several categories of indicators, avoiding placing too much emphasis on a single or very few indicators (Willson et al, 1998).

- **Credibility of information sources:** The credibility of information is a critical success factor, vital for the monitoring process to not lose relevance within the organization (Caldeira, 2009), so if the sources of information do not allow such credibility, it will be preferable for organizations to choose to look for substitution information that comes close to the intended information (Jordan et al, 2003).

The essential point will be, from a perspective of internal organizational performance, that HEIs identify the indicators associated to entrepreneurship that best respond not only to their strategic definition, but essentially that are adequate to the state of evolution of the entrepreneurial activity. It will also be essential that, from an external perspective of organizational performance, there are cross-cutting indicators common to all HEIs, whether in terms of rankings, whether in terms of definition of funding, or in terms of appraisal for support programs, that function as reference so that each HEI can be positioned relative to others HEIs.

LIMITATIONS OF THE STUDY

The present study presents a set of limitations, namely the failure to carry out an exhaustive survey in terms of bibliographic review of the indicators associated with the entrepreneurial activity, as well as the fact that there has been no international comparative analysis of those that may be effectively to be used in the measurement of the HEI organizational performance. The main limitation derives from the fact that it is an exploratory study and, as such, does not present validation for the analysed indicators, and it is not possible to conclude from the feasibility of the use of each of them in the measurement of such performance.

FUTURE RESEARCH DIRECTIONS

Considering the limitations presented, the future research activity goes through three phases. To elaborate an exhaustive bibliographical study on potential indicators associated to the measurement of the entrepreneurial activity, not only from the role of HEI, but also from other entities involved in this process. To carry out an exhaustive study on the number of indicators that are effectively being used, both internally and externally, in the measurement of the organizational performance of the HEIs that have a direct relation with the entrepreneurial activity. To conduct an exploratory study, based on case studies, to assess the feasibility of using the indicators identified in this study or others that emerge from previous studies, in the measurement of the organizational performance of HEIs in this area. Finally, it should be noted that other studies, particularly those that can measure the social and economic impact of HEIs entrepreneurship activities on society, cannot be ruled out.

CONCLUSION

The creation of value for society is currently one of the essential requisites for valorise the activity of higher education institutions, it is evident that, despite the concern with external links, these concerns

have not been translated into performance measures that enable understanding the effective contribution of each institution to entrepreneurship. The entrepreneurial activity of HEIs, whether in education or in terms of creating conditions for the creation of companies, is increasingly a variable that has an important impact on value creation. This means that it will be necessary for HEI to incorporate into their strategies specific measures for the internal development of this activity, with the risk to become less attractive to potential students, given that it is becoming less important for them to training, in its narrow sense, acquired in the HEI, becoming increasingly important other variables, where of course the innovative spirit and the entrepreneurship potential of these HEIs are relevant.

It is not enough, however, that the HEIs incorporate strategic measures to support entrepreneurship. It will be necessary to have political, a framework that fosters these same initiatives, to create a right of the HEIs to bet on this area in a continuous and structured way. In recent years, this has been a reality, and it is increasingly common to find national and international policies to stimulate entrepreneurship.

Finally, such a bet only becomes effective about the organizational performance of HEI, if it is possible to measure this activity, not only as a way of understanding evolution, but also as a way of positioning the different HEIs in relation to entrepreneurial activity. What is verified is some shortage of indicators in this area, used both by the HEIs and by the external entities perform analysis of the organizational performance of HEIs.

The present study presented a set of indicators that enhance this measurement, presenting its main characteristics. It cannot be said that there is a perfect indicator to measure the entrepreneurial activities of HEIs. What exists is a combination of indicators, which measure different perspectives, so give different information. The important thing is that, at an early stage, each HEI defines their system, including the organizational performance indicators that most respond to their strategies in this area, in an internal alignment of the performance, taking into account the current point and future prospects of its development in this area.

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ENDNOTES

[1] ETI - Equivalent to integral time.

[2] FCT - Foundation for Science and Technology.

Chapter 10
Innovation and Entrepreneurship During Economic Crises

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ABSTRACT

The main goals of this chapter are to present an overview of the relevance of innovation and entrepreneurship in modern economies and analyze the importance of these two concepts in modern economies during economic and financial crises, as a relevant way to perform economies to prevent and to overcome crises, in an evolutionary perspective. The understanding of different frameworks of innovation, with a particular emphasis on the effects of innovation and entrepreneurship supported by governmental incentives, is studied through an integrated framework of innovation to overcome economic crises in long business cycles over time. The present chapter bases its analysis on a wide literature review and analysis of case studies that will show the importance of innovation and entrepreneurship during crises and to overcoming crises.

INTRODUCTION

With globalization, knowledge, faster information systems and communications, the concepts of innovation and entrepreneurship acquired critical and central importance in contemporary economies. They perform key drivers for the countries' economic growth, for the growth and success of firms, and also, in general, for the wealth of nations and for the improvement in consumers' living standards. Innovation is strictly related with entrepreneurship and strongly supported by research and development (R&D), being key concepts for firms and nations to produce innovations and compete for a better future (Tellis et al, 2009).

The Schumpeterian theory (Schumpeter, 1928, 1942) and the modern theories of economic growth (like for example, Aghion and Howitt, 1992; Grossman and Helpman, 1991a, 1991b; Romer, 1986, 1990) are

DOI: 10.4018/978-1-5225-8479-7.ch010

based on the relevance of innovation and entrepreneurship, as endogenous factors, for economic growth and to increase the per capita income in modern economies. The long waves of innovations postulated by Schumpeter (1939, 1942), as closely related to the succession of stages of the economic cycles and also as direct determinants of the occurrence of these. Which implies that once created in one economy the conditions for the occurrence and development of innovation and entrepreneurship, will decrease the impact of the adverse shocks on business cycles, as well as the probability of the occurrence of crises, in the same economic conditions, and to the time duration of the effects.

Entrepreneurship and the entrepreneurs, as first postulated by the Schumpeterian approach, perform a central role as innovators in the development and implementation of innovation acting like a catalyzer and contributing to facilitating the reallocation of resources (Acs & Storey, 2004) to support the economic changes (Gries & Naudé, 2010) with the purpose of the best possible adaptation.

The Global Competitiveness Report states Innovation as one of the fourteen pillars of the competitiveness and states that entrepreneurial spirit and innovation are the building blocks for sustained growth and competitiveness of countries (Annual Competitiveness Report 2005; Global Competitiveness Report, 2018).

The crises that occurred in the last century, and particularly the recent crisis of 2007, reinforce, according to Applegate and Harreld (2009) that financial and economic crises provide a sobering reminder of what happens when innovation fails to drive productive economic growth. This issue finds the words of the former President of European Commission, Durão-Barroso (2009), who said that "*financial and economic crisis makes creativity and innovation in general and social innovation in particular even more important to foster sustainable growth, secure jobs and boost competitiveness*".

The main propose of this chapter is to analyze the importance of innovation and entrepreneurship during crises and to overcome it in modern economies, according to an evolutionary perspective. The understanding of theoretical models of innovation and its relation with entrepreneurship are analyzed, with a particular emphasis on the effects of innovation and the governmental incentives to innovate and to invigorate the entrepreneurship. These are relevant aspects to overcoming economic crises, supported by empirical evidence, through an integrated framework of innovation occurred in business cycles over time. However, a significant part of literature under these topics have been developed to understanding the relevance of innovation during crises, the studies about innovation and the relevance of entrepreneurship, based on the innovative entrepreneurs' contribution during and to overcoming crises, are scarce.

The methodology applied in the present chapter is a systematic literature review, developed through a wide range of literature review and case studies' analyses that will perform the importance of innovation and entrepreneurship during crises and to overcome different kinds of crises. Despite the increasingly strong evidence about the importance of innovation as a central force to overcome crises, the systematic literature review targeting a general overview about empirical studies and approaches, evidencing the existence of fewer studies about innovation and entrepreneurship to overcoming crises over the time. In this sense, one hopes this study contributes to a better scientific knowledge and understanding of the relationship between the two concepts under analysis and economic and financial crises.

The present chapter is structured in five parts. After this introduction, which states the relevance and describes the topics under study, the second section presents the main concepts applied in this chapter, and the different frameworks to explain how innovation, related to entrepreneurship, drives the economy over different perspectives. The following section describes, in an evolutionary approach, the crises through time-based in some case studies and presents empirical evidence about innovation and

entrepreneurship in contemporary economies and strategies to overcome crises. To finalize are presented some future research directions on innovation and entrepreneurship within the framework of crises in modern economies and the general conclusions.

BACKGROUND: MAIN CONCEPTS AND DIFFERENT FRAMEWORKS

Main Concepts

Innovation performs a crucial role in current modern economies since the XX century, being innovation a relatively recent phenomenon and its scientific study still most recent. However, innovation has always existed in human society, practically since the invention of the wheel by the primitive men around 3200 B.C., the evolution of the concept of innovation through the recent history was related with imitation, invention, discovery, change (cultural, social, organizational), creativity, technology, commercialization (Godin, 2008). According to Popkova et al (2016) innovations have been a moving force of the global economy, not only in recent decades but throughout the history of mankind.

The evolution of the concept of innovation is supported by different approaches. First, the concept of innovation is based in "novelty" and related to human creativity. This led to the occurrence of changes and events that gave rise to new goods and services. Over time two factors reinforce the technological and commercialization of this innovation approach: the culture and the capitalistic corollary based on the industrial development through technology, and the scientific research based on the study of technology and the in conceptual frameworks oriented for policies focused in science and economic growth (Fagerberg, 1987, 2002, 2003; Rosenberg, 1974; Schmookler, 1966). Second, the concept of innovation is based on "creativity" leading to the sequential process between imitation and invention that leads to innovation. Third, innovation represents a break with the past leading to modern practices and values and representing an evaluative continuity through time.

The development of the theory of economics of innovation involves different theoretical approaches. With roots in the old classic theories of the classic and neo-classic economists like Adam Smith and Alfred Marshall, the Marxists, the Schumpeterian, the Neo-Keynesian, and the Neo-Schumpeterian have had significant contributions (Swann, 2009). The theory of innovation of Adam Smith (1776), based on technological invention and cultural change supported the theoretical overview of the eighteenth, nineteenth and twentieth centuries. The Schumpeterian theory represents an important milestone in the study of the theory of innovation. Schumpeter (1939, 1942) conceived innovation as a fundamental concept of economics' evolution, imperative for economic growth, commercial profit and public wealth. Schumpeter centered his theoretical overview on *creative destruction,* where innovations are responsible for unceasing novelty and change, being a locomotive responsible for keeping the capitalistic engine in motion. Schumpeter highlighted the relevance of technological innovation as essential to permit technological changes supported on the technological inventions in industrial processes. On his theoretical approach, the entrepreneur develops a key role in the process of creative destruction, representing the catalyzer for the whole process. The interest in the technology study began among economists like Pigou (1924), Hicks (1932), or Robinson (1938) and had a great development in the years following the Great Depression of the 1930s as a way to overcome the deep crisis.

Innovation performs a central role to modern endogenous theories of economic growth and development, representing a crucial dimension face to situations of crises.

There are many definitions of innovation, given by different authors, as for example:

In an essential sense, innovation concerns the search for, and the discovery, experimentation, development, and adoption of new products, new production processes and new organizational set-ups. Dosi (1988: p. 222)

Innovation is the multi-stage process whereby organizations transform ideas into improved products, services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace. Barehgeh, Rowley and Sambrook (2009: p.1334)

... We consider as an innovation any idea, practice, or material artifact perceived to be new by the relevant unit of adoption. The adopting unit can vary from a single individual to a business firm, a city, or a state legislature. Zaltman, Duncan and Holbeck (1984: p.10)

Innovation concerns successfully exploiting new ideas and transforming them into economic value and sustainable competitive advantage. European Commission (2009)

But the most used definition is the one appointed in the Olso Manual (OECD, 2005:46), stating that innovation *"is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations."*

There are different types of innovations, which from the seminal starting point of Schumpeter (1942) can be seen as "*introducing new commodities or qualitatively better versions of existing ones; finding new markets; new methods of production and distribution; or new sources of production for existing commodities; or introducing new forms of economic organization*". From which several classifications of innovations resulted according to:

1. Product innovations versus process innovations;
2. Incremental versus radical innovations;
3. Competence destroying versus competence enhancing innovations;
4. Modular versus architectural innovations.

The formal models of innovation can be classified in two ways i) Science Push approaches that suggest the innovation proceeds linearly:

Scientific discovery → invention → manufacturing → marketing

or in ii) Demand Pull approaches supported in the argumentation that innovation is originated by customer needs:

Customer suggestions → invention → manufacturing

The innovation process can be defined as a linear model of innovation (Figure 1) where innovation results from a sequential process from research and creativity, invention, design and development of specific ideas (Swann, 2009).

Although the linear model of innovation is the mainstream view in economics, its simplification neglects that not all the steps are necessary being that some steps could never be reached, and innovation is not only a one-way linear process but a complex process with feedbacks between the several involved agents (for example: from costumers to innovators) (Kline, 1985; Scherer, 1982). So, more complex and heterodox models can better overview the innovation process as an interactive chain model like the model represented in Figure 2.

The current basic model of the innovation process is interactive between the several agents and stages of the innovation sequence process and includes a global view of information to create innovation in a continuum (Figure 2). In this model, entrepreneurship is a necessary and crucial dimension for innovation's success, being at the heart of the process.

Several authors have developed different models of innovation generation, which according to main evolutionary and market characteristics are classified according to Rothwell (1994), Marinova and Phillmore (2003), Berkhout, Duin and Ortt (2006), Boehm and Frederick (2010) or Taferner (2017) in

Figure 1. The linear model of innovation (strictu sensu)
Source: adapted from Swann (2009)

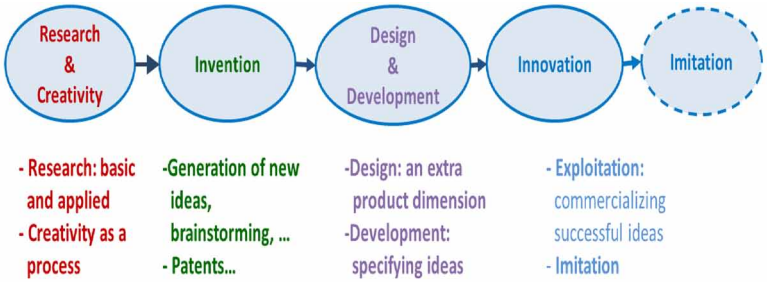
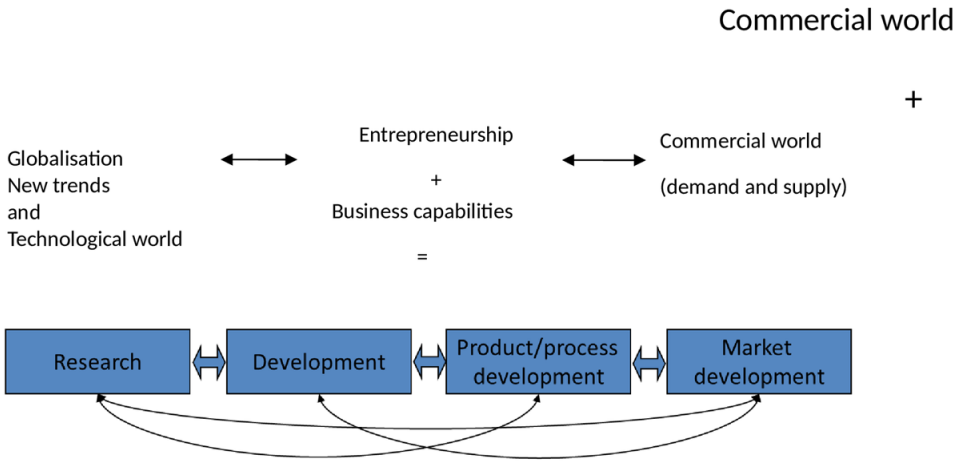


Figure 2. Current model of innovation including a global and interactive view



several innovation generation models. Taferner (2017) classifies and represents the models in six generation types and describes the different generation models focusing on the evolution of the innovation generations (Taferner, 2017).

In an evolutionary perspective, innovation reinforces the survival and success of companies in the market, increasing the performance and the returns of these companies (Nelson & Winter, 1982) and the countries where they were founded. By another side, innovation drives the competitiveness of firms, regions and countries (Fagerberg, 1988), based on the productivity increasing, the growth of employment and output, wealth creation and in the improvement of the citizens' standards of living and welfare. As well as through the creative destruction, the innovation process allows to increase the generation of new products, new services, new organizational processes, the creation and accumulation of new knowledge and new standards of work and communication and new ways to be in society.

The importance of the occurrence of innovation, in modern economies, at several dimensions is summarized in Figure 3. This figure illustrates the importance of innovation in contemporary developed economies in a continuum way. Innovation is at the heart of the modern theories of economic growth and can be seen as a locomotive for the economic growth of regions and countries, which represent an important issue for the definition of applied public policies carried out for several countries, and in particular by the European Commission, to support actions of innovation and entrepreneurship, as well as the appropriated systems of education and development of R&D and support institutions, like laboratories, research units or incubators of ideas or small businesses based on innovation.

It is important to state that innovation is strictly related to the capacity and existence of a dynamic environment that contributes to the development of entrepreneurship.

For a better comprehension of the concept of entrepreneurship, it is important to know the framework theories and the main types of entrepreneurship. Kwabena and Simpeh (2011) consider six main entrepreneurship theories. These theories are the 1) Economic entrepreneurship theory, 2) the Psychological

Figure 3. Importance of innovation in modern economies

entrepreneurship theory, 3) Sociological entrepreneurship theory, 4) Anthropological entrepreneurship theory, 5) Opportunity-Based entrepreneurship theory, and 6) Resource-based entrepreneurship theory.

About the types of entrepreneurship, there isn't an unanimous opinion among the several authors. The most common classifications of entrepreneurship types are based on the motivations to engage in entrepreneurial activities by "push" and "pull" entrepreneurs (Amit & Muller, 1995; Dawson & Henley, 2012) and in "necessity-based" and "opportunity-based" entrepreneurs (Fairlie & Fossen, 2018). The "necessity-based" entrepreneurship distinguishes from the "opportunity-based" entrepreneurship once in the first the entrepreneur start their own business to generate income to sustain himself or his family; and in the second case the motivation is the generate income returns to increase and develop the business. The "necessity-based" entrepreneurship is counter-cyclical (increase when the real GDP decreases, so increase in recession or crisis times) and is most of the times related with self-employment, and the "opportunity-based" is pro-cyclical (increase with the increase of real GDP, so increase in expansion times) (Fairlie & Fossen, 2018). So, during economic crises, the motivations types of entrepreneurship become more significant, particularly the necessity-based motives (Dawson & Henley, 2012).

About economic and financial crises, and based on the definition of the International Monetary Fund (1998), several types of crises can occur: i) Foreign Exchange Crises, are crises that result from speculative attacks on the external value of the currency that imply its devaluation or oblige Monetary Authorities to sell reserves and/or to raise interest rates sharply in order to maintain an established parity; ii) Bank Crises that occur when specific events or bankruptcies lead banks to suspend the convertibility of their liabilities or when the threat of this type of situation leads Monetary Authorities to help the financial system by injecting resources and liquidity on a large scale; iii) Systemic Financial Crises that result from banking crises from the point where the financial system proves unable to carry out its functions of resource intermediation, seriously affecting productive activities; and iv) External Debt Crises, which occur when a country becomes incapable of honoring its external debts, being these overlapping or private.

These crises, to a large extent, are determined by macroeconomic imbalances and/or institutional weaknesses; and they cause huge repercussions in the economies with decreasing of economic growth and problematic imbalances at the main macroeconomic variables, like, economic growth, employment, the stability of prices and exchange rates, accumulation of stocks, companies bankruptcies, and others social problems. So, a region or country that has a well-developed system of innovation, based on a solid system of education, ideas development and accumulation of knowledge, in parallel with a dynamic entrepreneurial environment, can more easily defend itself against the adverse effects of crises, as well as easier and quickly overcome from these. According to Popkova *et al* (2016:176), the scientific research and the empirical evidence has shown that innovations have "*allowed previous global crises to be overcome which is why it is believed that consequences of the recent financial and economic crisis will be overcome with help of innovations*".

DIFFERENT FRAMEWORKS TO EXPLAIN HOW INNOVATION AND ENTREPRENEURSHIP DRIVE ECONOMIC DEVELOPMENT

Different frameworks try to explain how innovation and entrepreneurship drive the economy over time, through its influence on economic growth, improving population welfare, new products, processes and services. The occurrence of crises, through the evolutionary path of business cycles, induced Schumpeter (1939) to postulate that crises were seedbeds of innovation and entrepreneurship. Innovations developed

during crises contributes to the case that only the abler to certain new situations will be able to adapt and survive, well as stimulates the *creative destruction* that launches new technologies, remake existing industries, and give birth to entirely new ones - setting in motion new rounds of economic growth (Pereira, 2013) . Most of the innovations are catalyzed by entrepreneurship (Pereira, 2013).

Schumpeter (1939) refers to the connection crises-innovation-economic growth, in which the clustering of radical innovation forming booming clusters driving the capitalist business cycles. This macro level framework is supported according to Kleinknechet (1986, 1987, 1990) by the relations identified between long waves, depressions, innovations and expansions. This postulates that long waves occur along the business cycle where a depression is succeeded by a wave of innovations successively since 1750 until the XX century. The waves are based on product-related key and master patents that induce a new cycle expanding the real GDP and given birth to a new long wave era (Kleinknechet, 1986). Fosaas (2010: p.55) describes the stylized facts of long waves, which are represented in Figure 4. Some other authors postulate that basic innovations are stimulated by economic crises (Archibugi & Filippetti, 2011; Berchicci et al., 2014), by the downturns of long waves (Mensch, 1979; Kleinknecht, 1987) or by the recovery phase from downturns business cycles (Clark *et al*., 1981; Freeman *et al*., 1982; Freeman & Perez, 1988).

Figure 4. Stylized facts of long waves
Sources: Fosaas (2010: p.55)

Constellations of technical and organisational innovations	Examples of highly visible, technically successful, and profitable innovations	Carrier branches and other leading branches	Core inputs and other key inputs	Transport and communication infrastructure	Managerial and organisational changes	Appr. upswing (booming)/ Downswing (crisis of adjustment)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1. Water-powered mechanisation of industry	Arkwright's Cromford mill (1771) Henry Cort's 'puddling' process (1784)	Cotton spinning Iron products Water wheelers Bleach	Iron Raw cotton Coal	Canals Turnpike roads Sailing ships	Factory systems Entrepreneurs Partnerships	1780-1815/ 1815-1848
2. Steam-powered mechanisation of industry and transport	Liverpool-Manchester Railway (1831) and Brunel's Great Western Atlantic Steam ship (1838)	Railways and equipment Steam engines Machine tools Alkali industries	Iron Coal	Railways Telegraph Steam ships	Joint stock companies Subcontracting to responsible craft workers	1848-1873/ 1873-1895
3. Electrification of industry, transport and houses	Carnegie's Bessemer steel rail plant (1875) Edison's Electric Power Station NY (1882)	Electrical equipment Heavy engineering Heavy chemicals Steel products	Steel Copper Metal alloys	Steel railways Steel ships Telephone	Specialise professional management systems 'Taylorism'	1895-1918/ 1918-1940
4. Motorisation of transport, civil and war economy	Ford's Highland Park assembly line (1913) Burton process for cracking heavy oil (1913)	Automobiles Trucks Tractors, Tanks Diesel engines Aircrafts Refineries	Oil Gas Synthetic materials	Radio Motorways Airports Airlines	Mass production and consumption Fordism Hierarchies	1941-1973/
5. Computerisation of entire economy	IBM 1401 and 360 series (1960) Intel microprocessor (1972)	Computers Software Telecommunication Biotechnology	Chips' (integrated circuits)	Information-highways	Networks; internal, local and global Flexible specialisation	1973-???

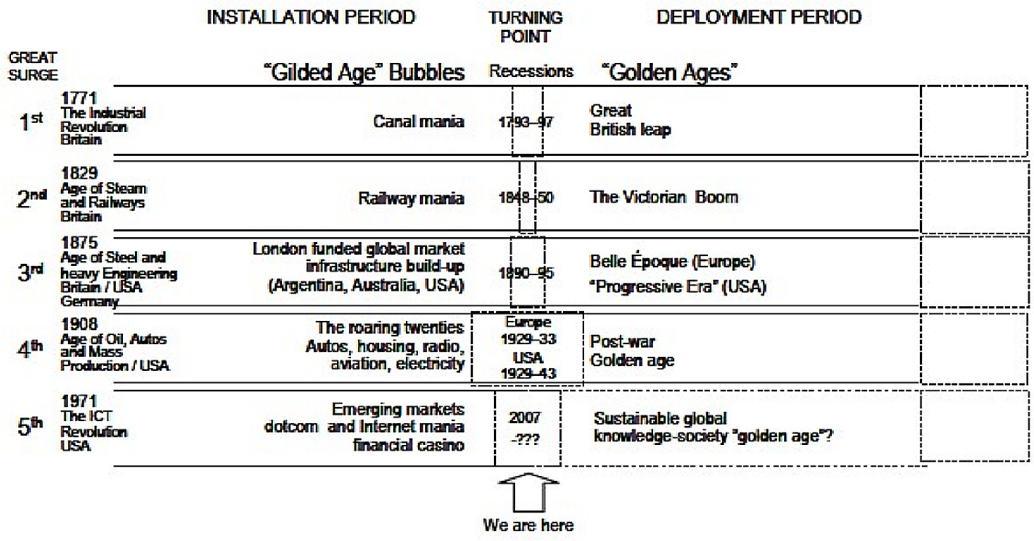
Similar to Kleinknechet (1986), Perez (2011: p. 107) identifies, based in a historical record, some "gilded age" bubbles prosperities before periods of recessions, as turning points, followed by golden age periods, as deployment period, characterized by important innovations (Figure 5). This occurs systematically over time, succeeding along the business cycles.

Other long waves verify the succession between prosperity, recession, depression and recovery, with the occurrence of innovations, are mentioned also by the authors Bieshaar and Kleinknecht (1984), Freeman (1982), Marchetti (1980), Thompson (1990), and Van Duijn (1983, 1984).

Groot and Franses (2009) review the literature of several authors that identified different types of innovations as driving forces according to the time cycle. For another side, Fosaas (2010) found and identified some stylized facts of long waves during the time, and related the occurrence of technical and organizational innovations with specific real examples, the core and key inputs, the support infrastructures, and the necessary managerial and organizational changes.

Some other seminal frameworks developed to explain how innovations drive economic growth and their development was found in the approaches of Mensch (1979) and Freeman (1982). These authors examined the historical timing of innovations. In *Mensch's framework* (1979), the fundamental innovations (radical and basic innovations) tend to cluster in periods of economic recession and stagflation (high inflation rate and simultaneously high unemployment rate). The lead time of radical innovations is shorter in recessions than in periods of economic growth, which leads to the called "*acceleration principle"*, and the repetition of these mechanisms leads to a pattern of economic development, similar to the cyclical pattern of economic growth, called the "*discontinuity hypothesis"*. The *Freeman's framework* (1982) is based on the explanation of national institutional systems of R&D and public policy to induce innovative structural conditions of countries and on their ability to respond to a crisis, and identify an existing "*pessimistic mood"* in recessions.

Figure 5. The historical record: bubble prosperities, recessions and golden ages
Source: Perez (2011: p. 107)



Schumpeter (1939, 1942), Mensch (1979), Freeman (1982), Romer (1990), Grossman and Helpman (1991a), 1991b)) and Aghion and Howitt (1992) agree upon that the main driver behind the problematic of economic growth is innovation, entrepreneurship and technological change.

Originated by Lundvall (1988, 1992), Freeman (1987, 1988) and Nelson (1988, 1992, 1993), in the late 1980s and middle 1990s, the *National Systems of Innovation approach* are related to the flow of technology and information among people, enterprises and institutions which is central to the innovative process at the national level. For Johnson, Edquist, and Lundvall (2003) and Filippetti and Archibugi (2010), the theoretical, empirical and historical research demonstrates that national institutional setting has a major impact upon how economic agents behave and how firms perform. So, the national institutions shape the structural conditions of countries and their ability to respond successfully to changes. This fact is of particular importance in the capacity of regions and countries to respond successfully to the case of overcoming from economic crises.

The concept of National Systems of Innovation, according to Filippetti and Archibugi (2010:46), is based on:

- The countries systematic differences in terms of economic performance;
- The way that the national economic performance depends on different technological and innovation capabilities on the one side, and from the development of institutions on the other side;
- The way that innovation and technology policies are an effective tool for fostering innovation performance of countries.

In this approach the way in which organizations carry out innovation activities and set their learning processes is affected by specific national factors that includes the nature of the scientific and technological institutions, the education and training system, the financial system, the structure of the labor market, and industrial specialization (European Commission, 2009).

Another theoretical framework is the *Neo-Schumpeterian Corridor* (Hanusch & Wackermann, 2009; Hanusch, 2010). This is focused on innovation-driven qualitative development, based on theoretical concepts of three main pillars: industry dynamics, financial markets, and the public sector. Innovation, as a consequence of uncertainty, characterizes each pillar and each one of these is also interrelated. The corridor is future-oriented in time and represents an open space for economic development in which the innovation and firm driven dynamics of modern economies can be modeled taking in account the facts and macroeconomics and microeconomics changes occurred during the time in the evolutionary process. The neo-Schumpeterian corridor has as an endogenous variable the systematic success conducted by the bubble explosions and the insane explosive growth targets.

The modern economic growth theories, based on endogenous variables that create externalities, highlight the importance of innovation to the sustainability of economic growth. These theories have been of greater relevance since the late 1980s with the development of Romer's first model Romer (1986). This model of growth is based on Schumpeter's theory and on the principle of learning-by-doing of Arrow (1962) and is centered in two forms of endogenizing the evolution of the technologic process: i) the technologic process is the result of the investment in physical capital, human capital or production; and ii) technological evolution as result of deliberated R&D activities with an associated cost and preconized with the aim of the obtaining future profits. The human capital, seen as a set of skills, productive habilitations, competences and accumulated knowledge of one individual is in general pointed as the explicative factor of technical progress in the modern endogenous models of growth.

Other modern theories of economic growth followed. The economic growth models based on the spillovers on R&D, innovation and entrepreneurship based on the seminal Schumpeterian theory, and were developed based on the accumulation of knowledge of human capital, resulting from the existence of three sectors: the education sector, the ideas sector and the production of final goods and services. Innovation is strictly related to the accumulation and acquisition of new knowledge and of the existence of entrepreneurship, to all join together to improve the sector of the production of goods and services and to create a sustainable economic growth, with the desirable increasing returns to scale.

In the beginning of the 1990s, the second generation of endogenous growth models had a huge development. These were growth models with the incorporation of R&D in an imperfect competition highlighting the relevance of R&D to the increase of innovation and entrepreneurship to generate an increasing growth rate. The model of Grossman and Helpman (1991a, 1991b) is based on the development of repeated product improvements in a continuum of sectors; in which each product follows a stochastic progression up a quality ladder. This evolution is not uniform across all the sectors, so an equilibrium distribution of qualities evolves over time. This approach conceptualizes product innovation as a process of generating an expanding range of horizontally differentiated products which is empirically and directly applied to issues of resource accumulation and international trade. This authors' model is centered in the endogenous technological progress that results from profit maximizing investments by entrepreneurs, and productivity of innovations depends on the "stock of knowledge capital" reflecting the state of scientific, engineering and industrial know-how of an economy (local or national). The local knowledge capital "*vary positively with the extent of contact between domestic agents and their counterparts in the international research and business communities, and that the number of such contacts increases with the level of commercial exchange*" (Grossman and Helpman (1991b: 517). This model exposes the relationship between innovation, the stock of knowledge capital, entrepreneurship, trade and growth.

According to Rudiger, Peris-Ortiz and Blanco-Gonzalez (2014), entrepreneurship and innovation can provide a way out of economic crisis both in Europe and in other regions. They support this relation in the features of case studies from a variety of industries.

The Schumpeterian growth model of Aghion and Howitt (1992) has as essential the incorporation of future technical progress which is generated by the introduction of systematic innovations. The designation of endogenous refers to the innovations that result from the optimal decisions of firms' entrepreneurs. The Schumpeterian approach contains the relevance of the sector of the ideas and involves the concept of creative destruction as a continuum and resulting from an evolutionary process. Aghion and Howitt (1992) develop their model based on vertical differentiation and in the improvements in the quality of the produced products resulting from R&D and industrial innovations.

At the micro-level, two different perspectives are dominant (Filippetti *et al*, 2013). The first perspective, based on the most dynamic companies, consider that "*innovation and technical change are rooted in a cumulative learning processes and path-dependent patterns that are woven into organizational routines*" (Filippetti *et al*, 2013:303). This is led by well-established companies (Dosi, 1982; Nelson and Winter, 1982; Antonelli, 1997; Dosi & Nelson, 2010; Filippetti *et al*, 2013) that contribute at the firm level to the *creative accumulation.* The second perspective is based in firms that are new innovators, which is based on the assumption that economic turbulence makes it possible for new and small enterprises to emerge in a competitive market through innovation (Tushman & Anderson, 1986; Henderson & Clark, 1990; Freeman & Louçã, 2001; Perez, 2002, 2009). This kind of firms contribute to the c*reative destruction* in the economy.

Schumpeter (1928, 1934, 1942) and the Neo-Schumpeterian ones suggest that economic cycles are a consequence of innovation, but also that innovative activities and innovative organizations are re-shaped by economic crises. The "necessity-based" entrepreneurship is counter-cyclical, i.e. is negatively correlated with the GDP growth rate (Fairlie & Fossen, 2018). So, the motivations for entrepreneurship development during crises is driven by the "necessity-based" entrepreneurship (Dawson & Henley, 2012) to face the situation of unemployment associated to a crisis, as a way to create self-employment and a family subsistence income.

Some studies have been developed, in different countries, about innovation and entrepreneurship and their relation with crises. One can divide it in institutional studies, realized by institutions like the Organization for Economic Co-operation and Development (OEDC), the European Commission, the Innobarometer, the European Innovation Scoreboard; and other research studies developed by authors like Schumpeter (1928, 1939, 1942), Mensch (1979), Freeman (1982, 1984, 1995, 2001), Freeman, Clark and Soete (1982), Freedman and Soete (1997), Van Duijn (1983), Kleinknecht (1987), Dosi (1988), Lundvall (1988, 1992), Grossman e Helpman (1989, 1991), Aghion and Howitt (1992), Nelson (1993), Fagerberg (1994), Freeman and Louçã (2001), Perez (2002, 2011, 2012), Fagerberg and Verspagen (2002), Lundvall and Borras (2004); Von Tunzelmann and Nassehi (2004), Castellacc (2004), Fagerberg and Godinho (2005), Hanusch and Pyka (2007), Hanusch and Wackermann (2009), Filippetti and Archibugi (2010), Thompson and Stam (2010), Filippetti and Archibugi (2010, 2011), Dowson and Henley (2012); Archibugi, Filippetti and Frenz M. (2013). Filippetti, Archibugi and Frenz (2013), Rudiger *et al* (2014), Abbas (2018), Kligler-Vidra and Pacheco-Pardo (2019), between others.

INNOVATION AND ENTREPRENEURSHIP TO OVERCOME ECONOMIC CRISES

The economic and financial crises could be studied in different ways and with different proposes. Some studies overview crises in a historical perspective looking at differences among crises (Shachmurove, 2011; Bordo & Haubrich, 2010, Klomp, 2010); specific mechanics of the shocks triggering a crisis (Gorton, 2008; Shachmurove, 2011); similarities across countries and historical episodes (Reinhart & Rogoff 2008a, 2008b, 2009, 2010a, 2010b; Shachmurove, 2011); and for other authors, crises, booms and busts are an inherent part of the capitalist system´s business cycles (e.g. Bieshaar and Kleinknecht, 1984; Freeman, 1982; Gerster, 1988; Kleinknecht, 1987; Marchetti, 1980; Thompson, 1990; Van Duijn, 1983, 1984).

The Great Depression of the 1930s in the United States of America

Based on Shachmurove (2011) and Thomas (2006), the Great Depression of the 1930s, which started in the United States of America (USA) characterized by having as main causes: the construction boom in the 1920s, the stock market speculative bubble followed by a crash, the banking panic, the implementation of a restrictive monetary policy by Federal Reserve Bank (Fed), low interest rates, and an inadequate regulation of the financial sector.

And with main consequences also at different levels: decrease of sales leading to accumulation of stocks; Gross Domestic Product (GDP) fell about 50%, in nominal terms and 30% in real terms; the industrial production fell by half of its initial value; the unemployment rate rose to 25%; the stock prices lost more than 85% of their value; approximately of 9000 commercial banks failed (impairing the sav-

ings of millions of families); the price level fell by 25%, occurrence of large business bankruptcy with down-sizing.

A regulatory response to the crisis focused in a several measures: the Glass-Steagall Act of1933 (limited the size and scope of banks) and Regulation Q, the Agricultural Adjustment Act; and the first New Deal carried out by the president Roosevelt during 1933-1935 and followed by the 2nd New Deal in the 1935-1940s (Fosaas, 2010; Kleinknechet, 1987; Perez, 2011).

Two decades after the Great Depression, the increase of lots of innovations lead to prosperity and to the Golden Age that characterized the economic growth and development of the 1950s and 1960s.

Economic Crisis in Finland in the 1990s

Based on OECD (2009), the economic crisis of the 1990s in Finland characterized by having as principal causes external shocks, like the collapse of trade with former URSS, and the domestic bank crisis. As main consequences the decrease of output by 10%, the unemployment rate increased to 17%, collapsing the private consumption and the investment spending. The governmental response based on drastic measures to improve competitiveness and consolidate public finance, e.g. some taxes were raised, and some public expenditures were cut – with exception to the R&D spending, which increased instead of being cut (in particular, the counter-cyclical funding support of the Finnish Funding Agency for Technology and Innovation). This favored the development of innovation in Finnish companies, as for example the Nokia. The macroeconomic stabilization was complemented with measures to sustain the investment in infrastructures, education and incentives for structural change, promoting R&D and innovation, which helped to put the Finnish economy on a stronger, more knowledge-intensive, growth path.

Economic Crisis in Korea in the 1990s

Based on OECD (2009), the economic crisis in the 1990s in Korea characterized by having as main cause the Asia financial crisis of late 1990s and with main consequences reflected in a down-sizing among large companies in Korea and huge reductions in corporate R&D spending, than led to the reduction of output and to the increase of the unemployment rate. The response of the Korean government was boosting education expenditure (e.g. new ideas, improvement of technology, and others); an increase on R&D budget to offset the decline in corporate R&D spending; a policy mix measures was put in place with regulations to improve the environment for venture start-ups and their growth; government-backed venture funds and tax incentives for investors; as well as measures to support research.. This crisis was, also, used as an opportunity to develop an SME technology-based sector, using a special law to promote venture firms.

Korea's crisis experience is pointed as illustrating how a good crisis' management can accelerate the structural adjustment. In this case, the innovation and entrepreneurship, based on the increase of R&D labs promoted the economic development to overcome the country from the crisis.

Recent Crisis of 2007

Based on Roubini and Mihm (2010), Filippetti and Archigugi (2010), Ranga and Etzkowitz (2012), Shachmurove (2011), Shahrokhi (2011), Perez (2012) and Pereira (2014), the recent economic crisis that started in 2007 characterized by having as principal causes the speculative housing bubble (low interest

rates, government programs to homeownership, and large trade deficits to foreigners investing) imported by the United States, a credit excess, expansion and collapse of housing prices, the bankruptcy of Lehman Brothers, an effect of contagion to other economies around the world, complex financial products, the market integrated structure of financial systems with low regulation and consequent failure regulation, and the sovereign debt problems of many countries. The main consequences verified at bank and business failures; the output felt; the unemployment rate increased for very high values; the investment felt; large reductions in corporate R&D spending were observed; many failures occurred in the banking system; were verified many impacts in multiple sectors and industries; the gap between rich and poor increased as well as inequality in the distribution of resources. The institutional/governmental response was based in rescue plans to avoid a collapse of the financial and banking systems and limit the economic effects of the credit crunch; economic stimulus packages were provided to aiming to revive economic growth becoming the most common policy tool for government intervention in many countries, including the United States, European Union, China, India, Japan, Australia, Argentina; stimulus packages of varying sizes were adopted in most countries; new financial regulations were implemented at country and international levels; in some European countries in situation of crisis took place the interventions of the Troika (formed by the three international institutions: International Monetary Fund (IMF), European Commission (EC) and European Central Bank (ECB)); and the restructuration of public sector, involving the tax system, and other related ways (Filippetti & Archigugi, 2010; Freund, 2000; Shachmurove, 2011).

For an individual response to the crisis, in each country, the European Commission adopted in November 2008 the 2-year European Economic Recovery Plan, amounting to 200 billion Euros representing about 1.5% of the European Union GDP.

In the more recent crisis, innovation has been one of the keys to emerging from the crisis, but it risks being hit hard by the downturn. The crisis affected innovation and the number of other determinants of long-term growth, the investments in innovation declined in many firms and the crisis had a detrimental effect on entrepreneurship and business dynamism trough many financial constraints (OECD, 2009, 2013).

Nevertheless, according to OECD (2009, p. 6):

The crisis can, however, magnify the competitive advantage of research-intense firms who seize the opportunity to reinforce market leadership through increased spending on innovation and R&D. Many of today's leading firms such as Microsoft or Nokia were born or transformed in the "creative destruction" of economic downturns. And several of today's leading technology firms such as Samsung Electronics, or Google strongly increased their R&D expenditures during and after the "new economy" bust of 2001.

The effects of recession in European countries, related to innovation, based on the analysis done by Filippetti and Archigugi (2010, 2013a), characterized by a situation before the economic downturn by the fact that firms expanding their innovations were well-established, engaged in formal research activities both internally and bought-in, exploiting strong appropriate conditions; strongly involved in collaboration with suppliers and customers; and the technological opportunities verified a positive impact on investment. During the economic downturn, the few firms that increased their innovation investment were characterized for being of smaller size and younger than before; collaborating more with other businesses; exploring new market opportunities; using methods of technological appropriation; less likely to compete on costs; and explore more innovative solutions by looking at opportunities in new markets.

Some Evidence About Crises and Strategies

Innovation is one of the keys to emerging from crises, but it risks being hit hard by the downturn. The recent crisis of the first decade of the XXI century affected innovation and a number of other determinants of long-term growth (OECD, 2009, 2015): Investments in innovation declined in many firms, as well as the entrepreneurship and business dynamism due to the financial constraints, a counterbalance in international trade affects global value chains – that represents a source of innovation, the capital depreciated as consequence of crisis-driven layoffs and unemployment, and decreased the incentives to develop a greener economy. But crises also offers opportunities to foster innovation for sustainable growth, and past experiences demonstrate the opportunities of crisis to enhance innovation performance, for example in the case studies of Finland and Korea in the 1990s, as well as the anti-crisis policy measures that can provide built-in incentives to innovate, to entrepreneurship and to internationalization.

Once the crisis increases the firms' market failures and bankruptcies, the investment in R&D and in innovative activities became to be considered riskier and some of the longer term investments in new technologies were affected. So, there was the necessity to stimulate some measures as strategies to reinforce the resources for innovation that skilled labor and support private investment in innovation and in entrepreneurship. Some policies that can be considered in this context include, according to the OECD (2009, 2010):

- The focus on public support on promising research and innovation affected by the crisis, *e.g.* long-term and risky research, research conducted by start-ups, the reinforcement by business incubators and research addressing societal challenges (environment, ageing, inequality, poverty, etc).
- Stimulation of well-designed public-private partnerships of investments in R&D over the business cycle. This can also be used at the local or regional level, e.g. development of innovative clusters.
- Investments in education, training and research to stimulate demand in the short term and supply in the long term.
- Open and competitive public procurement can also be used to support R&D, contributing to solving social challenges, e.g. mobility, energy, social inclusion, health.
- Reforms in education and training polices, e.g. investing in human capital, education, employment and training.
- Promotion of the development of sustainable and competitive firms and SMEs, as well as promoting the entrepreneurship.

Innovation to Overcome Crisis: Strategies

Considering innovation as relevant to overcome from a financial and economic crisis, the OECD (2010) developed an overview of strategic responses to economic and financial crisis oriented to finance, competition and governance and sustainable long-run growth based in actions, policy recommendations and monitoring/surveillance over the time.

At the same time, other strategies could be taken under the structural factors that could be able to mitigate the effects of economic downturn and the negative impact of the crisis on innovation, at the level of reinforcing the competences and quality of human resources, the development of the specialization in the high-technology sector, and the development and credibility of the financial and credit system (OECD 2009, 2010).

According to different authors and different frameworks, innovation plays a fundamental role in fostering long-term growth performance. So, the existing asymmetries across the economies of European countries lead to different economic and institutional structures between countries representing a determinant factor to the direction of national innovation and economic growth.

This implies that policy-makers rely on European Union innovation policy as a fundamental instrument to prevent, decrease the possible impact faces to potential crises and, in the case of their occurrence, the more easily overcome from the crisis. This relevance it was presented in the *Lisbon Strategy*, with jobs and economic growth focused on innovation, entrepreneurship and in a knowledge-based economy; as well as in the current *Strategy European 2020*, that has innovation on its center, as a means of stimulating a more dynamic, inclusive and sustainable social market economy. In order to decrease the gap in entrepreneurial mind-set the European Institute of Innovation & Technology (EIT) defined as main aims for the European Union to create a more favorable environment for talent and entrepreneurship drove innovation to flourish, special voted to prepare the entrepreneurs of the future. However this measures according to Leceta et al (2017: 119) "*requires both procedural and substantive changes to the way EU acts and regulates, and, at the same time, a multi-level effort towards promoting an integrated, dynamic single market".* To help to restore Europe's innovative potential these authors suggest the improvement according to 3S principles: develop innovation policy to this become more socially relevant, systematic and simple; 3D criteria: innovation policy should focus on development, diffusion and direction; and 3P pillars: innovation policy should follow the three pillars: people, places and policies.

THE ROLE OF INNOVATION AND ENTREPRENEUSHIP IN DRIVING THE ECONOMY: LESSONS FROM GLOBAL CRISES TO FUTURE RESEARCH DIRECTIONS

According to Hausman and Johnston (2013) and Gummesson (2013) the impact of innovation on economy follow some evidence propositions: i) Innovation is positively related to job creation, economic growth and development, creation of wealth, improving the standards of living; ii)Innovation is positively related to increased profitability; iii) Economic stability is positively related to discontinuous innovation; iv) Stimulate increasing levels of innovation: factor conditions in an economic downturn favor innovation as a means to recover.

These prepositions are relevant to support the public and community policies and government funding for innovation, R&D and applied research, education, entrepreneurship, competitive factors, protection of property rights and other legal issues, as well the European National Systems of Innovation, and other issues.

Based in and evolutionary approach, there are parallels between firms and species, which considering that survival through natural selection, the governments and companies must understand evolution as a constant adaptation to change, based on entrepreneurship and innovation to create competitive advantage, improving performance and economic growth, through which only the most able to survive successfully in their adaptation to a new adverse environmental context (Pereira *et al.,* 2011).

CONCLUSION

The main goal of the present chapter was to present an integrated overview of the relevance of innovation and entrepreneurship in contemporaneous economies and as relevant factors to faces and overcome from an economic crisis situation. It was presented and described several theoretical approaches and was investigated the relationship between innovation, entrepreneurship and crises, from an evolutionary perspective, based on a systematic literature review. In this specific orientation, and according to the different frameworks addressed, is possible to conclude for correlations between different dimensions of innovation, postulated by different approaches and authors to overcoming crises in modern economics since the industrial revolution, and passing by the three following industrial revolutions and the Great Depression, as well as to find common patterns in the different frameworks to explain how innovations can drive economic development and growth in long term business cycles. This path, with innovations leading to prosperity times and golden ages of economic growth after the occurrence of a recession through time, was mentioned by Schumpeter (1928, 1934, 1942), Kleinknechet (1987), Perez (2011), and Fosaas (2010).

The current interest and actuality on the topic under study reinforces its relevance and pertinence based in the different frameworks to explain how innovation drives the economy over different perspectives, supported in theoretical approaches and based on empirical evidence from some real case studies about innovation, entrepreneurship and strategies implemented to overcoming recent crisis.

The modern theories of economic growth support the importance of the development of R&D and innovation as a relevant spillover to prevent, protect and decrease the impact of the negative macroeconomic effects of an economic and financial crisis as well as its relevance to overcoming the crisis. The way the sector of education and generation of ideas is implemented in an economy and the development of national systems of education, in one region or in a country, makes all the difference faces to a situation of crisis. In a comparable way, the countries with a more developed educational and innovation implemented system suffer less and for a short period of time the negative effects of a crisis. This evidence is in line with the modern theories of innovation and economic growth (Schumpeter, 1939, 1942; Mensch, 1979; Freeman, 1982; Romer, 1990; Grossman & Helpman, 1991a), 1991b; and Aghion & Howitt, 1992). The entrepreneurship as emphasized by Schumpeter (1942) is a relevant dimension to obtain innovations and to overcoming the crisis.

The public and international institutions develop a key role in the regulation and support through public policies and incentives to develop the educational sector and to promote the continuous improvement and development of the innovation sector and support systems. In this context, the case of open innovation postulated by Chesbrough, Vanhaverbeke and West (2014) may have a valuable contribution.

So, the present work allows to conclude for the huge importance of innovation and entrepreneurship in competitive modern economies (particularly in the case of the more advanced ones and in the industrial sectors more high-tech) during and to overcoming crises.

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Chapter 11
Characterization of Companies Based on Willingness to Innovate and Competitiveness

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ABSTRACT

Companies, as agents of innovation systems, play a fundamental role in the innovative activity of economies. Nevertheless, the existence of barriers to innovation is becoming a low willingness to innovate by companies despite being an important element of competitiveness. These two perceptions are fundamental when deciding to innovate. It also influences the perception of government intervention to encourage innovation. The objective of this study is to analyze the characteristics of Extremaduran companies based on perceptions they have about these two variables: willingness to innovate and assessing innovation as an essential element of competitiveness. Data come from an ad hoc questionnaire focused mainly on variables related to innovation. Obtained results show four profiles of companies based on these characteristics and these results permit to connect them to perceived obstacles to innovation and demanded public policies. The characterization of the companies may be useful for public policies design to stimulate innovation.

INTRODUCTION

It is commonly recognized that innovation is essential for the growth and well-being of economies. Companies, as agents of national and regional innovation systems, play a fundamental role in the innovative activity of economies. Innovation implies important benefits for companies, which is converted into increased productivity and competitiveness. However, knowledge generated by innovation has certain characteristics of public goods (Arrow, 1962; Nelson, 1959), which discourages firms from innovating (Geroski, 1995). This leads to that innovations can be imitated and appropriate, so it reduces the ben-

DOI: 10.4018/978-1-5225-8479-7.ch011

efit of inventors. On the other hand, innovating carries high risks, depending on the type of innovation developed. In addition, innovation requires high costs in most cases and there are financing problems, especially by small and medium enterprises. These factors, together with other internal and external obstacles, discourage the innovative activity of the companies, resulting in the provision of this activity being inferior to the socially desirable one. Occurrence of market failures in the provision of innovative activities by firms justifies that, from an economic point of view, certain public actions are established, through the called Scientific and Technological policies. In practice, these policies tend to be oriented towards the activities more distanced from the market, in which the time taken to obtain results are higher compared with the lower possibilities of generating profits. Therefore, although the concept of innovation includes a wide range of activities, the spending on research and development (R&D) activities, considered an important factor in innovation process, is the most incentivized aspect. The objectives of these policies are not only stimulating realization of innovation activities by firms but also achieve an encouragement and support all the innovation system of the economy. These public actions act both from the point of view of regulation, as well as through non-financial incentives (systems of intellectual and industrial protection, cooperation and dissemination and transfer), and financial incentives (direct public subsidies, through subsidies and soft loans, and indirect, through tax incentives) (COTEC, 2000). Additionally, in current economy based on knowledge and innovation in its broad concept, the intervention of governments is justified by its positive role and the increase in welfare that it brings to societies.

This economic reality justifies the present study. The existence of barriers to innovation is translated into a low willingness to innovate by companies despite being an important element of competitiveness. These two perceptions are fundamental when deciding to innovate, which is influenced by a set of variables such as the size of the company, its degree of internationalization, the perception of internal and external obstacles to innovation, or the importance that companies attach to develop these activities. It also influences the perception of government intervention to boost innovation and the type of actions that would be demanded by companies to be encouraged to innovate or continue carrying out innovative activities. In this sense, the objective of this study is to analyze the characteristics of companies in the Extremadura region (Spain) based on the perceptions they have about these two variables: *willingness to innovate* and *assessing innovation as an essential element of competitiveness*. Based on both perceptions, this paper addresses three main research questions: what characteristics of companies influence the *willingness to innovate* and the *consideration of innovation as an essential element of competitiveness*?; How do the perceived barriers to innovation (internal and external) affect the willingness to innovate of companies and their consideration as an essential element of competitiveness ?; What kind of public actions based on these perceptions are demanded by companies?

In order to reach this objective and answer these questions, the authors use an *ad hoc* questionnaire focused mainly on variables related to innovation and other additional aspects. This survey was conducted during the months of September 2011 and June 2013, obtaining data from companies placed in Autonomous Community of Extremadura, a region located in the southwest of Spain that has a lower innovative activity than national average. Both questionnaires focused on issues not included in other studies on innovation. Thus, additional aspects were considered, such as expectations generated by innovation in companies, obstacles to innovation or the demands of public actions by companies to encourage innovative activity and that would be useful to know and respond better needs of the companies in order to increase innovation in this region. Unlike other questionnaires focused on innovation, two issues are included related to the aspects on which this chapter focuses: the perception of companies of their "willingness to innovate and assume the risks derived from innovation", and the "consideration of in-

novation as an essential element of competitiveness". Firstly, descriptive study detects a temporary image with few variations, highlighting the lack of willingness to innovate among non-innovative companies, although innovation is considered an essential element of competitiveness in both analyzed periods. According to this study, four differentiated profiles of companies are detected in terms of characteristics that companies perceive differently obstacles to innovation and are also detected different types of public actions that companies from Extremadura demands. We can assure that obtained information is interesting and maybe crucial for designing public policy actions, especially regional ones, to promote and stimulate innovation.

The authors consider that this study is interesting and novel at least in two senses. Firstly, in our knowledge field, although there are numerous studies that analyze the innovative activity of companies, the determinants of innovation, and their effect on the competitiveness, there are few studies that analyze these two joint issues (*willingness to innovate* and *assessing innovation as an essential element of competitiveness*) in order to characterize the firms; and, as far as we know, both mentioned variables do not appear in other innovation questionnaires, so it constitutes a novel analysis. Secondly, Extremadura is a region with a lower innovative activity than Spanish average, so that having this information can be useful for the design of public policies and improvement of existing ones in order to encourage innovation, which would translate into greater economic growth for the region. As main contribution of the study we consider that having information about the actions that are demanded by the companies together with the analysis of the factors that inhibit innovation in companies is important because it allows focusing policies to mitigate the impact of these factors in order to increase levels of innovation.

This chapter is organized as follows: in following section a review of most relevant literature related to the objective of the study is carried out; in next section the evolution of several general innovation indicators in Extremadura and its companies is analyzed; later, we present the way of obtaining data and obtained sample by carrying out a descriptive study; in next section, methodology used to perform analysis is explained; the most relevant results and the discussion of them are presented later; finally, we present the main results, some political recommendations, future lines of research and the main conclusions of the study.

BACKGROUND

Innovation developed in a region depends to a great extent on the relations and interactions that take place between different actors that establish innovation systems and on creation of networks and learning. According to this it is essential to recognize cultural role of societies (Delucchi, 2006). Innovation establishes, in this sense, a relationship between legal framework and social context, and we cannot forget geographical environment in which it operates. Proximity between actors of innovation generates establishment of relationships that facilitate creation, accumulation and application of knowledge (González-Pernía, Martiarena, Navarro, & Peña, 2009; Asheim & Isaksen, 2002; Lundvall, 1992). There are numerous studies that conclude in highlighting the key role that innovation plays in the competitiveness of companies and territories, both medium and long term (Porter, 1990; Castillo & Crespo, 2011). Spanish regions have recently recognized importance of managing their innovation systems to stimulate innovative capacity (Asheim & Coenen, 2006; Lundvall & Borrás, 1997). In the case of the Extremadura region,, the Law of Science, Technology and Innovation, Law 10/2010, 16th November (modified by Law 5/2016, 7th June), regulates, first time in Extremadura history, in a global and sistematic way, actions of

public authorities in scientific and technical research, technological development and innovation fields (R&D&I). In this framework, Sixth Plan of R&D&I (VI PRI&D&I_2017-2020) is currently operative as an instrument for planning, promotion, management and execution of R&D&I actions. VI PRI&D&I connects with the Research and Innovation Strategy for the Specialization of Extremadura (RIS3). This document seeks to make more efficient the use of public funds by concentrating R&D&I resources in those economic sectors and knowledge areas that present competitive advantages over other regions. It aims to promote technological and innovative activity and solve some of the associated problems to this industry in the region involving all agents that make up the regional innovation system (SECTI).

There are several studies on innovation related to the regions. In the case of Spain, the study of Buesa (1998) analyses the regional allocation of I+D activities and their results. This author reveals that the existence of innovative firms is the most influential factor in relative position occupied by the different regions in Spain and the interregional differences between them. In Buesa *et al.* (2002) a typology of the regional systems of innovation (RSI) is established. Badiola and Coto (2012) explain the decisive ones generating innovation in the Spanish regions. At international level, Santos and Simoes (2014) analyse the structural barriers and opportunities to promote regional innovation strategies in Portugal; and Niembro (2017) makes a first typology of RSI in Argentina.

Some studies can be found with regard to analysis of innovative activity in particular regions and their companies such as Ruiz (2005) and EOI (2011) that analyze regional innovation and capacity for innovation of SMEs in Andalusia. Fernández y León (2006) carry out a comparative analysis of innovation and technical change through regional indicators related to these activities, especially considering the case of Andalusia in order to know their relative position in European context. Studies of González-Pernía *et al.* (2009), and López-Rodríguez, Faiñas and Manso (2010) are focused in analysis of impact of Basque Country's Regional Innovation System. In the case of Extremadura, Corchuelo and Carvalho (2013), Corchuelo and Mesías (2015, 2016), and Corchuelo, Mesías and Eighannam (2018) assess the innovative activity in Extremadura.

In any innovation system (national or regional), companies occupy a central role in application and exploitation of knowledge. Companies develop technological capabilities that give rise to new processes or products, marketing and organization innovations, as a result of a process of learning and accumulation, a process in which other factors (financial, human resources, commercial, etc.) join in additionally. They are the agents that materialize and transfer new knowledge and technologies to productive system and markets (González, 2003). In addition, companies are part of an innovation system consisting of two levels. *First level* establishes technological relations of the companies with the rest of agents involved in innovation (clients, suppliers, public sector, universities, and technological centers). *Second level* establishes relationships with institutions indirectly related to innovation process in which education system and regulation take part. Companies, together with their own business efforts, need a favourable environment fostered by public authorities that guarantee an adequate regulatory and financial framework, as well as a public research infrastructure and innovation support services. (Sanguino & Tato, 2008).

Given the important role that firms play in the systems of innovation, economists have been interested in determining which factors influence the companies' decision to innovate and the innovation effort. Schumpeter (1942) highlight the existence of a direct and positive relationship between innovation and business size, and between innovation and concentrated markets too. This first factor is justified by the high fixed costs involved in R&D projects that can only be covered if sales are sufficiently high and there are economies of scale and scope in the innovation of production for which the large diversified companies are located in better conditions. The second factor is justified because in concentrated markets

companies with great market power have greater incentives to innovate because they can finance R&D projects with their own resources and can better take advantage of innovation results. From Schumpeter, studies have proliferated that have analyzed the relationship between innovation and size on the one hand, and innovation and market structure on the other hand. Although many of them confirm Schumpeter's hypothesis, the evidence is not totally conclusive in this sense (Symeonidis, 1996). Factors related to the characteristics of the industry in which companies operate influence in the decision to innovate too. Cohen and Levinthal (1989) summarize these inter-industrial characteristics in following three: a) *Demand and size of the market*. Companies that operate in larger sectors are more willing to innovate; b) *Technological opportunities* derived from belonging to specialized sectors; c) *Appropriability conditions* are referred to the instruments that companies can use to capture the benefits of investments in R&D or reduce the costs of imitation. In addition to the above factors, which could be classified as external, the internal factors influence the decision to innovate of companies. In Galende del Canto and Suárez (1998) *physical resources* (the intensity of physical and technological capital), *financial resources* (the existence or not of cash constraints or the way of financing investments), and *intangible resources* (human capital and market resources and organizational ones) available to the company are considered. In relation to internal factors, and considering the *Theory of resources and capabilities* as a theoretical framework (Foss, 1997), organizations are different from each other in terms of the resources and capacities they possess as well as the different characteristics they have (heterogeneity). In addition, these resources and capabilities are not available to companies under the same conditions (imperfect mobility). Heterogeneity and imperfect mobility explain the differences in profitability among companies, even among those belonging to the same industry (Barney, 1991, Peteraf, 1993, Ventura, 1996). The benefit of the company is also a consequence of both characteristics, the competitive of the environment and the combination of the resources available to them. Likewise, companies can maintain heterogeneity over time, so that competitive advantage can be sustainable (Teece, 2007, 2011).

All of these considered factors also determine the barriers to innovation that firms face, and that can vary based on some defined profiles (Baldwing & Lin, 2002; Tourigny & Le, 2003; Iammarino, Sanna-Randacio & Savona, 2009). There is wide evidence about barriers to innovation both at Spanish and international levels. Barriers to innovation could be defined as those factors that make it difficult for a firm to innovate. Barriers to innovation can be external or internal to the company (Segarra, García & Teruel, 2008). External barriers appear mainly when the firm cannot get technological information (Bladwing & Lin, 2002; McCann, 2010; Segarra & Teruel, 2010)), external finance (Tiwari & Buse, 2007; Savignac, 2008; Demirbas, 2008; Silva, Leitão & Raposo, 2008; McCann, 2010; Buse, Tiwari & Herstatt, 2010; Blanchard *et al*, 2012) or skilled staff (Hadjimanolis, 1999; Gália & Legros, 2004; Demirbas, 2008; Silva, Leitão & Raposo, 2008; McCann, 2009; Hernández & González de la Fe, 2013; Canales & Álvarez, 2017). Internal barriers are found when the company lacks internal funds (Hadjimanolis, 1999; Demirbas, 2008; Silva, Leitão & Raposo, 2008; McCann, 2009; Buse, Tiwari & Herstatt, 2010; Blanchard *et al*, 2012) and when it considers that the risks and costs of innovation are too high (Baldwing & Lin, 2002; Savignac, 2008; Silva, Leitão & Raposo, 2008; Madrid-Guijarro, Domingo & Howard, 2009; Segarra & Teruel, 2010; D'Este et al., 2012; Blanchard et al., 2012; Pellegrino & Savona, 2017).

In this context, it is also fundamental to analyze the impact that innovation has on companies. Resources of innovation allow improving competitiveness by affecting positively business results of companies. As aspects of competitiveness that can be improved, reduction of production costs, flexibility of processes, increase in quality or launch of new products stand out (Alarcón & Sánchez, 2014). Some research studies show the importance of innovation activities to improve competitive positions (Buesa &

Zubiaurre, 1999; Bullinger, Auernhammer & Gomeringer, 2004; Verhees & Meulenberg, 2004; Rodeiro & López, 2007; Alarcón & Sánchez, 2013; Durán, 2014; Dogan, 2016; Cruz, 2018; Pérez, Márquez & Sánchez, 2018). García Olaverri and Huerta (1999) carry out a study in which verify that the most competitive companies are those with more advanced technological profile and achieve higher levels of productivity. Other studies indicate the occurrence of bilateral relationships between R&D expense and certain variables such as profit, results and productivity (Branch, 1974; Griliches, 1979; Mairesse & Hall, 1996; Griffith, Redding & van Reenen, 2003, 2004; Blesa & Ripollés, 2005; Olavarrieta & Friedmann, 2008, among others).

Based on this theoretical justification and review of literature, the objective of this study is to analyze the behavioural patterns and typology of the companies located in Extremadura in relation to their intention to innovate and to assume derived risks from innovation and perception of innovation as an essential element of competitiveness. In this sense and in our knowledge, only the study of Corchuelo and Mesías (2017) analyzes this topic applied to the study of agri-food companies.

INNOVATION IN EXTREMADURA

In Extremadura, according to National Statistic Institute (NSI) of Spain, domestic expenditures on R&D (GERD) was € 106 million in 2016 (last available year), representing 0.8% of total national expenditure. The ratio domestic expenditure in R&D over gross domestic product (GERD/GDP) is 0.6%, below 1.19% of the national total and far from the 1.89% of the Basque Country, 1.66% of the Community of Madrid, 1.62% of the Autonomous Community of Navarra and 1.46% of Catalonia, considered the most innovative Spanish regions. Extremadura, thus, occupies the fourth community with the lowest percentage GERD/GDP, after the Balearic Islands, the Canary Islands and Castilla-La Mancha. If we consider activity sectors, business expenditure on R&D (BERD) was € 20.3 million, which represents only 0.3% of the national total. In 2009, eight years earlier, GERD/GDP in Extremadura reached its highest level since 2000, amounting to 0.90%, compared to 1.39% of national total. Since 2009, GERD/GDP has been decreasing, coinciding with the period of economic crisis. Likewise, since 2008, total domestic expenditure on R&D has fallen. In companies sector, there was a recovery in business expenditure on R&D during 2010 and 2011, which then fell to levels close to 2007. Table 1 shows evolution of total domestic expenditure on R&D, total business expenditure on R&D, and GERD/GDP in the period 2000-2016.

Low percentage of R&D expenditures carried out by the private sector stands out. Report of COTEC Foundation from 2016 shows that the business effort in R&D, that is business expenditure on R&D executed by companies as a percentage of regional GDP, has fallen in recent years below 0,2% in 2014, compared to the average for Spain, of 0.65% in same year. This low percentage of private investment in R&D in Extremadura is due, in part, to the high proportion of small and medium enterprises (SME). In 2015, according to the SME Statistics of the Ministry of Industry, Energy and Tourism, 96.7% are micro firms with fewer than 10 employees that tend to have more difficulties participating in R&D&I activities. There is also a lack of high-tech companies, that is, manufacturers and suppliers of high and medium-high technology, which are usually the most actives in R&D&I. In 2015, this type of high-tech companies represented only 0.06% of total in this region.

Table 2 shows number of companies with innovative activities and their intensity of innovation over total number of companies in 2006-2016 period. These data come from Innovation Survey of Companies of the National Statistical Institute (NSI) of Spain. It is important to take into account that this survey

Table 1. Evolution of expenditure on R&D in Extremadura (2000-2016)

Year	GERD (M€)	BERD (M€)	GERD/GDP (%)
2000	56.3	14.9	0.54
2001	66.3	6.4	0.59
2002	71.4	8.5	0.60
2003	80.9	10.1	0.62
2004	56.9	18.3	0.41
2005	103.3	23.9	0.68
2006	117.3	21.2	0.72
2007	128.9	21.3	0.74
2008	156.4	30.3	0.86
2009	154.7	20.4	0.90
2010	151.8	29	0.88
2011	143.8	28.2	0.85
2012	128.4	25.8	0.78
2013	129.6	26.9	0.77
2014	116	25.9	0.70
2015	116.6	20.2	0.67
2016	106	20.3	0.6

Source: R&D Statistics (NSI) and own elaboration

is made with companies with more than 10 workers, being main business size in Extremadura of fewer than 10 workers. It is observed an important decrease that takes place from the year 2009 although it begins to appear a recovery from the year 2013. However, the recovery in 2016 does not yet reach the levels that were 10 years ago.

This decrease in investment in R&D in Extremadura, will be tried to alleviate through Law 5/2016, 7th June (modification of Law 10/2010, 16th November, of Science, Technology and Innovation of Extremadura), which commits to the growing contribution of the Government of Extremadura for financing current Research, Development and Innovation Plan of Extremadura (VI PRI+D+I).

DATA AND DESCRIPTIVE STUDY

Data

An *ad hoc* questionnaire was elaborated focused mainly on variables related to innovation and other additional aspects. Its design is similar in some respects to the Innovation Survey of Companies elaborated by the National Statistical Institute (NSI) of Spain although tailored to the needs and objectives of the study that incorporates new questions and issues. The survey was conducted during the months of September 2011 and June 2013.

Table 2. Extremaduran companies with innovative activities and innovation intensity (2006-2016)

Year	Companies With Innovative Activities	Innovation Intensity (% Total of Companies)
2006	366	0.42
2007	412	0.32
2008	402	0.68
2009	309	0.41
2010	280	0.64
2011	278	0.36
2012	186	0.39
2013	246	0.39
2014	219	0.35
2015	224	0.23
2016	244	0.32

Source: Innovation Survey of Companies (NSI) and own elaboration

This questionnaire titled: *Diagnosis about innovation in business sector of Extremadura* was structured around five blocks of questions: in the Block I: Characterization data of the company (name of company, location, sector of activity, size, turnover, export activity, types of production processes and characteristics of informant); in Block II: Innovation developed during the last two/three years, type of innovation, types of expenses on technological and non-technological innovation, types of innovation protection, way of financing innovation and degree of importance of innovation; in Block III: perception of the importance given to innovation by companies, perception of barriers to innovation, benefits derived from innovation, valuation of the willingness to innovate and valuation of innovation as a key element of competitiveness; Block IV: Knowledge about financial public support: grade of knowledge and application of direct support (regional, national or international) and/or R&D fiscal incentives and difficulties for their application; and, Block V: Demanded public actions by firms to boost innovative activities.

Companies in the sector of manufacturing and knowledge intensive business services (KIBS) of the Autonomous Community of Extremadura were contacted. For manufacturing sector, disaggregation into three subsectors or groups of activity was made: agri-food Industry, Energy, and Other industry sector. Final sample obtained is formed by 777 companies in 2011 and 524 companies in 2013. Methodology was surveying by assisted telephone interview (CATI system). The participation of companies was voluntarily (unlike the Innovation Survey of Companies of the NSI). There have been various statistical tests to confirm robustness of the samples during both waves of data: 2011 and 2013. Table 3 shows the technical data sheet for collection of data.

Descriptive Study

Table 4 shows distribution of total sample according to number of employees and sector of activity in two analyzed years (2011 and 2013). It is observed, for both years, reduced size of companies: 83.7%

Table 3. Technical data sheet[1]

Universe	Extremaduran companies (DIRCE): 2011 Y 2013
Sample size	777 (2011) - 524 (2013) firms
Sample error	For sample as a whole (95% confidence level and maximum indeterminacy p = q = 0.5)
Sampling method	Sampling process has been carried out by stratification with apportionment according to the size of the company, the sector of activity and the geographical location of the company. Weighting factor of each of these strata is specified in order to obtain statistical representativeness according to the universe under study.
Methodology	Assisted telephone interview (CATI system)
Fieldwork	September 2011-June 2013

Note: DIRCE (General Directory of Companies) (NSI).

Table 4. Distribution of sample by number of employees and sectors of activity (number of companies)

Number of Employees	<10	10-49	50-199	>200	Total
2011					
Agri-food	120	24	3	0	147
Energy	15	10	7	1	33
Other industry sector	374	54	5	1	434
KIBS	141	20	1	1	163
Total	650	108	16	3	777
2013					
Agri-food	112	31	7	0	150
Energy	9	5	0	1	15
Other industry sector	235	48	7	1	291
KIBS	59	8	1	0	68
Total	415	92	15	2	524

in 2011 and 79.2% in 2013 have less than 10 employees; 91.8% in 2011 and 96.8% in 2013 have less than 50 workers.

According to general analyzed characteristics of the firms (Block I of the questionnaire), companies have a creation date predominantly older than ten years, this characteristic determine that they are mature firms. In 2011, only 10.8% of companies are less than 10 years old since their creation and 12.4% in 2013. On the other hand, the number of firms that confirms to perform export activities is low: 18.4% of total firms in 2011 and 21% in 2013. Innovative companies are more used to export (60% of export firms in 2011 are innovative and there is a slightly increased to 62% in 2013).

From the point of view of innovation activities (Block II of the questionnaire), from the 777 available companies in sample from 2011, 257 declare to have carried out during the last two/three years (period 2009-2011) some innovation activity (technological: product and/or process; and/or non-technological: organizational and/or marketing) which is 33% of the total. Of these, 72.4% (almost 24% of the total sample) are companies with fewer than 10 employees, which highlights the fact that the special characteristics of the Extremadura business structure are mainly based on micro firms. By sector, 27.5% of

innovative firms are manufacturers (28% in agri-food, 72.7% in energy and 24.1% in other industries of the total innovative manufacturer firms) and the remaining 49% are KIBS. In 2013, 212 companies (40.4% of the total sample) reported having performed some innovation activity (product, process, organizational and/or marketing) during the previous three years (2011-2013). Of these innovative firms, 79.2% are companies with less than 10 employees, with 63.67% of them having fewer than 7 employees. By sector, 36.4% of the innovative firms are manufacturers (42.7% in agri-food, 53.3% in energy and 32.3% in other industries of the total innovative manufacturer firms) and the remaining 67.6% are KIBS. The most innovative sectors are energy and KIBS. Table 5 shows number of innovative companies by activity sector and size in both analyzed periods.

According to type of developed innovation, in 2011, 44.4% of innovative companies declare to carry out product innovations; 68.8%, process innovations; 20.2% organizational innovations and 20.2% marketing innovations. In 2013 percentages vary, 62.7% of innovative companies declare to carry out product innovations; 46.2% process innovations; 9.4% organizational innovations, and 12.3% marketing innovations. Table 6 shows, for both analyzed years, that it is greater, in relation to total number of companies and in percentage terms, number of firms that make technological innovations (product or process innovation) compared to non-technological innovations (organizational or commercial innova-

Table 5. Innovative firms by number of employees and sectors of activity (number of companies)

Number of Employees	<10	10-49	50-199	>200	Total
2011					
Agri-food	28	12	1	0	41
Energy	11	7	5	1	24
Other industry sector	82	25	4	1	112
KIBS	65	13	1	1	80
Total	186	57	11	3	257
2013					
Agri-food	41	18	5	0	64
Energy	3	4	0	1	8
Other industry sector	71	19	3	1	94
KIBS	39	6	1	0	46
Total	154	47	9	2	212

Table 6. Firms by type of innovation

	2011 Number of Firms (% Innovative Firms)	2013 Number of Firms (% Innovative Firms)	% Var. 2011-2013
Product innovation	114 (44.4)	133 (62.7)	41.4
Process innovation	177 (68.9)	98 (46.2)	-32.8
Organizational innovation	52 (20.2)	20 (9.4)	-53.4
Commercial innovation	52 (20.2)	26 (12.2)	-39.4

tion). Likewise, in 2013 number of companies that perform product innovations increases and those that perform process innovations and non-technological innovations are reduced.

For the purpose of this study, the perceived obstacles to innovation by the companies are analyzed. Seventeen barriers to innovation are asked to evaluate in Block III of the questionnaire: lack of internal and external funds, too high costs, lack of qualified personnel, lack of information about technology, lack information about markets, barriers to find partners in innovation, high economic risks, markets dominated by established firms, insufficient flexibility on rules and regulation, rigidity in organization practices, difficulty to protect innovation, high risk of imitation, lack of government support, lack of demand for innovation, absence of mediators on innovation and no needs of innovations in the markets. Companies assess the perception about these obstacles on a Likert scale of 0 (little importance) to 10 (very important). In general terms and in both analyzed years, the obstacles more valued by companies are, on average, *lack of internal and external funds*, *too high costs*, *high economic risks*, *markets dominated by established firms*, *insufficient flexibility on rules and regulation*, *lack of government support*, and *no needs of innovations in the markets*. Another interesting result is that, relatively, there is a higher perception of the barriers of non-innovative versus innovative companies.

Likewise, in the Block III of the questionnaire, firms' evaluation about two issues is analyzed: *willingness to innovate and take risks of innovation*, and *assessment of innovation as an essential element of competitiveness*. Both issues are novel and are not considered in other innovation questionnaires nationally and internationally. They constitute, as it will be seen later in the Methodology section, the essential variables for the purpose of determining the characterization of companies. A Likert scale of 0 (low disposition or low competitiveness valuation) to 10 (high disposition or high competitiveness valuation) is used. These variables have been recoded in others to analyze descriptively the answers of the companies generating the following ones: *low willingness to innovate* (valuation 0 to 4), *medium willingness to innovate* (valuation 5 to 7) and *high willingness to innovate* (valuation 8 to 10); *low valuation of innovation as an essential element of competitiveness* (valuation 0 to 4), *medium valuation of innovation as an essential element of competitiveness* (valuation 5 to 7), and *high valuation of innovation as an essential element of competitiveness* (valuation 8 to 10). Table 7 shows percentage of companies that make assessments in each category, distinguishing between innovative and non-innovative firms in the analyzed years.

A low variation is observed in both analyzed years. On one hand, predominant pattern in non-innovative companies is the low valuation in willingness to innovate (68.5% in 2011 that increases to 69.5% in 2013). Only about one third of non-innovative companies have a medium or high willingness to innovate. Conversely, percentages change when it is asked about the consideration of innovation as an essential element of competitiveness. In this case, from non-innovative companies (90.5% in 2011, which is reduced to 72.8% in 2013) value the importance of innovating on increasing the competitiveness of companies. Reduced willingness to innovate of non-innovative companies can be motivated by different reasons as obstacles to innovation, small markets, or a low demand for innovations. On the other hand, there is a greater willingness to innovate of innovative companies: 85.3% in 2011 and 72.1% in 2013 have a medium or high willingness to innovate, and greater percentage of innovative companies assesses the importance of innovation as an essential element of competitiveness.

Finally, in last block of questions (Block V), firms are asked about public policy actions that would be demanded in order to promote and stimulate performance of innovative activities or increase expenditure to innovation in those companies that are innovative. Public policy actions that firms are asked about are: *personalized advice*, *direct public support for R&D (subsidies, soft loans)*, *information*

Table 7. Assessment about Willingness to innovate and assume risks/Innovation as key of firm's competitiveness

	Low	Medium	High
Willingness to Innovate			
2011 (% Firms)			
Non- innovative firms	68.5	20.9	10.6
Innovative firms	18.4	39.7	41.8
2013 (% Firms)			
Non- innovative firms	69.5	20.1	10.4
Innovative firms	27.9	30.2	41.9
Competitiveness			
2011 (% Firms)			
Non innovative firms	12.1	35.9	52.1
Innovative firms	3.6	16	80.4
2013 (% Firms)			
Non innovative firms	27.2	47.7	25.1
Innovative firms	6.9	47.2	45.9

seminars, *indirect public support for R&D (fiscal benefits)*, and *free training*. Table 8 shows percentage of companies that declare to need some demands over the total number of firms. Innovative and non-innovative companies are analyzed separately in both anlyzed years. The most demanded public actions are *personalized advice* and *direct financing public support*. Comparatively, non-innovative companies demand more public actions to boost innovation activities.

METHODOLOGY

According to the objective of this study, we analyzed the characteristics of Extremaduran companies based on perceptions they have about the variables shown in Table 7: *willingness to innovate* and *assess-*

Table 8. Public policy actions demanded by the firms (% total of firms)

Type of Public Policy Actions	2011		2013	
	% Non-Innovative Firms	% Innovative Firms	% Non-Innovative Firms	% Innovative Firms
Personalized advice	43.6	48.2	39.7	51.9
Direct public support (subsidies, soft loans)	53.1	56.8	65.1	65.1
Information seminar	18.6	26.5	20.8	30.5
R&D fiscal benefits	42.9	40.5	36.5	37.3
Free training	14.6	22.6	18.6	26.4

ing innovation as an essential element of competitiveness. It is hypothesized that these two perceptions determine different profiles of companies.

The methodology used for this purpose is a bivariate probit model. In this model, we consider that *willingness to innovate an assume innovation risks* and *valuation of innovation companies as an important factor of competitiveness*, are random variables that can be determined separately, although allowing occurrence of correlation between random terms of both variables. Proposed model is as follows (Corchuelo & Mesías, 2017):

$Dispe = 1 \text{ if } Dispe^* = b_D X + e_s > 0,$

$Dispe = 0$ otherwise

$Compe = 1 \text{ if } Compe^* = b_C X + e_t > 0$

$Compe = 0$ otherwise

where *Dispe* and *Compe* are the dependent variables. Both are binary variables that have been built as follows: *Dispe* takes value 1 if the willingness to innovate and assume risks of innovate is high-medium, and 0 in other case (low valuation); *Compe* takes value 1 if a company considers that innovation as an element of high-medium competitiveness, and 0 otherwise (low valuation). It is supposed that random terms are distributed together as a bivariate normal $BN(0,1,\rho)$.

This model allows distinguishing four profiles of mutually exclusive companies: i) *high-medium willingness to innovate and high-medium competitiveness (1,1)*; ii) *high-medium willingness to innovate and low competitiveness (1,0)*; iii) *low willingness to innovate and high-medium competitiveness*; and, iv) *low willingness to innovate and low competitiveness.* There are thus four sets of joint probabilities.

As independent variables (*X*), firstly, general characteristics of companies are considered: binary variable *dexport*, that takes value 1 if this company declares to be an exporter firm, and 0 otherwise; binary variable *dmicrofirm*, that takes value 1 if a company has fewer than 10 employees, and 0 otherwise, to take into account size of different companies; *dmanuf* variable that takes value 1 if specific company is manufacturing, and 0 otherwise; and a binary variable that indicates whether studied company is innovative or not: *dinnov*, that takes values 1 if the company have developed innovative activities, and 0 otherwise. Secondly, we also take into account variables of obstacles including those that are valued mainly by companies: binary variable *dlinternalfunding*, which takes value 1 if company values with high-medium consideration lack of internal financing as an obstacle to innovation, and 0 otherwise; binary variable *dlexternalfunding*, which takes value 1 if the company values with high-medium consideration lack of external financing as an obstacle to innovation, and 0 otherwise; binary variable *dhcost*, that takes value 1 if company values high costs as an obstacle to innovation, and 0 otherwise; binary variable *drisk*, which takes a value of 1 if these companies values with high-medium consideration occurrence of high risks as an obstacle to innovation, and 0 otherwise; binary variable *dmarkets*, which takes value 1 if a company values with high-medium consideration occurrence of companies established in market as an obstacle to innovation, and 0 otherwise; binary variable *dregulation*, that takes value 1 if company of study values with high-medium consideration lack of flexibility in regulation to innovate as an obstacle to innovation, and 0 otherwise; binary variable *dlgovsupport*, which takes value 1 if firms value with high-medium consideration lack of help from public administrations as an obstacle to innovation, and

0 otherwise; and the binary variable *dnoneed*, that takes value 1 if company values with high-medium consideration that it does not need innovations in market as an obstacle to innovation, and 0 otherwise. Finally, binary variables that display public demands for innovation that are demanded by companies to boost innovative activities are also included: *dpersadvice*, that takes value 1 if companies demand personalized advice, and 0 otherwise; *dsubv*, that takes value 1 if companies demand more direct public support, and 0 otherwise; *dinfo*, that takes value 1 if companies demand seminar information, and 0 otherwise; *dtaxcredit,* that takes value 1 if companies demand tax incentives for R&D, and 0 otherwise; and *dfreef*, that takes value 1 if companies demand more free training, and 0 otherwise. Table 9 shows descriptive statistics (mean and standard deviation) of the variables considered in both analyzed years.

RESULTS AND DISCUSSION

Results

Table 10 shows obtained results that come from biprobit model in both analyzed years. The average of marginal effects for each observation, calculated for each value of the independent variables (Average Marginal Effect- AME) on joint probability, has been obtained. In both models, it is obtained that correlation hypothesis of errors (that means if both decision processes are interdependent or not) shows that they are correlated. This implies that it is better to use this procedure than probit models separately. If a positive sign is obtained, it shows that the higher value of the variable, the higher probability in the joint probability exist; meanwhile a negative sign indicates that the higher value of the variable, the lower probability in the joint probability exist. Likewise those variables that are statistically significant through the use of "*" are also shown, which indicates that this coefficient is significantly different from zero with a level of significance of 1% (***), 5% (**) or 10% (*). For the rest of variables without

Table 9. Descriptive statistics

Variables	2011 Mean (s.d)	2013 Mean (s.d.)
Dispe	0.453 (0.498)	0.408 (0.492)
Compe	0.862 (0.344)	0.614 (0.487)
dexport	0.185 (0.388)	0.210 (0.407)
dmicrofirm	0.837 (0.370)	0.791 (0.406)
dmanuf	0.790 (0.407)	0.870 (0.336)
dinnnov	0.331 (0.470)	0.405 (0.491)
dlinternalfunding	0.260 (0.438)	0.504 (0.500)
dlexternalfunding	0.244 (0.430)	0.582 (0.493)
dhcost	0.254 (0.436)	0.488 (0.500)
drisk	0.243 (0.429)	0.614 (0.487)
dmarkets	0.215 (0.411)	0.278 (0.448)
dregulation	0.175 (0.380)	0.315 (0.464)
dlgovsupport	0.221 (0.415)	0.587 (0.492)
dnoneed	0.169 (0.375)	0.133 (0.344)
dpersadvice	0.451 (0.497)	0.446 (0.497)
dsubv	0.543 (0.498)	0.650 (0.477)
dinfo	0.212 (0.409)	0.246 (0.431)
dtaxcredit	0.420 (0.494)	0.379 (0.485)
dfreef	0.172 (0.378)	0.217 (0.412)

Table 10. Willingness to innovate and competitiveness (joint probability)

	(1,1) ***dy/dx*** **(s.e.)**	**(1,0)** ***dy/dx*** **(s.e.)**	**(0,1)** ***dy/dx*** **(s.e.)**	**(0,0)** ***dy/dx*** **(s.e.)**
Year 2011				
Dexport	0.058 (.040)	0.009 (.008)	-0.067 (.042)	0.000 (.028)
dinnov	0.168 (.062)**	0.030 (.012)**	-0.210 (.059)***	0.110 (.038)
dmicrofirm	-0.163 (.042)***	-0.002 (.009)	0.099 (.047)**	0.067 (.030)**
dmanuf	-0.167 (.038)***	-0.005 (.007)	0.021 (.040)**	0.061 (.027)**
dlinternalfunding	-0.106 (.113)	-0.017 (.022)	.0122 (.113)	0.001 (.007)
dlexternalfunding	0.081 (.089)	-.057 (.017)**	0.177 (.081)**	-0.200 (.073)**
dhcost	0.217 (.100)**	0.017 (.018)	-0.124 (.094)	-0.094 (0.067)
drisk	-0.027 (.105)	-0.073 (.028)**	0.298 (.115)**	-0.197 (0.087)**
dmarkets	0.156 (.091)*	0.009 (.026)	-0.121 (.106)	-0.047 (.091)
dregulation	-0.015 (.093)	0.059 (.037)*	-0.220 (.0123)*	0.176 (.108)
dlgovsupport	-0.025 (.088)	0.054 (.023)**	-0.192 (.098)	0.164 (.082)*
dnoneed	-0.051 (.076)	0.093 (0.16)	0.064 (.080)	-0.003 (.054)
dpersadvice	0.101 (.029)***	-0.011 (.006)	-0.013 (.032)	-0.077 (.020)***
dsubv	0.102 (.028)***	-0.002 (.006)	-0.048 (.031)	-0.052 (.018)**
dinfo	0.043 (.037)	0.001 (.008)	-0.028 (.041)	-0.016 (.019)
dtaxcredit	-0.020 (.029)	-0.007 (.006)	0.039 (.032)	-0.012 (.019)
dfreef	0.039 (.038)	-0.001 (.008)	-0.019 (.041)	-0.019 (.028)
Nº observations	127	21	322	299
Year 2013				
dexport	0.098 (.046)**	0.001 (.012)	-0.007 (.039)	-0.091 (.047)*
dinnov	0.247 (.033)***	0.035 (.011)***	-0.126 (.032)***	-0.156 (.037)***
dmicrofirm	-0.039 (.048)	0.000 (.011)	0.001 (.038)	0.238 (.049)
dmanuf	-0.086 (.056)	0.000 (.013)	0.001 (.043)	0.084 (.059)
dlinternalfunding	-0.035 (.050)	-0.013 (.013)	0.045 (.043)	0.003 (.050)
dlexternalfunding	0.086 (.048)	0.001 (.012)	-0.004 (.041)	-0.005 (.049)
dhcost	-0.024(.043)	-0.003 (.011)	0.011 (.036)	0.015 (.043)
drisk	0.181 (.042)***	0.003 (.010)	-0.018 (.034)	-0.167 (.042)***
dmarkets	-0.007 (.046)	-0.004 (.012)	0.014 (.039)	-0.002 (.047)
dregulation	-0.016 (.043)	-0.011 (.011)	0.036 (.037)	-0.009 (.043)
dlgovsupport	0.016 (.042)	-0.011 (.011)	0.036 (.037)	-0.041 (.043)**
dnoneed	0.089 (.056)	0.011 (.013)	-0.041 (.044)	-0.059 (.057)
dpersadvice	0.036 (.038)	0.011 (.010)	-0.036 (.034)	-0.007 (.038)
dsubv	-0.062 (.038)	-0.015 (.010)	0.053 (.033)*	0.023 (.039)
dinfo	0.098 (.044)**	-0.021 (.012)*	0.066 (.037)*	-0.143 (.045)***
dtaxcreditc	0.049 (.037)	-0.003 (.009)	0.009 (.030)	-0.055 (.038)
dfreef	-0.134 (.047)**	0.000 (.010)	0.005 (.036)	0.129 (.048)**
Nª Observations	68	35	64	347

Notes: Dependent variables: *Dispe* = high-medium willingness to innovate and take risks from innovation (1), and *Compe* = valuation of innovation as a high-medium important factor of competitiveness (1).

Each column shows the estimated average marginal effect of the covariates in each joint probability.

Columns: (1,1) *high-medium willingness to innovate and competitiveness*; (1,0) *high-medium willingness to innovate and low competitiveness*; (0,1) *low willingness to innovate and high-medium competitiveness*; (0,0) *low willingness to innovate and competitiveness.*

Year 2011: The total number of observations is 769; log pseudo likelihood = -678.72; Wald chi2 (34) = 249.28; Prob> chi2 = 0.000.

Year 2013: The total number of observations is 514; log pseudo likelihood = -550.073; Wald chi2 (34) = 121.87; Prob> chi2 = 0.000.

***, ** and * significance at 1%, 5% and 10% level.

"*" means that the level of significance is not within the usually accepted range, so the hypothesis that coefficient is equal to zero cannot be rejected.

In columns 2 to 5 it can be observed aforementioned 4 profiles of companies that are obtained from joint analysis of probabilities: *(1,1): high-medium willingness to innovate and competitiveness*; *(1,0)*

high-medium willingness to innovate and low competitiveness; *(0,1) low willingness to innovate and high-medium competitiveness*; and, *(0,0)low willingness to innovate and competitiveness.*

Overall, a series of results are observed: firstly, according to general characteristics variables, companies that present a higher willingness to innovate (high or medium willingness to innovate) are innovative companies, being common this characteristic in the companies belonging to the profiles *(1,1)* and *(1,0)*. Conversely, for companies that have a low willingness to innovate and take risks derived from innovation (profiles *(0,1)* and *(0,0)*), the fact of being innovative decreases this probability, but increase it having a smaller size (fewer than 10 workers) and belonging to manufacturing sector; secondly, in relation to perception of obstacles to innovation, obtained results vary in the different profiles and are differently valued; finally, demands for public policy actions also vary depending on group of companies derived from the joint probabilities.

In particular, companies are characterized according to these following profiles:

Profile (1,1): *High-medium willingness to innovate and take risks of innovation and high-medium consideration of innovation as a key element of competitiveness.*

Companies in this profile represent 16.5% of total sample of firms in 2011 and 13.2% of total sample in 2013. These companies see the importance of innovating on the results of its company and on its position in market. Firms value importance that introduction of innovations generate due to emergence of additional benefits by differentiating themselves from their competitors or anticipating them through an increase in sales (*differentiation strategy*).

In column 2 from Table 10 it is observed that being innovative and exporting increases the joint probability, while having a smaller size (fewer than 10 workers) and belonging to the manufacturing sector decreases the joint probability. Regarding the obstacles to innovate, it is observed that the perception of high costs, existing firms established in the market and high economic risks increase the joint probability by 21.7%, 16% and 18.2%, respectively. This means that these companies value risk of innovating, possibility of differentiation in market, and increase of competitiveness. In this sense, companies belonging to this group demand some public policy actions linked to these obstacles: personalized advice (10.1%), public financial support (10.3%), and information seminars (9.3%) that increase the joint probability.

Therefore, in this profile there are innovative companies, exporters, with a larger size and belonging to sector of intensive services in knowledge (KIBS). They value the obstacles derived from high costs and economic risks that allow them to increase their competitiveness, so demand more personalized advice about innovation activities, specialized information seminars and more direct public financial support in order to promote and stimulate innovative activity.

Profile (1,0): High-medium willingness to innovate and take risks of innovation and low consideration of innovation as a key element of competitiveness.

Companies in this profile represent the lowest percentage of the firms: only 2.7% of total sample of companies in 2011 and 6.8% in 2013. These companies consider the importance of innovating regardless of the influence it has on their results. They only consider the importance of innovating in reducing costs or providing goods and services.

In column 3 from Table 10 it can be observed that being innovative increase the joint probability of belonging to this profile but no other characteristics as being exporter, size or sector have an influence

in the probability. Regarding to perceived obstacles, the lack of external financing (5.7%) and high economic risks (7.3%) decrease the joint probability, which shows that, in contrast to the companies from the above profile, competitiveness or situation in the market is not valued. Conversely, barriers derived from lack of flexibility in regulation (5.9%) and lack of support from public administrations (5.3%) increase the joint probability. Only having more specialized information seminars increase the joint probability (2.1%) that is the public action demanded by this type of companies.

Profile (0,1): Low willingness to innovate and take risks of innovation and high-medium consideration of innovation as a key element of competitiveness.

Firms in this profile constitute the highest percentage (41.8%) in year 2011, which decreases, however, in 2013 (12.4%). This group is constituted by companies that consider importance of innovating in order to improve their position and competitiveness in markets, although they perceive obstacles that prevent this type of activity, which is reflected in a lower willingness to innovate.

In column 4 from Table 10 it can be observed that, as general characteristics, being innovative decreases the joint probability while small size (fewer than 10 workers) and belonging to the manufacturing sector increase the probability. Regarding obstacles perceived, lack of external financing and high economic risks increases the joint probability by 17.6% and 29.8%, respectively. This would justify the lower willingness to innovate. Conversely, other obstacles such as the lack of flexibility in regulation (22%) and the lack of support from public administrations (19.3%) reduce the joint probability. Companies in this profile demand as public actions to stimulate innovation greater public financial support and specialized information seminars about innovation.

Profile (0,0): Low willingness to innovate and take risks of innovation and low consideration of innovation as a key element of competitiveness.

Companies with this profile constitute 38.8% of total number of firms in 2011 and strongly increase to 67.5% in 2013. As general characteristics, it is shown in in column 5 from Table 10 that being innovative (15.6%) and exporting (9.1%) decreases the joint probability, while small size (fewer than 10 workers) and being manufacturer increase the joint probability by 6.7% and 6.1%, respectively. As perceived obstacles, lack of external financing (20%) and high economic risks (19.7%) decrease the joint probability (19.7%); while lack of support from public administrations increases (16.4%) the probability. These firms demand more free training oriented to innovative activities in order to promote and stimulate innovation. This group consists mainly of small and non-innovative companies.

Discussion

Overall, previous results show that the obstacles to innovation are perceived as inhibitors or enhancers of the innovative activity of companies. They play an important role in their decisions as having a lower or greater willingness to innovate in spite of consider innovation as a key element of competitiveness. In particular, results show that, for Extremaduran firms, certain obstacles such as *lack of external financing*, *high costs* and *high economic risks*, *lack of flexibility in regulation* and *lack of support from public administrations* are valued in different ways according to the obtained profiles of companies and they influence their characteristics in the decision of performing innovation activities. Based on these

characteristics and perceived obstacles, different public actions are demanded by companies being this aspect important in the design of public policies that boost innovative activities in the firms of the region.

There are numerous studies that detect these obstacles and their influence on probability of innovative activity and other decisions applied to companies from different countries. *Lack of external funding* is shown in studies such as those of Hadjimanolis (1999) for companies from Cyprus; Silva, Leitão and Raposo (2008) for Portuguese firms; Savignac (2008) and Blanchard et al (2012) in France; McCann (2010) D'Este et al. (2012) and Pellegrino and Savona (2017) for United Kingdom; and Dermibas, Hussain and Matlay (2011) in Turkish firms.

Existence of *high costs* as an important obstacle to innovate is evident in several studies such as those of Madrid-Guijarro et al. (2009), Segarra and Teruel (2010), and Hernández and González de la Fe (2013) for Spanish companies; Baldwin and Lin (2002), and Tourigny and Le (2004) in Canada; Silva, Leitão and Raposo (2008) in Portugal; Savignac (2008) and Blanchard et al (2012) in France; McCann (2010) and D'Éste *et al.* (2012), and Pellegrino and Savona (2017) in United Kingdom; Tiwari and Buse (2007) and Buse, Tiwari and Herstatt (2010) in Germany; Necadová and Scholleová (2011) in Czech Republic; or Kamalian, Raski and Arbabi (2011) for Irani companies.

Obstacles linked with *high economic risks* are shown in some studies such as those of Comtesse, Hodgkinson and Krug (2002) in Switzerland; McCann (2010) in UK; or Necadová and Scholleová (2011) in Czech Republic.

The studies of Hadjimanolis (1999), D'Este et al. (2012), Hernández and González de la Fe (2013), Tiwari and Buse (2007), Buse, Tiwari and Herstatt (2010), and the pioneering study of Piatier (1984) conclude about obstacles to innovate related with *excessive bureaucracy*, *lack of flexibility in regulation* or *lack of support from public administrations*. For the special case of the region of Extremadura, we can highlight studies from Corchuelo and Carvalho (2013), and Corchuelo and Mesías (2015, 2016) that analyze presence of obstacles in probability of innovation of companies.

SOLUTIONS AND RECOMMENDATIONS

According to obtained results, the perception of different obstacles to innovation influences the low willingness to innovate by companies from Extremadura. However, obstacles are perceived differently according to different profiles of companies. According to previous affirmation, various public policy actions are demanded by companies in order to reduce the perception of lack of support from public administration that is revealed as an important barrier to innovation. Despite actions carried out by regional government to regulate, promote and stimulate innovative activity through various programs such as the establishment of institutional framework that make up the regional innovation system through the Law of Science, Technology and Innovation, the financial actions included in the different Regional Programs (currently VI PRI&D&I), and the Regional Research and Innovation Strategy for Intelligent Specialization (RIS3_2014-2020), Government of Extremadura still have possibility of proposing improvements through actions that, according to demands of companies, increase public-private cooperation and boost innovation in the firms of the region. Among them, offer personalized advice, mainly to companies that have a high willingness to innovate, increase training through specialized seminars, and provide enough public support by subsidies or soft credits for smaller companies and firms with a lower innovative willingness in order to increase the willingness to perform innovative activities.

FUTURE RESEARCH DIRECTIONS

The authors are aware that this study has some limitations mainly motivated by difficulty of obtaining data (the questionnaire is not compulsory for companies), although finally we have got a fairly representative sample of Extremaduran business reality. It is important to point out that, unlike official data offered by NSI of Spain, available data from the questionnaire are from companies with fewer than 10 workers that, as it is has been analyzed, constitutes the principal size of Extremaduran business structure. This means that we are be able to study the innovative behavior of the most representative firms that develop business activities in the region.

Another limitation of the study is that we have information about only two periods (2011 and 2013). Spanish and regional economic crisis must be taken into account in these periods of time. Data obtained come from a recessionary environment; which could also be related to a higher or lower willingness to innovate.

These limitations, joint with obtained results, provide us the basis for further studies founded on several directions that lead to:

1. First of all, it would be very interesting, with the available data, to deepen into the specific innovative characteristics and barriers to innovation that are perceived by Extremaduran firms. In this sense, it would be convenient to have access to continuous variables such as number of employees, turnover, export volume, R&D expenditures, and personnel dedicated to R&D, etc. In the questionnaire, and for confidentiality reasons, variables as turnover and number of employees are asked as different stretches and other variables such as export is asked indicating whether these activities are carried out or not, so we did not available these type of variables in order to obtain more detail results. Another problem is the lack of answers in some quantitative questions as the expenditure in different type of R&D activities.
2. Further extend in analysis of the factors that can influence the unwillingness to the firms to innovate, especially in non-innovative firms: age of companies, occurrence of small and uncompetitive markets, limited availability of financing, etc., expanding the available information to other years.
3. The availability of more data might allow to research sectorial details (manufacturers or KIBS) in terms of business characteristics (size, sector, location, turnover, use of public aids), with the aim to better target use of regional policies.

It is intended to advance in analysis of all these aspects by enlarging range of future data, reviewing those variables of questionnaire for which there was no adequate answer and deepening in analysis of barriers perceived by companies to innovate and what type of public policy actions can be recommend in order to promote and stimulate innovative activity, particularly in order to increase willingness to innovate considering that innovation brings competitive advantages to companies as well as a growth and a wellness increase in the region.

CONCLUSION

In this study the characteristics of Extremaduran companies based on perceptions they have about these two variables: *willingness to innovate* and *assessing innovation as an essential element of competitive-*

ness have been analyzed. Data come from an *ad hoc* questionnaire focused mainly on variables related to innovation and other additional aspects. Companies have been characterized based on a series of variables: size, activity sector, innovation activities, export activity, obstacles to innovation perceived, and what types of public actions in order to boost innovation are demanded by the firms.

Obtained results are compared for both waves of data (2011 and 2013) in order to detect a general pattern in these two perceptions for Extremadura companies. We consider that the information provided through this characterization of companies can be useful for the design of public innovation policies adapted to the needs of companies.

Specifically, based on the perceptions of the firms about these variables, four profiles of companies have been found. Firms in the different groups have different general characteristics, a different perception of barriers to innovation, and demand different types of public policy actions. In general terms, companies that have more willingness to innovate are innovative companies. Conversely, in the profiles of companies that have a low willingness to innovate there are non-innovative companies with a smaller size. The perception of obstacles derived from lack of external financing, high costs and economic risks, lack of flexibility in regulation and lack of support from public administrations are presented as main barriers in some cases to be overcome to develop innovative activities. The personalize advice, specialized information seminars and greater direct public financial support are expressed as public actions to be improved or developed in this region by the autonomous government in order to stimulate and promote development of these activities in order to increase the competitiveness of companies, and the growth and wellness of the region.

Despite its limitations, we consider that this study has theoretical and practical implications. On the one hand, from the research and academic point of view, it would be interesting to carry out the analysis by industries and sectors, as well as to compare and broaden the analysis to other Spanish regions or countries. On the other hand, as we detect the obstacles to innovation faced by companies and their importance on the intention to innovate and the innovative strategy to be carried out, as well as the public actions that are demanded by companies, it contribute to a better design of public policies that could be implemented, at a national or regional level, in order to increase the innovative activity of companies, and according to this, it influence the growth and welfare increase of this region in particular and other economies in general.

ACKNOWLEDGMENT

We thank Junta de Extremadura and European Regional Development Fund for funding this study under the Projects IB13100 and IB18040, and under Support to Research Groups (SEJ022) GR18058.

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KEY TERMS AND DEFINITIONS

Barriers to Innovation: Factors that make it difficult a firm to innovate. Barriers to innovation can be external or internal to the company. If barriers offer sufficient resistance, then innovations are not likely to be adopted or implemented. A deeper understanding of these obstacles can help to keep a great innovation alive and ensure its full value is realized.

Competitiveness: Capacity to compete. In business field, it is considered the capacity of a company to obtain profitability in the market compared to its other competitors.

Innovation Systems: Group of elements that, in the national, regional or local environment, act to favor of any creation process, diffusion or use of economically useful knowledge.

Market Failures: They occur when freely-functioning markets fail to deliver an efficient allocation of resources. The result is a loss of economic and social welfare. Market failure exists when the competitive outcome of markets is not efficient from the point of view of society as a whole. This is usually because the benefits that the free-market confers on individuals or businesses carrying out a particular activity diverge from the benefits to society as a whole. In the case of innovation, the existence of some sources of market failure as appropriability, financial restriction or high costs and uncertainty make that firms do not provide the level of innovation investment that it is socially optimal which justify, from an economic point of view, the government intervention to boost this type of activities in the market.

R&D&I Public Policies: Projects and activities that a State designs and manages through a government and a public administration with the purpose of satisfying the needs of a society. In the case of R&D& I activities, in general, three types of actions are differentiated: regulatory, non-financial (industrial and

intellectual property systems, cooperation, dissemination and transfer of results) and financial (direct public support by subsidies and/or soft loans and fiscal incentives).

Willingness to Innovate: Action to prepare to make innovations or carry out innovation activities. In business field this action can result in achieving greater competitiveness, productivity, profitability or increased sales and profit.

ENDNOTE

[1] All tables are own elaboration through information obtained from the data.

Chapter 12
The Moderating Effect of Family Management on R&D Productivity in Privately Held Firms

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ABSTRACT

The aim of this chapter is to analyze the moderating effect of family management on the relationship between R&D inputs and R&D outcomes, that is, R&D productivity. Using a longitudinal sample of 337 Spanish privately held manufacturing firms, the results show that in general terms, although family managed firms invest less in R&D than their non-family managed counterparts, they reinforce the conversion of R&D inputs into R&D outcomes. Moreover, the findings reveal that the strengthening effect of family management on R&D productivity is contingent upon the level of R&D expenditures. Thus, this chapter contributes to shedding some light into the debate regarding innovation management in privately held family firms.

DOI: 10.4018/978-1-5225-8479-7.ch012

INTRODUCTION

Firms' survival largely depends on the formulation of their innovation strategies, in particular on those related to research and development (R&D) investments (David, Hitt, & Gimeno, 2001). In this regard, firms that make greater efforts in R&D achieve superior technological and market capabilities, which may lead to increases in sales or profits (Bianchini, Pellegrino, & Tamagni, 2018; Chen & Hsu, 2009; Coad, Segarra, & Teruel, 2016). Broadly speaking, R&D investments are essential to advance innovation processes and are widely accepted as mechanisms that enhance firms' competitive advantages (Ettlie, 1998) and innovation productivity (Diéguez-Soto et al., 2018b; Wakelin, 2001).

Nevertheless, innovation is a complex process and cannot be only assessed in R&D expenditures terms. On the contrary, the innovation outputs derived from such investments should also be considered (Tidd & Bessant, 2013). In this sense, different authors (e.g. Cruz-Cázares, Bayona-Sáez, & García-Marco, 2013) agree with the fact that taking into account both R&D expenditures and innovation outputs, constitutes the key to improve firms' performance and competitiveness. In this respect, it has been shown that the way in which innovation inputs are managed may lead to higher (better) or lower (worse) innovation outputs (Diéguez-Soto, Garrido-Moreno, & Manzaneque, 2018a).

Notwithstanding the substantial relevance that the research stream regarding innovation inputs, outputs, and the conversion rate of the former into the latter has acquired in recent years, the specific topic of innovation productivity, and specifically R&D productivity, remains under-researched (Lodh, Nandy, & Chen, 2014).

R&D productivity can be conceived under two different perspectives: on the one hand, as the conversion rate of R&D inputs into R&D outputs; and on the other hand, as the impact of R&D inputs on R&D outcomes (Block, 2012). As we previously mentioned, prior research (e.g. Manzaneque, Diéguez-Soto, & Garrido-Moreno, 2018a) has been devoted to analyse the effect that R&D investments exert on innovation outputs, such as the number of new products or processes. However, there is a substantial lack of studies examining the effect of R&D spending on R&D outcomes, such as cost reductions or sales improvements (e.g. Bertschek, 1995; Guan & Zuo, 2014). In this regard, Block (2012) highlighted that what really matters is how R&D outputs are converted into R&D outcomes, that is, revenues increases or cost decreases.

To further analyse R&D productivity, is highly necessary taking into consideration that firms in general, and SMEs in particular, operate with resource constraints for innovative activities (Duran et al., 2016). As SMEs are in most cases unable to increase their R&D spending in order to keep up with the market competition (Duran et al., 2016), they are forced to work efficiently. Thereby, innovation resources should be effectively managed and leveraged to obtain higher R&D productivity. Accordingly, the role exerted by business managers becomes essential for strategic innovation processes, inasmuch as business managers are one of the most important decision makers within the firm (Vandekerkhof et al., 2015), who ascertain the goals to be accomplished and the means of achieving them (Kor, 2006; Ruiz-Jiménez & Fuentes-Fuentes, 2016).

Within the extensive body of innovation research, family involvement in management has been recognized as an important governance structure that improves the development and exploitation of R&D investments (Diéguez-Soto et al., 2018a). Family managers are strongly committed to their firms (Diéguez-Soto et al., 2018b; Laverty, 1996), positively contributing to competitiveness and innovation productivity. Moreover, R&D investments are in line with the long-term perspective of family managed firms (Chrisman & Patel, 2012; Patel & Fiet, 2011), given their concern for the maintenance and

promotion of unique competitive advantages (Stein, 1989). Accordingly, prior literature (Diéguez-Soto, Manzaneque, & Rojo-Ramírez, 2016b; Manzaneque et al., 2018a) showed that family involvement in management leads to substantial differences in the way innovation resources are managed, and thus, in diverse innovation productivity. However, up to now, scholars have not explored the moderating effect of family management on R&D productivity.

Thus, to fill the existing research gap, the aim of this study is to investigate when and to what extent family management influences the relationship between R&D inputs and R&D outcomes, i.e. *R&D productivity.* Specifically, this chapter deals with the next research question: does family management reinforce the expected positive relationship between R&D expenses and R&D outcomes -*R&D productivity*-? To answer the abovementioned question, we applied fixed effect and random effect regression analyses to a longitudinal sample of 337 Spanish privately held manufacturing firms from 2000 to 2012 using unbalanced panel data. We draw on a resource orchestration perspective by analysing the extent to which family involvement in management may influence a particular firm strategy, namely innovation productivity. Accordingly, we firmly believe that resource orchestration offers a holistic view regarding the integration of inherently different resources in strategic innovation processes i.e. the conversion of R&D expenses into R&D outcomes.

The results of this chapter have two main contributions. First, whereas previous studies in the innovation field have placed their attention to analysing the relationship between R&D expenses and R&D outputs, we go beyond and examine the effect that R&D spending exerts on R&D outcomes -*R&D productivity*-. Second, by introducing family management as a moderating variable, we analyse for the first time when and to what extent R&D investments interact with a specific family governance structure, namely family management, in influencing R&D outcomes, in order to shed light on the inconclusive results obtained until now (Block, 2012). In this vein, the findings reveal that in general terms, the positive effect that R&D expenditures exert on R&D outcomes is reinforced by family involvement in management. However, the strengthening effect of family management on R&D productivity is contingent upon whether R&D expenditures are below or above certain level.

The chapter is organized as follows. We next present the theoretical background and our hypothesis development. The following section includes our dataset and variables. We then present the results. Finally, we discuss our findings and then draw the main conclusions.

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Innovation Input, Innovation Output, Innovation Outcome and R&D Productivity

Over the last decade, there has been a growing academic interest in the innovation behaviour of organizations (e.g. Ahuja, Lampert, & Tandon, 2008; Antolín-López et al., 2015; De Massis et al., 2018). This growing interest is not surprising inasmuch as innovation has been identified as one of the most relevant competitive advantages for businesses (Cardinal, 2001; Duran et al., 2016; Tushman & O'Reilly, 1996).

The existing research devoted to innovation at the firm level has mainly distinguished between innovation input and innovation output (Adams, Bessant, & Phelps, 2006; Duran et al., 2016). On the one hand, innovation input is often identified with R&D investments meanwhile innovation output is identified with new products, process and techniques (De Massis, Frattini, & Lichtenthaler, 2013). In this vein, several studies have analysed the innovation input-innovation output relationship, assuming

a positive correlation among them (e.g. Acs & Audretsch, 1988; Duran et al., 2016). However, recent research has highlighted differences among organizations regarding their conversion rate of innovation input into innovation output (Cruz-Cázares et al., 2013; Franco, Pieri, & Venturini, 2016; Qiao & Fung, 2016). Consequently, the specific topic of how efficiently do organizations transform innovation input into innovation output has recently received increased attention (Diéguez-Soto et al., 2018a; Duran et al., 2016; Hong et al., 2016).

Innovation efficiency is defined as the relative capability of a firm to achieve innovation outputs given a certain quantity of innovation inputs (Cruz-Cázares et al., 2013; Manzaneque et al., 2018b). Prior research has mainly focused on both the antecedents (Qiao & Fung, 2016; Qin & Du, 2017; Wang et al., 2016) and the consequences (Cruz-Cázares et al., 2013) of innovation efficiency to have a well-rounded understanding of this concept. Regarding the antecedents, Qiao and Fung (2016) examined the effects of a CEO's power on technical innovation efficiency in Chinese SMEs and their results show that CEO power and compensation can improve the technical innovation efficiency of those firms. For its part, Franco et al. (2016) studied the role of upstream product market regulation in innovation efficiency and found that service regulation reduces R&D efficiency in the manufacturing sector. With respect to innovation efficiency consequences, Cruz-Cázares et al. (2013) analysed the effect of innovation efficiency on firm performance, and showed a positive relationship between these two constructs.

However, despite the growing number of studies analysing the innovation input-output relationship, and specifically, innovation efficiency (Cruz-Cázares et al., 2013; Manzaneque et al., 2018b), the research stream regarding innovation productivity, particularly, the study of R&D productivity is far from being deeply understood (Block, 2012; Lodh et al., 2014).

In order to shed some light on such research stream, this chapter is focused on R&D productivity, conceived as the effect of R&D inputs into R&D outcomes (Block, 2012), that is, firms' benefits such as cost reductions or sales improvements derived from R&D outputs (Block, 2012; Brown & Svenson, 1998; Mairesse & Sassenou, 1991).

R&D investments are essential to achieve R&D outcomes (Crossan & Apaydin, 2010). Specifically, R&D investments are fundamental to advance innovation (Diéguez-Soto et al., 2018b; Hambrick & Macmillan, 1985) and consequently, to improve firm performance (Diéguez-Soto et al., 2016b; Martínez-Alonso, Martínez-Romero, & Rojo-Ramírez, 2018). It is widely accepted that R&D investments improve firm ability to take full advantage of existing information (Block, 2010), facilitate strategic adjustment in dynamic markets (García-Manjón & Romero-Merino, 2012) and ensure firm's viability (David et al., 2001). However, it is also broadly supported that R&D expenses presents peculiar characteristics that make them different from other investments (Block, 2012): first, they are time-consuming and second, sometimes fail to achieve their objectives. Thus, on the one hand, R&D investments are not immediately effective and consequently there is some delay between R&D spending and research outcomes (Chin et al., 2009). Accordingly, R&D investments commonly provide mid and long-term benefits (Diéguez-Soto et al., 2016b; Hall & Oriani, 2006). On the other hand, R&D investments produce risky and uncertain returns (Färnastrand et al., 2012; Scherer & Harhoff, 2000), which requires firms' managers to develop risk-taking attitudes. These challenging R&D investments' characteristics make R&D productivity a rather peculiar theme that requires further attention.

Moreover, the mere possession of R&D inputs does not ensure the achievement of R&D outcomes. On the contrary, innovation inputs should be effectively structured, bundled and leveraged (Sirmon et al., 2011) to get innovation outcomes. R&D outcomes require adequate governance structures that stimulate

innovation management throughout the firm (Matzler et al., 2015; Munari, Oriani, & Sobrero, 2010). Accordingly, innovation resources should be properly orchestrated to make the most of them, in order to get higher innovation outcomes.

The Moderating Effect of Family Management on R&D Productivity

Firms are heterogeneous since they possess a bundle of valuable, rare, inimitable and non-substitutable resources (Barney, 1991), which allow them to obtain competitive advantages during specific periods of time (Habbershon & Williams, 1999). In fact, a proper combination and management of these resources is necessary to produce firm value and, ultimately the achievement of superior performance (Chirico et al., 2011; Dyer, 2006).

Family firms own a unique set of ownership, management and governance (Huybrechts, Voordeckers, & Lybaert, 2012) that favours the consolidation of sustained competitive advantages and makes them the appropriate organisational forms to analyse (innovation) resource management (De Massis et al., 2015; Habbershon & Williams, 1999). Specifically, family firms possess an idiosyncratic set of characteristics, such as long-term strategic orientation (Chirico et al., 2011), multiple generational involvement (Kellermanns & Eddleston, 2004) and extraordinary commitment to firm survival (Revilla, Perez-Luno, & Nieto, 2016), due to the interaction of the family and the firm (Arregle et al., 2007; Sciascia et al., 2015). These particular family firms' features provide an ideal environment for the development of innovative activities (Filser et al., 2018; Hauck & Prügl, 2015; Martínez-Alonso et al., 2018). Moreover, these characteristics are emphasized as the integration between the family and the firm becomes more relevant, that is, as the number of family managers in the firm increases (Le Breton-Miller, Miller, & Lester, 2011).

Consequently, family managers have a great influence on the deployment of innovative activities, playing a crucial role in the management and leverage of innovation resources (Diéguez-Soto et al., 2018a; Manzaneque et al., 2018a), inasmuch as they possess unique skills and capabilities, such as for example tacit knowledge, that are highly adequate for the development of innovation processes and activities (Eddleston, Kellermanns, & Sarathy, 2008).

In this vein, previous research (Manzaneque, Ramírez, & Diéguez-Soto, 2017; Zahra, 2012) noted that family involvement in management boosts a firm's economic motivation to learn and to obtain knowledge from its environment. In this respect, family managers have increased ability to acquire new knowledge through learning processes (Levitt & March, 1988; Zahra, 2012). These learning processes allow family managers to augment their absorptive capacity (Chaudhuri & Tabrizi, 1999; Kim, 1998), which improves firm innovation capabilities, and thus R&D productivity. In this sense, family managers are prominent in the development of social capital (Schulze & Gedajlovic, 2010). Social capital facilitates the identification, deployment and dissemination of internal and external knowledge to improve firms' competitive advantages (Arregle et al., 2007). On the one hand, social capital may promotes information flows and encourages knowledge creation and accumulation between family managers inside the firm (Nahapiet & Ghoshal, 1998). On the other hand, outside the firm, family managers tend to nurture and develop prosperous and long-standing relationships across generations with selected stakeholders (Berrone, Cruz, & Gómez-Mejia, 2012; Miller & Le Breton-Miller, 2005), which enables the creation of significant knowledge networks. These networks allow access to knowledge and knowledge-sharing, through the exchange of experiences, insights and perceptions between network partners (Gast et al.,

2018; Sirmon & Hitt, 2003), which are essential for a better assimilation of external knowledge and for the development of more effective innovations (Spriggs et al., 2013). Thereby, family managed firms may achieve higher R&D productivity derived from their strong intra- and inter-organizational relationships (Le Breton-Miller and Miller, 2006). Family managers are also endowed with superior tacit knowledge (Von Krogh, Ichijo, & Nonaka, 2000), about their resources, routines, and stakeholders. In this regard, family managers are well aware of how the internal procedures and systems work, as well as the capacities and skills that are available between employees across the firm (Le Breton-Miller & Miller, 2015). Furthermore, the family managers' great level of tacit knowledge linked to their high commitment to the firm (Gómez-Mejia et al., 2007; Miller & Le Breton-Miller, 2005) favours the transmission of valuable ideas across different departments (Bammens, Notelaers, & Van Gils, 2015). The possession of this valuable knowledge internally generated in the firm enables a better management and utilization of innovation resources (Serrano-Bedia, López-Fernández, & García-Piqueres, 2016).

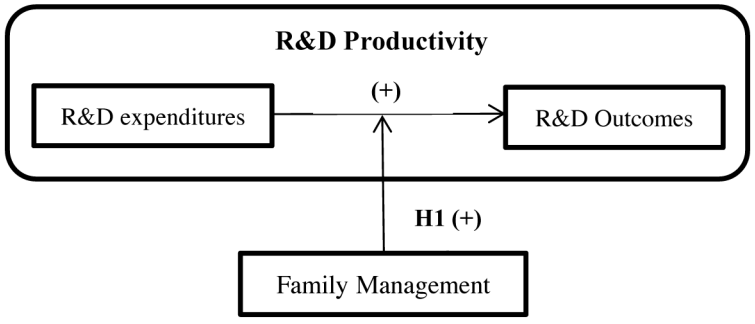
Therefore, the development of both external knowledge networks and internal learning routines creates unique knowledge conditions (Patel & Fiet, 2011). Hence, family managers should adequately complement internal and external sources of knowledge (Kotlar et al., 2013; Patel & Fiet, 2011) through learning processes, social capital or tacit knowledge, which may encourage family managed firms to augment their innovation productivity. Thereby, based on the above argumentations, family involvement in management may affect the resource orchestration (Sirmon & Hitt, 2003), due to the distinctive ability of family managers to efficiently handle innovation resources to cope with changeable environments (Chirico et al., 2011).

Thus, adopting a holistic approach to examine innovation productivity, we argue that family involvement in management positively influences the conversion of R&D expenses into R&D outcomes -*R&D productivity*-.

Hypothesis: Family management strengthens the relationship between R&D inputs and R&D outcomes -*R&D productivity*-.

The theoretical model and the proposed hypothesis are presented in Figure 1.

Figure 1. Theoretical model and hypothesis
Source: Own elaboration



DATA AND METHOD

Sample and Data Sources

To test the proposed hypothesis, we obtained data on Spanish manufacturing firms from the Survey on Business Strategies (Encuesta Sobre Estrategias Empresariales, ESEE), which is administered by the State Partnership of Manufacturing Equity foundation on behalf of the Spanish Ministry of Industry. The ESEE, which includes unbalanced data covering 1,800 firms on average per year, is designed following both exhaustive and random sampling criteria, to guarantee the representativeness of the population and the validity of the contents. In fact, common method bias are reduced in the ESEE due to the reliance on multiple respondents, the objective nature of the collected information and its validation process. Consequently, this database has been used in a wide number of studies regarding management, innovation and family businesses (e.g. Kotlar et al., 2014; Kotlar et al., 2013; Manzaneque et al., 2018b).

For our purpose, we have focused the empirical analysis on the period 2000-2012. This period provides an appealing context in which to examine the R&D productivity to the extent that it coincides with the first impulse of the European Union towards innovative activities through different proposals and initiatives (Diéguez-Soto et al., 2018a). Moreover, the case of manufacturing firms is particularly interesting inasmuch as products become rapidly obsolete and are inclined to rely on innovation (Kotlar et al., 2013; Tushman & Anderson, 1986). After excluding firms with missing data and outliers for the analysed variables, the final sample constitutes an unbalanced panel of 2,794 observations from 337 firms operating in twenty different manufacturing subindustries.

Considering both family ownership and family management, we created a binary measure of the family managed firm. As shown in Table 1, 45.92% of the sample firms are classified as family managed firms meanwhile 54.08% of the sample firms are considered non-family managed firms. Table 1 also reflects how firms are distributed in different manufacturing subindustries, pertaining most of them to the "metal products" (10.74%) and the "motor vehicles" (9.41%) subindustries.

Variables

Dependent Variable

Following prior literature (Block, 2012; Mairesse & Hall, 1996; Mairesse & Sassenou, 1991), we measure R&D productivity by the effect of R&D spending on sales. The dependent variable of the R&D productivity regressions is the natural logarithm of sales.

Independent Variables

The main independent variables are R&D spending and family management.

On the one hand, the coefficient of the variable R&D measures R&D productivity. This coefficient indicates to what degree the firm's sales percentage change whether the firm augments its level of R&D spending by one percent (Block, 2012). Following previous studies relating innovation inputs, outputs

Table 1. Sample description

	N	%
Family Managed vs. Non-Family Managed Firms		
Family managed	1,283	45.92
Non-family managed	1,511	54.08
Total	2,794	100.00
Industry		
Meat industry	61	2.18
Foodstuffs and snuff	228	8.16
Drinks	66	2.36
Textiles and clothing	156	5.58
Leather and footwear	42	1.50
Timber industry	37	1.32
Paper Industry	68	2.43
Graphics	15	0.54
Chemical and pharmaceutical products	333	11.92
Rubber and plastic	156	5.58
Non-metallic mineral products	135	4.83
Ferrous and nonferrous metals	196	7.02
Metal products	300	10.74
Agricultural and industrial machinery	247	8.84
Computer, electronic and optical products	93	3.33
Electrical machinery and material	159	5.69
Motor vehicles	263	9.41
Other transport equipment	100	3.58
Furniture industry	119	4.26
Other manufacturing	20	0.72
Total	2,794	100.00

Source: Own elaboration

and outcomes, we use a lagged expression of the variable ($R\&D_{t-1}$; e.g. Diéguez-Soto et al., 2016b; Liang et al., 2013). Moreover, to achieve a more normal distribution, we used the natural logarithm of R&D spending (Tabachnick & Fidell, 1996).

On the other hand, as we mention in sections above, we define family management as the active involvement of the controlling family in firm management for all businesses that are family owned (Diéguez-Soto et al., 2018a; Kotlar et al., 2014, 2013). Following previous studies, we considered family involvement in both ownership and management, to build a binary measurement of family managed firm (Cruz & Nordqvist, 2010; Diéguez-Soto et al., 2016b; Manzaneque et al., 2018a). Thus, family managed firm is coded with 1 whether there is a family with majority ownership in the firm and at least one member of that family is actively involved in the firm management, and 0 otherwise.

Control Variables

In order to discard possible alternative explanations to that formally hypothesized, we also controlled for several characteristics that might affect R&D productivity. Thus, firm age is measured as the number of years between the foundation of the firm and the observation year (Martínez-Romero & Rojo-Ramírez, 2017). Due to large firms have advantages in comparison with small firms, such as market power or internal knowledge, which are expected to increase the level of R&D inputs and firm performance, we controlled for firm size measured as logged annual assets (Kotlar et al., 2013). Leverage is measured as debt to total assets ratio (Block, 2012). In this respect, firms with greater financial resources are able to obtain greater R&D outcomes. Return on assets (ROA) accounts for the overall firm efficiency (Chrisman & Patel, 2012). We also control for the subsidies for innovation received by firms (Manzaneque et al., 2018a; Raymond et al., 2010), which are measured with a dummy variable that takes on the value 1 if the firm reports that it received subsidies for innovation and 0 otherwise. Moreover, the dummy variable crisis is equal to 1 if the year is > 2007, and 0 otherwise (Diéguez-Soto & Lopez-Delgado, 2018). Finally, twenty dummy variables were included indicating observations that pertain to specific subindustries as a further control in the analysis.

Estimation Technique

To estimate the moderating effect of family management on R&D productivity, we used a panel data methodology, which allowed us to control for individual heterogeneity or unobservable individual effects (firm effects). In the panel data structure all variables were indexed by i for the firms (i = 1, . . ., N) and t for the time period (t = 1, . . ., T).

Among panel data analysis, fixed effect and random effect models are the most commonly used techniques, so both were selected to test the hypothesis. Thus, we ran the following model, in which we included the moderating effect of family management in the relationship between R&D inputs and R&D outcomes, i.e. R&D productivity, to provide a better understanding of how family managed firms achieve higher or lower levels of innovation productivity:

$$R\,\&\,D\,outcomes = \beta_0 + \beta_1 R\,\&\,D_{t-1,i} + \beta_2 Family\,management_{t,i} + \beta_3 R\,\&\,D_{t-1,i} * Family\,management_{t,i} + \beta_4 Firm\,age_{t,i} + \beta_5 Firm\,size_{t,i} + \beta_6 Leverage_{t,i} + \beta_7 Subsidies_{t,i} + \beta_8 ROA_{t,i} + \beta_9 Crisis_{t,i} + \beta_{10} Industries_{t,i} + \varepsilon$$

RESULTS

We report descriptive statistics and bivariate correlations of the variables in our study in Tables 2a and 2b. In Table 2a, we found that the average firm age was 3.43 and on average firms had total assets of 17.47. The mean value for leverage was 0.51 and the mean value for ROA was 0.11. Finally, it is also shown that 25.66% of the sample firms received subsidies for innovation activities. Table 2 also presents some summary statistics for the family managed firms and the non-family managed firms. Approximately 46% of the sample firms were family managed. According to previous literature (Chen & Hsu, 2009; Munari et al., 2010), family managed firms invest less in R&D than non-family managed firms.

Table 2a. Descriptive statistics

Continuous Variables								
	Mean	**Median**	**25%**	**75%**	**Std. Dev.**	**Family Managed Firms**	**Non-Family Managed Firms**	**T-Tests**
						Mean	**Mean**	
Log Sales	17.55	17.58	16.33	18.68	1.79	16.90	18.11	19.03***
Log R&D	12.63	12.69	11.50	13.88	2.10	12.28	13.21	11.73***
Log Firm Age	3.43	3.53	2.94	3.89	0.67	3.44	3.42	-0.75
Log Firm Size	17.47	17.44	16.18	18.61	1.87	16.80	18.04	18.40***
Leverage	0.51	0.52	0.35	0.66	0.21	0.49	0.53	5.06***
ROA	0.11	0.10	0.04	0.17	0.14	0.11	0.11	-0.04
Dummy Variables								
			N			**%**		
Family Management								
Family managed firms			1,283			45.92		
Non-Family managed firms			1,511			54.08		
Total			2,794			100.00		
Subsidies								
Subsidized credits			717			25.66		
Non-subsidized credits			2,077			74.34		
Total			2,794			100.00		
Crisis								
Crisis period			1,176			42.09		
Non-crisis period			1,618			57.91		
Total			2,794			100.00		

N (observations) = 2,794; *** Significant at 1%, **Significant at 5%, *Significant at 10%.
Source: Own elaboration

Moreover, based on Student t-tests, there are differences among family and non-family managed firms regarding their sales, size and leverage.

Table 2b, presents the results from the bivariate correlations. The findings reveal that multicollinearity should not be a concern for our sample to the extent that the correlations between the various items are well below 0.34, which implies that the variable has discriminant validity (Cohen et al., 2003). Additionally, the results of the variance inflation factors did not exceed 1.5 (Belsley, Kuh, & Welsch, 1980). Thus, there is sufficient evidence to discard multicollinearity in the data (Hair et al., 1999). Finally, the sample size is large enough, which contributes to the reduction in the standard errors.

Table 3 presents the results of the random- and fixed-effects R&D productivity regressions. We present a set of six models (1A, 1B, 2A, 2B, 3A and 3B). Models 1A and 1B verify the positive relationship between R&D inputs and R&D outcomes by using random- ($\beta = 0.031$; $p<0.01$) and fixed-effects ($\beta = 0.018$; $p<0.01$) models respectively.

Table 2b. Correlation matrix

	1	2	3	4	5	6	7	8
1. Log Sales								
2. Log R&D	.287***							
3. Family Management	-.339***	-.054***						
4. Log Firm Age	.327***	.125***	.014					
5. Log Firm Size	.322***	.244***	-.134***	.155***				
6. Leverage	.089***	.121***	-.095**	-.077***	.045**			
7. Subsidies	.153***	.046**	.024	.017	-.009	.052***		
8. ROA	.071***	-.046**	.001	-.004	-.058***	-.135***	-.047**	
9. Crisis	.026	.016	.052***	.173***	.041**	-.033*	.044**	-.171***

N (observations) = 2,794; *** Significant at 1%, **Significant at 5%, *Significant at 10%.
Source: Own elaboration

The variable *Family management* is entered in Models 2A and 2B. On the one hand, the findings indicate that family management has no significant direct effect on innovation outcomes, when using the random effect estimations (Model 2A). On the other hand, Model 2B, using fixed effect estimations, shows a positive and significant impact of family management on R&D outcomes ($\beta = 0.068$; $p<0.01$). Nevertheless, as previously argued, we are not interested in the direct effect of family management on R&D outcomes. Conversely, what we want to analyse is to what extent, family management through learning processes, social capital or tacit knowledge, allows firms to achieve higher levels of R&D productivity. Thus, we expect that family management indirectly affects the relationship between R&D inputs and R&D outcomes.

Therefore, to check the moderating effect of family management on R&D productivity, Models 3A and 3B introduce the interaction effect $R\&D_{t-1}$*Family Management. As indicated by Michiels et al. (2014), based on Baron and Kenny (1986), when the moderating variable is uncorrelated with the dependent variable, the interpretation of the interaction term is easier.

Although the beta coefficient of Family management is significant in Model 3A and nonsignificant in Model 3B, the direct effect of the moderator is not relevant to testing the moderator hypothesis (Baron & Kenny, 1986). Therefore, only the coefficient of the interaction term should be considered to test the moderating effect. In this vein, the interaction variable $R\&D_{t-1}$*Family Management is positive and significant ($\beta = 0.019$; $p<0.05$). The same results applies for the fixed-effect model (Model 3B) ($\beta = 0.019$; $p<0.05$). Our findings support the proposed hypothesis regarding the moderating role of family management on the relationship between R&D inputs and R&D outcomes. Thus, even though family management does not always directly affect innovation outcomes, it improves R&D productivity by reinforcing the positive relationship between R&D expenses and R&D outcomes in all cases.

Moreover, the total effect of family management on R&D productivity is tested through the Wald test. The sum of the effect of the individual variables and their interaction terms, in Models 3A and 3B ($\beta_1 + \beta_3$), are significant and confirm a positive and significant influence of family management on R&D productivity ($p<0.01$ in both cases). These results provide further support for our hypothesis.

Table 3. R&D productivity regressions

Dependent Variable: Innovation outcomes (log sales)						
	Model 1A	Model 1B	Model 2A	Model 2B	Model 3A	Model 3B
	Random effects	Fixed effects	Random effects	Fixed effects	Random effects	Fixed effects
Main Effect						
LogR&D (β1)	**0.031*** (0.005)**	**0.018*** (0.005)**	**0.031*** (0.005)**	**0.019*** (0.005)**	**0.022*** (0.007)**	0.010 (0.007)
Moderator						
Family Management (β2)			-0.007 (0.025)	**0.068*** (0.025)**	**-0.245** (0.122)**	-0.171 (0.123)
Interaction Effect						
R&D*Family management (β3)					**0.019** (0.010)**	**0.019** (0.010)**
Controls						
Firm Age (β4)	**0.083*** (0.030)**	**0.072* (0.039)**	**0.083*** (0.030)**	**0.065* (0.039)**	**0.084*** (0.030)**	**0.068* (0.039)**
Firm Size (β5)	**0.720*** (0.012)**	**0.514*** (0.016)**	**0.721*** (0.012)**	**0.514*** (0.016)**	**0.720*** (0.012)**	**0.514*** (0.016)**
Leverage (β6)	**-0.094** (0.044)**	-0.053 (0.044)	**-0.094** (0.044)**	-0.054 (0.044)	**-0.091** (0.044)**	-0.052 (0.044)
Subsidies (β7)	-0.007 (0.016)	-0.016 (0.015)	-0.007 (0.016)	-0.018 (0.015)	-0.008 (0.016)	-0.019 (0.015)
ROA (β8)	**0.710*** (0.044)**	**0.708*** (0.043)**	**0.710*** (0.044)**	**0.709*** (0.043)**	**0.714*** (0.044)**	**0.712*** (0.043)**
Crisis (β9)	**-0.066*** (0.012)**	**-0.034*** (0.013)**	**-0.066*** (0.012)**	**-0.035*** (0.013)**	**-0.066*** (0.012)**	**-0.037*** (0.013)**
Industry dummies	Yes		Yes		Yes	
Constant	**4.942*** (0.275)**	**8.072*** (0.295)**	**4.914*** (0.277)**	**8.039*** (0.295)**	**5.045*** (0.284)**	**8.149*** (0.300)**
Number of observations	2,794	2,794	2,794	2,794	2,794	2,794
Number of firms	337	337	337	337	337	337
Hausman Test						
F test		197.96***		174.54***		155.77***
Wald's X^2	5848.56***(26)		5937.46***(27)		5930.49***(28)	
Wald test of total effects					30.58***	15.43***
R^2						
Within	0.3560	0.3615	0.3557	0.3634	0.3567	0.3644
Between	0.9349	0.9282	0.9353	0.9253	0.9350	0.9251
Overall	0.9173	0.9112	0.9178	0.9088	0.9173	0.9082

Note.
(1) Standard errors are in parentheses; significant coefficients are in bold.
(2) In this table, we report the results of random and fixed effects for the R&D productivity regression models
***Significant at 1%, **Significant at 5%, *Significant at 10%.
Source: Own elaboration

Finally, Figure 2 shows a plot of the interaction effect of family management on R&D productivity. This figure illustrates how family managed firms obtain higher levels of R&D outcomes up to certain level of R&D investments. However, beyond that level of R&D investments, non-family managed firms achieve higher R&D productivity than family managed firms. A more thorough analysis on the implication of this result is discussed in the following section.

Robustness Checks

Robustness checks are performed by executing additional analysis regarding the moderating effect of family management on an alternative proxy of R&D productivity. Thus, in this case, to measure R&D productivity we analyse the impact of R&D expenses on assets turnover, i.e. the ratio sales over total assets. The assets turnover ratio has been broadly used in prior research as a financial business performance measurement (Bernstein & Wild, 1998; Deari, 2015), specifically in the family business field (Sciascia & Mazzola, 2008).

As shown in Table 4, the regression results of the robustness checks are quite similar to those previously obtained (Table 3), giving further support to our empirical findings. Therefore, Models 4A and 4B reveal a positive and significant impact of R&D inputs on R&D outcomes, i.e. assets turnover, (β = 2.47e-09; p<0.1) and (β = 2.56e-09; p<0.05) respectively. In these checks, the direct effect of family management on the dependent variable is not significant in neither model. However, the moderating effect of family management on the R&D expenses-assets turnover relationship is significant in both Model 6A (β = 7.12e-09; p<0.1) and Model 6B (β = 5.26e-09; p<0.1). Furthermore, the Wald test that measures the total effect of family management on the relationship between R&D inputs and assets turnover, is also significant for the random and the fixed effect estimations (p<0.01 in both cases).

Figure 2. Moderating effect of family management on the relationship between R&D expenses and R&D outcomes
Source: Own elaboration based on the two-way interactions' method of Dawson (2014)

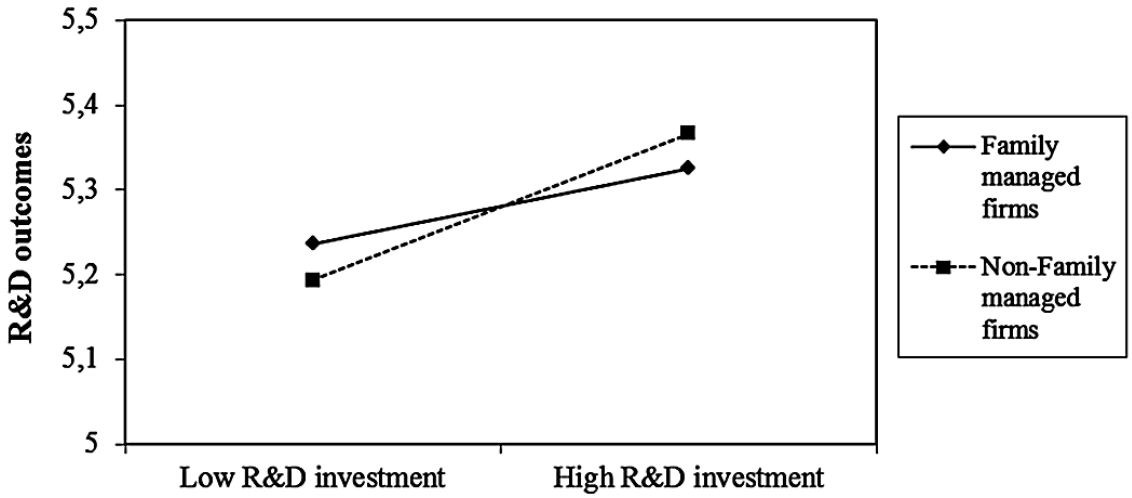


Table 4. Robustness test

Dependent Variable: Innovation outcomes (Asset turnover)						
	Model 4A	Model 4B	Model 5A	Model 5B	Model 6A	Model 6B
	Random effects	Fixed effects	Random effects	Fixed effects	Random effects	Fixed effects
Main Effect						
R&D (β1)	**2.47e-09* (1.47e-09)**	**2.56e-09** (1.23e-09)**	**2.48e-09* (1.47e-09)**	**3.71e-09*** (1.06e-09)**	**1.86e-09*** (7.17e-10)**	1.92e-09 (1.27e-09)
Moderator						
Family Management (β2)			**-0.011 (0.060)**	0.009 (0.040)	**-0.118*** (0.037)**	0.008 (0.040)
Interaction Effect						
R&D*Family management (β3)					**7.12e-09*** (1.70e-09)**	**5.26e-09** (2.55e-09)**
Controls						
Firm Age (β4)	0.085 (0.058)	0.058 (0.090)	0.086 (0.058)	0.073 (0.069)	0.075 (0.046)	0.071 (0.069)
Firm Size (β5)	**-0.265*** (0.030)**	**-0.516*** (0.057)**	**-0.263*** (0.031)**	**-0.757*** (0.063)**	**-0.337*** (0.030)**	**-0.756*** (0.063)**
Leverage (β6)	0.014 (0.100)	0.060 (0.102)	0.014 (0.100)	0.175 (0.115)	0.040 (0.107)	0.173 (0.115)
Subsidies (β7)	-0.013 (0.025)	-0.024 (0.02)	-0.013 (0.025)	-0.005 (0.025)	0.036 (0.024)	-0.007 (0.025)
ROA (β8)	**0.914*** (0.100)**	**0.909*** (0.093)**	**0.914*** (0.100)**	**1.245*** (0.087)**	**1.315*** (0.103)**	**1.247*** (0.087)**
Crisis (β9)	**-0.043** (0.022)**	-0.004 (0.025)	**-0.043** (0.022)**	-0.030 (0.023)	**-0.083*** (0.021)**	-0.029 (0.023)
Industry dummies	Yes		Yes		Yes	
Constant	**6.130*** (0.539)**	**9.938*** (0.989)**	**7.620*** (0.584)**	**13.106*** (0.975)**	**7.554*** (0.581)**	**13.091*** (0.975)**
Number of observations	2,794	2,794	2,794	2,794	2,794	2,794
Number of firms	337	337	337	337	337	337
Hausman Test						
F test		25.02***		24.27***		25.72***
Wald's X^2	225.54***(26)		376.78***(27)		426.35***(28)	
Wald test of total effects					14.46***	22.14***
R^2						
Within	0.2474	0.2794	0.3065	0.3605	0.3057	0.3612
Between	0.1285	0.0303	0.2217	0.0930	0.2276	0.0940
Overall	0.1470	0.0472	0.2144	0.0943	0.2193	0.0952

Note.
(1) Standard errors are in parentheses; significant coefficients are in bold.
(2) In this table, we report the results of random and fixed effects for the robustness tests of R&D productivity
***Significant at 1%, **Significant at 5%, *Significant at 10%.
Source: Own elaboration

DISCUSSION

Our findings reveal that while family managed firms seem to invest less in innovation inputs than non-family managed firms, their R&D productivity is higher. That is, in general terms, family involvement in management leads to a stronger relationship between R&D inputs and R&D outcomes, improving R&D productivity. However, this reinforcing effect of family management on R&D productivity occurs up to certain levels of R&D investments; beyond that level of R&D spending, non-family managed firms reach greater R&D productivity than family managed firms.

Theoretical Implications

The findings of this chapter provide high-value contributions to the innovation and family firm research fields. First, this study is especially intriguing since while prior research has mainly focused on the analysis of the innovation input-innovation output relationship, we go a step further by examining the conversion process of R&D expenses into R&D outcomes. This is of utmost importance because, as Block (2012, p.251) stated, *the goal is to analyze how R&D outputs translate into benefits for the firm such as cost reductions or sales improvements.* Accordingly, what really matters is how firm performance improves as a consequence of innovation management.

Second, this manuscript is, to the best of the authors' knowledge, the first that empirically examines the moderating effect of family management on the R&D expenses-R&D outcomes relationship. In this respect, we recognize family involvement in management as a particular governance mechanism (Diéguez-Soto et al., 2018a) that enhances innovation efficiency and augments R&D productivity, up to certain level of R&D investments. Hence, we argue that for modest innovation investments, family management reinforces the positive impact that R&D expenses exert in R&D outcomes, due to a set of unique characteristics that family managers own such as learning processes, social capital or tacit knowledge. The proper combination of the abovementioned characteristics enables family managed firms to achieve a better assimilation of internal knowledge and therefore, the accomplishment of higher productivity in the assignment and orchestration of their resources. In this vein, family members involved in management teams profoundly know how the firm operates, that is, family managers deeply know their firms' resources, employees and relationships with stakeholders (Ashwin, Krishnan, & George, 2015; Llach & Nordqvist, 2010). Given that family managers are involved in the firm since their infancy (Cabrera-Suárez, De Saá-Pérez, & García-Almeida, 2001; Naldi et al., 2013; Nelson, 2003), they may have multiple experiences of their firms, and thus their tacit knowledge is unique, highly valuable and non-transferable (Duran et al., 2016). Furthermore, these experiences also reinforce the commitment and identification of these family members with their firms (Chrisman et al., 2012; Pazzaglia, Mengoli, & Sapienza, 2013). The possession of such privileged knowledge combined with a high commitment and identification with the firm, allows family managers to optimally arrange businesses' critical resources and ultimately foster the conversion of innovation inputs into innovation outcomes.

Moreover, family managed firms, by their nature, tend to be close to their immediate environment, as they strive to increase the visibility of the family name and to maintain the firm's reputation in the eyes of potential stakeholders (Diéguez-Soto, Fernández-Gámez, & Sánchez-Marín, 2017; Dunn, 1996; Dyer & Whetten, 2006). Accordingly, family managers are very concerned about their firm's reputation (Martínez-Romero & Rojo-Ramírez, 2017) and they protect and defend that reputation by promoting social initiatives and being socially responsible (Cruz et al., 2014). Besides, family managed firms

tend to be socially embedded within the community where they are established (Berrone et al., 2010; Mazzelli, Kotlar, & De Massis, 2018). This closeness facilitates the development of strong ties across generations with reliable partners (Miller & Le Breton-Miller, 2005), which favours innovation activities and processes.

Moreover, it is also known that family managed firms are less prone to invest in R&D than non-family managed firms, due to the negative emotional considerations that these investments imply for both the family and the firm (Chrisman & Patel, 2012). In this respect, R&D spending involves a substantial long-term risk due to the earnings are not immediate (Chrisman & Patel, 2012; Laverty, 1996), the required investments in sunk costs are significant (Kor, 2006) and the probability of failure is very considerable (Baysinger, Kosnik, & Turk, 1991). Notwithstanding the negative consequences of R&D investments, they are also crucial to augment firm outcomes (e.g. sales), and thus for the maintenance of the firm survival in the long-term (David et al., 2001). In view of the abovementioned considerations, authors agree that family managers are less willing to invest in R&D than non-family managers, but when they decide to develop R&D investments, they achieve better results than their non-family counterparts (Chrisman et al., 2015). Accordingly, our results are in line with prior literature (e.g. Diéguez-Soto et al., 2016b; Duran et al., 2016; Fuetsch & Suess-Reyes, 2017), inasmuch as we show that in general terms, although family managers spend less on R&D than non-family managers, the former are able to combine and leverage their innovation resources in such a way that they obtain greater R&D outcomes, and therefore, higher R&D productivity.

However, it is very important to highlight that although in broad terms, family management reinforces R&D productivity (as shown in both Table 3 and Table 4), Figure 2 evinces that the moderating effect of family management on R&D productivity is contingent upon the level of R&D spending. That is, up to a certain level of R&D investments, family managed firms obtain higher R&D productivity than non-family managed firms. However, beyond that certain level of R&D, non-family managed firms achieve higher levels of R&D productivity than family managed firms. Accordingly, it can be argued that when R&D investments are modest, family managed firms are able to efficiently orchestrate innovation resources (De Massis et al., 2018; Manzaneque et al., 2018b; Sharma & Salvato, 2011), because they can take advantage of their learning processes (Kim, 1998; Zahra, 2012), social capital (Arregle et al., 2007; Schulze & Gedajlovic, 2010) and tacit knowledge (Diéguez-Soto et al., 2016b; Llach & Nordqvist, 2010). On the contrary, when R&D investments reach substantial levels, family managed firms lack qualified personnel with the necessary knowledge and skills to manage such quantity of innovative resources (Diéguez-Soto et al., 2018a; López-Fernández, Serrano-Bedia, & Gómez-López, 2016; Schulze, Lubatkin, & Dino, 2003). Thereby, in the presence of considerable R&D investments, family managed firms require external and fresh knowledge from professional managers (Chen & Hsu, 2009; Diéguez-Soto et al., 2016a; Kotlar et al., 2013) to increase R&D productivity. Nevertheless, family managed firms are unwilling to allow new external personnel, i.e. members from outside the family, to enter the business and to participate in the strategic decision making, because it might provoke a loss of control of their firms (Gómez-Mejia et al., 2007; Gómez-Mejia, Makri, & Kintana, 2010). Therefore, although external knowledge acquisition, through the incorporation of external (nonfamily) managers is usually associated with higher innovative results (Ahuja, 2000), family managers perceive these strategies as a cession of discretionary power to outsiders (Manzaneque et al., 2018b). Consequently, family managed firms would avoid certain R&D investments, knowing that open innovations (Feranita, Kotlar, & De Massis, 2017), and more precisely R&D collaborations (Grimpe & Kaiser, 2010), might improve R&D productivity. That is, even though the execution of R&D collaborative projects enables

the creation of unique innovation advantages that are beneficial to increase firms' R&D productivity, family firms seem to avoid them. Therefore, our findings reveal that decision-making within family firms is highly influenced by noneconomic objectives, such as maintaining family control, which may drive family managers toward the achievement of affective needs, rather than acting under purely effectiveness principles (Martínez-Romero, 2018; Martínez-Romero & Rojo-Ramírez, 2017).

Based on the above, this chapter answers the call for additional research on the moderating effect of family management on innovative activities in the specific context of privately held firms (Arzubiaga et al., 2018; Martínez-Alonso et al., 2018). In this vein, and given that the vast majority of firms around the globe are privately held organizations (López-Delgado & Diéguez-Soto, 2015; Martínez-Romero, Martínez-Alonso, & Casado-Belmonte, 2018; Mazzola, Sciascia, & Kellermanns, 2013), more insights regarding how firm managers, and specifically family managers, orchestrate distinct innovation resources to generate increased innovation outcomes, and thus augmenting R&D productivity is required in the context of privately held firms.

Finally, we contribute to the existing literature by analysing our research question through a longitudinal data study. In this respect, longitudinal studies are scant in both the innovation and the family firm research fields (Wright, 2017). Thus, the utilisation of panel data methodology allows us to advance in the innovative behaviour of family firms, going beyond previous studies that have mainly focused on explaining cross-sectional differences among firms (Greco, Grimaldi, & Cricelli, 2017; Jansen, Van Den Bosch, & Volberda, 2005).

Managerial Implications

The findings in this study also have relevant practical implications, especially for privately held firms, and namely for family firms, that are keen on improving their innovation productivity. A broader comprehension of innovation productivity is essential for firm managers, firm advisors and policy makers. What is more, the specific understanding of R&D productivity in a family firm context is of utmost importance considering that family firms suppose the vast majority of firms around the globe (Family Firm Institute, 2018; IEF & Red de Cátedras de Empresa Familiar, 2018; La Porta, Lopez-De-Silanes, & Shleifer, 1999).

The findings reveal that although in general terms, family managed firms present higher R&D productivity than do other firms, they invest less in R&D. Thus, policy makers should promote R&D spending in family firms through different actions, such as economic incentives for innovation activities, greater innovative subsidies and informative talks regarding the access to these resources. Moreover, to make proper R&D investments, firm managers might consider the option of establishing the "rules of the game" (Brenes, Madrigal, & Requena, 2011) through family governance mechanisms (Suess-Reyes, 2014; Umans et al., 2018). For example, family constitutions could limit the dividends paid out to family owners (Block, 2012), allowing firm managers to dedicate financial resources to interesting innovation projects, which could be important for the firm's future. Finally, it is also important not ignoring specific problems that could arise in family firms, such as sibling rivalries, altruistic behaviours, identity conflicts or nepotism. These intra-familial principal–principal conflicts might be quite relevant agency problem in privately held family firms (Michiels et al., 2014). Thus, the inclusion of external firm advisors might provide a balance between economic and family objectives, giving alternative perspectives to manage innovation resources.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study has certain limitations that provide interesting avenues for future research.

First, there might be other relevant variables that influence R&D outcomes besides to the attributes that we have analysed in the present manuscript. For instance, managerial levers such as firms' mission, vision, goals and strategies might well influence innovative outcomes (Crossan & Apaydin, 2010). The inclusion of such variables, might improve our comprehension of the variability of R&D outcomes. Furthermore, future studies could rely on qualitative research to generate an in-depth understanding of R&D productivity among privately held firms.

Second, our study is focused on the indirect effect of family management on the R&D input-R&D outcomes relationship. Although is true that recent studies have highlighted the moderating role of family management on innovation processes (e.g. Diéguez-Soto et al., 2017; Kellermanns et al., 2012; Manzaneque et al., 2017), there are a lack of studies regarding how family managers, as a factor that has an actual impact on innovation inputs and outputs (Martínez-Alonso et al., 2018), can directly affect R&D outcomes (Diéguez-Soto et al., 2018a).

Third, this chapter is focused on the effect of R&D investments on R&D outcomes. However, recent studies (Diéguez-Soto et al., 2018a; Manzaneque et al., 2018a) have demonstrated that different types of R&D investments, i.e. internal R&D vs. external R&D expenses, might perfectly have different influence on innovative outputs. Therefore, future research could analyse whether different types of R&D expenses affect innovative outcomes. Moreover, and in line with the above, this study, following previous research (Block, 2012) is centred on firm sales as a measurement of R&D outcomes. Future studies could investigate how innovative inputs impact on alternative measures of R&D outcomes.

Fourth, although the manufacturing industry is quite adequate for the purpose of this study, inasmuch as the high typical degree of obsolescence of manufacturing firms' outcomes leads these firms, to be particularly inclined to innovative activities (Diéguez-Soto et al., 2018a; Kotlar et al., 2014, 2013), it might be the case that there are not enough high-technology firms, which might be an exceptional context to analyse R&D productivity. In fact, previous studies have highlighted the differences in innovative processes between low-and medium-technology firms and high-technology firms (Santamaría, Nieto, & Barge-Gil, 2009; Thornhill, 2006). Therefore, future research should analyse R&D productivity in a high-technology environment.

CONCLUSION

In sum, this chapter assesses the conversion of R&D inputs on R&D outcomes, that is, R&D productivity, and highlights the key role of family management in the abovementioned relationship. Therefore, this manuscript contributes to a better understanding regarding the influence of family management on the way in which R&D inputs are managed and translated into R&D outcomes, revealing that up to a certain level of R&D investments, family managed firms achieve higher R&D productivity than non-family managed firms. Finally, while this study brings new perspectives to research on innovation management and extends prior knowledge about the role of family management in innovation processes, further research is required to better understand the distinctiveness innovation outcomes among family firms.

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KEY TERMS AND DEFINITIONS

Family Managed Firms: Firms whose management is in family hands.
Innovation: The capacity that allows a firm to grow, evolve and reinvent itself for the future.

Innovation Productivity: The impact of R&D inputs in R&D outcomes.

Non-Family Managed Firms: Category of firms that includes non-family firms and family firms managed by professional personnel (outsiders).

R&D Inputs: Resource bundle that are subjected to transformation processes to obtain innovation results.

R&D Outcomes: Improve in sales or reduction in cost that result from the development of innovation activities.

Resource Orchestration: The way of managing, leveraging and allocating firms' resources.

Resource-Based View: Theory consisting of the strategic management of resources with the final goal of achieving competitive advantages.

Social Capital: Intangible element inherent to family firms that allow the establishment of long-standing and trustful relationships with the immediate environment.

Tacit Knowledge: The family firm members' unique and innate expertise, intrinsic to the belonging to their family business.

Chapter 13
Leadership and Organization Innovation Adoption: A Case Study

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ABSTRACT

Innovation is a tool to ensure competitiveness. Firm survival is inexorably linked to its ability to reinvent itself, obviously apart from other circumstances. Organizational innovation and its adoption are key concepts that are rarely studied. Little is known about factors related to decisions to adopt innovations and how the likelihood of adoption of innovations can be increased. This chapter aims to answer the question: what are the determinants of the adoption of organizational innovation? In this sense, this chapter aims to identify some of the organizational factors which have the capacity to influence organizational innovation in a specific case study, an innovative Portuguese company. This chapter addresses the personal dimension of the leader as a driver of organizational innovation processes. This chapter finds that, in the case study, the culture of the company which itself is driven by the CEO is fundamental for innovation and the adoption of organizational innovations.

INTRODUCTION

Organizational innovation research continues to be a popular topic in academia, as evidenced by the hundreds of thesis and thousands of articles on this subject (Wolfe, 1994). Despite the efforts made, given the diversity of organizations and business contexts, researchers still have a long way to go in identifying the objective causes that determine organizational innovations in different contexts.

Hence, issues such as "What organizational structure and process management facilitate or inhibit innovation?" And "What is the impact of organizational culture and management quality on the adoption of innovation?" (Damanpour & Gopalakrishnan, 1998), continue to feed investigations in management and marketing.

DOI: 10.4018/978-1-5225-8479-7.ch013

In this sense, this chapter aims to answer the question: what are the "determinants of the adoption of organizational innovation?" In this sense, this chapter aims to identify some of the organizational factors which have the capacity to influence organizational innovation in a specific case study, an innovative Portuguese company. The basis of the development of this theme is Wisdom, Ho, & Chor (2013) that the authors use to identify the main drivers for organizational innovation.

BACKGROUND

Barsh, Capozzi, & Davidson (2008) affirm that the concept of innovation somehow suffers from "fashion" effects, being cherished in prosperous times and less talked about in times of greater austerity and contention. Nevertheless, the importance of innovation has been growing in scientific literature and in the rising concern of policy makers (Fagerberg, 2004). However, innovation in socio-economic context is not something new. Fagerberg (2003) highlighted this, since innovation is as old as humanity even if its study and formal use is quite recent

As globalization overthrew the geographical and market boundaries that prevented businesses from reaching their potential, company's ability to innovate - to take advantage of the value creation ideas of its employees and its partners, customers, suppliers and other parts beyond its own limits - is anything but fleeting. In fact, innovation has become a core driver of asset growth, performance and value (McKinsey, 2007). More than 70 percent of senior executives say that innovation will be at least one of the top three growth engines for their companies in the next three to five years (McKinsey, 2007). Other executives see innovation as the most important way for companies to accelerate the pace of change in today's global business environment (McKinsey, 2007).

Some key thinkers in strategy are looking beyond the traditional focus on product and service innovation categories, pinpointing in a pioneering way for innovations in business processes, distribution, value chains, business models and even management functions. The same research also shows that most executives are disappointed with their ability to stimulate innovation: about 65 percent of executives interviewed were only "little", "very little" or "not at all" confident about the decisions they make in this area (McKinsey, 2007). What explains the difference between the aspirations and execution of leaders? Even starting to build an organization where innovation plays a central role is often much more frustrating than most executives might imagine it to be. Many of those who imitate the approaches of successful practitioners have found that path ineffective.

Supporting innovation to create real value at a large scale - allowing innovation to have a significant financial impact - is even more difficult. There is no set of best practices for "sowing" and "cultivating" innovation. The structures and processes that many leaders reflexively use to encourage it are important but not enough. On the contrary, senior executives almost unanimously - 94 percent - say that people and corporate culture are the most important engines of innovation (McKinsey,2007).

In the same survey conducted by McKinsey (2007) with 600 managers and other top managers of multinational companies, respondents pointed to leadership as the best predictor of innovation performance. Those who described their own organization as more innovative than others in their industry have rated their leadership abilities as "strong" or "very strong". On the other hand, those who indicated their organization's ability to innovate to be below the nominal average ranked their leadership capacities as significantly smaller and, in some cases, weak.

As with any top leadership initiative, the way leaders behave sends strong signals to employees. Innovation is intrinsically associated with change, consuming attention and resources that were allocated to efforts to achieve short-term performance goals. More than initiatives for any other purpose, innovation may therefore require leaders to encourage their collaborators in order to conquer them for this cause. The sample of 600 managers indicated that the two main motivators of behavior to promote innovation are strong leaders who encourage and protect them, and executives who spend their time actively managing and driving it. In fact, senior executives believe that giving dummy approval to innovation is the most common way to inhibit it. The inability of executives to model behaviors that encourage innovation, such as risk-taking and openness to new ideas, comes second. Respondents also place high on the list of inhibitors to innovation, reward only short-term performance, and maintain a culture of fear of failure.

Objectives of This Chapter

In view of the above and not having the ambition to find "one" answer to a question that is dynamic, multifaceted and that is a function of time and space in which organizations fit, this chapter will approach in this study the concept of "Leadership and Innovation Dynamization" as determinants in the success of the adoption of organizational innovations.

Wisdom *et al.* (2013) review and identify the determinants in innovation adoption (focused on the adoption process but also adoption in the context of implementation, diffusion, dissemination and / or support) and mention that this concept is mentioned in more than half of the existing theories.

This idea is further reinforced by Garland *et al.* (2010) when assessing the complexity of the adoption process at the organizational level, as being particularly challenging in implementing changes when decision-makers do not perceive change as a necessity.

For the subject under analysis, the authors chose to develop a case study based on Mendes Gonçalves, a leading company in the food sector. The authors will not evaluate the type of innovation that it adopts, whether incremental or disruptive, process or product, whether it is due to a single case of innovation or whether it results from a continuum, its size in terms of financial results, nor its levels of investment.

The authors will try to identify and validate the characteristics of the leadership in this organization that confirm or deny the assumption of the role of that as the engine of the adoption of innovation.

LITERATURE SURVEY

Organizational Innovation

The Frascati Manual1 (OECD, 1995) and the Oslo Manual2 (OECD, 2005) conceptualize the definition of innovation. Both manuals distinguish between innovation activities and innovation itself. Innovation refers to products (goods or services) and processes new or significantly improved that are introduced to the market (the "new" parameter indicates that they at least must be new to your business although the concept is usually expanded geographically to mean new to the region, to the country or to the world). Innovation activities, in addition to R&D, include the acquisition and installation of machinery for production (tooling-up) and industrial engineering, pre-fabrication and the beginning of manufacturing processes, marketing new products, the acquisition of technology in the form of patents, licenses, or in the form of technology embodied in machinery and equipment and design (which represents an essential

part of the innovation process). Design would include the plans and drawings aimed at defining procedures, technical and operational aspects necessary for the conceptualization, development, manufacture and marketing of new/improved products and processes.

The growing importance of innovation in economic development has been highlighted since the pioneering works of Schumpeter (1939, 1942). Other authors such as Mensch (1979), Freeman, Clark and Soete (1982), Romer (1990) and Grossman and Helpman (1991a), 1991b)) agree that the main driver behind economic growth is innovation and technological change. This importance is ever increasing in a world where "change" is so accelerated that it influences our sense of time, revolutionizes the pace of everyday life and affects even our way of "feeling" the world, in way that we are no longer "feeling" life it like our ancestors, and this is the fundamental difference (Toffler, 1970). This age is also known as the "Digital Revolution" and, as the name suggests, this revolution has for its main characteristic the implementation of digital technologies, like computers and later the internet, into the industrial processes. What this meant for the whole manufacturing industry is that by the implementation of these technologies the processes became faster and the overall quality of the products improved. With the implementation of computers, the people in charge of managing the organizations had now available to them, data that was generated throughout the different stages of the manufacturing process (Greenwood, 1997). This information would permit for the management to better apply their resources in order to optimize their production. The same can be pointed out for the implementation of automatous robots that would guarantee improvements in quality and would reduce the amount of waste created (Greenwood, 1997).

It is almost a given that, through the adoption of innovation, organizations will be able to face the increasing challenges, succeed and stay ahead of the countries with cheap labor (Cardozo *et al.*, 1993). An OECD (2010) report emphasized the potential of innovation for long-term economic growth, as well as its determining role in economic development and the competitiveness of nations and enterprises (Cefis & Marsili, 2006; Tellis, Prabhu, & Chandy, 2009).

From the organizational point of view, one of the most cited definitions of innovation is provided by Zaltman *et al.* (1973: 10) who wrote: "An innovation is an idea, practice or device, perceived as new by the unit of relevant adoption." This is similar to what Luecke & Katz (2003: 2) wrote: "Innovation ... is generally understood as the introduction of a new method or product ... Innovation is the embodiment, combination, or synthesis of knowledge, in its original form, value added products, processes or services".

The scope of innovation and its related concepts is very wide. Authors make distinctions between "diffusion" and "adoption" of innovations (Kimberly & Evanisko, 1981: 85), as well as between the studies of "innovation" and "propensity for innovation" (Van de Ven & Rogers, 1988: 636). Although there may be some degree of overlap between these concepts, several studies focus on the adoption of innovations in organizations and examine organizational properties that improve or impair organizational innovation.

The adoption of innovation is designed to encompass the generation, development and implementation of new ideas or behaviors. An innovation can be a new product or service, a new production process technology, a new structure or administrative system, or a new plan or program belonging to members of the organization. Thus, innovation can also be defined as the adoption of a device, system, policy, program, process, product or service that is new to the adopting organization, whether generated internally or acquired (Daft, 1982; Damanpour & Evan. M, 1984; Zaltman, Duncan, & Holbek, 1973). This definition is broad enough to include different types of innovations pertaining to all parts of organizations and all aspects of their operation.

Following these definitions, we can identify organizational elements that point to the definition of organizational innovation. In fact, Damanpour and Aravind (2012) define organizational innovation as the set of activities leading to changes in the company's structure, strategy and systems.

Innovation is, therefore, a means of changing an organization, either as a response to changes in its internal or external environment or as a preventive action taken to influence an environment. Since even the most stable environments change (Hage, 1980), organizations continually innovate over time. Thus, the propensity for organizational innovation is more precisely represented when several innovations are considered rather than isolated innovations.

Gjerding (1996) based on a research of organizational innovation in the Danish business sector, says that organizational innovation is more frequent in manufacturing than in service sector.

Following the previous mentioned authors, we can state that organizational innovation in the company includes:

- Introduction of significantly altered organizational structures;
- Application of advanced management techniques;
- Implementation of new or substantially changed strategic guidelines.

Large resources have been channeled into technological innovation (processes and products), but they are not enough: organizational, methodological and management innovations need to be urgently considered. Despite this latent need, few studies exist where a correlation between Organizational Innovation (OI) and Operational Performance (OP) is established.

Mol & Birkinshaw (2009) argue that companies can benefit from their ability to invest in organizational innovation simultaneously with the ability to invest in product and process innovations. Acosta *et al.* (2015), follow other authors and show for a sample of Spanish SMEs that organizational innovation as a mediator role between several determinants and performance. Prange and Pinho (2017) highlight the mediator role of organizational innovation between personal drivers and international performance. In a study conducted by Camisón and Villar-López (2014), the authors state that managers should not focus solely on technological or non-technological innovations. The introduction of new organizational practices and methods are important and have a positive effect on the OP, facilitating the development of innovations in processes and products, although in the latter case it occurs indirectly through processes.

Considering the previous aspects and introducing organizational culture as support for innovation, Schein (1992) affirms that it refers to the values and beliefs that determine standards and expected behaviors that employees can follow. The same author also considers organizational culture as an invisible social force, but nevertheless very powerful. Hogan and Coote (2014) refer to these aspects in a study done on the Schein model test.

Schein's (1992) multilayered model of organizational culture advocates a framework for processes that promote innovation. Employee performance, involvement and commitment are critical for organizations to achieve desired competitiveness (Staudacher & Tantardini, 2007). According to Hogan and Coote (2014), leaders play a key role in encouraging the adoption of behaviors that are valuable, appropriate and desirable and should discourage those that are not valuable, considered inappropriate or undesirable, and identify what future research could exploit more fully leadership style and management practices that influence the development and adoption of values and standards to support innovation. Jung *et al.* (2003, p. 525) go so far as to state that, "A wide range of factors have been identified as potentially affecting organizational innovation. Of these, the leadership style of top managers was identified as being

one of the most if not the most important of all. However, few studies have empirically examined the link between this factor and innovation at the organizational level".

Starting from the intrinsic need that an organization has to perform its activities with maximum efficiency and efficiency, being them the production or provision of services, and adding economic and financial considerations, it is logical to seek strategies to improve performance and results at all levels.

Organizations have realized, though not explicitly, that they must become market-driven or preferably market-driven and that they have to offer their customers more and better (Hurley & Hult, 1998; Manu & Sriram, 1996). In this sense, marketing research stresses the importance of "market orientation" as a way to maintain the company's long-term competitive advantage (Day, 1994). In this context, the implementation of internal marketing policies, impacting the performance of the company from the point of view of the consumer, in order to disseminate in a clear, objective and consistent manner the set of options adopted, particularly in terms of organizational innovation, are essential to create a dynamic that drives and sustains the internalization of the changes brought about by this need for innovation (Varey, 1995).

Several authors have considered innovation as a "process" and tried to understand how it appears, develops, and becomes a part of an organization's routine activities (Dean, 1987; Van de Ven, Angle, & Poole, 1989). In this context, it is important to consider the determinants for the adoption of innovation. Chor *et al.* (2014) present in their conceptual model of adoption of innovation several determinants, such as the innovation itself, characteristics of the adopter (organization), the influence of the external environment and individual (employees and clients). At this contextual level, there are 118 variables associated with the 27 predictors of innovation adoption. This model is based on a synthesis of the existing theories related with innovation adoption as described in Wisdom *et al.* (2013).

Organizational Culture and Innovation Support

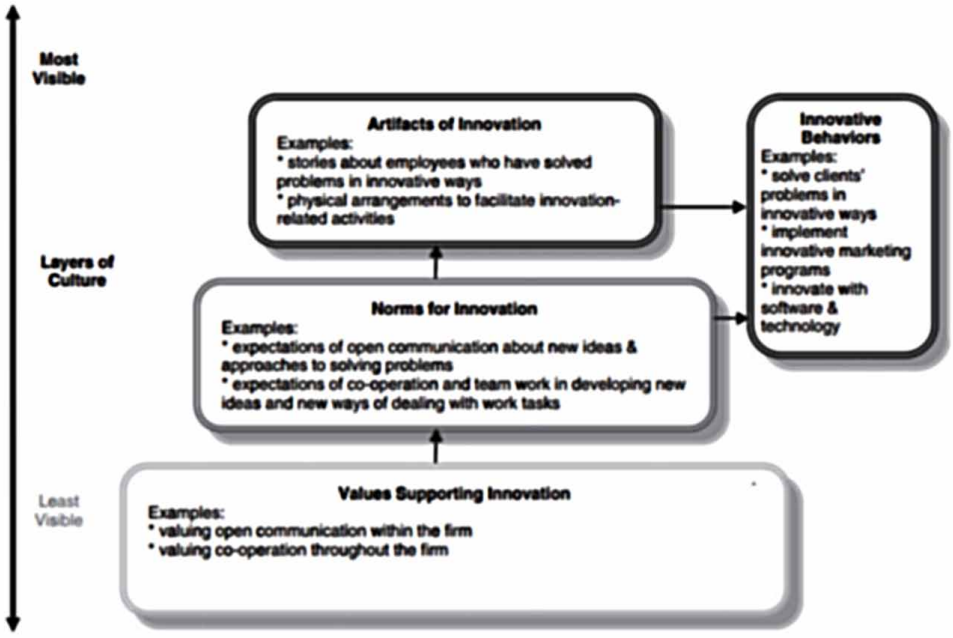
Several definitions of organizational culture exist, however, as Hogan & Coote, (2014) state, organizational culture, usually refers to organizational values communicated through norms, attitudes and by observing behavioral patterns (Homburg & Pflesser, 2000; Schein, 1992, Hogan & Coote, 2014). The inner value of values is to act as social principles or beliefs that guide behaviors and define a broad context for administrative procedures and methods (Hatch, 1993; O'Reilly *et al.*, 1991; Hogan & Coote, 2014). For example, the values communicated by top management can influence the innovation process by incorporating expected behaviors within an organization's culture (Hogan & Coote, 2014). Therefore, values provide a subtle method through which management can impact organizational behavior (Mumford, Scott, Gaddis, & Strange, 2002; Hogan & Coote, 2014). By emphasizing certain values and by building corresponding norms for expected behaviors, managers can build an organizational culture that has a powerful and convincing influence on employee behavior (Mumford *et al.*, 2002; Tellis *et al.*, 2009; Hogan & Coote, 2014). As Hogan & Coote (2014) state, values and norms can in turn be expressed through attitudes (for example, organizational, language, physical, and physical rituals) and lead to desired behaviors such as innovation. While most of the existing research studies consider organizational culture as a single construct, Schein (1992) considers the importance of analyzing and distinguishing between various levels of culture 8 Hogan & Coote, 2014). Moreover, it attributes confusion in the definitions of culture to a failure to differentiate the levels at which the organizational culture manifests itself correctly. Values support standards and artifacts and determine patterns of behavior. Norms are expectations of acceptable behaviors held by members of an organization and have the force of obligation or social pressure (O'Reilly *et al.*, 1991; Schein, 1992). For example, innovative behaviors may result from

norms that support the exchange of information about new ways of doing things within an organization (Amabile, 1988; Moorman & Miner, 1997). Organizational norms emerge from values and manifest themselves in behaviors. Considering that values are the least visible, attitudes represent the most visible layer of organizational culture and are manifestly evident in organizational symbols, rituals, language, and physical work space arrangements (Schein, 1992). Schein's (1992) model is presented in Figure 1.

Organizations are social as well as physical constructs and therefore an understanding of organizational culture can help shape the process of innovation and company performance. Schein's model provides a framework for thinking about organizational culture and promoting a culture of innovation. Based on this framework, studies establish an empirical model of how distinct layers of organizational culture can support the kinds of innovative behaviors that are crucial to the company's performance. The substantive opportunity refers to the role of managers in establishing values and standards to support innovation. That is, how do the dimensions of values get established within organizations, and why do some place the emphasis on one dimension rather than another? (Hogan & Coote, 2014).

Gallivan (2001) explores the applicability of traditional adoption of innovation and diffusion models in a conditional and authoritarian innovation process in an organizational context (Zaltman *et al.*, 1973); that is, when employees adopt an innovation that has been chosen by an authoritarian figure. It also identifies gaps in traditional models of innovation adoption and concludes that a new framework is needed – one that incorporates the unique processes and factors related to the organization's adoption and assimilation of innovation. A new hybrid framework has been developed, combining research knowledge at the organizational level in the implementation of technology (Cooper & Zmud, 1990; Orlikowski, 1993) with constructs of traditional models of innovation adoption (Rogers, 1983; Prescott and Conger 1995). The resulting theory is a hybrid process / variance theory that captures the two implementation

Figure 1. Organizational culture levels that support innovation
Source: Hogan et al. (2014)



events and the factors that they (Shaw & Jarvenpaa, 1997) influence. The data from a longitudinal case study of a company that implemented client / server development is used to illustrate the structure and develop proposals for future research.

Zaltman *et al.*, (1973) analyzed the conditioned and authoritarian adoption of innovation within organizations and found that the adoption process occurs in two stages - the organization-wide decision to adopt innovation (primary adoption), followed by its implementation, the which includes the individual adoption of the users (secondary adoption). This process has been defined as the process of two-stage adoption (Leonard-Barton, Deschamps, 1988) or two-stage implementation (Lucas, Ginzberg, & Schultz, 1990).

METHODOLOGY

Means of Research

This study focuses on 7 independent variables as identified by Chor *et al.* (2014). The Recency of Employee Training, Executive Chairman's Attitude, Transformational Leadership Assessment, Multifactorial Leadership Characteristics, Management Practices, Organization Orientation for Quality and Support of Management for Quality. The research method will be developed through an exploratory study using a semi-structured interview and a questionnaire to the interviewee, based on Likert scales, validated and identified in the synthesis narrative mentioned above (following Wisdom *et al.*, 2013).

In detail, the aspects on which the study focus:

- **Recency of Employee Training**: Measurable by direct data collection (Meyer & Goes, 1988)
- **Attitude of the Chairman of the Executive Committee (CEO):** Measured by the type of CEO support for adoption through qualitative interviewing (Meyer & Goes, 1988)
- **Multifactorial Characteristics of Leadership (MLQ):** Questionnaire with 45 items (Aarons *et al.*, 2006; Basset *et al.*, 1996)
- **Evaluation of Management Practices**: Questionnaire with 14 items (McConnell *et al.*, 2009)
- **Organization Guidance for Quality and Management Support for Quality**: Questionnaire with 13 items (Ravichandran, 2000)

Type of Interview

The interview is a process of social interaction, in which the interviewer has the purpose of obtaining information from the interviewee, through a script containing topics around a central problematic (Haguette, 1995). For Minayo (1994), the interview focuses on obtaining information through direct discourse, revealing structural conditions, value systems, norms and symbols and conveys, through a spokesperson, representations of certain groups. In general, interviews are an essential source of evidence for the case study (Yin, 1994), since case studies in social research generally deal with the activities of individuals and groups. The interview, within the methodology of the Case Study, can take several forms:

- **Open-Close Nature Interview:** Where the investigator asks respondents to present facts and their opinions related to them;
- **Focused Interview:** Where the respondent is interviewed for a short period of time, but the researcher follows the questions set out in his research protocol;
- **Survey Type Interview:** Which implies more structured questions and answers.

The questions elaborated for the interview considered the theoretical object of the research and the information that the researchers collected on the subject (Wisdom *et al.*, 2013). The authors also consider that this technique makes it possible to know the agents' perspective on the work performed in the organization.

The interviews reflect the representation of the agents about their work and, in this way, they are always an approximation of the lived reality. Considering that it is not possible to reduce the reality of men's conception, the interview was used to complement and counteract the data obtained by filling out a questionnaire.

The authors chose to conduct a semi-structured interview, in which the interviewee has the possibility to discuss his experiences, based on the focus proposed by the interviewer; while allowing free and spontaneous responses of the interviewee, values the performance of the interviewer.

Plan Developed for the Case Study

In order to understand how innovation of organizational processes in companies occurs, in this work, a case study about Mendes Gonçalves is used. The choice of method is due to the adequacy it presents regarding the theme and objectives of this study.

The case study is often used in Economic and Business Sciences, since it is appropriate to the analysis of current phenomena. Moreover, it is relevant because it is a method adjusted to the study of situations in which the context plays a fundamental role, as clarified by Yin (1994):

"The case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when boundaries between phenomenon and context are not clear" (Yin, 1994: 13).

The case study is defined as the empirical investigation of a phenomenon that can hardly be isolated or dissociated from its context. It seeks to study the set of intra-system variations, which are the variations produced naturally in a given environment. (Yin, 1993; Hartz, 1997).

The plan elaborated for this case study was adapted and submitted to a questionnaire to be filled out by the CEO, with the subsequent use of an interview to obtain a lived perspective of the interviewee's position regarding innovation, its diffusion and adoption.

Why Evaluate Innovation in the Food Industry?

The food sector is one of the most important sectors within the European Union and is seen as a key sector to foster job creation if it can continue to develop new technologies and products. Although the industry is classified as low-tech food companies exhibit a high trend of innovation with thousands of new products launched on the market annually.

Some data on European food industry[3] (2016):

- Annual turnover of € 1089 Billion
- About € 98,1 billion of exports,
- 4.4 million people employed
- 289,000 companies

Research Context

To conduct this study, an in-depth interview was conducted with Mendes Gonçalves CEO, to verify the results of innovation practices and their reflection on competitive advantages in the market. The in-depth research method was selected so that the interviewee felt free to answer the questions, to show their opinions about the practices of the organization and about their motivations related to the topic addressed.

The research aims to identify if the organizational practices related to the adoption of innovation are integrated into the strategic planning of the organization and if they confer competitive advantages, giving total freedom for the interviewee to express and share experiences and experiences (Vieira and Tibola, 2005, Madeira, Lopes, Giampaoli and Silveira, 2011).

The interviewee was asked to identify sustainable strategic practices for adopting innovation, to relate the economic and value-added implications of innovation practices and strategies, to relate the environmental, social and economic impacts of innovation activities, to identify sources of competitive advantage provided by innovation practices in the organization, the future impacts of innovation practices, and to verify how innovation diffusion practices can confer competitive advantage on the organization.

THE CASE STUDY

The Company

Mendes Gonçalves is currently one of the largest producers of vinegars and sauces in the Iberian Peninsula. It produces and sells hundreds of products, but it was with vinegar that it all started 34 years ago (1982), in Golegã. And it is there, in this Ribatejo region, that Mendes Gonçalves is still located. It made sense at the start of the activity and continues to make sense today. “We invest in our land, then without the transport infrastructures and road links that currently exist, but for us it was important to add value and wealth locally. And this feeling of privileging what is ours, be it Golegã, Ribatejo or Portugal, is still very present in our current strategy”, explained Carlos Gonçalves, administrator and founder of the company. “We went into the market to produce vinegar, and that’s what we did, but we did not want to produce something like the vinegar of wine; we wanted to make a differentiated, innovative product. We used the fig, a fruit very common in our region, and the vinegar of fig was born “, continues the same administrator.

Vinegar continues to be one of the main products of Mendes Gonçalves (its main competitors are Seasonings Company and Aromas do Tempo), and the one that the company produces most in volume. “Over the years, and in a very conscious way, we have been innovating, producing different vinegars, presenting packaging and different ways of taking a product that is millenarian to the consumer,” says Carlos Gonçalves.

With the turn of the century, the business evolved into sauces and other seasonings, making evident the need to increase the group's brands. Created in the early '80s, the' Paladin 'brand (for 4 years, since 2000, simultaneously marketed' Paladin 'and' Savora ' the first and discontinue the second). "Suddenly we had the opportunity to buy a brand that we were already producing, the 'Paladin', which at the time was just the mark of a mustard. We expanded the range of products and about three years ago we decided to make a profound change: we kept the brand name, but strategy, positioning, image and communication have changed substantially. "Paladin" became our benchmark, the vehicle of presentation to the market (s) of all the innovations that Mendes Gonçalves introduces, "says Carlos Gonçalves.

Currently Mendes Gonçalves has more than 200 different formulas in production and every year launches new products, making the most of the advantages that come from having a department of research and development of its own. "We like to innovate, to try new, different products, so this is an area where we invest heavily." Among the latest news presented to the market are tomato vinegar, apple cider vinegar from Alcobaça or from Pera Rocha, products from Portuguese demarcated regions. "About 88% of the raw material we incorporate into our products is national. We have always privileged the Portuguese product, but now we are communicating this characteristic more to the markets. " A strategy that has given positive results, both in sales growth and brand awareness. "We have always been growing, even in years of crisis. Growth that depends heavily on the domestic market, but which also begins to reflect the investment in international expansion. The goal, he maintains, is to increase sales abroad and move from the current 25-30% to 40% in the next two years. The company ended 2017 with a turnover of more than 31 million euros.

The 4 million euros investment in the construction of a factory in Angola, the first outside of Portugal, shows how Mendes Gonçalves is committed to the outlined internationalization strategy. "When we talk about internationalization we are not talking about selling containers with products. The export component has always been, and continues to be, important to us. But selling is not enough. Our approach, our strategy, is growth, whatever the market we are in, so when we define the target markets, when we choose an exclusive distributor, we are choosing a partner who knows the market and has the capacity to take our products to the consumer. And we want to have a say in this process.

Therefore, local production is something that will always be in the medium- and long-term plans, "says Carlos Gonçalves. "That's what makes sense," he adds, "we produce commodities. Given the globalized world we live in, it makes no sense to produce something here that will reach a consumer who is thousands of miles away with a much higher price due to the cost of transportation. We can produce there or there nearby. "

Angola became the first foreign direct investment destination of Mendes Gonçalves as it is already the main destination market for its exports. "We have been exporting to Angola for more than 30 years, but in recent years the business has evolved a lot. We decided, together with our local partner, Angoalissar, to invest in the construction of a manufacturing plant. The construction started in 2014 and the factory began to work in April 2015 with the production of vinegar with the Peninsular brand, "explains Carlos Gonçalves.

Mendes Gonçalves Angola is held in equal shares by Mendes Gonçalves Portugal and the Angolan distribution group Angoalissar. The plant is located in the industrial area of Viana, employs 30 people and has an installed production capacity of 500,000 bottles of vinegar per month. "This is our first overseas production experience and so we started with a product that we know well. In this first year of activity we expect to earn around 2.5 million euros. It is more than we would bill with the export of the

product, "says the administrator. The future is open and depending on the evolution of the market, so the production of Mendes Gonçalves Angola will grow and diversify.

In 2014, Angola accounted for about 1/3 of the Portuguese company's export revenues, with the loss of the customer Angola (since the production was made locally), Mendes Gonçalves Portugal now has the double challenge of growing abroad and, simultaneously offsetting Angola's exit from the list of major buyers. Projections are, however, quite optimistic as sales to the Middle East and other African countries are largely offset by the effect of Angola.

What is the success factor of the company's investment in Angola? "The choice of the right partner, but above all, the ability to tailor the product to local taste." An advantage that global players (Unilever, Heinz, IFFCO) in the sector do not have. "We need the partner to understand the philosophy of the brand, that makes our brand and his, and that is to see what needs to be changed in the product to suit the local taste." And there are plenty of examples, such as the range of vinaigrettes produced specifically for Algeria, the spice for India or the range of sauces for the Arab market. Other times, it is the Portuguese's own "taste" to score points.

Innovation is undoubtedly the great competitive advantage of the company. And creativity is the challenge to which you respond every day. It is thanks to its commitment to innovation that Mendes Gonçalves has gained relevance and has stood out in the market.

There were several distinctions that their products received (Trends & Innovations, SIAL D'OR, Innoval, Gulfood Dubai), which in turn captured the interest of multinational companies such as McDonald's (some of McDonald's sauces are provided by Mendes Gonçalves, namely the McBifana sauce, the McPrego sauce and the potato chips sauce).

As a statement of honor, the company has kept the commitment to Golegã and its people from the time of paternal management, by anchoring in the region one of the most modern factories in Europe, one of the most sought after by the main Brands of Distribution, and the selected one as a certified supplier to some of the world's largest brands. While on the one hand originality opens new opportunities, on the other hand it implies more battles: it is the national and international consumers who prove that Mendes Gonçalves has been able to define and conquer every stage of his career.

Today, the company strengthens its entrepreneurial DNA, bold and committed to making a difference, with a global scale strategy. "It gives work to bear fruit, but Mendes Gonçalves makes the impossible the ground and the boldest challenges his next steps." As a company, Mendes Gonçalves S.A. was already awarded as PME Líder (attributed by IAPMEI). It was included in the list of innovative companies of the PME Inovação Network and one of its most important awards was among the 100 Best Companies to Work for in Portugal. In addition, some information regarding the company's innovation performance and results (which position the company above average by Eurostat):

- R&D investment in terms of turnover % → 2%
- R&D personel → 4% (10 de 250)
- Number of new products developed → ≈ 300 (± 40reach the market)

Other Key data (2017):

- Employees - 250
- Turnover - 31,99 million euros
- NetProfit – 1,406 million euros
- Compound Annual Growth Rate 2002-2017 – 17,25%

FINDINGS

Discussion on Research Questions

The authors analyze the results obtained from the questionnaire and the interview conducted, according to the methodology described above, comparing the expected results with the obtained findings.

The 7 independent variables: The Recency of Employee Training, Executive Chairman's Attitude, Transformational Leadership Assessment, Multifactorial Leadership Characteristics, Management Practices, Organization Orientation for Quality and Support of Management for Quality are identified on Table 1, that summarizes their nature, their availability, how they were measured (through data or other means) and if they were validated. In the following sections the authors discuss the findings related with each measure that was obtained.

Recency of Employee Training

The Recency of training is evidenced by the fact that in a universe of 250 workers, with an average age of 35, there are 45 graduates, corresponding to 18% of employees. The confirmation of the need to change is evident in the regular presence in the "Pitch Bootcamp - Technical" conducted by Instituto Superior Técnico.

But Carlos Gonçalves does not stop here. About 20 students from the Biological Engineering undergraduate degree, an Industrial Engineering and Management student and a master's degree student in Biotechnology, were present on the very day the interview was conducted.

The active search for "know-how" that allows an accelerated development is evident and the challenge to the cadres to participate in the internationalization programs foreseen in the strategic plan a constant one.

The CEO stated: "It is often the case that people are hired for a job and afterwards we find that they can perform better in another area," or "we recruit internally (always first) to accept the new role and find after some time that the person not happy, we made the mistake we came back, and everything is fine ".

The Attitude of the Chairman of the Executive Committee (CEO)

The intensity of the support for the adoption of organizational innovations is strong in the interviewee. Invited to comment on the changes since 2010, with the integration of a Commercial, Marketing and Production Director and a reorganization of the R&D sectors, he confessed that it represented a necessary step to allow the company to develop. It was also clear during the interview that there is a medium- and long-term vision for the reorientation of people into new functions, and successors are now being prepared to make the transition natural and smooth.

The speech of Carlos Gonçalves is consistent with the reality of the company, that is, innovation was at the origin of the company and is the basis of what MG does today (the first company to produce fig vinegar) and that is determined by its vision, charisma, realism and ambition.

Drucker (2000) enunciates seven principles that aim to guide the leader towards the future: (1) leaders do not expect, they must be proactive; (2) character is important: the most recognized characteristics of followers in leaders are honesty, forward thinking, competence, and incentive; (3) leaders are entrepreneurs, have futuristic but realistic vision, know the limitations; (4) leaders must uphold the values

Table 1. Measures for the predictors of innovation adoption, adapted from

Adoption Predictor	Measure Description	Available and Accessible?	Type	Validated Psychometric Properties?	Empirical Adoption Data?	Modified Predictor Change?
Leadership and Innovation Revitalization	**Recency of employee training** is measured by median age of senior staff (Meyer & Goes, 1988)	Yes	Calculated	No	Yes	Yes (long-run)
	The attitude of the CEO is measured by the extent of support given to adoption (support, opposition, or neutrality) and decision making (high, medium or low), assessments that are derived from content analysis of qualitative interviews (Meyer & Goes, 1988)	Yes	Research /open Interview and Multi-item Scale	No	Yes	Yes
	[4]**Texas Christian University (TCU) Survey of Transformational Leadership** (STL-S) is a 96-point measure of transformative practices. Using a five-point Likert scale (0 = none, 4 = often, if not always), STL-S examines five domains: idealized influence (13 items), intellectual stimulus (16 items), inspirational motivation (23 items), individualized consideration (eight items) and empowerment (17 items) (Edwards, Knight, Broome, & Flynn, 2010)	Yes	Multi-item and multi-domain scale	Yes	No	Yes
	Multifactor Leadership Questionnaire (MLQ) is a measure of 45 items of transformational leadership (ie, charismatic or visionary leadership) and transactional leadership (ie, leadership-based exchanges between leader and followers in which recognition and reward for meeting specific goals or criteria are emphasized). Yesilar to STL-S, transformational leadership consists of four domains ranked on a five-point Likert scale (0 = none; 4 = a very large extent): Idealized Influence (eight items), Inspirational Motivation (four items), Stimulation intellectual (four items), and individual consideration (four items); (four items), active management by exception (four items), and passive management by exception (four items) (Aarons, 2006; Bass *et al.*, 1996)	Yes	Multi-item and multi-domain scale	Yes	Yes	Yes
	Management Practice Assessment consists of 14 management practices grouped into four domains: consumption and retention (strategies), Quality Monitoring and Improvement (tracking of key performance indicators in the organization, including how data is collected and employees), targets (which examine objectives, realism and transparency of corporate goals), and employment incentives (promotion criteria, compensation and bonuses, and dealing with low-performing employees).The 14 questions about management practices are marked between '' 1 '' and '' 5 '' for each question, with a higher score indicating better management performance (McConnell *et al.*, 2010)	Yes	Multi-item and multi-domain scale	No	No	Yes
	Organizational Quality Guidance is a six-item scale that measures the top management's responsibilities in quality programs, the support of business executives for quality initiatives, and the adequacy of an organization's technology infrastructure to carry out quality improvement programs. (Ravichandran & Arun, 2000)	Yes	Multi-item Scale	Yes	Yes	Yes
	Quality Management Support is a ten-item scale that assesses CEO accountability and supports quality improvement processes (Ravichandran & Arun, 2000)	Yes	Multi-item Scale	Yes	Yes	Yes

Source: Adapted from Chor et al. (2014)

representative of the majority of the collective will; (5) Leaders do not do it all alone; (6) the leader's legacy is related to his / her life history, that is, the way he/she acts determines whether or not people will follow it and (7) leadership is not a place, but a process involving ability and talent pooling. The organizational environment is inherent in the relationship between people, the creation of working groups and the joining of collective efforts in search of common success. In this environment, it is important that organizational leaders understand that their success is critical to society (Chiavenato, 2004).

This fact is reflected enthusiastically in the way the CEO talks about his team and the social responsibility it manifests in relation to the community in which it operates. He is a man with causes and causes and in his attitude and thought there is always the land that saw him born and grow. However, it goes even further. Mendes Gonçalves and his CEO do not hesitate to continually discontinue products to revitalize the brand and their ability to anticipate the need for a product to be withdrawn assists their customers in reducing obsolete inventory. This reflects not only the company's market outlook, but also the genuine concern that "no one makes business alone and that everyone has to win, not just me. " It adopts internal communication campaigns through newsletters and general meetings, with the aim of keeping employees always abreast of what MG is developing. Basically, it aims to create a body spirit that is extremely important for motivation, but also for the sense of belonging on the part of the collaborators.

Multifactorial Characteristics of Leadership

The Transformational Leadership Survey (STL) is a global assessment tool that reflects the approach to the conceptualization and measurement of transformational practices. The STL examines five main components, four that are traditionally conceptualized as transformational domains (ie, idealized influence, intellectual stimulation, inspirational motivation, and individualized consideration), plus one that is measured less frequently (empowerment). Conceptual topics are examined within each of these five major components, considering leader-specific practices included in a variety of other tools. For example, the idealized influence includes topics such as character, sensitivity to risk, ethical considerations and idealization of the leader. Including items that address each theme allows differentiation between leaders based on the use of specific strategies.

The Multifactor Leadership Questionnaire (Bernard M. Bass and Bruce J. Avolio), used under license, translation and adaptation by Júlia Oliveira in the Master Dissertation, defended at UCP - Porto, in July 2007, is an instrument designed to identify and measure types of leadership and efficacy behaviors that are strongly linked to individual and organizational success (Table 2).

The results of the interviewee's responses can be verified in Table 3. The MLQ consists of 45 propositions that identify and measure various behaviors, which will determine a type of leadership and the outcomes of it. Uses an ordinal scale of 5 points (Likert) (Never - 0, Rarely - 1, Sometimes - 2, Often - 3, Often - 4), which represents the frequency with which these behaviors were displayed by the leader.

Regarding the leadership style of the organization studied, we can see from the analysis of the applied questionnaires that Transformational Leadership was the one with the highest average values of the three types of leadership (transformational, transactional and laissez-faire) followed by the type of transactional leadership and, finally, the type of Laissez-Faire leadership. This result was obtained through the interviewee's responses to the questionnaire and confirmed by the responses during the interview/visit to the production unit in the interaction with some collaborators. In this way, we can characterize leadership style as being transformational. "This type of leadership is characterized by having a strong personal component" (Antonakis, Avolio, & Sivasubramaniam, 2003), being a person who motivates and inspires

Table 2. Multifactor Leadership Questionnaire (MLQ)

Carismatic Leadership (Transformational Leadership)	Idealized influence	IIA[5]
		IIB[6]
	Intellectual stimulation	IS[7]
	Inspirational Motivation	IM[8]
	Individual Consideration	IC[9]
Interaction Between Leader and Followers	Contingent Reinforcement	CR[10]
(Transactional Leadership)	Exception Management – active	MbEA[11]
Laissez-Faire Leadership	Exception Management – passive	MBeP[12]
	Absence of Leadership	LF[13]
Leadership Results	Effort	EXT[14]
	Eficiency	EF[15]
	Satisfaction	SAT[16]

Table 3. Results from MLQ

	Factors	**Question #**	**Average**	**Factor**
Transformational Leadership	IIA	10,18,21,25	3,00	3,55
	IIB	6,14,23,34	3,75	
	IS	2,8,30,32	3,50	
	IM	9,13,26,36	4,00	
	IC	15,19,29,31	3,50	
Transactional Leadership	Factors	Question #	Average	
	CR	1,11,16,35	3,00	2,75
	MbEA	4,22,24,27	2,50	
Leadership *Laissez-Faire*	Factors	Question #	Average	
	MBeP	3,12,17,20	1,75	1,13
	LF	5,7,28,33	0,50	
Leadership Outcomes	Factors	Question #	Average	
	EXT	39,42,44	3,00	3,00
	EF	37,40,43,45	3,40	
	SAT	38,41	2,50	

Source: Adapted from TCU - Institute of Behavioral Research ©, (2009)

his followers, capable of instilling challenges in the tasks to be accomplished, motivating and inspiring the elements of the group, in order to overcome all difficulties with enthusiasm, team spirit, optimism and confidence. He seeks inspiration from other leaders and often resorts to them in search of solutions.

The CEO is committed, able to communicate and trust, generating security for the future and demonstrating how committed he is to achieve the set objectives. At the same time, he is an admired leader,

transmitter of respect and confidence to his collaborators. In his words, "I encourage people not to be afraid of making mistakes, because only once and again can it evolve. If you do not, go back. I like people to make it happen ... There is no limit to R & D + i for new products ... Everyone can propose ideas without filters, ... All departments innovate. There are no barriers. You have an idea introduce it. Computer system collects the ideas of the people, or else in the cafeteria ... If the boss does not give you an answer once, insist and continue to propose, if not answer goes with her higher. Sharing to the side ... Interaction between departments is vital ... ".

According to Antonakis *et al.* (2003) Transformational leaders are proactive, stimulate followers to transcendent collective interests and help followers achieve extraordinary goals. This is evidenced by the average of 4 obtained from the factor IM (Inspirational Motivation) and confirmed during the interview.

Regarding Leadership Outcomes, the CEO says there is a good, pleasant and appropriate work environment. It is effective at understanding the needs of the organization and leading a high performing team. Then we find the extra effort where the one says to lead the group members to do more than was expected, to go beyond their expectations, to try harder. The relatively low average satisfaction indicates, confirmed by the interview, a constant and obstinate search for something new, different, differentiating and a concern in maintaining credibility, trust of employees.

Evaluation of Management Practices

Most research on organizational performance tends to focus on measures of employee performance, capital, and relational skills. Relatively little has been said about the role of management practices within an organization. However, recent economic studies suggest a new way of measuring and understanding management policies within an organization (McConnell *et al.*, 2010). Bloom & Van Reenen (2007) surveyed more than 700 companies for 18 indicators, finding that they could be measured and quantified, and that best management practices were strongly correlated with company performance. An important aspect of his work was the use of a telephone survey to collect true information about organizational practices and to minimize the impact of distorted responses to favorable scores.

The scale developed by McConnell *et al.* (2010) may be useful for researchers for at least 2 reasons. First, management performance can be evaluated and used to explore the association between management practice and other relevant outcomes such as customer retention. In addition, the method can be applied to improvement programs developed by the organization where it is relevant to identify high (or low) success rates. This information can be used to stratify analysis plans or to identify a subset of actions. Finally, a mature understanding of the types of actions that are intimately associated with program success - in the broad sense - can lead to a roadmap or best practice. From the answers of the CEO and from the interview the following evaluation is applied applying the criteria of the authors, exemplified in Table 4, and reflected here after evaluation of the answers regarding the standard.

Orientation of the Organization and Management Support for Quality

Ravichandran & Arun (2000) consider that improvements in quality performance occur when a quality management system is put into practice rather than through the gradual adoption of TQM (Total Quality Management) practices. The theoretical starting point for this research is Deming's (1986) statement that quality performance is largely determined by factors within the system itself. He argued that fac-

Table 4. Assessment of Management Practices (AMP)

	Questions (APG)	The Organization Doesn't Implement Any Measures	The Organization Implements Some Measures	This Is a Central Focus of the Organization
1	What has been done to improve the customer acquisition process? You can give concrete examples. What has been done to improve the customer acquisition process? You can give concrete examples.			X
2	Briefly outline your strategies for retaining customers? (e.g., call scheduling, incentives, periodic meetings, etc.). Are there quality improvement processes for retention? Can you give concrete examples?		X	
3	Is there a quality management system? Or MIS? How are quality improvement processes structured? (e.g., meetings? quality improvement team?) Please list some concrete issues that have been addressed. What is the role of employees in the process?			X
4	What performance indicators are monitored? How is information collected? How often are they measured? Who sees these results?			X
5	How are performance indicators reviewed? Talk about a recent meeting. Who is involved in these meetings? Who sees the results of the performance review?		X	
6	When you review your organization's performance, do you have enough data to do it? What kind of feedback occurs at these meetings?			X
7	Let's say you agreed to a plan presented at one of your meetings. What happens if this plan is not executed? How much time elapses between detecting a problem and solving it? Can you give a recent example? What is your attitude when a team or individual, repeatedly, fails to perform agreed actions?			X
8	What types of objectives are defined? What kind of goals does management most value? Financial? Not financial? Indicate some goals that are not imposed externally (eg, state or others)?			X
9	How difficult are your goals? Do you feel pressured by them? On average, how often would you say you achieve your goals? Are goals clearly easy to attain (always attained) and others difficult to attain (never achieved)? Do you consider that all teams have objectives of similar difficulty? Do you think some groups have easier goals?			X
10	If the employees were asked about the goals or expectations generated in relation to their performance, what would they tell me? Does anyone comment that the goals are too complex or confusing? How do employees become aware of their performance against peers' performance?		X	
11	Are there non-financial or financial rewards for high performers? If you have a bonus system, how does it work? Are the rules agreed upon? How does your organization's reward system compare with the system of other organizations?		X	
12	If you have an employee who can not perform his / her job, what does he / she do? Can you give a recent example? How long do you tolerate below-expectations? Do you know any collaborators who only do the essentials not to get fired?			X
13	Can you describe the promo program? And lower-performing developers - are they promoted more slowly? Are there any examples you can give? How do you identify and develop (e.g., form) the best performers? If two people have been in the organization for five years, and one is substantially better than the other, is he / she promoted faster?			X
14	If a high-performance employee wants to say goodbye, what does the organization do? Can you give an example of a high performance contributor who has been persuaded to stay after expressing an intention to leave? Can you give an example of a high-performance collaborator who has left without someone doing something to maintain it?		X	

Source: Adapted from McConnell et al., (2010)

tors unique to each developer or specific technology contribute a minimal percentage to the variation in quality performance and that most performance variations are due to system factors. At its core, this systemic view of quality improvement suggests that quality problems cannot be addressed by stand-alone solutions. Instead, management should focus attention on the creation and perpetuation of a management system aimed at achieving superior quality performance. Ravichandran & Arun, (2000) highlight from the quality management literature the identification and definition of the fundamental constructs of a management system for quality improvement. These constructs are; effective process management, stakeholder engagement, the sophistication of management infrastructure, and top management leadership in the quality process. The authors have developed a model that interrelates these constructs and quality performance. The model is based on the view that quality management requires an organizational perspective of the system. The model is tested using data collected from 123 Fortune 1000 Information Systems organizations and various US government departments.

Total Quality Management has evolved as an approach to quality that is now characterized as an integrated and systematic organization-wide strategy to improve the quality of products and services (Dean and Bowen 1994). A fundamental precept of TQM is that organizations should be seen as systems of interconnected processes Deming (1986). Underlying the systemic view of quality improvement is the notion that employees work in an organizational system and that individual and collective behavior can be manipulated through changes to the elements of the organizational system.

The authors merged the questions the multi-scale questionnaires from Ravichandran & Arun, (2000), identified on Table 1, on a single questionnaire with 13 questions and 53 items. The questions posed to the interviewee are summarized on Table 5 (we do not present here).

From the analysis of the answers the authors derived the following observations:

- **Leadership**: Deming (1986) states that without top management leadership and evidence of its commitment to quality improvement, an organization will not be able to change its practices that lead to poor quality. The respondent responded with a maximum value of 7.00.
- **Structure**: Management's vision of quality must be translated into action if it is to result in quality improvements. To be effective, vision must be incorporated into the organization's policies and structures (Fenwick 1991, Scholtes and Hacquebord 1988, Selznick 1957, Shores 1992). These policies and structures are necessary to create the forces that direct the organization toward the desired goals (Adler, 1989). The respondent answered with a value of 5.54 (maximum 7).
- **Process**: efforts should be directed to put into place well-defined processes and then continuously improve from the elimination of waste and sources of dissatisfaction to customers. This involves

Table 5. Key constructs for a quality-oriented organizational system

Organizational Dimension Variables	Elements of an Organizational System	Oriented to Quality Questions
Leadership	Leadership Management for Quality	1
Structure	Management Infrastructure	2,3 e 4
Process	Processes management Participation of stakeholders (Stakeholders)	5,6,7 e 8 9, 10 e 11
Results	Quality Performance	12 e 13

extensive data collection, analysis, and feedback systems that help isolate problems and direct employees' attention to problem solving (Sitkin *et al.*, 1994). The participation of users, suppliers and developers in design and development processes promotes mutual understanding of issues and resolves any reluctance to improve quality. The respondent answered with a value of 5.38 (maximum 7).

- **Results**: The most widespread and currently used definition of quality is the extent to which a product or service matches or exceeds customer expectations. This definition of quality is implicit in the TQM principles and has been recognized externally to the organization as a valid measure focused on quality. Measures of quality processes are equally important from the customer's point of view as they relate to the cost of goods and / or services and their efficient delivery. The company demonstrates a goal in implementing performance appraisers, OTIF, in the short term. The recent installation of an automatic warehouse is the first part of this puzzle. The respondent answered with a value of 5.13 (maximum 7).

Summary

It can be concluded that there is an involvement, support and vision, regarding the quality management and associated processes. "Credibility and trust", in the words of the interviewee, are, along with joint innovation with customers and efficiency, a constant objective of the organization.

It is important to mention here that in the pursuit of this value creation, Mendes Gonçalves develops an internationalization business model, based on a concept of adapting its production methods to flavorings and scents customized to the market where it intends to operate, not trying to impose the tastes that Portugal appreciates.

In short, it can be said that Mendes Gonçalves' senior management is very young, thus giving a greater emphasis to product innovation, that the CEO's attitude is based on a proactive, sober approach with a competent, enthusiastic, future vision and motivating. It presents the marked characteristics of a transformational leader, incessantly seeking the efficiency of the processes, not hesitating to request an incremental effort circumstantially without neglecting the satisfaction and the emotional balance of the collaborators (this aspect was mentioned several times during the interview). The precise hiring of the Commercial and Marketing directors seeks to systematize the processes of acquisition and retention of clients, strategically defining the markets that need development. Following demands from the most recent clients, some CRM (Customer Relationship Management) practices are identified. There is no formal and efficient system for evaluating employee performance, so there is a lack of Specific, Measurable, Attainable, Realistic & Timely definition of individual objectives. This practice will allow, when properly applied, the anticipation and correction of trajectories in the professional path, without surprises or states of soul present at the moment of the decisions. This method could also define and determine a policy of succession in the company, without depending on the "judgment". The evaluation does not necessarily lead to a monetary reward, and it is not clear how the incentive system works.

As one would expect in an organization that produces and markets food, quality is a constant, revealing the CEO a total commitment to lead the process, although the structure

CONCLUSION

Final Remarks

Top management influences organizational culture and this culture influences the way people act and the employees' feelings towards the organization. Organizational culture is also essential for innovation, in the sense the it may enhance its value, its promotion innovation, as well as the creativity of workers. But it's more than that. Culture, perceived through the environment that the workers experience in the organization, can constitute an incentive or obstacle to their capacity and will to innovate. A sense of equal treatment, encouragement of participation in decision making, support for training, availability of resources for innovation, possibility of environments for teamwork, or appreciation of the worker as a person are cultural factors that must be considered, integrated in the characteristics of the organization and applied to the different tasks that its workers perform (Ahmed, 1998). The same author considers that innovative companies are those that manage to develop climates of innovation among their workers. Thus, in addition to considering the economic and cultural aspects of the organization, it is important to analyze the role that Leadership and plays in innovation so that it can be fostered and/or adopted. Innovation is an inherent and dependent activity of man. In this sense, organizations should promote values such as creativity, qualification of human resources and continuous training, among others. Mol and Birkinshaw (2009: 1278) argue that "companies can benefit from their ability to invest in management innovation together with the ability to innovate products and processes." The results of Camisón & Villar-López (2014) seem to support this idea as well as the authors research.

In this case study the authors looked at the role of the CEO and other factors in the adoption and promotion of organizational innovation. In the innovative SME under study, we found that the concern for growth and innovation in the organizational process was evident, which from 2010 onwards assumed a greater dynamic. The personal characteristics of the CEO, such as the charisma, inspiration, vision, motivation, leadership style, ultimately determine the innovative character and depth of the adoption of innovations in this organization. Based on Schein's (2002) idea of culture and its influence on innovation and building on Chor (2014) we were able to identify seven variables(The Recency of Employee Training, Executive Chairman's Attitude, Transformational Leadership Assessment, Multifactorial Leadership Characteristics, Management Practices, Organization Orientation for Quality and Support of Management for Quality) linked with Leadership and Management that do seem to explain the organizational innovation and adoption in this company.

The authors were not allowed to reproduce the organizational chart of the company, but from the possible observation we can verify that it reveals something different or at least unusual. The root is the CEO, from where it all begins, and the different areas are the branches of a tree. As these branches sprout new fruits (ideas, business, strategies, etc.), the company provides a fertile soil where after they fall, they give rise to new "trees" in what is intended to be, from the company perspective, an endless process. It also allowed to validate that the structure has very few levels, allowing the rapid development and effective adaptation to the requirements of the surroundings and avoiding the compartmentalization of the different areas.

In view of the results obtained in this case study, it is possible to affirm that "Leadership and its role in the Dynamization of Innovation" are determinant in the success of the adoption and diffusion of organizational innovations.

RESEARCH LIMITATIONS

The research conducted in this Case Study was limited to the use of bibliographical references and to the analysis of the questionnaires that were mostly based on the interview with the CEO of Mendes Gonçalves (some secondary data was used), where the authors obtained the corporate perspective and experiences. For a deeper analysis, it would have been important to extend this evaluation to the employees to avoid any kind of bias due to the nature of the type of research carried out. At the same time, mostly qualitative data and research methods were employed thus thwarting a certain degree of objectivity in the analysis (that may arise from quantitative research).

Finally, something that hindered the objectivity of the research, but is not enough to invalidate it, is the representation of a single case study from a single company with only one source of research, an in-depth interview focus. This fact restricts us from having a more general view of the impact of leadership in organizational innovation and adoption.

Nevertheless, this study reflects the reality of a very innovative Portuguese SME, with everything that can be inferred from it. This reality is somewhat different from multinational companies where corporate practices and policies determine much of the corporate culture and organizational innovation and innovation adoption are generally formalized activities.

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ENDNOTES

1 Dedicated to the measurement of R&D activities with its first version published in the 1960s.
2 Dedicated to the measurement and interpretation of innovation - published for the first time in 1992 and re-published in 1997 and 2005.
3 Eurostat; UN COMTRADE; JRC (2016)
4 By its extension (96 items) we chose to perform "only" the MLQ.
"STL can also be used as a global measure of transformational leadership. The second-order factorial analysis revealed a structure almost analogous to previous studies using MLQ (Barling *et al.*, 2002; Bono and Juiz, 2003, Purvanova, Bono, and Dzieweczynski, 2006; Shin and Zhou, 2003)
5 *Idealized Influence (Attributted)*
6 *Idealized Influence (Behavior)*
7 *Inspirational Motivation*
8 *Intellectual Stimulation*
9 *Individual Consideration*
10 *Contingent Reward*
11 *Management-by-Exception – Active*
12 *Management-by-Exception – Passive*
13 *Laissez-Faire*
14 *Extra Effort*
15 *Effectiveness*
16 *Satisfaction*

Chapter 14
Open Innovation and Its Applicability in SMEs

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ABSTRACT

Rapidly changing consumer demands and needs have shortened the life span of products and services. Innovative products that are produced with long and intensive studies of R&D departments complete their life spans in a short time. Therefore, firms tend to search for interesting ideas developed outside the boundaries of the enterprise. Within this framework, by going beyond innovation, the concept of open innovation emerged as a remedy for the achievement of sustainable competitive advantage. Chesbrough defined open innovation as "the use of purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation." The research of open innovation in SMEs is primarily important since SMEs tend to open up more than large firms to reach external knowledge and technology for innovation. In this context, the aim of this chapter is to identify open innovation practices, motivations, intentions, and challenges in SMEs by systematically reviewing related concepts with open innovation in SMEs.

INTRODUCTION

Rapidly changing consumer demands and needs have shortened the life span of products and services. Nowadays, innovative products that are produced after long and intensive studies of R&D departments complete their life spans in a short time. This is leading to the disappearance of the sustainable competitive advantage achieved by firms. Hence firms are increasingly search for interesting ideas developed outside the boundaries of the enterprise (Vanhaverbeke, Van de Vrande & Chesbrough, 2008). Within this framework, by going beyond innovation, the concept of open innovation has emerged as a remedy for the achievement of sustainable competitive advantage. Open innovation includes both outside-in and inside-out diffusion of technologies, information and ideas (Verbano, Crema & Venturini, 2015) as well as being associated with "technology exploration" and "technology exploitation" (Chesbrough, 2003). In fact, today, maany firms have the desire to add to their business models not only the commercialisation of their own technologies but also of external Technologies (Henttonen & Lehtimaki 2017).

DOI: 10.4018/978-1-5225-8479-7.ch014

Whilst open innovation has increasingly drawn the attention of scholars, this has been mainly investigated in relation to large, high-tech multinational companies. Recent qualitative studies have demonstrated that how large companies like P&G, IBM and Xerox become distanced from depending on solely their internal R&D and instead, are now constantly searching for external knowledge for innovation as well (Keko, Prevo & Stremersch, 2018). Quantitative research on external knowledge acquisition has provided evidence that utilising external sources of knowledge in innovation is a hot prospect for future for large enterprises (Usman & Vanhaverbeke, 2017). However, in contrast to research on large enterprises, only a limited amount of research (Savitskaya, Salmi & Torkkeli,2010; Krause, Schutte & du Preez, 2012; Rahman & Ramos, 2013; Brunswicker & Vanhaverbeke, 2015; Bigliardi & Galati, 2016; Hossain & Kauranen, 2016; Hitchen, Nylund, Ferras & Mussons 2017; Freel &Robson, 2017; Martinez-Conesa, Soto-Acosta & Carayannis, 2017; Santoro, Ferraris, Giacosa & Giovando, 2018) has been conducted regarding open innovation in SMEs, even though they constitute the largest number of companies almost in every economy (Alvarez & Iske, 2015). Studies on open innovation in SMEs reveal that utilising external knowledge sourcing has positive performance implications for them in the long run (Choi, Lee & Ham, 2016). Nevertheless, it has been also determined that, although the boundary spanning nature of open innovation positively affects SMEs' performance, they still face some difficulties with the open innovation process, because they are having to cope with the liability of smallness, facing budget constraints and scale limitation as well as possessing fewer technological assests than larger firms (Brunswicker & Vanhaverbeke, 2015).

In this context, the aim of this chapter is to identify the open innovation practices, motivations, intentions and challenges for SMEs and by systematically reviewing relevant concepts, thereby contributing to the existing literature. By the end of this literature review, it will be evident that, the success of open innovation practices for SMEs is highly related to their collaboration in science parks, since they can help them to overcome the difficulties associated with these practices

The chapter is organised as follows. First, the methodology of the literature review is given and the facets of open innovation will be introduced. Second, the attributes of SME's will be explained, whilst finally, motivations, goals impediments and the role of science parks in the open innovation process in SMEs will be specified.

METHODOLOGY OF THE LITERATURE REVIEW

This chapter is composed of an integrative type of literature review in order to provide a more comprehensive understanding of open innovation practices in SMEs that have up to 200 employees. In this regard 74 documents in JSTOR, EBSCOhost, ScienceDirect, Scopus, ProQuest, Web of Science, Springer and Sage that use any design quantitative or qualitative and discuss open innovation practices associated with SMEs between 2003 and 2018 are synthesised. When selecting the studies, the following key words were used: open innovation, approaches to open innovation, inbound open innovation, outbound open innovation, approaches to open innovation paradigm, SMEs, characteristics of SMEs, motivation, purpose and barriers to open innovation in SMEs, science parks and technology parks. The literature review starts below with articles that include the basic concepts about open innovation.

OPEN INNOVATION

Innovation is usually regarded as a process that takes place within the borders of a single firm. Firms usually allocate limited budgets to their R&D departments which are supposed to be primarily responsible for conducting innovation practices. With these limited budgets R&D departments try to perform their best by producing groundbreaking ideas and obtaining as many patents as they can (Hogenhuis, Van den Hende & Hultink, 2017). However, with communication tools and technology advancing, the mobility of expert workers has increased and venture capital markets have flourished along with there being an expanding range of external suppliers, which has led to the effectiveness of traditional innovation systems being questioned (Aguirre-Bastos & Weber, 2018). As a consequence of all these changes, innovative products that have been produced through long and intensive studies of R&D departments complete their life spans in a short time. Moreover, some of the innovative products are abandoned during the commercialization phase and thus cannot be converted into a business model, which leads to the disappearance of the sustainable competitive advantage of firms (Winterhalter, Zeschky, Neumann & Gassmann, 2017). Hence, as aforementoned firms are increasingly resorting to searching for interesting ideas developed outside the boundaries of the enterprise. In this connection, open innovation came into existence as a solution for attaining sustainable competitive advantage. Open innovation is defined as the utilisation of knowledge that flows in and out of the organization in order to speed up the internal innovation process and to enlarge the market for exogenous innovation utilization (Chesbrough, 2003).

In this regard, open innovation can be seen as an opposite paradigm to closed innovation which promotes internal product development with R&D activities. That is, under the open innovation paradigm it is assumed that R&D is an open system. According to this paradigm valuable ideas can emerge inside or outside of the company and it can diffuse to the market from both sides. The six distinguishing features, between closed and open innovation are provided in Table 1 (Arbussa & Llach, 2018).

As mentioned above, open innovation is the utilisation of knowledge inflows and outflows. In this context, it can be argued that open innovation consists of two aspects: outside-in flow and inside-out flow, namely "*technology exploitation (outbound open innovation)"* and *"technology exploration (inbound open innovation)"* (Chesbrough, 2003, pp.8-9). The latter covers all innovation activities, by including

Table 1. The differences between closed and open innovation

Closed Innovation Assumptions	Open Innovation Assumptions
All smart professionals in our field work in our company	We should look for the knowledge and expertise of intellegent professionals outside our firm. Hence, not every professional work for us
Only our R&D can increase our profitability	External R&D can also enhance our profitability.
If we invent the product with our own resources, we will launch it first onto the market.	We dont need to be first to start the research in order to profit from it.
In order to win, we should be the first to commercialise an innovation.	Establishing a sound business model is more important than being first in the market.
When we invent the most bright ideas, we will win.	We can also preveil by recruiting bright ideas outside of the firm.
We have to preserve our firm's intellectual property so that rivals cannot appropriate our inventions.	We can let our competitors to import our ideas if it improves our business model.

Source: Arbussa & Llach (2018)

external sources of knowledge in order to exploit existing technological developments. Technology exploitation on the other hand, refers to searching knowledge in other enterprises, with business models more appropiate for the commercialisation of a particular invention (Fores & Camison, 2016). The two aspects of open innovation are explained below in more detailed.

Aspects of Open Innovation

In order to implement open innovation, a company can practise either technology exploitation (or Outbound Open Innovation) or technology exploration (Inbound Open Innovation) and in some cases it can use both of them. Below, first, the technology exploitation aspect of open innovation is described, which is followed by technology exploration.

Technology Exploitation (Outbound Open Innovation)

To benefit from internal knowledge, firms can generate various activities, the three most important of which relating to *"technology exploitation"* are "*venturing, outward licensing of intellectual property and the involvement of non-R&D workers in the innovation process"*. (Marcolin, Vezzetti, & Montagna, 2017, pp. 267-268)

"Venturing" is described as setting up a new business by utilizing internal knowledge which comprises both *"spinning-off"* or *"spinning-out"* of internally created ideas. Apart from the internal knowledge, the contribution from the parent company can also include financial resources, human resources, legal advice or administrative services. It has been alleged that, venturing has a great potential for all types of companies (Yıldırım & Şimşek, 2015).

"*Outward licensing of intellectual property* (IP)" plays a crucial role in practicing open innovation, because of the in-and outflows of knowledge. Firms can *"out-license"* their IP to benefit more value from it. It allows companies to achieve profit from their IP when other organisations with different business models are finding profitable, external ways to the market. Companies' decision to *"out-license their"* IP is contingent upon the expected revenues and profit-dissipation effects. A firm utilises its *"intellectual property"* by upgrading its business and obtaining profit from letting other companies exploit its knowledge (Toma, Secundo, & Passiante, 2018).

The last practice to benefit from internal knowledge is "*the involvement of non-R&D workers in the innovation process"*. In this type of open innovation practice, each member of personnel with different backgrounds, knowledge, specilisation and experiences can contribute to the value of the innovation process of the firm. Studies have indicated that, informal relations of personnel with other companies's employees can contribute to the focal firms' employees by teaching them how new products or services are invented and commercialised (Phillips & Oliveros, 2018).

Technology Exploration (Inbound Open Innovation)

"Technology exploration" covers all the practices that enable firms to capitilise the knowledge and technology outside of their borders. The most prevelant technology practices relevant to *"technology exploration"* are: "*customer involvement, external networking, external participation, outsourcing R&D and inward licensing of IP"* (Rangus, Drnovsek and Di Minin, 2016, p.193).

"Customer involvement" through integrating customers directly into the innovation process is important, because due to the advancements in technology, customers are no longer just adopters of innovation, but rather they conduct their own innovations which can afterwards taken over by the producer companies. Customers are free to make any modifications in computers, other equipment and software, which will guide the companies to respond better to the needs and wants of their clients (Biemans, 2018).

"External networking"is another implementation of *"technology exploration"* is directly associated with open innovation. It covers all practices aimed at achieving and maintaining connection with external resources such as social capital which consists of non-company employees and other organizations. In addition, external networking also comprises both formal collaborative projects and informal networking. Networks enable firms to meet their knowledge demands quickly and to access financial resources to develop the same knowledge within the borders of the focal firm or achieve it through vertical integration. (Dahlander, O' Mahony & Gann, 2016).

"External participations" on the other hand, allows firms to revive innovations have been deactivated or did not seem to have a prospect for commercialization. Firms can invest money in start-ups or in other enterprises in order to track potential opportunities. If the invested start-ups or other enterprises's technology is valuable, such investments yield more chances for further external cooperation (West, Salter, Vanhaverbeke & Chesbrough 2014).

"Outsourcing of R&D" help companies to achieve the neccessary external knowledge for their open innovation practices. The logic of the open innovation paradigm asserts that firms should rely on external knowledge that can be licensed or purchased rather than conducting all R&D practices within the firm boundaries. In the open innovation process, technology service maintainers like engineering firms and technology intensive organizations are considered more valued and this allow companies to reduce their R&D costs (Bzhahlava, 2016).

The open innovation paradigm stresses the fact that, firms should buyers or a sellers of intellectual property. *"Inward licensing of intellectual property"* refers to externally obtaining this property through the licensing of patents, copyrights or trademarks to take advantages of innovation opportunities (Saebi & Foss, 2015). In the open innovation process, firms usually place emphasis on selling their own intellectual property rather than buying it from other organizations. However, this is not optimal for they should exploit the value produced by accessing external Technologies and hence not simply being reliant on internal knowledge creation. *"Inward licensing of intellectual property"* plays an important role in accelerating the R&D process and enhancing the business model of the firm (Toma, Secundo, & Passiante, 2018).

To sum up, it can be argued that the entire open innovation operation in companies can be implemented through technology exploitation and/or technology exploration. In each case two approaches are applicable for shaping the open innovation process, as discussed below.

Main Approaches to the Open Innovation Paradigm

The organisational structure of firms and the differences arising from environmental conditions affect the open innovation process. Due to these differences the implementation and the practices of the process will vary across different firms. Regarding which, recently new developments in open innovation approaches have emerged, namely the cultural and structural approaches (Van der Meer, 2007).

Cultural Approach

Cultural approach to open innovation pertains to creating an organization climate that favours open innovation. Under this lens, it is assumed that the appropiate climate can be formed with a set of innovative attitudes and values. Thus, open innovation efforts will be supported by creating a suitable environment for the entry and exit of useful knowledge and experiences. With the cultural approach, the establishment of an organizational base for open innovation is proposed, which will contribute to its long-term sustainability (Lichtenthaler, 2011).

Structural Approach

The structural approach, on the other hand, is about the establishment of certain mechanisms relating to open innovation. That is, proponents of this approach encourages the development and implementation of formal structures in accordance with the organisational climate in order to create new ideas and generate new market entry options. The mechanisms supported by structural approach consist of practices such as forging task teams, allocating a separate budget for innovation and licensing (Eckhardt, Ciuchta and Carpenter, 2018).

However, it is incorrect to consider these two basic approaches as being mutually exclusive. For, it will be not sufficient to adopt the organisational open innovation climate without taking action. If a totally informal structure is adopted, disruptions may occur in the action taking phase of open innovation. Meanwhile, if the proper open innovation climate is not settled within the organizational culture, the formal mechanisms implemented will be baseless. Hence, establishing formal mechanisms and structures along with the proper open innovation climate is essential for making open innovation efforts successful and sustainable (Huizingh, 2011).

As noted earlier in the introduction, the extant literature on open innovation has focused mainly on large companies and thus, has left a gap regarding the investigation of open innovation practices in SMEs. In order to comprehend these practices by the letter, first, it is neccessary to provide a definition and to describe the general attributes of SMEs, which is done below.

Small and Medium Enterprises (SMEs)

With their employment potential as well as, innovative and flexible structures, SMEs have drawn the attention of many scholars and practitioners. However, scholars still cannot agree upon one generally accepted definiton for this. Definitons vary according to the size of the national economy, the level of economic development, market size and production techniques. In this context there are more than one definition of SMEs (Krishnan & Scullion, 2017).

However, in general, the most frequently used criterion to define SMEs is the number of employees in a firm. Usually, firms with less than 50 employees are considered as small enterprises, whilst those with 50-200 employees are considered as medium-sized ones (Soomro & Aziz, 2015). In this context, this literature review also covers the open innovation practices in SMEs that have up to 200 employees.

Attributes of SMEs and Their Role in the Economy

From the late-19th century up until the mid-20th century, large enterprises dominated businesses in the world. However, with the recession in the global economy during the 1970's came an increasing importance of SMEs. In particular, in developed economies, in the late 1970s the share of SMEs in total employment has increased. Hence, governmental approaches towards SMEs changed, given the perception that large enterprises were the engine of growth was now brought into question (Wilkinson & Keeble, 2017).

Today, in almost all economies, 99% of all firms are described as SMEs. These are enterprises that generally operate with low capital and labor with the ability of quick decision making. SMEs are considered as innovative firms with a flexible organisation structure. Insuch enterprises, the management function is executed by the entrepreneur (business owner). Moreover, entrepreneur and employees perform all the business functions without there being much specialization. The growing importance of SMEs can be attributed to the use of new flexible technologies, globalisation of the market, changing structure of the workforce, shift in consumer demand from standardised products towards customised ones and the increasing importance of entrepreneurship in the information society (Lopez-Perez, Melero and Javier Sese, 2017). However, like large enterprises SMEs also have some advantages and disadvantages as identified below.

ADVANTAGES AND DISADVANTAGES OF SMES

Advantages of SMEs

The main advantages of SMEs are flexibility, lack of bureaucracy and contribution to overall employment (Petrovska, 2015).

Flexibility

Usually, SMEs are able to respond to constantly changing consumer preferences more quickly than larger enterprises, because of thecloseness to customers and their ability to change their production process quickly without much costs. Moreover, SMEs are more likely to meet the complex, diverse and customised preferences of consumers. In addition, since globalisation has led to customised production being preferable than to mass production, SMEs, with their flexibility, have an advantage over large enterprises for achieving long-term profits (Liao and Bernes, 2015).

Lack of Bureaucracy

Usually, as the numbers of decision-makers and the level of bureaucracy in an organization increase, the productivity tends to decline. In smaller firms, managers can take the decisions about the production process more accurately and quickly since they are constantly together with all levels of employees. That

is, SMEs lack high levels of hierarchy that keep the managers apart from the production process which can lead to them to taking inaccurate decisions. Managers in small enterprises are usually able to keep up with changing market conditions, preserve their enthusiasm and capable of taking advantage of long term opportunites (Anderson, 2017).

Contribution to Employment

SMEs play an important role in the socio-economic development of countries, due to their contribution to national income, innovations, industrial production and especially employment. Generally, young and unskilled workers are recruited by SMEs and thus they are saved from being unemployed. In addition, SMEs provide more employment opportunities with fewer costs and the workforce trained in one can later be transferred to larger enterprises as a qualified and skilled workforce. Hence, it is held that, SMEs have an important role to play in terms of the qualifications and education of the workforce (Mallett & Wapshott, 2017).

Moreover, it is often the case that business owners or entrepreneurs start-up their businesses in which they live and hence, contribute to its employment. Whilst some prior research has suggested that despite the SMEs' contribution to employment is relatively low in developed countries, this is important in the long run (Giaoutzi, Storey & Nijkamp, 2016).

Disadvantages of SMEs

The disadvantages of SMEs include financial difficulties and management problems (Wonglimpiyarat, 2015).

Financial Difficulties

SMEs have a quite high failure rate especially in the first years of business, with approximately, one third of newly established SMEs failing in the first year. In fact, by the end of the fifth year, only one in four of all SMEs manage to survive. One of the most important challenges that SMEs face among business practices is financial. They commonly have difficulties in finding funding, which is critical for the sustainability and growth of the business because most of them do not have any reserves. Inflation, economic crises and cyclical fluctuations in emerging economies hit SMEs more heavily than larger concerns, there by jeopardising their survival (Eniola & Entebang, 2015).

Generally, in emerging economies, SMEs have certain problems with the existing banking system. Banks provide short-term loans to them only in certain times. Moreover, banks often demand high deposits from SMEs for loans as they have a high bankruptcy risks. Problems associated with getting loans and equity shortage push SMEs into a fragile position (Zhao & Jones-Evans, 2016). Moreover, during economic crises, the first measure taken by the banks is to stop giving loans and to collect outstanding ones. In addition to this, since many SMEs dont have qualified finance managers, business owners who lack any financial background are more likely to make wrong decisions in times of economic turbulance. Hence, SMEs can face huge financial losses due to a lack of personnel specialized in finance (Karadag, 2015).

Management Problems

The main management problems of SMEs are associated with the lack of qualified personnel, lack of educational background of business owners, lack of specialization and lack of administrative and technical consultancy. They are mainly managed by business owners and professional managers are usually from the extended family. Given the fact that SMEs' owners are senior managers at the same time, business functions are not clearly separated and thus production, finance, marketing and human resource practices are conducted within the limited individual abilities of owners. Moreover, business owners in SMEs are often directly involved in the production process with workers as well as being involved in raw material purchasing and transactions like insurance, tax etc. In addition, his or her limited capability to access and evaluate information about the market, avoidance of the employment of professionals, reluctance to delegate power and the involvement of other family members in the business, can also cause organisational problems (Okreglicka, Gorzen-Mitka & Ogrean, 2015).

OPEN INNOVATION PRACTICES IN SMALL AND MEDIUM ENTERPRISES (SME'S)

Chesbrough made his definiton of open innovation based on the case studies from large enterprises. In general, scholars have analysed the concept in large multinational firms which have their own R&D departments. There is only a limited research that has been conducted on open innovation in SMEs (Chesbrough, 2003). Gassmann et al. (2010) state that " *SMEs are the largest number of companies in an economy, but they are underresearched in the open innovation literature* (Gassmann, Enkel & Chesbrough, 2010, pp.215-216). To date, Van de Vrande, de Jong, Vanhaverbeke and de Rochemont (2009) have conducted the most extensive study on open innovation in SMEs in the Netherlands. Based on a survey data from 605 SMEs, the results of the study indicate that SMEs are adopting open innovation practices. The results also indicate that SMEs are principally taking advantage of technology exploitation practices through competences and knowledge of the personnel who are not employed in R&D. On the other hand, technology exploration is conducted through entegration of customers in the innovation process. It was also elicited that external networking is a vital tool of open innovation for obtaining external knowledge. Another finding of the study points out that, *venturing activities, external participation and inward and outward IP licensing* (Van de Vrande et al., 2009,p.429) only constitutes a small portion of open innovation practices. The reason for this conclusion can be explained by the fact such activities need certain amounts of investment and formalized arrangements. In contrast, customer involvement and external networking do not need such investment due to the lack of formalisation of arrangements (Van de Vrande et al.,2009). However, before understanding completely the open innovation practices in SMEs, one has to comprehend the motivations, purposes and limitations of these, which are explained below in detailed.

Motivations, Purposes and Limitations of Open Innovation in SMEs

Firms are conducting open innovation practices for adapting the environmental changes and out of the neccessity to follow trends. Today, there is an abundance of knowledge in almost every field and it is much easier to access knowledge than before. Besides that, the mobility of employees, existence of ven-

ture capitals and the short life span of products and services are forcing business organisations to evolve and leave behind the perpective that innovation has to be generated within the focal firm (Brunswicker &Vanhaverbeke, 2015). In this respect, Van de Vrande et al. (2009) determined that the main motivation of SMEs to implement open innovation practices is market-driven. SMEs are utilising such practices in order to satisfy customers needs and wants or introducing new products to the market with the aim of increasing annual sales, sustaining the firm growth and generating profit. Van de Vrande et al (2009) categorized the main motivations of open innovation in SMEs into ten major categories, these being "*control, focus, renewal, knowledge, costs, capacity, market, utilization, policy and motivation"* (Van de Vrande et al., 2009, p.432). All the categories are depicted in Table 2.

In Van de Vrande et al. (2009) studies it was also emerged that the market driven motivations are the main drivers for conducting open innovation, which include "venturing (31%)", collaborating with other firms (36%) and including customers in the innovation process (61%).

However, there are also a lot of challenges faced by SMEs when implementing open innovation practices. The most prevalent impedements for open innovation stem from cultural and organisational problems. Moree specifically, the very first obstacle to efficient implementation of open innovation is the *"not invented here (NIH) syndrome"* (Hussinger and Wastyn, 2016, p.945). *"NIH syndrome"* is defined as the bias of organisation members, who presume that they have a monopoly on the best knowledge and any new idea sor knowledge from external sources would result in poor firm performance (Katz and Allen, 1982, p8.).Hence, it is evident that *"NIH"* is a major obstacle to external knowledge attainment in that it can lead to negative attitudes towards *"technology exploration"* (Popa, et al., 2017).

It is clear that, engaging in open innovation practices are much more complicated and challenging than with closed ones, since it neccessitates substantial extra allocation of organizational, financial and human resources. In this regard, SMEs face difficulties in implementing open innovation practices, in particular, because they have scarce resources due to their small size (Anderson, Acur and Corney, 2018). Table 3 summarises the difficulties SMEs are confronted by when striving to engage in such practices owing to their size and the novelty factor.

Table 2. Categorisation of open innovation motivations of SMEs

Category	Description
"Control"	"Increased control over activities, better organization of complex processes"
"Focus"	" Fit with core competencies, clear focus of firm activities"
"Renewal"	"Improved product development, process innovation, market innovation, integration of new technologies"
"Knowledge"	"Gain knowledge, bring expertise to the firm"
"Costs"	"Cost management, profitability, efficiency"
"Capacity"	"Cannot do it alone, counterbalance lack of capacity"
"Market"	"Keep up with current market developments, customers, increase growth and/or market share"
"Utilization"	"Optimal use of talents, qualities, and ideas of current employees"
"Policy"	"Organization principles, management conviction that involvement of employees is desirable"
"Motivation"	"Involvement of employees in the innovation process increases their motivation and commitment"

Source: Van de Vrande et al. (2009, pp.432)

Table 3. Key challenges for new venture management

"Newness of the Firm"	"Smallness of the Firm"
"Unknown organizational entity"	"Very limited financial resources"
"Lack of trust in the abilities and offerings"	"Few human resources"
"Reliance on social interactions among strangers"	"Lack of critical skills"
"Lack of exchange relationships"	"Limited market presence"
"Lack of internal structures, processes/routines"	"Limited market power, disadvantage in negotiations"
"Lack of experience"	
"Lack of historical data for planning purposes"	

Source: Gruber & Henkel (2006, p.19)

"Smallness of the firm" refers to employing a limited number of personnel and having scarce financial resources. Owing to scarce financial resources, it is common that small firms sometimes cannot survive difficult market circumstances, even minor inefficiencies (Gruber & Henkel, 2006). Regarding which, to the study by Van de Vrande et al. (2009) implementation and internalisation of open innovation practices are more common in medium-sized firms compared to small ones. That is the former are more successful than the latter in allocating scale and resources with the aim of open innovation practices and thus they are regarded as being a more source of knowledge (Van de Vrande et al, 2009) .

On the other hand, *"newness of the firm"* pertains to uncomplete organizational structure and undefined firm-specific roles, duties and skills. In this respect novel firms have handicaps compared to large enterprises. Some of the drawbacks that are faced by SMEs related with newness are *"absorptive capacity"*, *"absorbing external ideas and Technologies"*, *"partnerships"* and *"intellectual property rights"* (Yıldırım and Simsek, 2015, pp.3-4) .

In addition, SMEs also encounter some obstacles when they collaborate with other firms. *"External networking"* with other SMEs, universities or R&D departments can lead to some problems for SMEs. The most prevalent cooperation problems in an asymetric partnership faced by SMEs are *"who to talk to ?"*, *"slow decision cycles"*, *" how to get in "*, *" large firms that do not understand smaller firms"*, *"power inbalance" and " responsibility transfer"* (Hogenhuis et al., 2017, pp.3-5). Getting in contact with the right people in the proper time interval is especially difficult for most of SMEs in such partnerships due to the fact that large enterprises are sophisticated firms with widely spread business activities over more than one geographic locations accross the world. That is, this set up makes communicating with the right people very difficult. Moreover, as pointed out before, it has been identified that establishing partnerships is more vital for SMEs when compared to large enterprises. Further, SMEs can also encounter difficulties in terms of the diversity between different organizational cultures. Regarding which, Van de Vrande et al. (2009) contend that exogenus impediments emerge from organizational, cultural and communicational differences. Lastly, the transfer of obligations of contract transactions from the large enterprises's R&D department to the procurance and regulatory department may be a significant challenge due to the fact that these two departments having a common vernacular, can have some difficulty in comprehending the business practices of SMEs (Van de Vrande et al., 2009). Due to the difficult interactions with large enterprises, SMEs are inclined to opt for establishing networks with other SMEs, universities or research laboratories. However, they are often considered as undesirable partners by these entities, for they prefer collaboration with large and prominent enterprises (Reynolds & Uygun, 2018).

Moreover, preserving of intellectual property is vital for SMEs. Most need to preserve their intellectual property rights from bigger and prominent enterprises, whilst at the same time having to be open to the external environment since they wish to increase their assets and equity, recruit qualified employees and find new customers etc. Further, SMEs usually do not possess the market power to seize the valuable knowledge source in situations where Intellectual Property Rights (IPRs) (Brem, Nylund & Hitchen, 2017) have not been preserved.

Krause, Schutte & du Preez (2012) refer to the impediments of implementing open innovation practices in their study *"Open Innovation in South African SMEs"*, which are listed in Table 4.

In another study conducted by Rahman and Ramos in 2013, it was found out that there are three types of impediments that SMEs face during an innovation process: *"human aspects"*, *"general constraints"* and *"policy constraints"* . The results of the study indicates that, a limited number of qualified personnel, lack of personnel skills in the context of *"general constraints"* and high costs of open innovation in relation to *"policy constraints"* are the main difficulties that SMEs have to confront. In Table 5, the facets the impediments faced by SMEs are depicted.

Rahman and Ramos also identified the solutions to overcome the impediments in terms of competition. These operations are as follows:

1. Improving product and service quality
2. Differentiate the products more effectively
3. Searching for new market niches
4. Decreasing production costs

Table 4. Barriers to using open innovation in the organization for SMEs

"Barriers to Open Innovation"	Explanation
"Finance"	"Obtaining financial resources"
"Resources"	"Cost of innovation, time needed and human resources needed"
"Organization/ culture"	"Balancing innovation and daily tasks, communication problems, aligning partners, organization of innovation"
"Knowledge"	"Lack of technological knowledge, lack of competent personnel, lack of legal/ administrative knowledge"
"Marketing"	"Insufficient market intelligence, market affinity, marketing problems with new products"
"Administration"	"Bureaucracy, administrative burdens, conflicting rules"
"Quality of Partners"	"Partners does not meet expectations, deadlines are not met"
"Idea Management"	"Employees have too many ideas, no management support, no formal process for innovation"
"Customer demand"	"Customer demand too specific, innovation appears not to fit the market"
"Commitment"	"Lack of employee commitment, resistance to change"
"Intellectual Property Rights"	"Ownership of developed innovations, user rights when different parties cooperate"
"User acceptance"	"Adoption problems, customer requirements misjudged"
"Competent employees"	"Employees lack knowledge/competences, not enough labor flexibility"
"Other"	

Source: Krause, Schutte & du Preez (2012, p.4)

Table 5. Classification of open innovation constraints in SMEs

"Human Aspects"	"General Constraints"	"Policy Constraints"
"Scarcity of skilled manpower"	"Lack of market demand (Low purchasing power of customer)"	"High cost of open innovation"
"Scarcity of non-skilled manpower"	"Lack of skilled manpower"	"Lack of financing"
"Low image of the profession"	"Too expensive manpower"	"High economic risk"
"Low image of the sector"	"Lack of quality management personnel"	"Organizational rigidities"
"Low image of the type of enterprise"	"Problems with administrative regulations"	"Government regulations"
"Wage levels too expensive"	"Problems with infrastructure (e.g., electricity, gas, communication, etc.)"	"Lack of customers' responsiveness"
"Unpleasant work"	"Problems with access to finance (other than interest rates)"	"Lack of knowledge to use new technology"
"Unpleasant working conditions"	"High interest rates"	"Lack of information on market"
	"Lack of knowledge in implementing new form of technology"	
	"Lack of knowledge in implementing new form of organization"	
	"Difficult to protect intellectual property"	

Source: Rahman and Ramos (2013, p.435)

5. Establishing strategic alliances
6. Lowering product prices
7. Raising hours of work
8. Searching for different foreign markets
9. Cutting down the production

Rahman and Ramos' study also found out that the most favored practices that are implemented by SMEs to overcome these obstacles to differentiate the products more effectively and to establish strategic alliences (Rahman & Ramos, 2013).

Savitskaya, Salmi & Torkkeli (2010) reveal two types of impediments relating to the implementation of open innovation. In Table 6 below, the findings of their study regarding the obstacles are under these two categories, namely *"technology exploration (Inbound Open Innovation)" and "technology exploitation (outbound open innovation)"*.

Table 6. Barriers to inbound and outbound open innovation

"Barriers to Inbound Open Innovation"	"Barriers to Outbound Open Innovation"
"Not-invented-here (NIH) syndrome"	"Not-sold-here (NSH) syndrome"
"No adequate technologies on offer"	"Complexity of IPR, fear of infringements"
"Takes too much time/resources"	"The difficulty of finding buyers"
"Fear of losing own innovation abil ity"	"Lack of marketplaces for Technologies"

Source: Savitskaya, Salmi & Torkkeli (2010, p.17)

According to the study by Savitskaya et al (2010) *"No adequate technologies on offer"* is the most prevalent barrier that prevent SMEs from implementing open innovation practices. On the other side, concern about losing self innovation capability is not considered as being a major impediment to applying open innovation practices. In additon, sophisticated intellectual property rights and concern for the violation of intellectual property rights are the most ubiquitous barriers to *"outbound open innovation"* by SMEs and the shortage of a technology market is the least signified barrier to *"outbound open innovation"* (Savitskaya et al, 2010).

Given the above mentioned impedements to open innovation practices, collaboration with science parks can help substantially in surmounting the barriers that SMEs face. Science parks help to put in contact different economic agents (companies, financiers, researchers, among others) generating the sharing of knowledge about essential aspects of business success. So, in the following part, the attributes of science parks and their contribution to open innovation in SMEs are explained.

SMEs' OPEN INNOVATION PRACTICES THROUGH SCIENCE PARKS

Innovation is one of the most vital factors for firms to achieve competitive advantage. One of the key strategies of all developed countries is to encourage university-industry colloboration and to enhance open innovation performance (Popa, Soto-Acosta & Martinez-Conesa, 2017). Firms are responsible for producing added value and improving the well-being of society, whilst governments are tasked with generating an environment in which universities and firms can colloborate with each other. In this context, science parks have emerged given the necessity of cooperation between university, industry and government (Yalçıntaş, 2014).

The definiton of science parks varies across countries with terms such *"technology park", "technopark", "technopolis", "research park", "technology development zone", "technology development center", "technology corridor", "innovation center"* and *"incubator"* being used. Since socio-economic situations differ by country, description of science parks varies from one to the other in terms of organizational structure, firms goals, offered goods and services and organizational culture. Thus, it is not easy to provided a common and universal definiton of the concept of science parks. In spite of this, mostly used definition of science parks is made by the *"International Association of Science Parks (IASP, 2014)"* They define a science park as *"An organization managed by specialized professionals, whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge-based institutions. To enable these goals to be met, a Science Park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets; it facilitates the creation and growth of innovation-based companies through incubation and spin-off processes; and provides other value-added services together with high quality space and facilities" (IASP, 2014,pp 1-2.).*

Due to the economic slump in the1970s, economically developed countries, like the U.S.A and Japan decided to tackle the economic recession by investing in R&D and technology. They found that they were able to produce goods of high quality and low cost, bringing these goods to the market thanks to university-industry colloboration. For example, the universities in U.S.A were taking out approximately 250 patents per year before the1980s, whereas in 2005 this figüre had risen to 3278 patents, with 527 new products being created and 627 spin-off firms being started (Yalçıntaş, 2014).

More broadly, it is held that the major components of successful science parks are companies, universities, government, angels and venture capitalists and research labaratories. Narasimhalu (2015) defines this structure as the *"CUGAR Model"* in which C stands for companies, U stands for universities, G stands for Goverments and finally R stands for research laboratories. Companies, universities, government, angels and venture capitalists and research labaratories are the main stakeholders of science parks. Sophisticated management is a must for science parks so that they can create a suitable climate for encouraging value generation by utilising resources (Naramsihalu, 2015).

Science parks also offer plenty of opportunities for SMEs. First of all, they can provide different types of physical capital, such as land, facility or building. Second, they offer *"coaches"*, *"mentors"* and *"workshops",* which are needed by SMEs. When mentors or coaches are from well known firms or successful business managers, they may gain the confidence of firms.In addition, well-organised science parks can help SMEs in terms of providing open innovation strategies or market research. Third, science parks also provide various services to SMEs such as *"accounting", "business consulting", "industrial design", "intellectual property", "investment community", "information and communication technology (ICT)", "legal services", "public and media relations", "security", "shared labaratories" and other "facilities and transportation"*. Fourth, there are different types of networking forums provided by science parks as explained below (Vasquez-Urriago, Barge-Gil & Rico, 2016, pp.5-6).

- **"IP Owners and SMEs":** This type of networking forum enable the transfer of intellectual property from IP owners to SMEs that are the IP consumers.
- "**Science and Technology Experts and SMEs":** This kind of networking forum mediates between science and technology experts and SMEs.
- **"SMEs and Target Customers":** In this type of networking, science parks bring SMEs and target customers together before the product is introduced to the market.
- "**SMEs and İnvestors":** This type of networking enable science parks to find serious investors who can give support to SMEs.

In this context, the most important mission of science parks is to reach early users of products or services and bring them together with SMEs. Besides that, science parks also serve as an intermediary of knowledge sharing between SMEs and their stakeholders such as large enterprises, start-ups, universities and other research labarotories. Several kinds of networking forums are organized by science parks for in and out licensing of intellectual property, which can also serve as supplier of human resources to SMEs. As a result of this, it seems reasonable to argue that the success of open innovation practices of SMEs is contingent upon their colloboration of SMEs with science parks (Makimattila, Junell & Rantala, 2015).

SOLUTION AND RECCOMENDATIONS

As aforementioned, SMEs have several barriers to implementing open innovation practices. Nevertheless, it can be argued that, science parks can help SMEs to overcome the impediments associated with the open innovation process. In this context, governments can initiate policies to faciliate a cooperation network between SMEs and science parks for the purpose of achieving mutual learning between partners. For example, SMEs that seek support from science parks can be subsidisied financially by the governments. The latter can also improve the functions and service quality of science parks so that

they can deliver better assistance to SMEs. Another, solution to overcoming the barriers associated with open innovation process, is the enhancement of university participation in various R&D programmes, establishing collaboration and technology transfer between companies and research institutions as well as intermediary organisations.

FUTURE RESEARCH DIRECTIONS

The current chapter has been focused on a systematisation of the concepts relating to open innovation practices in SMEs by conducting an integrative literature review.To this end, future research would benefit specifically from investigating the relationship between the contribution of scienceparks and the success of open innovation practices in SMEs. As noted earlier, the research on open innovation in SMEs is still in its infancy and it needs to be enriched. Thus, empirical researchs would contribute more to our understandings about the open innovation process in SMEs. Another future research direction might be to focus upon open innovation in a specific sector, such as in high-tech SMEs, that are more likely to engage in open innovation practices.

CONCLUSION

Nowadays due to the to high levels of global competition along with the incremental R&D costs firms can no longer produce innovative goods or services and achieve sustainable competitive advantage by solely conducting internal R&D activities as offered by the closed innovation paradigm. In this context, through proposing the utilisation of inflows and outflows of relevant knowledge for accelerating internal innovation and expanding the markets for the external use of innovation, the open innovation paradigm came to the fore as a notable instrument for companies in attaining sustainable competitive advantage. The two facets of the open innovation process consist of *"technology exploitation (outbound open innovation)"* and *"technology exploration (inbound open innovation)"*. As the former refers to the capitalisation of internal knowledge by "*venturing, outward licensing of intellectual property and the involvement of non-R&D workers in innovation process"*, whilst the latter pertains to the capitalisation of knowledge and technology outside the firm boundaries by "*customer involvement, external networking, external participation, outsourcing R&D and inward licensing of IP"*.

However most of the research conducted about open innovation, to date, has focused on large companies which already have R&D departments. Whilst SMEs play a very important role in economic development constituting, 99% of all companies in most economies and making a significant contribution to employment, the number of studies that have investigated open innovation in such firms is very small. Hence, probing open innovation practices in SMEs is important to gain a better understanding of the motivations, purposes and limitations of open innovation in SMEs.

Van de Vrande et al. (2009) study reveals that the main motivation for SMEs conducting open innovation practices is market-driven in terms of creating customer satisfaction and putting new products or services on market in order to achieve increased revenue firm growth and higher profits. SMEs are, in particular, integrating non-R/D workers into the innovation process in technology exploitation and they are extensively using customer involvement and external networking in technology exploration. They do not engage frequently in venturing activities, external participation or *"inward and outward IP licensing"*

since these practices need a considerable amount of investment and highly formalised arrangements which are lacking in most SMEs. On the other hand, one of the most important obstacles instigated by SMEs themselves, that hinders implementing open innovation practices is the *"Not-invented-here syndrome (NIH)"*. This relates to the behaviour of an organization which believes that the organization's knowledge is unique and therefore all external new ideas have to be rejected since they can be harmful for firm performance. Another very important impedement for SMEs for engaging open innocation practices is the smallness of the firm. Recent studies reveal that medium size enterprises are better at implementing open innovation practices compared to small firms since they possess more financial resources and skilled human resources and they are successful in terms of allocating scale and resources for open innovation implementations. Other obstacles for SMEs for conducting open innovation practices are difficulty in finding a suitable partner, poor idea management, specific customer demand, lack of employee commitment, lack of skilled employees, infrastucture problems, difficulties with access to financial resources.

In that context, one of the ways for overcoming the above mentioned impedements for implementing open innovation practices in SMEs is to colloborate with Science parks (or *"technoparks"*) due to the sharing of knowledge and diversity of know-how available from the different partners normally involved. Science parks offer various opportunities for SMEs such as providing coaches, mentors and workshops, maintaining plenty of services for SMEs such as accounting, business consulting, industrial design, intellectual property, investment community, information and communication technology (ICT), legal services, public and media relations, security, shared labaratories and facilities and transportation. Besides that science parks pair up the early users of products and services with SMEs and they also act as mediator between SMEs and other stakeholders like large companies, start-ups, universities and other types of research labarotories. Especially the networking forums arranged by science parks maintain in and out licensing of intellectual property and also provides human resources to SMEs. Eventually, it can be assessed that the cooperation with science parks can be vital for successful open innovation practices in SMEs.

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Chapter 15
The Limitations of Financial Reporting on Innovation and Its Value-Relevance for the Investor's Decision-Making Process

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ABSTRACT

This chapter aims to present some limitations of financial reporting on innovation with an impact on the investor's decision-making process. In order to do so, the authors show how accounting recognizes and measures innovation factors: the intangibles. Based on the literature, the authors discuss how the value relevance of financial reporting on innovation is conditioned by non-financial factors. The impacts of the adoption of IFRSs, the effect of the industry sectors and the effect of the individual characteristics of the different countries on the value relevance of the intangible assets are analyzed. The literature suggests a decrease in the value relevance of financial statements due to the manner in which intangibles are recognized and measured in accounting. However, financial reporting on innovation is value relevant to the investor's decision-making and is conditioned by non-financial factors. Value relevance differs among different industry sectors, between different countries and is conditioned by the accounting systems used in the preparation of the financial information.

INTRODUCTION

Innovation is considered a key factor in creating value, differentiation and competitiveness of companies. Intangible resources such as R&D, patents, copyrights, market share, trademarks, customer loyalty and computer software are the main value creators for shareholders in the knowledge economy, whose values are often not reflected in corporate financial reporting.

DOI: 10.4018/978-1-5225-8479-7.ch015

The economic value of intangible items depends on a set of factors such as the market, industry, society and technology. Their value is measured by the economic benefits arising from their use, sale or licensing.

Companies with few physical resources worth "millions" because their intangibles are their key differentiating and competitive advantage factors. Examples of this are Pfizer's patents and the Coca-Cola brand, which enable the business owners to obtain substantial returns and obtain earnings over a long period of time (Lev, 2005). Companies such as McDonalds, Nike or Visa, whose company's net worth in no way correspond to their market leadership, but whose brand names attract customers for the values that the trademarks render. These facts lead companies to show significant discrepancies between their market value (the price buyers and sellers are willing to trade company shares) and their book value (the equity value disclosed on the company's statement of financial position). This is largely due to the difficulty of accounting to respond to the current needs of the economy, particularly on the recognition and measurement of innovation factors: the intangibles.

Accounting theory has restricted the classification of intangible assets to items that meet the criteria of identifiability, control and expected future economic benefits. The criterion of identifiability consists in the ability of the intangible asset being separated or divided from the entity and sold, transferred, licensed, rented or exchanged. The control criterion relates to whether the entity has the power to obtain the future economic benefits that flow from the underlying resource and to restrict the access of others to those benefits. The third criterion is the ability of the intangible asset to generate future economic benefits that may include revenue from the sale of products or services, cost savings, or other benefits resulting from its use by the entity. Intangibles that do not meet any of these requirements are immediately recognized as expenses.

As to its provenance, the intangible asset may be acquired separately, be generated internally, or even acquired in a business combination. Thus, it is possible to classify intangible assets as (Dahmash, Durand, & Watson, 2009):

- **Identifiable Intangible Assets:** In this case, the assets are recognized individually on the balance sheet. This type of intangible assets may still be sub-classified into acquired intangible assets such as R&D projects, industrial property (trademarks, patents, licenses), among others that have been acquired separately or in a business combination, or internally generated intangible assets - such as R&D projects and software that are developed within the entity.
- **Non-Identifiable Intangible Assets:** The most common example of this type of intangible is goodwill. Goodwill[1] is defined as part of the company's market value that is not reflected by its identifiable assets and liabilities. This concept corresponds to future economic benefits arising from assets that are not individually identified and separately recognized. These include the value of a company's brand name, design and implementation of new processes or systems, knowledge capital, customer relationships, among others. Due to the particular aspects of this type of resources, goodwill can only be recognized as an intangible asset on the financial statements when acquired in a business combination.

The lack of recognition of intangibles on the balance sheet or their understatement lead investors to value companies for much more than their net worth and this, consequently, widens the gap between companies' accounting and market values. This is because investors acknowledge the ability of intangibles to increase cash flow, an aspect that is not considered in the book value.

In recent years, the traditional relationships between accounting variables and the value of assets have been questioned (Core, Guay, & Buskirk, 2003). Lev and Zarowin (1999) found that the relation between the companies' market value and the one disclosed between 1977 and 1996 had deteriorated. The accounting systems' requirements for the recognition and measurement of intangible resources are, themselves, a limitation toward the explanatory purpose of financial disclosure. Several authors have documented that financial reporting does not meet the information needs of investors (Lev & Zarowin, 1999 and Joseph 2001).

Literature about the influence of intangibles on investors' decisions, in countries where capitalization of R&D expenditure was or not allowed, such as Lev and Sougiannis (1996), Rogers (1998), Bosworth and Rogers (2001), Chan, Lakonishok and Sougiannis, (2001), Ballester, García-Ayuso and Livnat, (2003), and Kimbrough (2007), concluded that intangibles are positively associated with value and that investors take those items into account when valuing firms.

On the other hand, in recent years, the value of goodwill has affected the financial reporting of companies, due to the many mergers and acquisitions (M&A). An example of this was the acquisition of MedImmune Inc. for about $ 15.7 billion in 2007 by AstraZeneca PLC, which recognized identifiable intangible assets valued at approximately $ 8.1 billion and $ 8.8 billion as goodwill in its financial statements. In 2000 Santander Bank paid $ 4.8 billion for BANESPA, recording a goodwill of $ 2.3 billion[2].

Acquired identifiable intangible assets and goodwill arising in business combinations are generally of great relevance in the financial statements of the acquiring companies. The results of a study carried out by the consulting firm KPMG[3] show that business combinations in the majority of the industry sectors analyzed generate an allocation of purchase price to goodwill in a proportion greater than 50%. As for the allocation of purchase price to identifiable intangible assets acquired, the same study indicates that their proportion varies significantly across industries (differing between 6% and 57%).

However, the results of different studies on the value-relevance of intangibles are not_consensual, Cazavan-Jeny and Jeanjean (2006) found a negative association between capitalized R&D and stock prices and returns in French firms. This result comes to show there are existing non-financial factors that influence the relevance of financial reporting on innovation. Thus, it is important to understand how some non-financial factors determine the value relevance of financial reporting on the investor's decision-making process and choices. Country-specific settings, industry and accounting regimes can, hereupon, be highlighted.

Countries' characteristics are pointed out as a factor that influences the relevance of financial disclosures (Veith & Werner, 2014). Some countries' accounting systems are bank-based, where banks are the main business financiers and have direct access to corporate information. This situation tends to reduce the demand for information on the financial statements. On the contrary, in countries where financial systems are market-based, financial reporting is expected to have greater value relevance.

The fact that more or less conservative accounting standards are applied in the preparation and presentation of financial statements may influence the value relevance of financial reporting on innovation.

Similarly, the fact that investment in innovation is distinct among industries can be pointed out as a reason for the differences in investors' behavior concerning the financial disclosures on these activities between industry sectors.

This chapter aims to present some limitations of financial reporting on innovation with an impact on the investor's decision making process. In order to do so, the authors show how accounting recognizes and measures innovation factors: the intangibles. Based on the financial literature the authors discuss how the value relevance of financial reporting on innovation is conditioned by non-financial factors.

The impacts of the adoption of IFRSs, the effect of the industry sectors and the effect of the individual characteristics of the different countries on the value relevance of the intangible assets are analyzed.

In this sense, we approach the thematic in the context of companies listed on Euronext. This approach is justified by the fact that these companies operate in a common European market (European Union) and negotiate their securities in a capital market with common characteristics, which could be a determining factor for the minimization of the financial reporting value relevance difference between countries.

One can say that innovation has become one of the main drivers of economic performance, which leads an increasing number of companies to emphasize intangibles in decision making (Ittner, 2008). Literature on the value relevance of financial reporting on the investor's decision making has indicated that the procedures for the preparation of the financial statements provide new and relevant information (Healy & Palepu, 2001). However, it is pointed out that the relevance of financial information on the factors of innovation differs across industry and countries and is strongly conditioned by the accounting systems and standards that regulate the preparation of financial reporting and disclosure.

This work includes four extra sections in addition to this introduction. Section two addresses the possible loss of relevance of the financial report, exploring the determinants of this decrease, as pointed out in the literature. The following section examines the emerging paradigm concerning the accounting treatment for innovation activities., where the paradox between reliability and relevance is analyzed, as qualitative characteristics of financial reporting, and its impact on the recognition and measurement of intangibles. The relevance of the financial reporting of innovation is addressed in section four, where the accounting treatment of intangibles in the pre and post IFRS periods is analyzed, as well as the literature on the effect of adopting IFRS's, industry sectors and characteristics of individual countries in the relevance. The authors end with the main conclusions.

THE DECLINE IN THE VALUE RELEVANCE OF FINANCIAL REPORTING

Innovation is considered a key factor in creating value and differentiating companies. Intangible resources such as R&D, patents, copyrights, market share, customer portfolios and brands are the main "value-adders" in the knowledge economy, whose worth is often not reflected in corporate financial statements.

Innovation is pointed out as a critical aspect in distinguishing companies' market value from their book value. According to Chan *et al*. (2001), R&D capital that was not comprised on US companies' balance sheets represented about 29% of the companies' net worth in 1995. The results in the MERITUM project's (2001) final report show that intangibles represent circa 32% of the difference between the reported and the market value of the companies' equity. These results come to show the increasing importance of innovation as a factor of value creation and competitive advantage in companies. This fact is determinative in companies connected to industry sectors with large investments in high tech and R&D. Expenditures related to intangible assets, as a percentage of sales, in US I.T. (information technology) companies, increased significantly between 1975 and 1995. The ratio of intangibles to sales was of 1.70% in 1975 and 3.75% by 1995 (Chan *et al*., 2001). In 2002 intangibles represented, on average, 19% of Australian companies' total assets according to Chalmers and Godfrey (2006). For about half of the sample companies in this study, the intangible assets' value was over 10% of total assets.

From the moment corporations' value was no longer determined, exclusively, by their tangible assets and began to be valued by their intangible assets, accountancy has, as a source of information, been

faced with some difficulties in producing useful information, adjusted to this new reality. Literature has pointed out that the premises for intangibles' recognition and measurement criteria are responsible for reducing the explanatory power (or informativeness) of financial reporting, since they do not conform to the characteristics of knowledge economy, based on innovation and IT (Lev & Zarowin, 1999; Joseph, 2001). Accounting standards are based on the assumption that there is more uncertainty about the future economic benefits resulting from investments in intangible assets than those in tangible investments. In general, accounting standards tend to provide reliable, but not relevant, financial information (Cañibano, García-Ayuso, & Sánchez, 2000a).

The difficulties managers face in valuing the intangibles and the impositions mandated by the accounting principles and standards in their recognition as assets, have been pointed out as determinants of the decline of value relevance (Kanodia, Sapra, & Venugopalan, 2004). Research has shown that accounting data have become less relevant (Lev & Zarowin, 1999; Cañibano, Covarsí, & Sánchez, 1999). It is expected that if the value relevance of financial information has declined over time, the ability of accounting variables to explain firms' market values also decreases (Francis & Schipper, 1999). The results of several studies point to a decrease in the value relevance of reported earnings (Collins, Maydew, & Weiss, 1997; Francis & Schipper 1999; Lev & Zarowin, 1999; Hung, 2001; Core *et al*., 2003).

The results obtained by Collins *et al*. (1997) and Francis and Schipper (1999) indicate a decrease in the relevance of financial information, associated with a decrease in the relevance of earnings information, despite an increase in the relevance of balance sheet and book value information. The slight increase in the relevance of book values can be explained by the increasing frequency of negative earnings, the changes in the average firm size and the intensity of intangibles over time (Collins *et al*., 1997).

Lev and Zarowin (1999) and Core *et al*. (2003) also found a reduction in the value relevance of financial information. This decline is associated with the high rate of change and its impact on the company business, and the inadequate treatment of these changes by accounting (Lev & Zarowin, 1999). However, explanatory accounting variables for market value are still valid. Nevertheless, there is a large portion of the firms' market value fluctuations that needs to be explained by omitted variables (Core *et al*., 2003).

Contrary to the results obtained by Lev and Zarowin (1999) and Core *et al*. (2003) based on US companies, Cañibano *et al*. (2000a) found no evidence of loss of value relevance of the financial statements based on a sample of companies from France, Norway, Sweden, Denmark, Finland and Spain. These findings may be due to the continental European countries' accounting systems in allowing the capitalization of R&D expenditures. The immediate recognition of R&D expenditures as an expense results in a decrease in earnings and equity values, despite the fact that future cash flows and the enterprise market value increase with these activities (Lev & Zarowin, 1999).

In financial literature there has been a great deal of discussion about how accounting should treat and disclose intangibles in the financial statements. Questions such as: (a) when should they be capitalized or recorded as an expense in the period in which they occur; (b) how should they be amortized and; (c) where and how should the financial information be disclosed (Cañibano, García-Ayuso, & Sánchez, 2000b), have aroused much discussion.

In short, the lack of recognition of intangibles by accounting as a strategic resource has been one of the factors pointed out toward the decrease in the value relevance of financial information (Damodaran, 1999; Lev & Zarowin, 1999; Joseph, 2001), especially since it does not adequately reflect the information of value created by internally generated innovation factors. The decline in financial information's relevance is unavoidably associated with the accounting principles used in the recognition and mea-

surement of intangibles in the different countries, the uncertainty of future economic benefits and the lack of a causal cost/benefit relationship (Joseph, 2001). However, empirical literature has shown that intangible assets are relevant.

FINANCIAL REPORTING ON INNOVATION ACTIVITIES: THE ACCOUNTING PARADIGM

The quality of information plays a key role in investment decision-making by capital market investors. Financial information can be a source of insider information for capital market players, due to its characteristics of relevance, reliability, materiality and comparability, for example.

Financial information is characterized as a set of data, placed in a meaningful context and communicated to the economic agents who use it for decision-making purposes. In summary, it can be affirmed that accounting is an area of knowledge that aims at the treatment of information as a fundamental element for the rationalization of the decision-making of the different stakeholders.

Accordingly, financial statements should be prepared with the purpose of providing useful and appropriate information in a timely manner to assist users in making efficient decisions. Financial disclosures should provide information on critical assumptions and estimates, relating to accounting items and issues with a high degree of uncertainty. In summary, financial reporting should provide concrete information on the estimates, which have a materially relevant impact on the presentation of the results and the financial position of the company (Iatridis, 2011).

The existence of a paradox between the relevance and reliability of financial reporting has long been argued. Accounting conservatism favors reliability over relevance, to ensure that firms have sufficient resources to repay debt (Balachandran & Mohanram, 2011). The accounting rules tend to be conservative, that is, directed towards bank-oriented financial systems (such as in Continental Europe) with an emphasis on the balance sheet, instead of the income statement (Oliveira, Rodrigues, & Craig, 2010).

Financial statements based on the qualitative characteristic of reliability produce reliable information, if it is verifiable, unbiased i.e. free of errors or value judgments. The emergence of the principle of conservatism (prudence) as part of the reliability characteristic can be associated with the goal of minimizing information asymmetry between managers and other stakeholders (Basu, 1997). Conservatism may be perceived as a degree of caution involved in the exercise of the necessary judgments. When one makes the necessary estimates under conditions of uncertainty, one intends that the assets and/or income not be overvalued, and that liabilities and/or expenses are not undervalued. LaFond and Watts (2008) argue that the conservative view of financial statements is a governance mechanism, which reduces the managers' ability to manipulate and exaggerate the companies' financial performance, and increases cash flows and company net value.

Literature suggests that financial reporting has lost relevance (Lev & Zarowin, 1999; Core *et al*., 2003) because of the imperative to produce accounting data based on the reliability principle.

The term conservatism translates into a limitation on the presentation of data that could be reliable and relevant (Hendriksen & Van Breda, 1999). Accounting conservatism leads to the use of restrictive procedures towards the disclosure of uncertainty. When faced with uncertainty, accounting discloses the lowest of the various possible values for assets and the higher of the values for liabilities. This outlook, also leads to recognizing expenses earlier and income later. Thus, the value of net assets tends to be

measured below their market value. According to Basu (1997) conservatism is translated in the anticipated recognition of bad news contrary to good news.

According to the classification suggested by Richardson and Tinaikar (2004) one can differentiate accounting conservatism into three categories, the first two being characterized as *ex-ante* accounting conservatism and the third as *ex-post* accounting conservatism. The first category of *ex-ante* conservatism is to classify investment in innovation as an expense, given the minimal future economic benefit of R&D expenditures being zero – conservative accounting policy alternative. Since the value of the future economic benefits of R&D is at least zero, by choosing to consider R&D expenditures as expenses for the accounting period, this reduces the annual earnings value without affecting future profitability (provided the project has a net present value of zero). However, this results in a weak relationship between profit and profitability for companies with positive returns. If the expected value of the future economic benefits of R&D is positive, the recording of these expenditures as expenses for the accounting period decreases the earnings result while the return value increases, thus reducing the relationship between profit and returns even further.

The relevance of financial reporting has raised multiple concerns as most intangibles are not recognized as assets, partly because of the conservative nature of the asset recognition criteria and because of concerns about the reliability of accounting standards (Oliveira *et al*., 2010).

The non-recognition on the balance sheet of amounts spent on activities such as R&D and advertising is touted as a failure of accounting. Recent studies suggest that the explanatory power of accounting results has decreased due to the failure of the accounting treatment of intangibles and especially due to accounting conservatism (Brahim & Arab, 2012). The fact that accounting earnings may not have the explanatory power to determine the companies' share prices, shows that accounting conservatism can lead to a decrease in the relevance of financial information (Ryan & Zarowin, 2003).

The second category of *ex-ante* conservatism refers to the application of the historical cost principle – production or acquisition value at the date of recognition, not acknowledging the earnings expected present value while the project is carried out. The historical cost as the main criterion for the measurement of assets is based on the simplicity and reliability it provides (Richardson & Tinaikar, 2004). However, given its objectivity and verifiability, it may show a lack of relevance, since it is based on information regarding historical events, and therefore significantly outdated (Barth, 2007).

Regarding *ex-post* conservatism, once chosen the accounting policy for the initial recognition of an item, the facts that may negatively influence the expected future economic benefits of the project are recorded immediately in the financial statements, such as impairment losses, for example (Barth, 2007). Contrary, the facts that contribute positively towards the future benefits of the project are not recorded.

Although literature points to accounting conservatism as a potential cause of diminishing financial reporting relevance, the truth is that studies on the direct relationship between conservatism and the relevance of information are scarce and have contradictory results (Kousenidis, Ladas, & Negakis, 2009; Balachandran & Mohanram, 2011).

One of the arguments used to improve the relevance of financial reporting has been the introduction of the concept of fair value in accounting systems for the measurement of assets and liabilities. Fair value is defined as the amount at which an asset could be exchanged between knowledgeable and willing parties in an arm's length transaction[4]. at the measurement date. Because it uses discounted values, it provides greater financial information relevance. Barth (1994) argues that fair value has a greater explanatory power for share price than does that of historical cost. According to the results of Beisland and Knivs-

flå (2015), applying the concept of fair value increases the relevance of book-value and decreases the relevance of accounting earnings.

It is possible that the guideline included in the IFRSs related to the concept of fair value can reduce bias (i.e. conservatism) in book-value and accounting earnings (Hung & Subramanyam, 2007) and thus provide greater relevance in financial reporting. However, this may also introduce greater error in measurement, essentially in the earnings and bring into question its reliability. The concept of fair value presents some drawbacks regarding the subjectivity implicit in the determination of asset value and the need for a market where the asset can be exchanged. Regarding organizations' internally generated intangibles, such as R&D, patents, among others, the application of this criterion becomes too complex due to the inexistence of a regulated market for their transaction.

Despite the paradox between these two qualitative characteristics of financial reporting, many of the accounting researchers understand that the main objective is not to be verifiable (reliability) but rather to allow decision making (relevancy) (see, e.g., Lev & Sougiannis, 1996; Chan et al., 2001).

THE VALUE RELEVANCE OF FINANCIAL REPORTING OF INNOVATION ACTIVITIES

This section presents and discusses the relevance of financial reporting, with particular interest in the study of the relevance of innovation activities recognized on the financial statements – the intangible assets. Innovation activities are all scientific, technological, organizational, financial and commercial steps which actually, or are intended to, lead to the implementation of innovations[5].

In the context of companies listed on the Euronext stock exchanges, the authors intend to highlight the importance of intangibles in investor decision-making, the differences observed in the accounting treatment between pre and post IFRS periods, and the effects of non-financial factors on the value-relevance of these assets. Regarding non-financial effects, the authors intend to show the impact of different accounting systems on the intangibles' value-relevance, the effect of the industry sectors, given the differences in the innovation investment and the effect of the countries, deriving from their individual characteristics.

General Framework

The main objective for conducting value relevance research is to broaden our knowledge regarding the relation between accounting amounts as reflected in equity values (Barth, Beaver, & Landsman, 2001). Studies on the value relevance of financial reporting have diversified the approach to this topic. The main focus is to investigate whether changes in accounting practices and procedures have implications on value relevance. These studies have been based on the analysis of the effects of accounting and financial reporting practices on the value of companies and whether the introduction of a specific set of information improves their value relevance (Holthausen & Watts, 2001). These studies on the value relevance of financial information choose, rather than an exclusive focus on the relationship between variables, to relate exogenous market variables with accounting variables in order to externally validate accounting procedures (Elias, 2012).

It is often pointed out in literature that the difference between the accounting and market value of a company may be due to factors such as information asymmetry or accounting conservatism. According to Jaafar (2011) the value relevance of the intangible assets is a much discussed subject. The choice of

a recognition or measurement criterion, for example, considering R&D expenditures as an expense or as an asset, can be understood as a way to discuss the conservatism of accounting and the asymmetry of information.

Investment in R&D is probably the most widely used variable to test the value relevance of intangible assets. The literature on the relationship between the companies' quotation prices and R&D expenditure is extent, such as the studies conducted by Chauvin and Hirschey (1993), Sougiannis (1994), Lev and Sougiannis (1996), Abrahams and Sidhu (1998), Bosworth and Rogers (2001), Chan *et al*. (2001), Goodwin and Ahmed (2006), Ahmed and Falk (2006) and Oswald and Zarowin (2007).

Although the capitalization of R&D expenditure is not allowed in the US, in the period tested, Lev and Sougiannis (1996) concluded that R&D expenditure is associated to company results and that investors take into account R&D investment in their decisions. The investment of one dollar in intangibles generates, on average, an increase of five dollars in the company's market value (Sougiannis, 1994). Chan *et al*. (2001) concluded that, on average, the market correctly values the future economic benefits of R&D. The capitalization of these expenditures shows a greater relation with companies' returns than when recognizing them as expenses during the period (Oswald & Zarowin, 2007). The capitalization of R&D expenditures increases the value relevance of financial information (Ciftci, Darrough, & Mashruwala, 2014). The non-recognition of this type of items as an asset in accounting conditions the companies' valuation.

The literature on the value relevance of R&D in countries where the capitalization of these expenditures is allowed presents no consensual results. The study by Chauvin and Hirschey (1993) shows that the benefits resulting from R&D activities have a long useful life. According to Abrahams and Sidhu (1998) the information in the balance sheet regarding R&D is relevant. According to Goodwin and Ahmed (2006) the capitalization of intangibles reflects an increase in the value relevance of financial information. However, the findings of the study by Cazavan-Jeny and Jeanjean (2006) indicate that there is a negative relationship between the capitalization of R&D expenditures and the market value of company shares. The negative coefficients for capitalizing R&D expenditures are consistent with the idea that investors believe that companies manage and manipulate their earnings through R&D capitalization.

Literature, in general, also documents that other types of intangibles are relevant to decision making. Aboody and Lev (1998) concluded that the intangible software is significantly associated with the market price of information technology companies. Advertising expenditures also have future economic benefits and influence the investor's decision (Chauvin & Hirschey, 1993). Kallapur and Kwan (2004) found that the information related to the trademarks recognized as assets are related to the market value of the companies in the UK. Jennings, Robinson, Thompson II and Duvall (1996) concluded that the acquired goodwill is relevant for the investment decision making and that it has a positive relation with the companies' stock price.

In the joint analysis of the value relevance of the different categories of intangible assets, the results are not homogeneous. Godfrey and Koh (2001), based on a sample of 172 large Australian companies, have concluded that intangible assets in aggregate generate information relevant to the investor. However, when disaggregating this information into goodwill, R&D and other intangible assets the results are not consensual. The results indicate that goodwill and other intangible assets produce information relevant to the investor. However, it is not possible to conclude on R&D expenditure.

Although the results of the different empirical studies are not consensual about the relevance of the intangible assets, the truth is that given their economic characteristics, these items have been playing

an important role in the creation of value and competitive advantage of companies. In this sense, it is important to understand how accounting systems influence the value relevance of intangible assets.

The Accounting Treatment of Innovation Activities

The fact that companies operate in countries with common characteristics in a common European market (European Union) and negotiate their securities in a capital market with common characteristics – Euronext – could be a determining factor for the minimization of the financial reporting value relevance difference between countries. These factors may be important conditions for dissipating the effect of individual country characteristics on the value relevance of financial information.

In this section the authors discuss how the four countries where the Euronext stock exchange operates account for information on innovation activities. For the accounting treatment, it is important to analyze how intangibles acquired separately, those generated internally and the goodwill acquired by the companies, are recognized and measured in the periods before and after the adoption of IFRSs.

Pre-Adoption of IFRSs Period

In periods prior to the adoption of IFRSs, the accounting systems of the different countries presented substantial differences in the recognition and measurement of innovation activities. Stolowy and Cazavan-Jeny (2001) compared the rules and principles on the recognition and measurement of intangibles for 21 countries, including 15 of the European Union (EU), together with two supranational accounting organizations: the IASB and the EU. Bean and Jarnagin (2001) analyzed the business reports for the 2000 economic period regarding the differences in the treatment of intangibles between the national regulations of 53 countries (including the four Euronext countries) and IAS 38. The greater discrepancies are placed on the recognition of research expenditures, trademarks, installation/constitution expenditures, training expenditures and advertising activities. Subsequent measurement of intangible assets with an estimated useful life of over 20 years (amortization or impairment testing) was another found discrepancy (Bean & Jarnagin, 2001).

For the Euronext market countries, acquired intangibles were recorded as assets, also in accordance with EU regulations.

In the treatment of internally generated intangibles, there were differences between the accounting systems in Portugal, Belgium, France and the Netherlands, and also in comparison with EU regulations. In the Netherlands and Belgium the recognition of R&D expenditure as an asset was mandatory, in Portugal it was optional. In France, companies in the extractive industry sector (oil, gas and other natural resources) benefited from the exemption of some R&D expenditures, and their capitalization was allowed, contrary to other industry sectors[6]. The possibility of allocating R&D expenditures as an expense for the accounting period or as an asset provides an increase in the value relevance of financial information in the countries where it is permitted (Zhao, 2002), provided that the managers' interests are in tune with the investors' interests. Still in regards to R&D, in the Netherlands and Portugal, special reserves were required to be accounted for in the same amount recognized under intangible assets.

As for installation charges, they were generally capitalized. However, their capitalization in Belgium and France was optional. In a similar way this was also the treatment given to advertising expenditures and promotional activities. Comparatively, goodwill generated internally was not allowed to be capitalized and thus recorded as an expense for the period.

The acquired goodwill was capitalized in accordance with the accounting systems of the countries where Euronext operates. In the particular case of the Netherlands it was required to create special reserves for goodwill of an amount equal to the capitalized value.

With regard to the subsequent valuation of intangible assets in all of these countries, the general rule was that a systematic devaluation should be carried out, according to the estimated useful life, and that it should not exceed 5 years. However, in some cases, as long as duly justified and disclosed in the notes, this period could extend up to 20 years. Nonetheless, in the cases of the Netherlands and Belgium, a useful life beyond 20 years was allowed. In the case of France it was possible to not record amortizations for some intangible assets.

It can thus be seen that the accounting principles and standards of the different countries were in some cases divergent in the manner they recognized and measured intangible assets. The recognition of intangible assets in the balance sheet or in the income statement, or the under or overvaluation of the intangible asset are factors that determine the value relevance of the financial information and, in particular, that of the intangible assets.

Convergence to IFRSs assumes a significant preponderance in contributing to the harmonization of accounting principles and rules across countries. However, due to the multiplicity of divergent principles between the accounting systems of each country and IFRSs, the harmonization process faces some difficulties. Table 1 presents the obstacles pointed out by the different countries operated by Euronext regarding the difficulties in the convergence process towards IFRSs.

It should be noted that the most important reason indicated by the different countries was the strong dependence of the national accounting system on their tax system (Belgium, France and Portugal). This suggests that the financial information produced in these countries is more directed to the State and the banking system than properly aimed at contributing to better decision-making by investors. The other most mentioned obstacles were the complex nature of the standards (France and Portugal) and the dissimilarity with certain IFRSs (Netherlands and France). These two factors can be presented as critical in the convergence process, since they may allow for divergent treatments in similar situations.

Post-Adoption of IFRSs Period

With the globalization of markets, organizations have been faced with the need to attract not only domestic capital but also foreign capital. Such orientation requires credible financial information that

Table 1. Obstacles to Convergence with IFRSs

	Complex Nature of Standards	Dependence on the Tax Regime of the National Accounting System	Disagreement With Certain IFRSs	Insufficient Guidance for the Application of IFRSs for the First Time	Satisfaction of Information Users With National Accounting Standards	Difficulties in Translation
Netherlands			X		X	
Belgium		X				X
France	X	X	X			
Portugal	X	X		X		

Source: (adapted from Larson & Street, 2004)

is understood by the investor. The literature has shown that the financial environment of Continental European countries, traditionally characterized as a banking-based system, has been converging towards a market orientation (Oliveira *et al*., 2010). However, accounting has shown difficulties in fulfilling a part of its mission, to present financial statements with true and appropriate information that enables correct decision making by financial information users. Investors, managers and other stakeholders require better information on new activities, knowledge management and other intangible assets, reflected in the financial reports, in order to contribute to better planning, management, control and valuation of companies (Bean & Jarnagin, 2001).

One of the inherent problems of innovation is the difficulty for managers to recognize and articulate the value of intangible assets in their organizations (Forsyth, 2007). This situation can lead to decisions without considering what investors and the market understand as fundamental factors for the value of a company.

The year of 2005 is important in the study of the value relevance of intangibles in the EU countries, given the changes introduced by Regulation No. 1606/2002[7] (adoption of International Accounting Standards – IASs/IFRSs). As a response to certain weaknesses identified in the recognition, measurement and disclosure of new company values, the EU adopted in 2002 the accounting standards of the IASB. The EU has therefore required that for each financial year, beginning on or after 1 January 2005, companies governed by the law of a Member State whose securities are publicly traded must, under the conditions currently determined by Regulation No. 1126/2008[8], adopt IFRS in the preparation of its consolidated accounts. The aim[9] of adopting IFRSs is to ensure a high degree of transparency and comparability of financial statements and hence an efficient functioning of the EU capital market and of the Internal Market. It has been argued that IFRSs assure to present more accurate, complete and timely financial information than national accounting principles. For IFRSs are not influenced by national factors, such as legal, political or fiscal factors.

A common financial language, applied consistently, will enable investors to compare more easily the financial results of companies operating in different jurisdictions and provide more opportunity for investment and diversification. The removal of a major investment risk—the concern that the nuances of different national accounting regimes have not been fully understood—should open new opportunities for diversification and improved investment returns. [10]

According to Ding, Hope, Jeanjean and Stolowy (2007) the IFRSs present a set of divergences with respect to national regulations. These divergences may mean that the principles and rules implicit in IFRSs are better adapted to the needs of legal and business environments.

Regarding intangibles, the adoption of IAS 38 – Intangible Assets and IFRS 3 – Business Combinations defined the procedures for the recognition, measurement and disclosure of information for intangible assets and acquired goodwill. IAS 38 introduced the criteria for intangible assets (both acquired and internally generated) and IFRS 3 for goodwill acquired in business combinations. In this sense, in comparison with the results presented by Stolowy and Cazavan-Jeny (2001) it is possible to observe some procedures that were substantially modified by the adoption of IFRSs, of which the following points are highlighted:

1. In accordance with the national accounting principles of any of the countries where Euronext operates, R&D expenditures could be capitalized provided they met certain requirements. In this

field IAS 38 (paragraph 54) defined that expenditure in the research phase, which is understood as the original and planned research for the purpose of obtaining new scientific or technical components, can never be capitalized. As regards to expenditures in the development phase (IAS 38, paragraph 57), which are characterized by expenditures incurred in applying research findings in the production of goods or services, or in improving processes, if they meet certain requirements, can be classified as intangible assets. IAS 38 thus eliminates a certain former possibility for the accountant to decide on how to recognize of this type of expenditure.

2. Regarding amortization, this was one of the areas that underwent significant changes and with a differential impact in the countries where Euronext operates. IAS 38 (paragraph 88) implemented the concept of indefinite useful lives in the subsequent valuation of intangible assets, which was only recognized in Belgium but whose intangible assets in this situation were never devalued. The common procedure in the subsequent measurement of intangibles was amortization, that is, the systematic allocation of the depreciable amount of an intangible asset over its useful life, which was understood to be finite. Accordingly, IAS 38 (paragraph 89) states that the accounting for an intangible asset is based on its useful life. An intangible asset with a finite useful life is amortized, unlike an intangible asset with an indefinite useful life. In addition, the carrying value of intangibles should be reduced by any subsequent of impairment losses (IAS 38, paragraphs 74 and 75), i.e. the amount by which the carrying amount of an asset exceeds its recoverable amount. This situation was not previously foreseen in the national regulations of the countries operated by Euronext.
3. Goodwill expresses the excess paid by the buyer over the fair value of identifiable assets and liabilities at the date of acquisition. Goodwill is defined as an asset that represents future economic benefits arising from other assets acquired in a business combination that are not individually identified or separately recognized (IFRS 3, Appendix A). In accordance with IFRS 3 (paragraphs 54 and B63), the acquired goodwill cannot be amortized, but is instead tested for impairment in accordance with IAS 36[11]. The subsequent amount of acquired goodwill is determined at cost less any impairment losses. In accordance with the procedures of Portugal, France, the Netherlands and Belgium, goodwill was amortized taking into account the finite useful life, which was generally considered to be 5 years. In the Netherlands, goodwill was generally amortized, but when its useful life exceeded 20 years, it was tested for impairment. In Portugal, goodwill could present a maximum useful life of 20 years, but it was subject to impairment testing.

Accordingly, with the points described above, it can be seen that, in order to achieve the objectives of accounting harmonization, the changes imposed by IFRSs are based on a combination of relevance and reliability of the information.

As described in the first point, the changes are based on the conservatism of accounting. Because it is not possible to associate future economic benefits regarding research expenditures, accounting recognizes an expense in advance, rather than recognizing such expenditures as possible assets. Failure to recognize research expenditure as an asset may lead to undesirable results. Considering that research expenditure will not succeed, therefore will not lead to any future economic benefits, its treatment is adjusted as an expense in the period in which they occur. However, if research expenditure leads to the development of new processes or products, the investor will recognize the value of future economic benefits. Nonetheless, such expenditure will not be recorded in the company's balance sheet and will not contribute to improving the value relevance of the financial statements.

As regards the second and third points, attention to the relevance of financial information is renowned. This allows the accountant to disclose the information more appropriately. Thus, it allows intangible assets to be valued in the financial statements at present values. This procedure is expected to increase the value relevance of financial reporting and consequently provide a reduction in the ratio between the market value and the book value of the companies. However, these cases require high agency costs, especially for monitoring, given the risk associated with asset valuation. Though, it allows to convey a fair and appropriate image of the company's financial position, contributing to the conscious decision making by the interested parties.

Despite the changes verified by the adoption of IFRSs in the recognition and measurement procedures, issues that justify the continuity of empirical research activity around intangibles continue to exist. Above all, in order to minimize the idea that innovation activities continue to be largely solely associated with company risk (Forsyth, 2007). These should be emphasized and recognized by accounting as factors of value creation, competitiveness and differentiation between companies.

The Effect of Non-financial Factors on the Value Relevance of the Financial Reporting of Innovation Activities

In this section the authors attempt to show that non-financial factors such as accounting systems, the individual characteristics of the different industry sectors and of different countries where the companies operate have an effect on the value relevance of financial reporting of innovation activities.

The Impact of the Adoption of IFRSs

The value relevance of financial reporting is an adequate concept to investigate the effect of adopting IFRSs on the quality of financial statements, given the fundamental role of equity valuation in the IFRS Conceptual Framework (Clarkson, Hanna, Richardson, & Thompson, 2011).

The study of the impact of the application of IFRSs arises even before the imposition of mandatory application imposed by the EU. In this context, Bartov, Goldberg and Kim (2005) studied the value relevance of financial information based on the standards applied by listed companies on the German stock exchanges – Germany generally accepted accounting principles (GAAP), US GAAP or IFRSs – for the period 1991 to 2000. The results obtained by the authors indicate that the value relevance of financial information prepared on the basis of US principles and IFRSs is greater than relevance based on German principles. On the other hand, there were no differences found between the value relevance of the financial information prepared in accordance with US principles and IFRSs.

In the study undertaken by Barth, Landsman and Lang (2008), the results for a sample of companies from 21 countries from 1994 to 2003 suggest that companies that adopt IFRSs (voluntarily) generally display greater value relevance of financial standards than those applying national regulations. The study also reveals that companies applying IFRSs, in general, show an improvement in the value relevance of financial reporting between the periods before and after the adoption of the standards.

In theoretical terms, the adoption of IFRSs should lead to an increase in the value relevance of financial statements as it improves cross-border comparability and reduces information asymmetry, thereby improving financial market efficiency. Thus, the adoption of IFRSs in the context of accounting harmonization and the rigorous application of these procedures should lead to a greater value relevance of financial reporting (Devalle, Onali, & Magarini, 2010).

As can be seen from tables 2 and 3, the conclusions presented in literature on the impact of the mandatory adoption of IFRSs on the value relevance of financial information, and in particular on intangible assets, are not consensual.

The results of the different studies lead to heterogeneous conclusions that may be related to the small samples sizes. Part of these research studies only covers a national market, as are the case of the studies of Chalmers, Clinch and Godfrey (2008), Paananen and Lin (2009), Oliveira *et al*. (2010), Sahut and Boulerne (2010) and Chalmers, Clinch and Godfrey (2011), which limits the robustness of their conclusions (Sahut, Boulerne, & Teulon, 2011). However, the results of studies that used samples with multiple countries, such as those of Lourenço and Curto (2008), Aharony, Barniv and Falk (2010), Devalle *et al*. (2010), Clarkson *et al*. (2011) and Sahut *et al*. (2011) also do not point to a consensual conclusion about the impact of the mandatory adoption of IFRSs on the value relevance of financial reporting.

The extent of the period analyzed may also present itself as a condition towards the results. In most studies (Tables 2 and 3), the analyzed period does not exceed six years (Lourenço & Curto, 2008; Paananen & Lin, 2009; Devalle *et al*., 2010; Sahut *et al*., 2011). In some studies, this period is only of one or two years (Chalmers *et al*., 2008; Sahut & Boulerne, 2010; Clarkson *et al*., 2011).

The studies of Oliveira *et al*. (2010) and Chalmers *et al*. (2011) used periods of a greater amplitude. Oliveira *et al*. (2010) analyzed the data of Portuguese companies from 1998 to 2008 and Chalmers *et al.* (2011) observed data from Australian companies from 1990 to 2008. However, the results of these

Table 2. Studies on the effect of mandatory adoption of IFRSs on the relevance of financial reporting.

Study	Period	Sample	Principal Conclusions
Lourenço and Curto (2008)	2003-2006 They exclude companies that did not have information for one of the years of the sample and those that already applied IFRSs before the requirement to use them.	Sample of 1270 companies from France, Germany, Italy, Spain, the Netherlands and UK.	The value relevance of financial information differs significantly between countries with different degrees of shareholder protection (post-IFRS period). It is important to consider the level of protection of shareholders in the process of adopting IFRSs.
Paananen and Lin (2009)	2000-2006 However, for the analysis of the effect of (mandatory) adoption of IFRSs, they also only analyzed the 2005-2006 period.	Sample consisting of 839 observations from companies in Germany.	The mandatory adoption of IFRSs has led to a decrease in the value relevance of financial information in Germany.
Devalle *et al.* (2010)	2002-2007	Sample of 13849 observations concerning 3721 companies in Germany, France, Spain, Italy and UK.	With the mandatory adoption of IFRSs, the value relevance of information on accounting earnings increased in Germany, France and the UK, while the value relevance of the book-values declined (with the exception of the UK).
Clarkson *et al.* (2011)	2004	Sample of 3488 companies from Australia and 14 other countries of the European Union.	Based on the linear model: they found that for all the countries there is a decrease in value relevance. However, the non-linear model reveals the existence of benefits of adopting IFRSs for the capital market.
Chalmers *et al.* (2011)	1990-2008 The regression for each year of the sample was estimated and then also estimated for each of the periods (1990-2004) before adoption, 2005 – the year of transition and (2006-2008) after adoption.	Sample of 20025 observations concerning companies in Australia.	The authors suggest that the adoption of IFRSs affects the association between financial information and market value, even in countries characterized by strong investor protection.

Table 3. Studies on the effect of mandatory adoption of IFRSs on the value relevance of intangible assets

Study	Period	Sample	Principal Conclusions
Chalmers *et al.* (2008)	2004	Sample of 599 Australian companies.	The adoption of IFRSs provides an increase in the value relevance of goodwill, which is not the case with respect to identifiable intangible assets.
Oliveira *et al.* (2010)	1998-2008	Sample of 354 observations regarding non-financial companies in Portugal.	The adoption of IFRSs has led to an improvement in the value relevance of goodwill, which is not the case for identifiable intangible assets. However, individually, there is an improvement in the value relevance of other intangible assets and R&D.
Sahut and Boulerne (2010)	Data for the year of 2004, comparing the financial information prepared in accordance with French GAAP and IFRSs.	Sample of 120 companies from France. (SBF 250 index)	Financial information on intangible assets and goodwill measured in accordance with IFRSs is more value relevant.
Aharony *et al*. (2010)	2003-2006	Sample of 2298 companies from the UK, Ireland, the Netherlands, Belgium, France, Italy, Spain, Portugal, Austria, Denmark, Sweden, Finland, Norway and Germany.	The adoption of IFRSs provides an improvement in the value relevance of information on intangibles, especially in countries whose individual accounting systems deviated most from IFRSs.
Sahut *et al.* (2011)	2002-2007	Sample of 1855 companies from the UK, France, Italy, Finland, Spain, Belgium, Luxembourg, Norway and Ireland.	Identifiable intangible assets are more value relevant to the investor than goodwill, except in Italy and Finland.

studies may be dependent on a single country and, on the other hand, the post-adoption period of IFRSs is still relatively short. Although the studies, based on larger samples, indicate an increase in the value relevance of accounting data, the results are still not sufficiently robust.

Apart from the accounting variables, the literature on the impact of the mandatory adoption of IFRSs on the value relevance of financial information has not given evidence to non-financial variables for the explanation of the share price quotation. In Tables 2 and 3 it is possible to verify that only four non-accounting variables were considered: company size by Chalmers *et al*. (2011); the industry sector in which the companies operate (Chalmers *et al*., 2011); the degree of intensity of the company's intangibility, measured by a dummy variable that indicates if the total value of the company's intangibles is higher than the average value of the intangibles of the sample companies (Sahut & Boulerne, 2010; Sahut *et al*., 2011), and the fact that the company is listed on more than one stock exchange (Sahut & Boulerne, 2010).

The literature suggests that the greater or lesser value relevance of financial information is associated with the principles and standards of the different accounting systems. When analyzed the studies that took into consideration the comparison of the periods before and after adoption of IFRSs, such as the studies of Hung and Subramanyam (2007), Chalmers *et al*. (2008), Gjerde *et al*. (2008), Sahut and Boulerne (2010), Devalle *et al*. (2010), Aharony *et al*. (2010), Oliveira *et al*. (2010), Sahut *et al*. (2011), Clarkson *et al*. (2011) and Tsalavoutas, André and Evans (2012), the results on the variable net earnings are not uniform. This heterogeneity of results suggests that the particularities of countries have different implications for investor decision-making.

Analyzing the particular cases of the countries where the Euronext market operates, based on studies by Devalle *et al*. (2010), Aharony *et al*. (2010); Sahut *et al*. (2011) and Clarkson *et al*. (2011), the results on France show that the information on the net earnings is value relevant in both periods. On the other hand, the same studies conclude that the mandatory adoption of IFRSs in France increases the value relevance of information from net earnings to investment decision making.

In the case of the remaining countries that have companies listed on the Euronext market (Belgium, the Netherlands and Portugal) the results, among them, are also not consensual. In general, the variable net earnings has a positive effect on the share prices in the three countries. In the case of Belgium and Portugal, the adoption of IFRSs indicates a negative effect on the value relevance of the net earnings value, contrary to the case of the Netherlands (see results of Clarkson *et al*., 2011). These results could be related to the fact that Portugal and Belgium are considered as more conservative countries (code law). In the case of the Netherlands the disclosure of financial information is more market-oriented (common law). The results of Aharony *et al*. (2010) confirm the results presented by Clarkson *et al*. (2011) in the case of Belgium but are contrary to those relative to Portugal.

As for the book-value variable, the results are more consistent. As a rule, the investor considers as value relevant the information on the book-value for investment decision making purposes. However, the effect of IFRSs adoption on the value relevance of book-value information is very heterogeneous across countries.

Once analyzed the effects of IFRSs adoption on the book-value, according to the same studies, considered in the analysis of the variable net earnings (Aharony *et al*., 2010; Sahut *et al*., 2011 and Clarkson *et al*., 2011) it is possible to conclude that the effects depend on the country specific characteristics, as it is not possible to verify a trend.

In the case of France, the results of Devalle *et al*. (2010), Sahut *et al*. (2011) and Clarkson *et al*. (2011) indicate a decrease in the value relevance of book-value information as a consequence of the adoption of IFRSs. However, this result is not corroborated by Aharony *et al*. (2010). In Belgium, the Netherlands and Portugal, the tendency is for book-value to be value relevant. There is also evidence that the mandatory adoption of IFRSs provides an increase in the value relevance of book-value information (see results of studies by Aharony *et al*., 2010 and Clarkson *et al*., 2011).

This heterogeneity in the results regarding the relevance of financial information is related to the way innovation is recognized and measured by companies. This statement is reinforced by the results of several studies, which show that the value relevance of information on innovation differs between different types of intangibles and also between countries.

From among the studies on the value relevance of intangible assets, the authors highlight the ones of Chalmers *et al*. (2008), Oliveira *et al*. (2010), Sahut and Boulerne (2010) and Sahut *et al*. (2011) for testing the full financial information on intangible assets, dividing that information into identifiable intangible assets and goodwill. The study by Aharony *et al*. (2010) presents a different approach to the study of the value relevance of intangibles, since it also analyzes the value relevance of R&D expenditures that were recorded as an expense in the accounting period. By analyzing the results of these studies, it is possible to verify that the information on intangible assets is relevant for the decision making of the investors, contributing positively to the formation of company stock price.

Oliveira *et al*. (2010) divided the variable identifiable intangible assets into intellectual property, R&D and other intangible assets. The results allowed to conclude that the intellectual property is not value relevant to the investor, on the contrary, the other intangible assets are value relevant. As far as information on R&D investment is concerned, it only becomes value relevant to the investor in Portugal

once the financial statements have been prepared on the basis of IFRSs. This result may indicate that the adoption of IFRSs allows to reduce information asymmetry.

As for the value relevance of information on goodwill, the results of studies by Oliveira *et al*. (2010), Chalmers *et al*. (2008), Sahut and Boulerne (2010) and Sahut *et al*. (2011) suggest that data on goodwill contribute to investor decision making.

Regarding the effect of the adoption of IFRSs on the relevance of intangible assets, the results are very different among the countries analyzed. The results of Sahut *et al*. (2011), for the cases of France and the UK, show different effects on the value relevance of different types of intangible assets. In these countries the effect of adopting IFRSs increases the value relevance of identifiable intangible assets, but decreases in the case of goodwill. On the contrary, the results of Chalmers *et al*. (2008), for the Australian companies, show that the adoption of IFRSs reduces the value relevance of identifiable intangible assets and increases the value relevance of goodwill.

Taking into account the multiplicity of results mentioned in the literature on the effect of mandatory adoption of IFRSs on the value relevance of financial reporting, this issue still needs to be consolidated. This leaves open space for new studies based on other samples and possibly, by applying different methodologies and explanatory variables. These results support the idea that factors such as the individual characteristics of the industry sectors or of the countries where the companies carry out their activities may have an effect on the value relevance of the financial reporting of innovation activities.

The Effect of the Industry Sectors

According to the study by Amir and Lev (1996), the value relevance of non-financial information surpasses the value relevance of traditional accounting items in certain industries, namely in high technology sectors. This result suggests the importance of non-financial factors in the analysis of the value relevance of financial reporting, such as the characteristics of the industry sectors where the companies carry out their activities.

Much due to the nature of changes in the economic environment in combination with upward stock price assessments have led many people (researchers, analysts, etc.) to suggest that the relationship between accounting data and stock prices has changed (Core *et al*., 2003). The permanent changes in the supply and demand conditions that an industry sector faces can cause permanent changes in risk (Fama & French, 1997) and thus, condition the companies' prices. If the heterogeneity between the industry sectors has been increasing over time, this causes a reduction of value relevance, not because the financial information is less significant, but because the industry sectors are presenting more differences over time and among each other (Balachandran & Mohanram, 2010).

It should also be borne in mind that in any period, certain economic sub-sectors may present valuation characteristics that differ from other periods (Core *et al*., 2003). This possibility may have an impact on the value relevance of the financial information itself.

The subject about the effect of the characteristics of the industry sectors on the value relevance of financial reporting of innovation activities has not been much explored. However, the analysis of the value relevance by industry sector proves to be important, since there is investment in innovation that is specific to each sector.

For some time, Chauvin and Hirschey (1993) have verified the existence of differences in the value relevance of intangible assets between industry sectors. However, later studies that tested the industry-sector factor limited the analysis to certain specific sectors. In this group the authors found the study by

Oswald and Zarowin (2007) that tested the relevance of financial reporting in the sectors of electricity, engineering and software, and Brahim and Arab (2012) who analyzed the high-tech industry.

The results of the literature on the effect of the characteristics of the industry sectors are not homogeneous. Francis and Shipper (1999) verified that there are no differences in the value relevance between companies in the high technology sector and in the low technology sector. However, Chalmers *et al*. (2011) and Brahim and Arab (2012) confirmed the effect of the industry sectors on the value relevance of financial reporting. Barth, Beaver and Landsman (1998) argue that the value relevance of financial reporting varies across industry sectors, based on the level of unrecognized intangible assets. According to Ciftci *et al*. (2014), the recognition of intangible assets increases the value relevance of financial reporting in the innovation-intensive sectors but does not completely eliminate the difference between the value relevance of traditional sectors and the sectors with intensive investment in intangibles.

Oswald and Zarowin (2007) argued that firms with innovation-intensive investment are homogeneous within one sector, but they are heterogeneous across industry sectors. The fact that the investment in innovation is distinct among the industry sectors may cause differences in the behavior of investors in relation to the information disclosed by the companies in relation to these assets.

In this way, the industry sector where the company develops its activity is an important factor to be considered by the investor. It is recognized that there are innovation factors, namely R&D activities that are sector-specific. This specificity of investment in innovation, associated with risk and profitability, makes the value relevance of the financial reporting of intangibles different between the different industry sectors.

The Effect of Characteristics of Individual Countries

The individual characteristics of the countries are pointed as factors with impact on the value relevance of the financial information (Veith & Werner, 2014). The fact that the recognition and measurement of accounting data depends on the individual characteristics of each country, such as the economy, culture, tax system, among others, has led to the development of comparative research on the value relevance of financial reporting between countries for some time now.

Comparative studies between countries point to the existence of divergences in the value relevance of financial reporting (Harris, Lang, & Möller, 1994; Cañibano *et al*., 2000a and Ali & Hwang, 2000). Some of these differences do not seem to be explained by economic factors or the composition of the samples of the companies studied (Joos & Lang, 1994).

There are countries whose accounting systems are very bank-oriented, where banks are the main financier of the business and where those have direct access to business information. This situation reduces the demand for information in the financial statements. These countries, in the context of accounting characteristics, are defined as the group of continental countries.

Conversely, countries where accounting systems are oriented to the financial market are expected to present more value relevant information. The fact that there are many investors and they do not have direct access to the information of the companies, requires that the financial information disclosed be relevant to be used in the monitoring of management and in the investment decision making. Given the accounting characteristics, these countries are defined as the group of Anglo-Saxon countries.

Another specific characteristic of the countries that conditions the value relevance of financial reporting is linked to the weight of government entities in the elaboration of accounting rules and procedures. Government entities tend to establish standards that meet the needs of the government, rather than the

needs of other stakeholders. Thus, it is expected that financial information will be less value relevant in countries whose government has a strong presence in accounting standardization.

In some countries financial reporting is conditioned by tax laws. Information is thus conditioned for political, economic and social purposes and not to promote information for the market (Ali & Hwang, 2000). The required compliance between financial and tax information encourages the reduction of taxes through financial statements that present systematically lower profits, which impairs the value relevance of financial reporting (Lourenço & Curto, 2008).

In short, Lourenço and Curto (2008) argue that the continental countries are characterized by having a strongly-regulated system (code law), a corporate finance structure based mainly on the banking system, a strong influence of taxation on accounting and the presence of the government, instead of professional regulatory bodies, in the elaboration of accounting standards. Conversely, the Anglo-Saxon countries are characterized by a common law system, a corporate finance structure based on the capital market, where tax and accounting rules are dissociated and there is an influence of the professionals in accounting standardization.

In this context, the countries that make up the Euronext market, according to Ali and Hwang (2000), present the following characteristics regarding financial information in the pre-adoption period of IFRSs (table 4):

Although Portugal has not been included in the study by Ali and Hwang (2000), given the characteristics at various levels of accounting legislation, it is possible to state that it follows the perspective of the countries of the continental group (see for example, Callao, Ferrer, Jarne, & Laínez, 2009 and Clarkson *et al*., 2011). In this sense, the literature has presented the European continental countries as accounting-conservative unlike the countries considered of Anglo-Saxon influence.

Lourenço and Curto (2008) argue that in the IFRSs' pre-adoption period, the value relevance of financial information was significantly higher in the group of countries characterized as Anglo-Saxon than in the continental countries. On the other hand, the value relevance does not differ significantly among continental countries.

Since IFRSs have been heavily influenced by investor-based orientation (Hung & Subramanyam, 2007), the value relevance of the financial reporting in the countries operated by the Euronext is expected to be similar. However, according to Soderstrom and Sun (2007) differences in value relevance between countries should remain after the mandatory adoption of IFRSs, as it depends on the institutional situation of companies, such as the country's legal, fiscal and political systems.

Table 4. Country characteristics with influence on financial reporting

Countries	Source of Accounting Standardization (in the Period Up to 2004)	Influence of Tax Legislation	Group of Countries
Netherlands	Governmental and Private	Low	Anglo-Saxon
Belgium	Governmental	High	Continental
France	Governmental	High	Continental
Portugal	*	*	*

*- was not included in the study.

Source: (adapted from Ali & Hwang, 2000).

Literature, in general, indicates that the financial information on the factors of innovation is relevant to the decision-making process of the investor, such as that of Abrahams and Sidhu (1998) and Goodwin and Ahmed (2006). However, in contrast, Cazavan-Jeny and Jeanjean (2006) concluded that there is a negative association between the financial reporting of innovation and the value of companies. The difference between the results of Cazavan-Jeny and Jeanjean (2006) and those of Abrahams and Sidhu (1998) and Goodwin and Ahmed (2006) may be related to the individual characteristics of the countries. Cazavan-Jeny and Jeanjean (2006) tested a sample of firms in France, which in terms of accounting system is characterized as conservative (continental country). In this case the financial information produced mainly aims to satisfy the needs of the State and the banking system. While the studies by Abrahams and Sidhu (1998) and Goodwin and Ahmed (2006) have tested a sample of firms in Australia where the accounting system is identified as less conservative.

In summary, the individual characteristics of the country where the company operates, are determining factors of the value relevance of financial reporting of innovation activities. Hung (2001) and Lourenço and Curto (2008) concluded that the relevance of accounting data is dependent on the level of investor protection. Another factor is the participation of private entities in the process of creating accounting rules and procedures, and the influence of fiscal rules on accounting procedures (Ali & Hwang, 2000). According to King and Langli (1998) another factor is related to a greater or lesser conservatism of accounting.

CONCLUSION

Information is the main tool for decision making. The fact that companies operate in different markets and in many cases, their property is dispersed by a large number of investors makes accounting have a key role in the dissemination of information. In this way, financial reporting is a key resource for decision making. Financial information is value relevant when it allows for conscious economic decision-making.

The value relevance of financial reporting is one of the current topics of theoretical discussion and accounting standardization. Financial reporting has become less value relevant due to the difficulty of accounting in dealing with the characteristics of the current economy, in particular, the obstacles towards the recognition and measurement of intangible assets. Researchers in this area point to the difficulty of accounting in addressing certain items, such as R&D expenditures. These are indicated as one of the factors of the decrease in the value relevance of financial reporting and one of the main responsible for the difference between the book value and the market value of the companies. The importance of innovation in value creation and company differentiation is recognized. However, given the characteristics of innovation activities, they are often treated by accounting as a simple expense, without recognizing their future economic benefits.

In the development of this study the authors sought to understand how the financial reporting of innovation activities influences the decision-making of the investor. To do this, the authors focused on four objectives, in which they intended to analyze: 1) how the financial information on the factors of innovation (intangible assets) contributes to the decision-making of the investor; 2) the existence of influence through the mandatory adoption of IFRSs in the value relevance of intangible assets; 3) if the characteristics of the industry sectors condition the value relevance of the intangible assets and, 4) whether individual country characteristics influence the relevance of intangible assets.

In an attempt to harmonize accounting principles and standards, as opposed to each country's accounting systems, the adoption of IFRSs aims to achieve a high level of transparency and comparability in order to ensure the efficient functioning of the capital markets. The different accounting systems are indicated as factors that allow the greater or minor value relevance of the financial information.

In this regard, the EU adopted the IFRS accounting standards in 2005 to homogenize the procedures, in order to allow the same interpretation of the data between entities of the same country and between entities of different countries. It is stated that IFRSs, with regard to the treatment of intangible assets, are on the one hand less conservative in valuing goodwill and, on the other hand, more limiting to the actions of accountants, such as, for example, not allowing the recognition of research expenditures as an asset.

On the one hand, IFRSs are less conservative, especially in relation to the accounting standards of the countries of the continental group. On the other hand, they limit the action of management in the recognition of intangible assets with a high degree of uncertainty on obtaining future economic benefits, reducing the possibility for managers to manipulate the companies' earnings values. These two aspects are stated as factors that increase the value relevance of financial reporting.

The mandatory adoption of IFRSs has introduced significant changes in the accounting procedures in the various countries. It is pointed out in the literature that IFRSs introduce a set of changes in the recognition and measurement of intangible assets that contribute to the reduction of information asymmetry. IFRSs have been heavily influenced by investor-based orientation. It is expected that their application in the preparation of financial statements will increase the value relevance of intangible assets. However, the truth is that the results of empirical studies on value relevance are still inconclusive as to the effect of IFRSs' changes on the value relevance of financial reporting and in particular on intangible assets.

The literature in the field of research of the effects of non-financial factors on the relevance of financial reporting is little and inconclusive. Thus, this study sought to discuss, beyond the problem of accounting systems, the effects that the characteristics of the industry sectors and of the countries that can have an impact on the value relevance of the financial reporting of the innovation activities.

The industry sectors have different characteristics among them, so the sector where the company develops its activity can influence the value relevance of the financial reporting of the innovation activities. It is assumed that there are factors of innovation, namely R&D activities, patents and processes that are sector-specific. This specificity of investment in innovation, combined with profitability and risk, makes the value relevance of the financial reporting of intangibles different between the different industry sectors.

Countries also have distinct characteristics, such as culture, economics, politics, the tax system and the legal system. The results of the literature point out the individual characteristics of the countries as a non-financial factor with an impact on the value relevance of the financial reporting of innovation. The value relevance depends on the level of investor protection, as well as on the manner of participation of private entities and the influence of fiscal rules in the process of creating accounting procedures and standards.

In summary, the financial information related to innovation activities is value relevant for the decision-making of the investor, however the value relevance is conditioned by non-financial factors. The value relevance of the financial reporting of innovation activities differs between industry sectors and between countries and is strongly conditioned by the accounting systems underlying the preparation of financial statements.

The value-relevance literature should not be considered sufficient to define a normalization standard. However, it should be seen as something designed to provide evidence to the legislator, which allows him

to update his perception of how accounting values are perceived by the market (investor). In this way, it contributes to the reflection on accounting standards. Knowledge of the individual characteristics of industry sectors or countries, which influence the value-relevance of intangible assets, will allow legislators to promote specific standards or interpretations by the industry sector or even between countries.

This study sought to produce evidence to improve accounting procedures for the recognition, measurement and disclosure of intangible assets. It also sought to produce evidence on the existence of differences in value-relevance that would allow the investor to make better decisions. On the other hand, knowledge of these differences may lead managers to highlight information on intangible assets according to the needs of each industry sector and country.

Proposals for future research involves testing specific characteristics of the different industry sectors, as well as the countries in which the companies operate. In this sense, it is interesting to develop future research on the impact of IFRS's, between industry sectors and between countries, considering the different types of intangible assets.

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ENDNOTES

1 Oliveira *et al*. (2010), pg. 244, refer that "Goodwill was defined as the excess of the net amount of the fair value of recognised identifiable assets acquired and liabilities assumed over the acquisition cost, using the purchase method."

2 In "Intangible Assets and Goodwill in the context of Business Combinations – An industry study" KPMG (May, 2009), pg. 5.

[3] In "Intangible Assets and Goodwill in the context of Business Combinations – An industry study" KPMG (May, 2009).

[4] Definition of fair value presented by the IASB (IAS 38 - Intangible Assets).

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Chapter 16
Does Theory Really Fit Real Life Situations?
A Case Study on the Internationalization Process of a Technological Service-Based Firm

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ABSTRACT

This chapter analyzes the strategic international formulation of a SME technological service-based firm to perceive the internationalization theory that best suits the company throughout its history. The literature review of the most studied internationalization patterns—Uppsala Model, Born Globals, Born Again Globals, and Born Regionals—allowed comparison of the main characteristics of each theory vis-à-vis the firm's internationalization. A synthesis table summarizes the main characteristics of the internationalization process of each model and presents a clearer view of the particularities of each. Analysis of the primary data and interviews provided by the company's CEO made it possible to compare the internationalization process adopted by the company with those characteristics, facilitating the process of identifying the strategy followed. The present case study took into account the theoretical model with the greatest similarity of characteristics with the path followed by the firm, as well as its learning and future plans.

DOI: 10.4018/978-1-5225-8479-7.ch016

INTRODUCTION

With the globalization process, firms have changed their international behavior according to the dramatic shifts in the international environment. As such, the understanding of internationalization has been changing over time as a result of different interpretations of frameworks, theories, and basic assumptions (Ribau et al., 2015; Ietto-Gillies, 2012). Due to the growing international competition, several models and theories of internationalization have been used to categorize firms, namely small and medium-sized firms (SMEs), according to their internationalization behavior.

In their account on the evolution of internationalization, Ribau et al. (2015) provide a schematic analysis of the main internationalization theories, their focus and their underlying assumptions following a historical timeline. From this account, it is clear that economic theories have given way to behavioral theories and that the entrepreneurial perspective is emerging as a critical viewpoint in explaining the internationalization of SMEs.

If the Uppsala model has been extensively used, scale, scope, and speed are now essential tools used to categorize firms as born globals (BGs), born regionals or born again globals (BAGs), complementing traditional perspectives as the Uppsala model or the network-based approach. However, it is not uncommon nowadays to realize that some firms are labelled as INV, BGs, micro-multinationals, BAGs or born regionals – as if they really were – and soon afterwards, one realizes that the firm has been improperly labelled. Although no single theory exclusively explains the strategic behavior of a firm, taking into account a single case study, OMEGA, the objective of this chapter is to approach and relate four different internationalization typologies to a real-life situation in order to highlight the importance of adequately designating the typology of the international strategy the firms are really following. For the main characteristics of four theories of internationalization are going to be analyzed in order to identify which one matches OMEGA's internationalization profile.

OMEGA is an SME that is specialized in communications technologies. It is characterized by substantial capabilities and experience in wireless applications and systems that are integrated and customized to the needs of each client. Founded in 2000, OMEGA is a communications engineering company with an active Research and Development (R&D) component. Thus, this firm serves as an excellent example for the discussion of the four different typologies of internationalization that have been used to characterize the firms – Uppsala model, BG, BAG, born regional – in order to identify which theory would best fit the internationalization pattern of OMEGA. For that, this chapter analyzes OMEGA's external and internal contexts, as well as its internationalization strategy. To do this, a literature review regarding the most studied models and with which ones the company shares characteristics related to its internationalization process (*e.g.*, Uppsala Model, Born Global, Born Again Globals and Born Regional) will be carried out in order to compare and contrast the characteristics of each theory in relation to the OMEGA process.

The chapter is divided into the following six major sections: (1) the introduction, (2) the literature review, (3) the methodology, (4) the case study, (5) the discussion of the theories applied to this case, and (6) the main conclusions.

LITERATURE REVIEW

Uppsala Model

The diversity of topics covered, the different contexts in which SMEs operate, the different SMEs definitions, and the perspectives of analysis make the internationalization of SMEs a multifaceted theme (Ribau et al., 2018). Nevertheless, this theme has evolved and has been extensively studied in the last decades. Among the different perspectives that explain the main drivers influencing the internationalization of SMEs, the Uppsala Model stands out among the authors studying the concept of internationalization of SMEs as a process (Ribau et al., 2015; 2018).

Following an evolutionary perspective, the Uppsala model depicts the internationalization of SMEs as a gradual process based on a knowledge/commitment relationship, where market knowledge leads to a deepening of the internationalization of SMEs, leading to more excellent knowledge of the market, which in turn leverages the internationalization process. The Uppsala model is based not only on the characteristics of the organization but also on the management methods and on the characteristics of the environment that influence the transactional costs that lead companies to internationalize.

Originally, the Uppsala model describes the characteristics of the internationalization process of a firm, in addition to analyzing the ideal entry mode, which often starts with exports. It also analyses the costs, risks, and resources of the company (Karabulut, 2013; Johanson & Vahlne, 1977; 2009). According to this model, the company gradually seeks to incorporate its representatives into foreign markets, which would later be replaced by the company's own sales team until operations are established in the target market (Johanson & Vahlne, 1977; 2009). In addition, the Uppsala model argues that internationalization usually begins in foreign markets geographically and culturally close to the domestic market (*i.e.* those with low psychic distance) (Johanson & Vahlne, 2009). As the international market grows, the company gradually migrates to more distant markets both psychically and culturally.

With increasing knowledge about new markets, companies tend to increase the level of commitment and scope of operations, which may eventually lead to foreign direct investment (FDI) activities (Karabulut, 2013). The expansion and entry into foreign markets are perceived as a risky action and, as such, companies would need to acquire knowledge about target markets, reducing the potential risk of failure (Karabulut, 2013; Johanson & Vahlne, 1977; 2009).

The revised version of the original Uppsala model adds the business networks' perspective and their implications (Johanson & Vahlne, 2009). As referred above, the original Uppsala model is based on the assumption that developing knowledge is fundamental to the firm's internationalization and, in particular, that knowledge grows from international experience, being crucial to the learning process and the development of operations abroad. Given the recent business network perspective, the concept of relationship-specific knowledge developed through interaction among partners was added to the original model and includes knowledge about the heterogeneous capabilities and resources of network partners (Johanson & Vahlne, 2009). From the standpoint of business networks, previous management team relationships result in essential knowledge for internationalization (Johanson & Vahlne, 2009).

The revisited Uppsala model (Johanson & Vahlne, 2009) includes the internationalization business network and can be used to study both resource-seeking and market-seeking internationalization. Generally, the resource-seeking internationalization refers to the proactive action of the firm to internationalize in an attempt to obtain resources in better conditions (cheaper labor and natural resources). Although also proactive, market-seeking behavior aims at conquering international markets (to ensure or increase

market share), and may be the result of domestic market saturation or previous export experiences. In this proposal, the organization is seen as a unit of knowledge exchange and not only as a production unit.

Born Globals

The development and increasing speed of information and communications technologies and the information exchange in real time have paved the way to globalization (Dicken, 2015). In the economic context, these changes give rise to a set of strategies that have allowed both large multinationals and SMEs to be present in international markets (Ribau et al., 2015, 2018; Covielo, 2015).

Globalization has given rise not only to a global geographic market, but also to global competition for global trade and investment (Zander, McDougall-Covin, & Rose, 2015). Also, it has created new competitive positions, where BGs and INVs stand out as examples of internationalization based on rapid internationalization processes where innovation plays a fundamental role in the early stages of the firm's internationalization process (Ribau et al., 2015).

The number of companies that conduct international business since its establishment is growing significantly throughout the world (Weerawardena, Mort, Liesch, & Knight, 2007; Covielo, 2015). BGs are companies that expand to international markets, taking advantage of both new global contextual conditions and new needs, which are founded on rapid internationalization approaches (Ribau et al., 2015). These new phenomena, which marked the beginning of the 21st century, have been studied by researchers seeking new theories to describe firms' internationalization (with particular attention to SMEs), trying to circumvent the ineffectiveness of the traditional theories of internationalization. However, the research that has been developed so far does not seem to be enough to anchor a new consensual theory about the definitions of new internationalization phenomena (Ribau et al., 2015). Despite the scarce financial and human resources that characterize most SMEs, born globals have been heavily involved in international business very early on. In short, BGs are business organizations that, from the outset, seek competitive advantages from the use of resources and the sale of products in several countries (Weerawardena et al., 2007; Covielo, 2015).

BGs have the following main characteristics: a global vision from the beginning of their business activity, managers with international experience prior to the internationalization of the company (making them aware of international opportunities), access to international networks, and a strong technological foundation with strong capabilities (Ribau et al., 2015).

BGs are young, entrepreneurial companies with a strong culture of innovation and a strong tendency to internationalize, eventually achieving a sustainable performance in foreign markets (Knight & Cavusgil, 2004). In fact, BGs may be characterized by a shortage of both financial and human resources, and may also lack equipment and other physical resources. However, they possess important essential intangible skills based on understanding foreign markets since the very beginning of their international evolution. It should be noted that BGs have a great ability to acquire knowledge, which is a crucial success factor for achieving superior international performance (Knight & Cavusgil, 2004). What gives BGs a competitive edge is the capacity to consistently acquire the new capabilities they need to compete in a variety of markets and to support their international expansion (Knight & Cavusgil, 2004).

A possible definition of a BG can be an early adopter of internationalization, such as firms that expand into foreign markets and show great capacity regarding international business and high performance from their foundation or immediately after (Knight & Cavusgil, 2004). Firms take advantage of their capacity to innovate, as well as their knowledge and internal capabilities to achieve notable success in

foreign markets at the beginning of their development. As an example, exports have accounted for at least 25% of their sales within three years of starting up (Knight & Cavusgil, 2004).

Most BGs do not follow the traditional stages of the internationalization process since they were already "born" with the objective of operating in international markets (Ribau et al., 2015). Therefore, the main focus of BGs is on how early they become international, rather than their size (Oviatt & McDougall, 1994).

By adopting a proactive international strategy, these SMEs are mostly found in the areas of technology and services, but they can likewise appear in a variety of industries (Oviatt & McDougall, 1994). In this aspect, the more knowledge-intensive the industry is, the higher the dependence on local research infrastructure to internationalize the innovations arising from regional industrial clusters (Andersson, Evers & Griot, 2013).

The internationalization process does not necessarily use direct foreign investment, but instead strategic alliances in order to use foreign resources as a production or marketing capacity (Oviatt & McDougall, 1994). Moreover, a Born Global does not just enter global markets from the outset but does so by using local networks to obtain resources and accelerate the internationalization process (Andersson et al., 2013). Those networks directly influence SMEs' internationalization, mainly local and cluster networks, which influence the way Born Globals are generated, thereby accelerating the whole process (Andersson et al., 2013).

Born Again Globals

BAGs are well-established firms in their domestic market. Although generally without great motivation to begin the internationalization process, they can follow this path with speed and determination (Bell, McNaughton & Young, 2001). BAGs are companies that are focused on their internal market, but as soon as they undergo a strategic change, they adopt a global focus (Schueffel, Baldegger, & Amann, 2014). When compared to BGs, BAGs are organizations that only give less importance to local networks, as soon as they internationalize as a result of pressure from international networks (Andersson et al., 2013).

Typically, at the time of the internationalization process, BAGs behave in two ways (Kuivalainen, Saarenketo, & Puumalainen, 2012). At the initial stage, they do not obtain significant competitive advantages from using their resources and product sales in international markets. After the strategic change, BAGs begin to seek a significant competitive advantage from using their resources and competencies internationally. Consequently, sales of their products in international markets exceed 25% of international sales *vis-à-vis* their total sales within the three years following the strategic change.

This change has been explained by the influence of "critical incidents" such as reformulation of the management team, the focal firm being acquired by a competitor, acquisition of a firm with international operations, and customer influence, among others (Bell et al., 2001).

BAGs usually begin their internationalization process incrementally (Baum et al., 2015) with the main motivation for entering external markets being to exploit new resources and networks (Bell et al., 2003). These organizations usually are 'late internationalizers,' but when they do, they do it quickly, choosing to enter various markets at the same time and to adapt their products for those markets (Bell et al., 2003). Distribution is carried out through partners' or clients' networks via the creation of licensing contracts or the development of alliances with their stakeholders (Bell et al., 2003). For BAGs, the primary means of entry is the acquisition of subsidiary distribution firms that allow their internationalization (Andersson et al., 2013).

Many BAGs operate in knowledge - or technology-based industries (Kuivalainen, Saarenketo, & Puumalainen, 2012; Baum et al., 2015) or provide services in retail, and tourism industries (Bell et al., 2003). There is no time criterion associated with BAGs' internationalization. However, they internationalize between two and five years after their first international involvement (Bell et al., 2001), which can be between 15 and 50 years after the company's foundation (Andersson et al., 2013; Pinto et al., 2018).

In BAGs, the percentage of foreign sales is lower than in Born Globals but more significant than in firms that internationalized according to the Uppsala model (Baum et al., 2015). There is no specific number of markets in which BAGs have to do business with in order to gain this classification. However, to be considered true BAGs, they should form commercial relationships with at least five countries (Kuivalainen, Saarenketo, & Puumalainen, 2012). There is evidence that these firms are present in a low number of foreign markets, with the institutional distance from those markets being high and the cultural distance from international markets being intermediate (Baum et al., 2015).

Born Regionals

The internationalization pattern of Born Regionals is quite similar to that of Born Globals.

Born Regionals internationalize shortly after their creation (a characteristic that both BGs and Born Regionals share in common), but focus their internationalization activities on countries in the same geographical area with a similar culture and/or business approach (Baum et al., 2015; Lopez et al., 2009). The reasons for SMEs choosing this path could be various. One example is the firms' ability to exploit the organization's specific advantages in its region, and so the need to operate abroad is minimized (Baum et al., 2015). In the case of small developing countries, in which internal markets are small, born regionals seek larger foreign markets in order to grow (Lopez et al., 2009).

Management's previous international experience is one of the most valuable resources in defining an internationalization strategy in Born Regionals, as managers' experience in global operations in their previous posts will have enabled them to coordinate multiple operations in different countries. Therefore, Born Regionals with managers experienced in working abroad have an advantage in achieving more efficient market penetration and exploiting growth opportunities, as business practices abroad and the needs of international consumers are better known and understood, allowing rapid growth in foreign markets (Baum et al., 2011). Concerning knowledge intensity, Born Regionals opt for differentiation strategies. Firstly, these are a vehicle for rapid entry to foreign markets in the early stages of the organization. Secondly, they serve as a source of competitive advantage. Nevertheless, BRs are also dependent on significant international income to amortize the cost of adapting products (Baum et al., 2011).

Born Regionals are less likely to be oriented towards learning, as they do not have to spend so much time getting to know the markets they wish to enter, as it occurs among BGs due to their geographical proximity (Baum et al., 2011).

Regarding turnover, firms choosing this internationalization path obtain more than 25% of their sales' volume from abroad (Kuivalainen, Saarenketo, & Puumalainen, 2012).

There is no information clearly specifying the main industries BRs focus on when internationalizing. However, there is a strong presence of technological firms (Lopez et al., 2009). As for the most common forms of entry, there is little information currently available. However, exports are a typical pattern in BRs' internationalization (Lopez et al., 2009).

Born Regionals and Born Globals are closely related, as both internationalization patterns are applied to companies that internationalize shortly after their creation. Indeed, many firms consider themselves

BGs, but in truth, their behavior is much closer to that of a Born Regional. As they choose to do business with countries that are geographically and culturally close, as in the case of SMEs, it is difficult to have the necessary resources to set out on a truly global strategy at such an early stage of the organization's life (Lopez et al., 2009). The same occurs with multinational firms that are often considered global. However, a more detailed analysis of the markets where firms do business with reveals that 80.3% of their total income comes from the domestic region of the European Union, North America, or Asia triad (Rugman & Verbeke, 2004).

Based on the analyzed literature, it is noted that few studies focus on the long-term results obtained by SMEs (*i.e.*, there is a shortage of studies that would allow clear confirmation of the internationalization pattern bringing the best long-term results for organizations) (Kuivalainen, Sundqvist, Saarenketo, & McNaughton, 2012).

INVs are also seen to be a heterogeneous rather than homogeneous group, and their internationalization strategies cannot be chosen at random, but rather as a result of firms' inherent characteristics (Baum et al., 2011).

METHODOLOGY

This empirical study investigates a contemporary phenomenon within a real-life context, in which the limits between the phenomenon and the context are not clearly defined. The case study method, proposed by Yin (2004), is one of the most common research methods used in social sciences. In this chapter the case study method is particularly appropriate as the aim is to understand, explore, and describe certain unique events that are complex, and where researchers have no control over the real occurrences taking place (Yin, 2004).

The case study methodology is particularly indicated to respond to questions like "how" and "why" (Yin, 2004), clearly indicating the exploratory nature of the research being carried out. Moreover, this case study method is based on a qualitative methodology particularly useful to explain complex and dynamic realities (Malhotra, 2017).

This chapter seeks to gather and analyze information about the company (history, mission, resources, evolution, etc.) known hereafter as OMEGA, whose real name cannot be disclosed for confidentiality reasons. Therefore, an interview was held with the CEO of the company at the premises of the company. The interview lasted for two hours and was carried out in May of 2018. The interview involved a structured questionnaire with open-ended questions, as the primary data collection method. The topics covered involved information regarding the history of the firm, leading products, main markets, and regarding their internationalization process - modes of entry, sales volume abroad, central markets, the timing of internationalization and motives for internationalization.

The qualitative analysis of data followed an inductive process, observing the recommendations of Morse (1994) and Lindlof (1995). This type of methodology does not try to find ultimate truths, but to report open accounts of data and information obtained, analyzed and interpreted. The validity of this one-case study is also supported by George & Bennett (2005), in a process-tracing approach, adequate either to uncover evidence of causal mechanisms at work or to explain outcomes in complex interactions, but can be particularly useful at examining the kinds of specific sequences in learning and diffusion processes.

In order to triangulate the information given during the interview, the data collection process included different sources of information (interviews, background information and secondary). The analysis of

secondary data included data available on the firm's website, as well as brochures and stationary material used for the dissemination of its services to its different stakeholders. Besides this, information available on the Internet based on two television interviews held with the CEO was also utilized. Moreover, the interviewee was willing to disclose information about the company, and subsequently, clarify all doubts that emerged *en route*.

Considering the exploratory nature of this research, the case study method was deemed appropriate to address the objective defined at the beginning of the chapter. The firm was chosen because it exhibited contextually rich data on the internationalization processes, supporting empirical research in the real-world setting (Eisenhardt, 1989).

The primary objective of the interview with the CEO was to understand the principal motivations that led the company to internationalize its activities, what markets the company was serving, and in what markets it is currently present. This information would be vital in order to classify the company according to the internationalization models analyzed. After the information was collected, the following models of internationalization were analyzed: Uppsala Model, BGs, BAGs, and Born Regionals.

For each internationalization strategy, it was decided to analyze the following characteristics, in order to assess how they fit according to each strategy: the moment of internationalization; motivation for internationalization; sales volume abroad; markets where the firm was present; speed of internationalization; and modes of entry. The characteristics are described below:

- Moment of internationalization, which seeks to assess how soon after its inception the firm internationalizes and its primary mode of international entry;
- The motivation for internationalization, which seeks to address if the firm seeks for resources in international markets or seeks to expand their sales volume abroad. This information is complemented by the passive or active involvement in international markets;
- Sales volume abroad. This information would support the rate of penetration in international markets that helps to characterize born globals and born regionals;
- Markets where the firm was present, which gives an idea of how international the firm is and, when complemented with the mode of entry, would support to categorize the international strategy the firm is following;
- The speed of internationalization. This information is vital to disclose how rapid the firm has entered in international markets; and
- Modes of entry, which clarifies the degree of involvement and risk in international markets the firm is willing to embrace.

These characteristics helped to match the type of strategy OMEGA follows. It is worth noticing that the aim is not to defend that the internationalization strategy is prescriptive regarding the characteristics of this strategy but instead to analyze and identify what characteristics match the four strategies analyzed.

CASE STUDY PRESENTATION

This section contains a brief presentation of the company, its primary business activity, the industry in which it operates, some relevant indicators, and the markets it has been serving.

The Company

Created in 2000, OMEGA is a communications-engineering firm located in Aveiro, Portugal, founded by four researchers at the Aveiro Institute of Telecommunications and alumni of the University of Aveiro. Today it focuses on the planning and construction of wireless networks, radio links, and other technologies in the field of unified communications. OMEGA is positioned in the market as a firm specializing in the services it provides, namely high technology wireless networks. For this reason, it has undertaken countless large-scale projects and managed to develop them in both the internal and international market. Its client portfolio consists of firms in various business areas, including health, local authorities, transport, utilities, energy, sports, and services.

OMEGA has strong technological competences in Wi-Fi networks, providing services and turnkey solutions for business-to-business markets, such as business firms, municipalities, hotels, retail outlets, logistics firms, hospitals, or high-density user locations. OMEGA works with all forms of technologies in wireless networks such as microwave connections for utilities or telecommunications operators, private networks or Internet of Things (IoT) networks. Therefore, it has become a specialized company in wireless technologies, directly or indirectly integrated into many national projects in this area, being an active, innovative firm involved in the development of new applications. Since its inception, corporate strategy has been based on the development of new technologies in order to provide innovative and value-added solutions to leverage its clients' competitive advantages in their areas of operation.

OMEGA's Business Plan for the 2016-2018 period defined ambitious goals, particularly concerning income from the international market in the areas of wireless and Unified Communications. Investment in R&D is predominant in the firm, shown in two ambitious projects to develop microwave radio and UHF, and in a single platform of Unified Communications, such as FScloudplatform, which is an open source solution directed to Carriers and Contact Centers, one of the priorities when aiming for a global market.

Currently, OMEGA provides its services and support to customers in Europe, Africa, America, and Asia. It has representations in Spain, Angola, Mozambique, Cape Verde, and Brazil.

OMEGA's increased visibility and recognition have been influenced by its continuous innovation and the desire to present the market with new solutions and knowledge in the field of information technology, making innovation one of the company's main strategies. This recognition is despite working with the technology integrators it used in developing its projects up until 2007. Since 2007, the company has provided its services through technology developed in-house.

With one of the firm's main strategies being to launch innovative solutions in the market, over the years OMEGA has created spin-offs with a view in generating independent technologies. OMEGA's first spin-off emerged in 2009, and the firm currently has four successful ones.

Analysis of OMEGA's Structure

OMEGA is organized in five functional departments: a new product development department, commercial department, business development department, operations department, and business support department.

To be able to explain and organize thinking regarding the initial and evolutionary process of OMEGA's internationalization, the firm's timeline is presented in Figure 1. The primary objective of the figure is to facilitate analysis and understanding of the path this company followed in its markets.

According to the literature, the first significant contract obtained by OMEGA in the domestic market was the project developed for the National Statistics Institute in 2001.

OMEGA considers that its international experience followed the usual path of Portuguese SMEs. According to the administration, entering international markets was a very complicated process, mainly because the cultural difference between countries was challenging to overcome, despite common language being a facilitating element initially. OMEGA thought that entering the PALOP (Portuguese-speaking countries) market would be a relatively easy process, but this was not the case due to these countries displaying a very different culture from Portugal. An example demonstrating this limitation would be the firm's experience in Brazil. Despite, the initial impression indicating nearly 100% success based on positive feedbacks from meetings, the final decision showed otherwise as no single business was concluded.

The OMEGA's sales volume in the international market is represented in Table 1.

Analysis of the Interview With the CEO

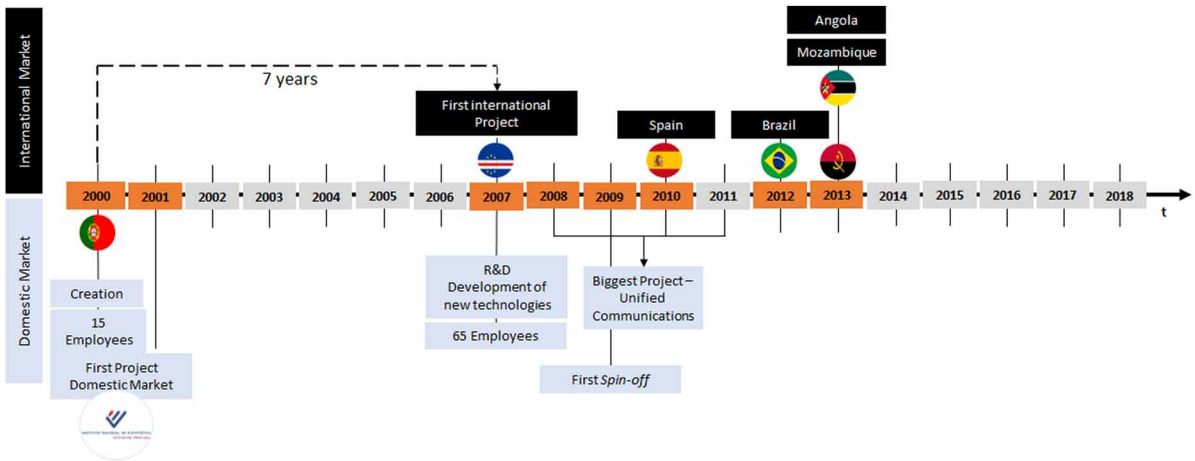
Although OMEGA has grown over the years, it is still an SME with sixty-five employees at present. At the beginning of the internationalization process, the firm had a staff of only fifteen individuals.

According to the CEO, OMEGA began to negotiate with international clients based on a meaningful relationship it had with a significant client at a time when the firm was growing. This negotiation occurred when the firm had existed for almost eight years. The first country where it had a presence was Cape Verde, a PALOP country. Currently, the firm is present in two continents, and conducts business in Spain, Angola, Mozambique, and Cape Verde (countries that are linguistically very close to Portugal)

Table 1. Sales volume in thousand euros

	2017	2016	2015	2014	2013	2012
Total Sales volume	4,520	4,542	5,783	2,631	2,854	3,406
Sales volume in International markets	858	2,114	2,911	559	974	1,130
% of sales volume in International Markets	18.98	46.54	50.35	21.24	34.11	33.16

Figure 1. Time line of OMEGA



and has nearly 100 clients. The CEO mentions that internationalization processes outside the European Union have created several barriers for OMEGA.

Concerning modes of entry into foreign markets, the primary expansion strategy used by OMEGA was the creation of contract-based partnerships, both with local entities in the host country and with entities taken from Portugal to the foreign country. The company created an internationalization plan for each foreign country where it provides services since there is nothing in common between them and the specific nature of the project/service provided.

Finally, the CEO refers that on average, OMEGA obtains 33% of its total income from abroad.

Analysis of Other Interviews

Secondary data from multiple sources was relevant, in order to compare and complement information released by the company. Therefore, two interviews with the CEO were analyzed: (1) on the "Mentes que Brilham" (Brilliant Minds) program on a regional TV channel and (2) on the "Network Negócios" (Business Network) program on a widely seen national TV channel.

In 2013, the CEO said in the first interview that the "*internal market is not sufficient for the firm's ambitions*," and so they decided to turn to international markets, particularly "*traditional markets for Portuguese companies, such as Spain, the PALOP countries.*"

In the second interview conducted in January 2018, the firm's internationalization process was analyzed in some detail, namely the markets where it has had a presence, the projects in which it participated in, and data provided about the financial importance of these markets for OMEGA.

The company reports it is present in Spain, Angola, Mozambique, Cape Verde, and Brazil, but it has carried out projects in other countries such as China, Jamaica, Italy, England, Equatorial Guinea, and Romania as a sub-contractor of large national companies investing in those countries.

Concerning future internationalization plans, the CEO mentions that the priority is to make OMEGA an Iberian company, as he believes that by doing in Spain what they are doing in Portugal, could "*give a ten-fold increase in the firm's business*", since "*the world is too big*" and "*Spain is right next door*". The company's priority is, therefore, seen to include geographically adjacent territories.

DISCUSSION

OMEGA's International Experience

With the discovery and help of the various searches and interviews, the coherence between the information found in the literature and provided in the interview stands out. According to the CEO in one of the interviews given, OMEGA grew with the support and reinvestment of its associates' capital. The company's first international project and experience was in Cape Verde, in 2007 (*i.e.*, seven years after its foundation). From the information given by the CEO, OMEGA decided to open a company in that country to respond to that project, originating from an application to an international competition organized by the World Bank.

It is noted that in the interval between the two television interviews, OMEGA's strategy concerning internationalization changed. Although in the interview held in 2013, the CEO spoke of the need for internationalization as a form of growth, the 2018 interview demonstrated more prudence in approaching

international markets, particularly in the choice of markets for the firm to intensely focus on, as seen in the expression "*the world is too big*." The bad experience in Brazil may have been the critical moment for the firm to change its focus to markets that are geographically closer, without closing the doors to possible opportunities that may arise in other markets.

Based on the characteristics of internationalization indicated in Table 2 – the moment of internationalization, motivation, income from abroad, markets where OMEGA is present, speed of internationalization and forms of entry – it was possible to make a more profound analysis not only of the firm's plan and intention in internationalizing but also of the evolution and events occurring during the process.

Moment of Internationalization

The moment of the firm's internationalization is one of the most determinant aspects concerning theoretical models. As observed in Table 2, in the Uppsala model, this occurs after developing the domestic market. In OMEGA, the firm's first international project and experience was in Cape Verde, seven years after its foundation, in response to an application to an international competition held by the World Bank, and according to the CEO, because the "*internal market [was] not sufficient for the company's ambitions.*"

Before the emergence of the defining concepts of BGs and BAGs, the literature indicates that in most cases the international paths followed by companies are characterized by a set of processes, phases, and patterns. That is, companies are assumed to follow different stages in their internationalization process (Kuivalainen, Saarenketo, & Puumalainen, 2012) and, therefore, a much more traditional orientation. Concerning the theory of BGs, the firm did not internationalize right at the beginning of its activity, and its orientation was not global. For that reason, OMEGA does not fit in with this approach.

Table 2. Synthesis of theoretical models

Characteristics	Uppsala Model	Born Globals	Born Again Globals	Born Regionals
Moment of Internationalization	After developing the domestic market	Up to 3 years after beginning operations	No time limit	Up to 3 years after beginning operations
Motivation for Internationalization	Resource-seeking and market-seeking	The initial goal for the creation of the company	Due to "critical incidents"	Market-seeking
Sales Volume Abroad	No established rule	More than 25% of the total volume of sales	More than 25% in the three years following the strategic change	More than 25% of the total volume of sales
Markets where they are present	Geographically and/or culturally close foreign markets	Global Markets	Geographically and culturally distant foreign markets	Geographically and/or culturally close foreign markets
Speed of Internationalization	Slow and incremental	Rapid	Incremental but rapid: several markets at the same time	Rapid
Modes of Entry	Low export commitment and gradual evolutionary perspective	Local networks	Acquisition of distribution subsidiaries and internationalization	Export

For OMEGA to be considered as a Born Again Global, its internationalization could begin well after the three years following its foundation, or after the strategic change. Therefore, the situation fits what is observed in the case of OMEGA.

As for the Born Regional theory, companies following this strategy internationalize relatively early (sometimes after the first year of existence), something that did not happen in the case of OMEGA.

Motivation for Internationalization

In assessing the reasons for OMEGA's internationalization, the interview in 2013 stands out, especially when the CEO mentioned that the "*internal market [was] not sufficient for the company's ambitions*," and so turning to international markets was decided. The CEO's statement makes it clear that seeking foreign markets came at a time when the domestic market was already developed but insufficient for OMEGA's ambitions, which are characteristics that coincide with the Uppsala model. Generally, the search for internationalization is a proactive action aiming to conquer those markets, which may be the result of a saturated domestic market.

It is also important to mention that when it was founded, OMEGA did not have an international orientation, which goes against the principles of Born Globals' internationalization. Also in this regard, it is important to mention that the openness to risk, pro-activity, and very competitive nature are vital dimensions of firms considered to be Born Globals. OMEGA does not reveal any of these dimensions in the first years of its life, and so for seven years, the motivation for internationalization was not visible.

Regarding the theory of Born Again Globals' internationalization, it is fundamental to highlight that the first step into the international market was not planned, but arose following an application, which led to the firm's decision in continuing with its proposal. The firm's entry to external markets occurred due to the influence of a client and an unexpected opportunity in the market that the firm decided to embrace (which it considers as a "critical incident"). Although OMEGA may have reacted to the market, that behavior follows the Born Again Global approach (Bell et al., 2003).

There may also be some similar aspects with the Born Regional strategy, as these firms, particularly those in small countries such as Portugal, need to exploit foreign markets in order to grow (Lopez et al., 2009), as in the case of OMEGA.

Sales Volume Abroad

The literature review on the Uppsala model did not make any reference to the ideal percentage of turnover in the international market. So, it is not possible to draw any relationship between the size of OMEGA's business abroad and the evolutionary theory. However, as the Uppsala model does not explicitly make any reference to the ideal percentage of sales volume overseas, it was decided to include this characteristic as OMEGA has resorted to certain contract-based partnerships with international players to expand abroad.

Concerning BGs, there is an agreement between the requirement underlying this theory and what occurs in OMEGA. Sales abroad are on average about 33% of turnover. Therefore, in this dimension, the requirement was not met due to not reaching this value within the first three years of activity.

According to the BAG theory, firms exploit their resources and competitive advantages in various countries as well as achieve an external sales volume of at least 25% three years after that strategic change (Kuivalainen, Saarenketo, & Puumalainen, 2012; Schueffel et al., 2014), which agrees with the

path followed by OMEGA. In the case of Born Regionals, it is said that companies usually obtain at least 25% of their turnover from international markets, which was witnessed in OMEGA, although not within the first three years of its operations.

Markets Where They Are Present

The presence in geographically and/or culturally close markets is a common characteristic of the Uppsala model in which internationalization takes place in foreign markets that are geographically and culturally close to the domestic market (Johanson & Vahlne, 2009). Despite not beginning its internationalization process by exporting and above all by being an internationalization process based on projects, OMEGA became progressively involved in the external markets of the PALOP (*i.e.,* beginning the process in Cape Verde), believing the process would be relatively easy due to sharing a common language.

The CEO's plans for internationalization also reveal a concentrated search for geographically and culturally close markets. He believes that for OMEGA, the priority is to become an Iberian company entirely focused on expanding the Spanish market, in order to "*multiply the firm's business ten-fold*," since "*the world is too big*" and "*Spain is just next door.*"

As seen previously, BGs are companies that take their products and services to markets that are also global. However, OMEGA and the path this company followed is far from being considered a Born Global firm.

Furthermore, when OMEGA internationalized, it covered markets where the language was the same hoping that this would facilitate business. Although some experiences were not very positive, the markets served by the firm at the beginning of its internationalization are considered, to some extent, culturally and geographically distant. This distance is influenced by the significant cultural differences experienced and felt by OMEGA, as in the case of Brazil. At first sight, this would classify OMEGA as BAGs. Despite OMEGA reaching culturally close countries like Cape Verde, its current presence in four markets does not amount to the necessary five markets or more within three years of its operation (Kuivalainen, Saarenketo, & Puumalainen, 2012).

Born Regionals concentrate on markets in the same geographical area with a similar culture and/or ways of doing business (Baum et al., 2015; Lopez et al., 2009). Considering this, OMEGA can meet this criterion to some extent, since the firm focuses on changing to markets that are genuinely close geographically and where the way of doing business is not very different from one found in Portugal (as in the case of the Spanish market). Besides, the firm is already present in some European markets, which agrees with the theory of the triad defended by Rugman and Verbeke (2004). Nevertheless, given its initial path, OMEGA cannot be considered as having the characteristics observed in Born Regional companies.

Speed of Internationalization

Regarding the speed of internationalization, the Uppsala model considers international investment as an evolutionary process in which the organization gradually migrates to markets that are more physically distant, but still with less psychic distance in order to avoid the "liability of foreignness." As the organization gains knowledge about new markets, the level of commitment and scope of operations increases (Karabulut, 2013). That gradual evolution to culturally similar foreign markets is evident in the path followed by OMEGA.

During the research and interviews analysis, it was perceptible that the firm neither went through previously planned stages nor followed a linear process of internationalization. Beginning with the analysis and debate between the international path followed by OMEGA and the BG theory, one can exclude this hypothesis due to the firm's seven-year lag in internationalizing. The time variable is fundamental for the firm's perception and characterization when considered as BGs (Kuivalainen, Sundqvist, & Servais, 2007).

Similarly to Born Globals, Born Regionals also internationalize at an early stage of the firm's life and establish international business with various countries, which does not fit in with what was observed in OMEGA.

When analyzing the company's behavior concerning the BAG theory, OMEGA is a firm that began by focusing intensively on its domestic market, undertaking some highly visible and relevant projects without great interest in the international perspective, initially. These characteristics provide indications of BAG behavior.

Modes of Entry

When observing the modes of entry, the expansion strategy adopted by OMEGA created contract-based partnerships both with entities in the external market and with Portuguese entities participating in international projects. According to the Uppsala model, the organization gradually includes the firm's representatives in foreign markets, and the organization's own sales team would subsequently replace these until operations in the destination market are established (Johanson & Vahlne, 1977; 2009). There is a notable similarity between the modes of entry described by the model and those adopted by OMEGA, which confirms the theory's suitability for the internationalization process followed by this firm.

In order to enter foreign markets, OMEGA established contact networks with partners mentioned previously, which is a behavior found in firms following the Born Global theory perspective.

It is noted that the BAG pattern is often used in the retail and services areas, which allows the use of franchising (Bell et al., 2003), licensing contracts or alliances with clients and/or suppliers as a way to enter foreign markets. Although OMEGA began the process as a result of a relationship with a client, there is no evidence of any alliance having been created with that client. Thus, it was concluded that the company does not follow the typical modes of entry of BAGs.

Despite the lack of available information, firms behaving according to the Born Regional pattern use exports as a way to enter international markets. Because OMEGA is a company dealing with the adaptation and assembly of wireless solutions, it is not considered to act according to the Born Regional pattern.

CONCLUSION

The objective of this chapter was aimed at confronting four different internalization strategy typologies in order to address the proper use of the typologies that are typically utilized to characterize business firms. For this purpose, a literature review of the most common internationalization models – Uppsala Model, BG, BAG and Born Regional – has been held to identify the one that most resembles with OMEGA's characteristics, internationalization process as well as their learning paths and plans for the future. Comparing and contrasting the main characteristics of each theory concerning the OMEGA's internationalization process was possible.

Table 3 presents the set of characteristics found in OMEGA according to each of the theories presented in the literature review section. According to Table 3, it is possible to conclude that the analyzed features neither matched a single internationalization model nor with the internationalization process stipulated by those models.

The analysis of the primary data obtained in the interview with the CEO, as well as the interpretation of the secondary data of the other two television program interviews allowed for the following conclusion: OMEGA's internationalization process occurred gradually according to the demand of the markets, at a time when the domestic market was already developed. This actions clearly signals a reactive behavior to the market. Moreover, the internationalization occurred to geographically and/or culturally close markets. This evolution of the knowledge/commitment relationship is suggestive of being very similar to the Uppsala model. According to Table 3, OMEGA matches six of the six characteristics of the Uppsala model.

With the collected information, it was also possible to compare the company's internationalization process with the BAGs theory insofar as it was a slow process, driven by an unplanned event, and seen as a momentary market opportunity that the company decided to embrace. In this way, it is concluded that the company shares similarities with the BAG internationalization process. According to Table 3, OMEGA matches four of the six characteristics of BAGs. Nonetheless, the BG or born regional perspectives are far from adequate to characterize OMEGA, as they would be entirely misleading concerning the behavior of the firm. As such, those who claim that OMEGA could be considered a born global firm or a born regional firm are mistaken by misjudging the OMEGA's journey reality. Although it would be possible to claim that in specific characteristics OMEGA could be considered a BAG, it would be adequate to consider it just another SME following the traditional Uppsala model. As such, those who name OMEGA as BG or a BAG are utterly wrong in their claims.

As provocative it may sound, one can claim that theory hardly fits all situations, as theories are hardly prescriptive in identifying the main characteristics of the firm's internationalization behavior. Clearly, it is vital to analyze first the characteristics of the firm's internationalization process and then can prescribe the best theory that categorizes the firm.

The method used to carry out the present case study took into account the theoretical models that resemble the most with OMEGA's characteristics and international as well as their learning paths and plans for the future.

Table 3. Synthesis of OMEGA's behavior

Characteristics	Uppsala Model	Born Globals	Born Again Globals	Born Regionals
Moment of Internationalization	**x**		**x**	
Motivation for Internationalization	**x**		**x**	**x**
Sales volume abroad	**x**			
Markets where the firm is present	**x**		**x**	
Speed of Internationalization	**x**		**x**	
Modes of entry	**x**	**x**		
Total	**6/6**	**1/6**	**4/6**	**1/6**

Finally, the main conclusion taken from this study is that the international path taken by OMEGA does not entirely fit in any of the theories referred through the chapter. After this analysis, it is not possible to say that a single theory reflects OMEGA's internationalization. As such, the internationalization proposals analyzed in this case study are only stereotyped paths that firms can follow. However, the real path differs according to each organization due to differences in motivation, goals and knowledge, the impact they have on the pattern and speed of the internationalization process chosen, and the approaches the strategies adopted, which have been documented by scholars who advocated the existence of substandard and pattern variations (Olejnik & Swoboda, 2012, Kuivalainen, Saarenketo, & Puumalainen, 2012). It is imperative to take into account that the firm has to 'fit' the typology and not *vice versa*.

It is also appropriate to claim that some foreign markets where OMEGA operated were only international experiences and cannot be considered deliberate well-thought internationalization actions. This evidence can be seen in the CEO's speech, where a change in opinion was noticed about OMEGA's internationalization strategy during the time interval between the two interviews. This change is due to the greater prudence evidenced by the following comment: "*the world is too big*."

The disappointing experience gained in Brazil was the critical moment for the company to shift its focus to geographically closer markets without, however, closing the door to potential opportunities that may arise in other markets. In parallel with the Uppsala model, this prudent behavioral change is possibly the result of learning from experience (*i.e.,* OMEGA gained knowledge about markets and increased the level of commitment to increase its scope gradually). The decision not to continue or decelerate this international path, despite contrary to the previous statement, could be understood as evidence of this reasoning, which would be following the predominant characterization of internationalization by the evolutionary perspective of the Uppsala model.

Finally, taking into account OMEGA's project-by-project business perspective that conditioned its international presence during the initial phase of its life, one may argue that although OMEGA shows some characteristics associated to the Uppsala model and Born Again Globals behavior. It is possible to conclude that the Uppsala model is the most appropriate one to explain OMEGA's internationalization path as the company has not yet embraced a strong presence in international markets as one would expect from Born Again Globals.

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KEY TERMS AND DEFINITIONS

Born Again Globals: Are companies characterized as being focused on serving the domestic market and suddenly being able to radically change their strategic focus in order to increase their sales volumes in international markets.

Born Global: It is a company that, from its inception, seeks to derive a competitive advantage to compete in many countries. It pursues typically a vision of becoming global and globalizes rapidly without any preceding long term domestic or internationalization period or experience. Usually, born globals are small, technology-oriented companies that operate in several international markets.

Case Study: It is a qualitative research method customarily used in social sciences. It seeks to interpret reality from a particular perspective. It is typically used to answer questions like "how" and "why." It is commonly used to address constructivist research processes.

Culture: It is the collective programming of the mind that distinguishes the members of one group or category of people from others and causes them to display more or less the same behavior in similar situations.

Globalization: It is a worldwide movement toward economic, financial, trade, and communications integration. It usually is envisaged as a lack of trade barriers between nations, which are removed through free trade agreements throughout the world and between nation-states. It implies the opening of local and nationalistic perspectives to a broader outlook of an interconnected and interdependent world with free transfer of capital, goods, and services across national frontiers, in which investment opportunities soar.

Internationalization: It is the process of increasing the involvement of enterprises in international markets. It involves a strategy carried out by firms that decide to compete in foreign markets. It involves cross-border transactions of goods, services, or resources between two or more firms or organizations that belong to two different countries.

Internationalization Process: It involves the emphasis of a trajectory of a company in its transition from a national market to a particular foreign market. It usually involves several entry modes (exports, FDI, franchising, etc.) that exert a critical influence on the subsequent trajectory, as well as on cost related to the internationalization process. The two most important theories that explain the internationalization process are the Uppsala model and the network-based approach.

Uppsala Model: It has been one of the most discussed dynamic theories in Nordic School and International Business Studies. It explains the process of internationalization of companies. It explains how organizations learn and the impact of learning on the companies' international expansion. This theory defends that the companies' internationalization process is carried out in stages, from non-regular exports to the establishment of companies abroad.

Chapter 17
The Internationalization of SMEs:
Strategic Choices Under a Cognitive Approach

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ABSTRACT

This chapter aims at providing a theoretical explanation for the observed heterogeneous internationalization behavior of small and medium enterprises (SMEs). In this chapter, the authors propose a conceptual framework of how the entrepreneurs' cognitive systems affect the internationalization decision making in SMEs, and supplement extant normative theories of venture's internationalization with entrepreneurial and psychological constructs. The proposed framework suggests that entrepreneurs' cognitive systems (expertise-based intuition System-X and the analytic System-C) moderate the relationship between the perception of environmental validity and the venture's internationalization decisions. This approach explains how entrepreneurs perceive the environment in such a way that some will recognize an international business opportunity, evaluate alternatives and, finally, decide to start and grow an international venture by following any of the extant patterns of internationalization, namely a sequential, gradual and slow pace or an accelerated and not necessarily sequential approach.

DOI: 10.4018/978-1-5225-8479-7.ch017

INTRODUCTION

The ultimate explanation of the heterogeneous internationalization patterns observed in the small and medium enterprises (SMEs) going international remains veiled. Within the variety of strategic options available to managers, some of them choose to depart from normative internationalization theories to reach a final decision (Francioni et al., 2015), while others do not. Consequently, there is a need to incorporate a supplementary, cognitive approach to the decision-making in order to explain the internationalization pattern SMEs choose (Acedo and Florin, 2006). The cognitive variables can provide a greater value to the assessment of the internationalization decision making at the individual level. Although this investigation has already been initiated for multinational enterprises (MNEs) (Maitland and Sammartino, 2015a, 2015b) and the wide category of SMEs (Acedo and Florin, 2006), it requires an approach from how individuals decipher the host market environment (Buckley et al., 2007), before the researchers can go to an in-depth analysis of how this is made in teams within larger organizations. In SMEs, according to the Upper Echelon perspective, the venture behavior (e.g. internationalization behavior) mirrors the individual's behavior (Hambrick and Mason, 1984). This suggests that in order to unveil the SME 's internationalization behavior, scholars need to zero in on managerial cognition.

The decisions regarding the internationalization entry mode (Schellenberg et al., 2018), the timing of internationalization (Zucchella et al., 2007) and foreign market selection (Morschett et al., 2010) define the evolving internationalization pattern of the SME. The process the manager follows to make these decisions may change over time in light of the experience gained over time or depending upon contextual changes. However, once the venture initiates its internationalization pattern it is difficult to be changed, and that choice often makes the difference between a firm's success or failure (Puig et al, 2018).

The internationalization process school offers the Uppsala model as the most salient theory in the last decades. The Uppsala model considers that decision-makers are risk-averse when addressing new international markets. This risk-aversion is affected by the liabilities of foreignness, of outsidership, the cultural and psychic distance between the domestic and foreign country, as well as the perceived foreign market uncertainty-knowledge, which finally determine the choice of a gradual and stepwise commitment toward the international markets as the less risky option (Johanson and Vahlne, 1977; 2009). Other theories have tried to explain why some ventures seek to engage and remain in highly committed modes since the very early inception, labeled as international new ventures (INVs) and Born Globals (BG) patterns (Oviatt and McDougall, 1994; 1999; Madsen and Servais, 1997; Rialp et al., 2005). These phenomena challenge the gradual and sequential approach, even the idea that a firm should follow a process since some ventures choose a high committed mode that remains unchanged over the venture's lifespan. In these cases, the main determinant seems to be the managerial characteristics and industry velocity –these phenomena have essentially been investigated in high-tech industries or knowledge-intensive services (Rialp et al., 2005). This approach focuses on the entrepreneur's previous experience in international markets that speed up the process and even enable the venture to capture opportunities in international markets without first exploiting the domestic market. Adopting the international entrepreneurship approach, most of the theoretical explanations for this behavior have relied heavily on the interaction between the entrepreneur/founder's characteristics and the environment (McDougal et al., 2003; Rialp et al., 2005). Therefore, the missing characteristic in the internationalization strategic streams is the addition of the decision-makers' cognition.

Entrepreneurial cognition is defined as the way entrepreneurs approach the understanding of decisions in organizational settings (Mitchell et al., 2002). From psychology and neuroscience, the Dual-Process

Theory explains how individuals process information and make decisions. It posits that two distinct cognitive systems act when making a decision. Following perception, System-X provides automatic, unconscious, effortless, and immediate responses, while System-C intervenes by reasoning and analyzing the stimuli to reach a conscious and deliberative conclusion (Epstein, 1994; Kahneman and Frederick, 2002; Strack and Deutsch, 2004; Evans and Stanovich, 2013; Healey and Hodgkinson, 2014). Entrepreneurs with a natural tendency to use the cognitive process of System-X, are strongly dominated by their learned expertise and are able to use it automatically to detect new business opportunities (i.e., intuitive expertise) (Sadler-Smith, 2016). They perceive more opportunities and are able to act quicker under complex circumstances with high uncertainty, comparing to entrepreneurs that rely heavily on System-C (Kickul et al., 2009; Chaston and Sadler-Smith, 2012). Meanwhile, features of System-C are more calculated and logical which call to spend more time in investigation and very often to procrastinate the decision. Managerial cognition will help to explain how individuals perceive, evaluate and make final strategic decisions by modeling the organization accordingly (Gallén, 1997).

This chapter synthesizes and integrates decision-making theory (Evans and Stanovich, 2013; Epstein, 1994; Kahneman, 2003), internationalization and international entrepreneurship theories (Johanson and Vahlne, 1977; Oviatt and McDougall 1994; Oviatt and McDougall, 2005) and entrepreneurial cognition approaches to internationalization (Zahra et al., 2005; Acedo and Jones, 2007; Maitland and Sammartino, 2015a) in order to explain the SME's choice among a variety of discrete patterns of internationalization.

The authors argue that the inclusion of the Dual-Process Theory along with the three-stage model of decision-making (options-evaluation-choice) will help increase understanding of the observed patterns of internationalization and explain how managerial cognition influence strategic decisions regarding when, where and how to internationalize. Furthermore, the authors provide the arguments regarding why and how entrepreneurial cognition moderate the relationship between the perception of the host-country environment and the decisions the SME make. The unifying thread questions of this paper are: Why does SMEs from the same environment follow different internationalization patterns? How do the entrepreneur's mental, cognitive systems affect the main strategic decision related to internationalization entry mode? To what extent does the managerial cognitive reasoning affect the timing of internationalization and foreign market selection? Could this approach be fruitfully included in extant theories to explain all the internationalization patterns observed?

First, the authors will summarize the main mechanisms explaining the managerial internationalization decision-making process in SMEs. Subsequently, the authors will provide testable propositions on the micro-foundations of the process of internationalization of SMEs and, specifically, will argue why entrepreneurial cognition moderates the relationship between the host-market environment and internationalization decisions. After that, the authors will discuss the implications these propositions have on extant theories of internationalization. Finally, the chapter will end with concluding remarks about the contributions for theory and practice and proposal of future research avenues in the field of cognitive international entrepreneurship and decision-making.

Theoretical Framework and Formulation of Propositions

So far, extant theories addressed the internationalization strategic decisions at the firm level of analysis, with the focus on multinational companies, while the managers' individual reasoning within small ventures and SMEs from a cognitive perspective is yet to be explored. In this section, the authors provide

the background for the expected predictions and build propositions based on the main theories in the fields of the psychology of decision-making, entrepreneurial cognition, and international business.

As noted, most of the research has been conducted on industry and firm levels of analysis, while few studies have explicitly included the managerial cognition in international business. As a result of the literature review, the authors have identified four critical issues (see table 1): (1) the characteristics of the internationalization pattern, (2) the perception of host environment, (3) the way each approach considers the decision-maker, and (4) the underlying assumption regarding the cognitive perspective of the decision-maker.

Table 1. Literature review intersection

Issues	Uppsala Model[1,2,3]	International New Ventures [4,5] and Born Globals [6,7,8,9]
Internationalization features	Mainly traditional manufacturing industries Stepwise gradual approach Incremental steps First exploitation of domestic market and later international markets Primary focus on close cultural markets	Mainly Hi-tech and knowledge-intensive services (global) industries Rapid and accelerated approach Do not necessarily follow a stepwise approach Simultaneous exploitation of both domestic and foreign markets Primary focus on the international market regardless of cultural distance (global industry)
Decision-maker perception of the host environment [10,11,12,13,14,15,16,17,18,19,20,21,22,23]	Lack of host market knowledge High host market uncertainty High liabilities of foreignness and outsidership Incomplete information about the host market	Acceptable uncertainty Acceptable risk Forced by industry time pressure No need for complete host market information
Features of decision-maker[24,25,26,27,28,29,30,31,32,33,34,35,35,36,37,38]	Control seeker Stepwise High-risk aversion Avoids complex decisions Slower decision making Lack of or only marginal international experience	Risk Taker Perceives more opportunities than threats Accepts complex decisions Relies on hybrid structures (e.g. close personal relationship, joint ventures) Faster learner Possesses international experience Relies on obtained international skills prior to the birth of the firm (personal networking, international contacts, and experience from former occupation, education)
Cognitive perspective of the decision-maker[39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,53]	Conscious Rational-Logical Calculated	Sometimes non-rational Intuitive expertise Guided by emotions Holistic

Notes: 1. Johanson and Vahlne (1977); 2. Johanson and Vahlne (2009); 3. Oviatt and McDougall (1994); 4. Oviatt and McDougall (1999); 5. Madsen and Servais (1997); 6. Knight and Cavusgil (2004); 7. Knight and Liesch (2016); 8. Rialp et al. (2005); 9. Hashai and Almor (2004); 10. Liesch et al. (2011); 11. Harveston et al (2000); 12. Acedo and Florin (2006); 13. Acedo and Galán (2011); 14. Acedo and Jones (2007); 15. Ahi et al. (2017); 16. Francioni et al. (2015); 17. Figueira-de-Lemos et al.(2011); 18. Maitland and Sammartino (2015a); 19. Maitland and Sammartino (2015b); 20. Zahra et al. (2005); 21. Halikias and Panayotopoulou (2003); 22. Armstrong et al. (2012); 23. Gavetti (2012); 24. Mintzberg et al. (1976); 25. Dijksterhuis et al. (2006); 26. Simon (1955); 27. Simon (1987); 28. Nadkarni et al. (2011); 29. Fatehi and Ghadar (2014); 30. Cesinger et al. (2012); 31. Sommer (2010); 32. Sadler-Smith (2016); 33. Kickul et al. (2009); 34. Hambrick and Mason (1984); 35. Baron and Ward (2004); 36. Chaston and Sadler-Smith (2012); 37. Mitchell et al (2002); 39. Narayanan et al. (2011); 40. Allinson et al. (2000); 41. Evans and Stanovich (2013); 42. Gallén(1997); 43. Kahneman and Tversky (1979); 44. Kahneman (2003); 44. Evans (2008); 45. Dutta and Thornhill (2008); 46. Epstein (1994); 47. Kahneman and Frederick (2002); 48. Strack and Deutsch (2004); 49. Healey and Hodgkinson (2014); 50. Salas et al. (2010); 51. Fellows (2004); 52. Akinci and Sadler-Smith (2012); 53. Kozhevnikov (2007);

International Business Decisions and Environmental Uncertainty

When any SME makes the decision to internationalize, it has to choose the combination of the following factors: *when,* i.e. the organizational timing, the moment within the organization's lifespan; the host market location; the scope and breadth of internationalization, i.e. the combination of the extent to what each international activity will be performed in each host market; and the entry mode (Zucchella et al., 2007; Morschett et al., 2010; Maitland and Sammartino, 2015a; Schellenberg et al., 2018). Accordingly, the ability to internationalize following a certain pattern –i.e. sequential and gradual, early or accelerated– represents a function of the firm's choice of the right timing, the right location and the right entry mode (Autio et al., 2000; McDougall and Oviatt, 2000). The common, element among these issues is how the main decision-maker in small ventures (SVs), i.e. the owner-manager-entrepreneur, makes that strategic decision regarding the venture's internationalization. This is increasingly challenging for the manager and firm since it has been done under the circumstances of increased complexity, risk, and uncertainty, as well as should be done with several limitations in the amount and quality of available information when this is the first entry decision and both, the manager and the venture, lack international experience.

Several literature reviews have emphasized the notable differences in the strategic decisions of SMEs compared to larger firms (Morschett et al., 2010; Laufs and Schwens, 2014; Bruneel and De Cock, 2016). First, SMEs tend to prefer cooperative, entry modes due to their constraints in resources. Since more committed modes entail a higher level of investment thus, the economic risk is higher and the payback period is longer. In this situation, the SV's strategic response is to emphasize flexibility: they tend to choose modes of the low level of investment that, in the case of low performance, enable an easy exit without compromising the entire entrepreneurial project. This is to say that SVs' managers will tend to emphasize risk averseness in the choice of entry modes and foreign markets. For SVs, economic issues such as scale economies are not as relevant as for larger firms: its constraints in resources lead them to the small size in investments. This would lead SVs to select a gradual process of internationalization following the Uppsala-Model: a sequential approach to international entry modes and closer foreign markets and, even they may get stuck in non-equity modes in light of the lack of resources. However, some of the SVs' managers may show a special entrepreneurial orientation. The SV's flexibility and the fact that the entrepreneur is the manager-owner enable the firm to have a quick response to business opportunities. In light of the drivers of the acceleration of internationalization (globalization, fierce competition in domestic markets…), many SVs decide to go international the sooner, the better. This is especially true in global industries, in industries in which the internal domestic market is limited and when the venture chooses to follow niche strategies, i.e. a specialization in a number of activities for certain market segments (Hennart, 2014; Zucchella et al., 2007). This type of SVs needs to run quickly to survive. In their attempt for shortening the payback period, these firms try to enlarge the market since the very early beginning, which leads them to early and accelerated modes of internationalization, following the tenets of INV and BG theory of internationalization. Under this approach, firms do not necessarily follow a gradual process. They simply select a business model based on the requirements of the global industry where they compete and the strategy they chose. That business model leads them to choose a certain entry mode even in distant markets under high committed modes, which will emphasize the seizing on the business opportunities the entrepreneur has previously detected. In these cases, remaining as a purely domestic firm entails a riskier choice than going international early (Puig et al., 2014, 2018). Accordingly, the observed patterns of internationalization a venture may follow range from the

internationalization process model (essentially, the Uppsala model) to early and/or accelerated modes such as INV and BG.

Second, SMEs are more affected by environmental changes than larger firms are due to their resource constraints: they have fewer resources of any type available to respond to strategic changes in the global and competitive levels of the environment. This adds more risk and uncertainty to the decision to internationalize. They cannot decrease the level of risk they incur by means of achieving further knowledge of foreign markets because they can only allocate a lesser amount of resources to that. Furthermore, because of that, they are less aware of potential variables that may matter, which entails increased levels of uncertainty, of not knowing what they do not know and should know. Consequently, SMEs are more prone to mistakes and misalignments with what the normative theory predicts in their process of internationalization decision making.

Third, the owner's personal values, attitudes, needs, fears, and objectives are inseparable from the decision in SMEs because strategic decision making in SMEs often resides within the owner (Child and Hsieh, 2014; Jansen et al. 2011). This limits the number of options available to SMEs in their internationalization decision making the process to just those battery of alternatives the owner considers as feasible, without a detailed analysis. Yet the issue seems to be all about how these decision-makers' perceive the inextricable risk and uncertainty around the decision of internationalization.

According to the behavioral strategy perspective, the manager's mental representation of business opportunities has to do with how they perceive and interpret environmental stimuli (Gavetti, 2012). According to the Uppsala model and from the decision-maker perspective, the critical factor is how firms address the perceived environmental uncertainty and risks associated to each strategic option, which is dependent upon the firm's knowledge of the market and the entry mode (Johanson and Vahlne, 1977; 2009). Figueira-de-Lemos et al. (2011) mathematically developed the risk and uncertainty expressions within the framework of the Uppsala model. They argue that uncertainty and risk are the two faces of the same coin relative to international commitment: more commitment entails increased levels of risks in the short-term with the aim of decreasing uncertainty later by gaining more profound knowledge of the host market via experiential learning. Furthermore, Eduardsen and Marinova (2016) addressed the risk and uncertainty as for the internationalization factor at managerial level of analysis and identified risk as a significant constraint in the internationalization decision making process. According to these authors, the importance of the decision maker's perception of risk played a crucial role in explaining the effects of uncertainty and risk, and it was mainly informed by managerial international experience. Building upon these findings, the managerial international experience affects the perception of internationalization risk and uncertainty. Decision makers without international experience tend first to gather knowledge from the domestic market since it offers the lowest level of environmental uncertainty –lower levels of the unknown, they already are aware of which factors are relevant in the market– and thus the risks related to a new market can be better inferred by extrapolation. However, once the firm has exploited the domestic market, then the international market expansion is a necessary step if the firm wants to continue growing. The normative approach of the Uppsala model justifies the idea that incremental internationalization is a *more rational* –less risky– choice since it enables the decision maker to lower the perceived, subjective uncertainty and risk up to an acceptable level. This *rational* pattern tries to maximize the experiential knowledge of the domestic market by applying the same rules and behavioral patterns to countries that the managers assimilate as culturally and psychologically similar, regardless the physical distance to host markets.

Studies based on decision-making in internationalization have tended to adopt an *'objective, rational'* decision-maker perspective, assuming that everyone behaves following rational mandates. Consequently, in these situations, the liabilities of foreignness and of outsidership are the main barriers that firms should overcome in their international entries.

According to the non-gradualist approach within international entrepreneurship, the decision-maker does not always choose the lowest cost location for each activity and even firms may follow a different logic: exploiting international markets without the need of first exploiting the domestic markets (Oviatt and McDougall, 1994; 1999). Adopting an accelerated or early internationalization patterns implies a more entrepreneurial attitude, more inclined to accept what most would qualify as high levels of perceived risk (Cesinger et al., 2012). The majority of the research on this issue has been conducted in the high-velocity industries qualified as global in scopes, such as high-technology and knowledge-intensive services (Rialp et al., 2005). SMEs operating in high-velocity industries that are global in scope try to adjust their capabilities and limited resources to the global industry in order to achieve a relevant degree of internationalization rather rapidly (Harveston et al., 2000; Knight and Cavusgil, 2004; Fatehi and Ghadar, 2014). An additional argument is that products of firms competing in high-tech and knowledge-intensive services are subject to a high asset specificity that leads firms to high-control entry modes (Bradley and Gannon, 2000; Bruneel and De Cock, 2016). However, when demand uncertainty in the host market is high, these SMEs will tend to choose low-control modes (Bradley and Gannon, 2000). Consequently, the perceived uncertainty-risk has a higher impact on the pattern of internationalization than asset specificity and industry features.

Oviatt and McDougall (1994, 1999) emphasized extensively that the entrepreneurial orientation is the main characteristic of these firms' managers. A higher entrepreneurial orientation, as a typical feature of entrepreneurs, is frequently linked to a higher predisposition to initiative and achievement risk-taking (Sadler-Smith, 2016). Furthermore, Busenitz and Barney (1997) found that entrepreneurs are willing to accept higher thresholds of risk than the general population of managers since the former relies heavily on the experiential knowledge of business intuition and exhibit higher levels of overconfidence. Therefore, decision-makers in INVs and BGs usually accept some level of affordable losses when going international by following riskier patterns than those following the Uppsala model mandates. Even the decision-maker of INVs exhibits a relevant expertise in the industry and/or international activities (Oviatt and McDougall, 1994; 1999; Rialp et al., 2005). That higher level of overconfidence among INV's entrepreneurs leads them to perceive there are more opportunities than threats (Krueger and Dickson, 1994). Therefore, these managers relativize the perceived uncertainty and risks in their international business decisions. In fact, in their experimental study Buckley et al. (2007) showed that: (a) there is a great heterogeneity among choices made by managers in terms of foreign direct investments (FDI); (b) they are less likely to make investments abroad when political uncertainty is high, or costs associated with the market are high; and (c) managers with less FDI experience are more risk-averse. Consequently, experiential knowledge is crucial to understand strategic choices in internationalization under risky and uncertain conditions. Furthermore, they concluded that when managers were following a staged logic, then they split investment into smaller parts with the intention to increase it gradually in subsequent stages. Since experiential knowledge is a relevant part of internationalization theory, it then seems plausible that heterogeneity in patterns of internationalization is the result of an idiosyncratic combination of the perceived host-environment uncertainty, industry, firm and managerial characteristics. Accordingly, the authors next revise what is currently known from the viewpoint of managerial cognition.

Dual-Process Theory Applied to Internationalization Decision Making

According to cognitive science, perception antecedes information analysis and our brain may bias the representation of reality based on experiences (Kahneman, 2003). Decisions are often a function of the experience and strongly depend on the past behavior of the entrepreneur (path-dependence), which is also part of the international experience construct as Buckley et al. (2007) showed in their experimental study. Since internationalization has been described as a process of gaining experiential-based knowledge, it seems that the cognitive approach will help understand the three-stage process of decision-making as summarized by Fellows (2004): options, evaluation, and choice.

The Dual-Process Theory approach of how individuals process information to make a final decision entails three interrelated processes, namely perception, the immediate response of System-X and the deliberative analysis of System-C (Kahneman, 2003). Entrepreneurs with well-trained and high levels of both cognitive systems (i.e. System-X and System-C) will have a more accurate representation of the environment and will be less exposed to biases stemming from a wrong interpretation their cognitive systems may make. According to main authors in this field (Kahneman, 2003; Evans, 2008; Evans and Stanovich, 2013), System-X is effortless and unconscious and follows perception immediately by providing quick impressions based on experience, emotions, and feelings. However, System-X is consequently more prone to cognitive biases, due to that heavy reliance on experience, emotions, and feelings. System-C requires the use of cognitive resources by conscious deliberation. Since it bases its results on data and information analysis, it is commonly accepted that System-C is more rational and objective than System-X. Consequently, the latter is less subject to biases. According to Kahneman (2003) and Gonzalez (2005), an intermediate approach to decision-making includes heuristics, or "mental shortcuts", which happen because our brain tries to reach a solution by minimizing the use of cognitive resources. Adopting the Simon's (1957) limited capacity of the human cognitive capabilities to process information in a complex world, the decision-makers, in order to reach a strategic decision, adopt cognitive simplification tools such as heuristics, analogies, and single outcome calculations to soften environmental complexity (Mintzberg et al., 1998).

Therefore, the ability of the decision-makers to make sense of the environmental uncertainty and complexity is tied to their cognitive capabilities and the environmental representation they elaborate (Levy et al., 2007). The literature on this topic suggests that decision-makers cognitive capabilities influence actions through three sensemaking mechanisms, namely noticing, interpreting, and identifying appropriate actions (Nadkarni et al., 2011; Jiang et al., 2018). Specifically, the Dual-Process Theory suggests that human limitations influence perceptions (noticing), evaluations (interpreting) and decisions (identifying appropriate actions) about organizational problems and hence shape strategic choices and venture behavior (Evans, 2008), in what has been labeled as bounded rationality.

In SMEs, the entrepreneur-manager triggers strategic decisions (Halikias and Panayotopoulou, 2003; Bruneel and De Cock, 2016), which is affected by his/her perception of differences between domestic and host market conditions (Francioni et al., 2015; Armstrong et al., 2012).

Challenging the Uppsala model, recent literature positioned at the intersection of the psychological approach to decision-making and international business has shown that there is substantial heterogeneity in how managers make sense of the international business opportunities (e.g., Maitland and Sammartino, 2015a, 2015b). This can also explain the behavior of firms that certainly do not follow the traditional sequential and gradual pattern of the international process school (Hashai and Almor, 2004; Knight and

Liesch, 2016). Therefore, the ultimate explanation of the heterogeneous choices of internationalization seems to lie at the managerial level.

Researchers in international business (e.g., Acedo and Jones, 2007; Sommer, 2010) noted that the features of entrepreneurs in international business and cognitive systems are interpretive constituent part of the firm's internationalization decision-making process. From cognitive psychology findings, decision-makers frequently violate the rules of normative decision making by adopting the heuristics or "mental shortcuts" in order to optimize the indication of a subjective satisficing choice (Simon, 1955, 1987). This approach is adequate in the particular state characterized by a time limitation, scarcity of relevant information, or absence of a desirable solution such as internationalization decision making (Gigerenzer and Gaissmaier, 2010), which entails the usually bounded rationality of decision-makers in organizations. Cognitive systems are responsible for how individuals acquire, process, and organize internal and external information to obtain judgments in order to make a decision (c.f. in the integrated framework of Kozhevnikov, 2007). Consequently, decisions are made by the interaction of two intertwined cognitive systems when processing information and judging external stimuli, which finally shape the individual's decision and subsequent behavior –see Evans, 2008; for an extensive review see Salas et al., 2010; Powell et al., 2011; Hodgkinson and Healey, 2011; for a historical review of judgment in management see Akinci and Sadler-Smith, 2012.

Accordingly, there is a higher likelihood for the study of how internationalization decisions are made to benefit from the viewpoint of the combination of both processes, namely the firm's decision-making and cognition. To address this, the authors will next introduce propositions.

Propositions Development: A Behavioral Perspective of Internationalization

According to Kahneman and Klein (2009), an important condition for developing skilled cognitive systems is based on the validity of the environment and the availability of enough time to learn, in particular for the case of experiential reasoning (System-X). The environmental validity refers to whether the cues for the development of skilled cognition are clear and that environment offers sufficient opportunities and enough time to learn. The process of skill development is a long lasting process of acquiring knowledge, essentially from the experience. The ecological approach to the cognitive psychology of environmental representation posits that learning through evaluation and problem solving of trial and error is appropriate in practical and natural situations for decision makers to refine the decision making process (Gigerenzer and Gaissmaier, 2010). Furthermore, the ecological perspective states that potential biases will arise from the unsuitable confidence and heuristic when applied to wrong contexts (Klein, 1993, 2008): analytical decision strategies are more appropriate when there is a significant amount of data available, the problem is abstract as opposed to perceptual and there is a high need to show sufficient grounds for the choice. Conversely, this author found that experiential reasoning is particularly suitable for decisions involving time pressure under ambiguity if and only if the decision maker holds large experience in similar contexts and tasks. The mismatch occurs when the decision maker represents the new, unknown host environment as similar to the well-known domestic environment, which is a wicked representation between the two apparently similar but very distinct environments.

Following this perspective, decision-makers will tend to use expertise (acquired through experiential learning) to cope with ambiguity in situations when their information is low-structured and they perceive the potential of seizing on the international opportunity as a time stressor. The process can become more effective through System-X reasoning in decisions involving a high number of variables and when a

holistic view is more relevant than the attention to some details (Klein, 1998, 2008). In an experimental study on deliberation without attention, Dijksterhuis et al. (2006) showed that, when there is a huge number of attributes to be assessed, System-X is able to outperform System-C, while the latter is best when that number is low and the overall decision involves low levels of complexity.

The validity of the decision maker's environment is a necessary condition for the development of heuristics that deliver good results. The environment should be sufficiently stable and predictable, providing enough time for reaction and offering a valid number of experiential diversity (Shanteau, 1992; Klein, 1998). When environmental validity is low, it is classified as wicked and causes dysfunctional decision making (Hogarth, 2011). i.e. decisions that do not follow the expected normative theory of decision making and, therefore, may yield distorted outcomes. After sufficient training, experts can then effectively rely on the expertise and System-X reasoning. Yet they can switch to System-C reasoning when they recognize that the conditions in the environment became relatively unfamiliar or unknown (Korteling et al, 2018).

The validity of international business environment consists of the representation of the objective reality, a representation that can be valid or not depending on the managerial perception of the differences between home and potential host markets (Liesch et al., 2011). This means that the manager should perceive clear representative clues from a host market in order to be classified as highly valid. The perception of a certain validity does not diminish the objective level of uncertainty or risk of the host environment. Instead, it is the decision maker's representation of the host environment.

According to the perceived validity, the cognitive systems evaluate whether the business opportunities are favorable in that environment to develop a new activity (Sadler-Smith, 2016). This is to say that the level of environmental challenges, i.e. the manager's mental representation of threats, opportunities, and complexity, will affect the strategic internationalization choice of the SMEs in terms of internationalization speed, breadth, scope, location, and mode of entry. Consequently, the entrepreneur-manager should focus his/her efforts in developing the firm's capabilities required to compete successfully in the new context where it will operate –environment-strategy fit– (Harrington et al., 2010). Brouthers and colleagues (2008) noted that the managerial capability to establish the fit among the resources the firm possesses with respect to home and target markets when making international strategic decisions is critical for the achievement of superior internationalization performance. Yet managers need a reference to which they can compare the validity of the host market. Since the most well-known environment is the domestic market, managers will compare the differences in the perception of the validity –high versus low– of host and domestic markets. Essentially, they need to assess whether the hints in the new international market are clear enough and whether there is sufficient time to learn whether the actions implemented that follow the experiential reasoning mandates yielded positive results.

The perception of differences between domestic and host markets is the behavioral mechanism explaining this choice. In fact, Acedo and Florin (2006) found that the CEO's risk perception was the main determinant of the degree of internationalization in SMEs, which exceeded the impact the firm's characteristics have. If the SME's decision-maker perceives no big differences between both markets, then s/he will tend to replicate the existing business model in the new host market. This replication offers the less risky choice since SMEs have limitations in the availability of resources and capabilities to internationalize: they only have to make minor changes to adapt the product/service to the new international market. Conversely, if the decision-maker considers that differences are significant enough, then s/he will tend to minimize the potential impact of host market uncertainties and even may decide not to enter that market. If jointly considered, the latter mechanism will lead SMEs to an early internationalization

or accelerated patterns in highly valid host markets, while it will lead them to a slower and more gradual internationalization in low valid host markets. It is important to emphasize the idea that they are cognitive, subjective differences, which will be influenced by the validity in terms of psychic distance and based on perceptions of how the decision-makers' cognition shapes it mentally. After all, the subjective representation of the geographical and cultural distance plays a role in the overall estimation of uncertainty and risk (Eduardsen and Marinova, 2016). This explanation would clarify the psychic distance paradox, as for instance the case of Canadian firms going to the U.S. market and taking for granted it was a high validity environment (O'Grady and Lane, 1996): it is the perception-cognition, a subjective construction of reality, what really matters. This explanation is intended for an individual unit of analysis, for small rather large sized organizations. In small organizations, the decision is largely made by an individual, the owner-entrepreneur-manager. Thus, in the context of SMEs going international, our first proposition is:

P1: The perceived host environment validity will have an impact on the pattern of internationalization the small and medium-sized enterprises choose, so that:

P1a: Under the perception of high validity host environments, it is more likely that small and medium-sized enterprises choose accelerated or early patterns of internationalization.

P1b: Under the perception of low validity host environments, it is more likely that small and medium-sized enterprises choose a traditional (gradual and slower) pattern of internationalization.

As noted by Dutta and Thornhill (2008), the entrepreneurs' perceptions of their environment are contingent on their cognitive systems. The extent to which a firm is motivated to internationalize is also dependent on the decision maker's perceptions about obstacles, challenges, barriers on one side and the potential opportunities and performance in the industry at the international level on the other side (Leonidou et al., 1998). The embedded managerial expertise has also an influence on the developing of options, evaluation, and initial choice, which will grade the external stimulus as a potential opportunity. This first step in organizational decision-making is about environmental perceptions and the way the decision-maker's cognitive systems process the derived outcome. Acedo and Florin (2006) noted that cognitive perception influences the risk perception, which is correlated with the internationalization commitment level and the pattern of internationalization selected. Fatehi and Ghadar (2014) found that the decision maker's mindset (i.e. cognitive capability) affects the path the firm pursues to reach a global presence. All these findings confirmed the notion that the entrepreneur-managers' cognition affects the internationalization patterns. Then, it is likely that cognition may play a moderation role to explain the relationship between the host market environment and the pattern of internationalization chosen by SMEs.

This is dependent on the entrepreneur's perception of external stimuli and his/her mental representation of how to seize international business opportunities its best. This may lead to skip some of the least committed modes at initial stages, to obviate some stages claimed by the Uppsala model, or even to follow a non-rational pattern such as choosing an early and accelerated pattern of internationalization in the absence of experiential knowledge. Internationalization is a knowledge-based process. Going international in a sequential and gradual manner to culturally/psychically close markets is less risky than going under higher committed modes to distant markets when the manager or the firm lack the required expertise regarding the international markets, regardless of the window of opportunity. Thus, it is a more rational choice. Similarly, adopting an early or accelerated pattern of internationalization without first exploiting the domestic market may seem also a non-rational choice, since this market is the most proximal in cultural and psychical terms. Yet, that distance is psychical in nature, which should

be understood as dependent on whether the decision-maker will be able to predict the potential future states of that market in an accurate manner. Even when lacking the required expertise, the entrepreneur may represent the riskier choice as a more viable option. Kahneman and Klein (2009) noted that long-term forecasting has a tendency to fail since large-scale developments are too complex to be forecasted. Therefore, the strategic decision to internationalize can be interpreted as medium-term decision and should be guided by the perception of valid clues from the market the entrepreneur chooses, which is fueled by the existence of a rich expertise.

The INV and BG phenomenon implies more entrepreneurially oriented decision-makers than the Uppsala model, and more entrepreneurial orientation entails a possible bias of overconfidence in the decision-maker ability to predict the firm's international performance. In fact, Kickul et al. (2009) showed that intuitive university students (i.e. those with a manifest preference for using his/her System-X) were more confident in their ability to recognize opportunities, but not in subsequent processes of the entrepreneurial attempt (assessment, evaluation, planning and organizing resources). Furthermore, students with a preference for System-C were more confident in these latter processes than intuitive ones. Accordingly, opportunity recognition seems to be more related to System-X than to System-C: the entrepreneur's reasoning tends to be predominantly intuitive when s/he searches for business opportunities (Olson, 1985). Then it is plausible that more entrepreneurially oriented decision-makers are overoptimistic in perceiving culturally-psychically distant host markets as a business opportunity. This can be related to the perception of a more valid environment. Since a high level of entrepreneurial orientation is a feature of INVs and BGs, then it is likely that those entrepreneurs perceive distant markets as highly valid in a higher extent than those following the Uppsala model logic.

Therefore, if the entrepreneur perceives a high validity in the host environment, s/he will naturally tend to support early or accelerated internationalization, which is riskier options, so the venture is forced to speed up its process of internationalization in terms of scope, breadth, and commitment. Conversely, in a situation of a low validity environmental perception, the natural tendency of risk and uncertainty avoidance will call for a gradual and less accelerated process of internationalization, which will lead to gradual and a more stepwise pattern of internationalization (Ahi et al., 2017). Acedo and Florin (2006) found that the CEO's cognitive reasoning played a role to explain the SME's degree of internationalization. According to these authors, when the decision maker perceives less risk in foreign activities, the firm can become more committed to these foreign operations. Accordingly, it seems plausible that individuals perceive the same environment differently depending on how they rely on their cognitive systems. In case that any predominance exists, then the normative behavior may be skipped, which finally will determine the internationalization pattern.

In the context of entrepreneurial cognition, System-C predominant individuals are conscious and rational in nature, so they will tend to follow a gradual approach to risky behavior –i.e. they will select rational choices– (Dutta and Thornhill, 2008). Rational decision-making is more time-consuming and requires extensive market research before entering into foreign markets. Consequently, the internationalization decision guided by System C predominant reasoning will affect the process by requiring in-depth analysis at each stage of the decision making in order to avoid any potential ambiguity. Conversely, individuals with a high reliance on her/his System-X are more likely to find business opportunities by observing environmental cues and accessing the expertise based "mental shortcuts" (Kickul et al. 2009). An increased level of reliance on System-X also helps lower the levels of perceived uncertainty (Dutta

and Thornhill, 2008), which is in line with the higher tolerance for ambiguity found by Acedo and Florin (2006). Following the argument of Sadler-Smith (2016) for entrepreneurship, the authors next provide the moderation hypotheses of decision-maker cognitive systems on the relationship between environmental perception and the choice of the pattern of internationalization as follows:

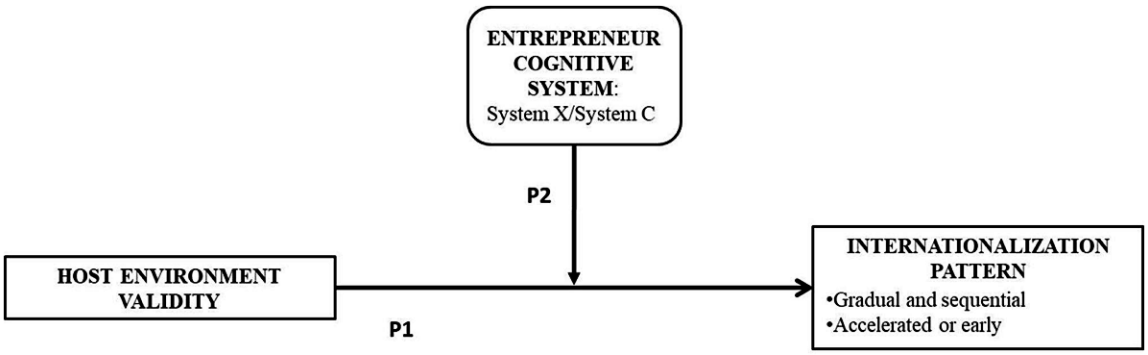
P2: The decision-maker's cognitive systems moderate the relation between the host environment validity and the small and medium enterprise choice of internationalization pattern, so that:

P2a: In perceived low-validity host-environments, the decision-maker holding a predominance of System-X will boost accelerated or early patterns of internationalization while will soften gradual, slower modes of internationalization.

P2b: In perceived high-validity host-environments, the decision-maker holding a predominance of System-C will soften accelerated or early patterns of internationalization and will boost gradual, slower modes of internationalization.

Building on these propositions (see Figure 1) the decision-maker's cognitive system predominance plays a role in interpreting the (objective) reality and SMEs internationalization patterns. Although each of these two propositions could be split in another two, it is required that both conditions are met in order to obtain a moderation. This is to say that in high validity environments, it makes sense to perform high committed modes early or in an accelerated manner since there are clear clues and time to learn from experiential knowledge. However, in those environments, the decision-makers holding a predominance of his/her System-C will call for caution and will avoid high committed modes, which entail inherently higher economic risks (higher level of investments). On the other hand, in low validity environments, it makes no sense to follow nongradual or sequential approaches to internationalization, since neither does the environment offer clear clues nor is there time to learn from expertise. The environment is inadequate to learn from experiential knowledge. However, the decision-makers holding predominant levels of System-X will tend to override that and will tend to follow quick and even non-sequential modes of internationalization in those environments. Furthermore, it is quite likely that System-X decision-makers tend to consider any new environment as highly valid, while System-C ones tend to contemplate any new environment as unremarkably valid. In both cases, the decision-maker's cognitive predominance will override the expected rational behavior.

Figure 1. Schematic representation of propositions



DISCUSSION

Decision-making in the internationalization of SMEs often comprises an individual making discrete choices and involves complex judgments that have consequences for the organization. Theoretically, strategic opportunities arise in the entrepreneur's mind when s/he outlines a representation of the business environment differently as current competitors do, or at least in a way s/he can exploit the business opportunity. However, the overall loading complexity of these processes often affects the decision maker capability to timely perceive and capture the international opportunity. In this view, managers tend to use simple heuristics in situations featured as complex, uncertain and time-limited (Simon, 1955). This approach may produce quite satisficing acceptable outcomes if they are guided by the expertise of the decision maker, but decision errors may occur when relevant information is ignored or inappropriately weighted and when irrelevant information interferes (Kahneman, 2003; Evans, 2008). The possibility of making wrong strategic decisions is higher when the fast reaction to international opportunities is required and clues coming from the host environment are unclear or ambiguous (Hogarth, 2014).

Under this scenario, the cognitive loading performance is based on low-effort heuristic processes. Therefore, in complex, uncertain or unfamiliar situations without enough time available, deliberate processes may monitor and revise the output of the (default) heuristic processing type causing the occurrence of decision making biases (Evans,1989; Kahneman, 2003). Accordingly, the dysfunctional decision making occurs in situations when deliberate processing either (1) fails to successfully identify the bias or (2) fails to override the biased outcome (Kahneman, 2003). The slower deliberate processes, however, rely on time and on an overall evaluation process (Evans and Stanovich, 2013). Chandra (2017) noted that decision-makers use simple patterns associated with reaction to the international opportunities immediately at the beginning of the process. Furthermore, this author noted that entrepreneurs indeed shifted to more step-by-step analysis over time, based on expected economic outcomes of internationalization. This author's finding is in line with our proposed framework.

According to Acedo and Florin's (2006) perspective of cognition in internationalization, decisions are dependent on the understanding of how entrepreneurs perceive internationalization opportunities. Under the traditional internationalization process school, the decision-maker's perception plays a relevant role in evaluating uncertainty and risks, which is dependent upon his/her ability to predict outcomes based on his/her extant knowledge of certain host market (Johanson and Vahlne, 1977). Decisions are quite often a function of the experience and strongly depend on the past behavior of the entrepreneur (path-dependence), which acts as a feedback looping. This is exactly experiential-based learning. However, perception followed by System-X (expertise-based thinking) may bias the understanding of reality (Kahneman, 2003). Therefore, entrepreneurs with well-trained and high levels of both cognitive reasoning will have a more accurate representation of the environment and its challenges and will be less exposed to biases stemming from any cognitive system. Yet System-X casts caution to the wind since it overestimates the individual's capability to maintain the international behavior under control. On the other hand, System-C emphasizes caution and risk aversion. Consequently, the final choice the entrepreneur may make is strongly determined by how s/he combines both cognitive systems following the perception of the environmental stimuli.

The internationalization decision-making parallels the psychological process: managers are to recognize what the strategic problem is in order to generate a battery of options and choose the one that yields the highest *satisfactory* level of results (see Figure 2). The authors added the emphasis following the Simon's (1987) arguments of bounded rationality choice, which are suboptimal although perceived

as the best acceptable solution by the decision-maker in light of what is known. This is dependent on his/her perception and how his/her cognitive systems represent the stimuli as an opportunity or a threat. Sadler-Smith (2016) proposed an explicit model in which intuition (linked to System-X) affects the opportunity recognition and evaluation, while System-C intervenes after that in order to choose a final option. While theoretically valid, this framework assumes that all the entrepreneurs would act in the same manner. However, it is commonly accepted that some managers may rely more on his/her intuition or on his/her analytic system when making decisions (see Acedo and Florin, 2006, Acedo and Galán, 2011).

Internationalization strategic decisions are based on predictions the decision-makers do relative to future changes and states in the firm's environment, which is a tenet of the gradualist school of internationalization. The experience and the learning capability of the decision-maker nurture these predictions. Experience and experiential knowledge are crucial for the firm to deploy the required capabilities to advance to more committed foreign operation modes. In other words, the firm requires a period of adaptation, in particular in its first attempt. After the decision to internationalize is made, during this first stage, emotions govern the consideration of first shortlists of strategic options. Among these factors, Puig and colleagues (2014) suggested two big motives: a reactive decision to the strategic problem of the stagnant domestic market, and a proactive decision to seize on firm-specific advantages in the domestic market to continue the firm expansion internationally. The options available in this stage are essentially relative to where (host market), how (mode of entry, level of commitment of resources with international markets) and when (time to internationalize). International business literature has emphasized the role that psychic distance plays in the selection of host markets (Johanson and Vahlne, 1977; Tihanyi et al, 2005; Maitland and Sammartino, 2015b; Beugelsdijk et al,2018). So, System-X initiates the selection of potential host markets (those that the manager is able to retrieve instantly influenced by his/her expertise and feelings). The initial list is based on the subjective managerial representation of psychic and cultural distance among other factors. Then System-C, which is analytic and rule-based, evaluates the list of options regarding the host market location. The rational reasoning takes into accounts potential liabilities and addresses the initial host market list created by System X reasoning. On the other hand, international entrepreneurship recognizes the manager's and the firm's entrepreneurial orientation as the main trigger of non-gradual internationalization patterns, namely INVs or BGs patterns. Even in these cases, the entrepreneur's perception and reasoning will determine the choice of the firm when it comes to internationalization decisions. Our framework reconciles both approaches to internationalization, which are actually compatibles. Yet no explanation has been provided so far to the question of why certain firms, *ceteris paribus,* follow one or another pattern.

While making the internationalization decision, the important strategic choice is the allocation of SME's capacity from domestic to the foreign market. Fan and Phan (2007) among others noted that the size and growth of the domestic market plays a role in the internationalization process of decisions making. According to them, large domestic markets increase cautiousness of the decision makers to initiate the internationalization due to possible losses of market share in the domestic market. These authors found that internationalization earliness is not evident among those firms because of the increased competitiveness of foreign markets and the cultural differences between host and home environments. This suggests that the size of the domestic market, firm allocation from the domestic market to foreign, cultural differences between the markets are relevant to their internationalization decisions (Reuber, 2018). However, there still are different behaviors among those cases. Our framework could provide a theoretical explanation for any type of choice: the combination of a difference among the perception

of environmental validity along with the usual explanatory variables (size and growth of the domestic market, cultural differences, motives…).

Furthermore, in investigating the relationship between the business environments and internationalization outcomes under limited resources available that SMEs face. Maekelburger, Schwens, and Kabst (2012) raised the attention to entry mode decisions. From a perspective of transaction cost economics, they proved that the essential asset availability enhances equity-based entry modes. Therefore, SMEs tend to choose less committed modes of entry because of risk averseness coupled with restrictions of resources. Their study shows that the relationship between firm asset, foreign investment capability and an equity entry mode is affected by the managerial experience, the host-country networks, and by host-country potential firms to imitate, violate the property rights protection, and cultural proximity. They conclude that managers are less sensitive to expropriation hazards when these potential threats are present. Yet the managerial perception of potential threats plays a relevant role in this equation. Specifically, the entry mode research has been investigated in the international business to a wide extent. Entry mode represents the forms of operations that firms employ to enter into foreign markets (Hill et al. 1990; Brouthers and Hennart 2007). The question of optimal entry mode is addressed in the meta-analysis of Zhao and colleagues (2017). They found that transaction cost economics (TCE) is largely the theory that obtains the best empirical results to explain why higher committed modes offer the best performance. This is based on the TCE's tenet of knowledge protection and exploitation, i.e. maintaining the control over this enables the host-market firm to perform its best. Acknowledging the framework of transaction cost economics, the perception of environmental validity can be linked to potential safeguards the firm may try to impose when going international since maintaining the control of learning from experiential knowledge is critical. Experiential learning can only be trusted if the environment is highly valid, which finally enables high committed entry modes in these environments. The environment already offers enough clear clues and there is enough time to learn from experience, so the firm can replicate the business model based on the knowledge in similar environments in the past –including the domestic market–, and there is no need to join a local partner. On the other hand, in unremarkably valid environments, the only reason for highly committed modes is to speed up the process of understanding this type of environment so, after a time, it may be considered as highly valid. Since the environment offers no ways to learn from experience, it requires low committed modes and the participation of a local partner. Yet it needs strong supervisory controls on the main asset: knowledge of how the market works, so parent firm will try to impose safeguards to maintain this under control. However, it is likely that this behavior is different from what was expected. The ultimate explanation for observed anomalies in the internationalization decision making remains disguised. Accordingly, even in these cases, the decision-maker's cognitive systems will yield an accurate prediction, depending on his/her reliance on System-C or System-X, which will slow-down or speed-up the internationalization of the firm.

Following Casillas and Moreno-Menéndez's (2014) study, the impact of previous market entries on succeeding foreign market entries further support the effects of expertise on the speed of internationalization. System X reasoning will accelerate the decision-maker's process of reaching the final decision, which will affect the overall internationalization speed. This process occurs if the shortlist is satisfactory with the goals, so the stopping rule applies and the individual advances to the next stage: an evaluation and a final choice. Otherwise, his/her System-C will complete the list deliberatively. However, individuals that rely heavily on System-X may skip this stage and start evaluating directly the shortlist his/her

System-X yielded, even by trying to justify the only option emanated from the System-X (hindsight). According to Kahneman (2003), this happens because our brain is trained to optimize the use of cognitive resources, so an intuitive manager may feel satisfied with the first shortlist, bearing in mind that System-X is more capable to handle complex decisions in a holistic view. Yet its outcome is only trustable if the context where the manager learned this behavior is valid. Meanwhile, managers with a strong reliance on System-C will feel a higher need to maintain the behavior under control (Acedo and Galán, 2011). This will entail the need for including more options analytically in the first stage and prolong the internationalization decision making process by evaluating a certain number of options until a decision is reached.

Although the evaluation appears to be a purely deliberative and analytic process, it is not. Moreover, the quality of the decision making does not necessarily require the normative standards, although it can be enhanced by them. In international entrepreneurship, managers have developed several heuristics, or "mental shortcuts", to be able to deal with complex decisions such as internationalization. They can develop evaluative matrices to assess host-markets according to variables and weights. Yet once again, System-X intervenes: weights of each item are strongly based on emotions, on expertise acquired in the past so, intuitively, managers weigh variables in light of his/her experience.

The motives of internationalization are also relevant. According to the tenets of prospect theory (Kahneman and Tversky, 1979), decision-makers tend to adopt a riskier behavior to avoid potential losses than to seize on potential gains. If the entrepreneur decides to go international because of the stagnant domestic market, then the decision will preponderantly include survival options. This will be a situation of avoiding potential loses following the prospect theory, which will entail the acceptance of riskier decisions than when internationalization is triggered to seize on potential gains. If the entrepreneur seeks to expand its activities internationally to seize on specific firm advantages, then the organization will tend to evaluate less risky options. This is a decision involving the quest for potential gains. Yet the two cognitive systems intervene in this decision and departures from the predicted behavior may occur depending upon the manager's cognitive system predominance when making internationalization decisions.

Overall, the SME's behavior depends strongly on the individual perspective. Departures from normative theories of INVs and the internationalization process school can be better explained if scholars include the behavioral perspective in the explanation.

CONCLUDING REMARKS, IMPLICATIONS, AND FUTURE RESEARCH

This conceptual study has tried to dig deeper into the behavioral micro-foundations of the process of decision-making in internationalization, seeking to explain the mental processes of entrepreneurs. The authors have provided arguments of how the entrepreneur's cognitive systems and the environmental validity may interact (see Table 2).

Following the perception of market validity differences between the host and domestic markets, the idiosyncratic entrepreneur's cognitive systems will intervene. It is the entrepreneur's interpretation of environmental differences in terms of whether s/he thinks s/he will be able to maintain the international behavior chosen under control based on the knowledge available *ex-ante*. While some may accept big differences and will perceive them as not so relevant, some others will think the differences are unac-

Figure 2. Entrepreneurial cognitive system influence on the three-stage model of internationalization decision-making: The case of SMEs

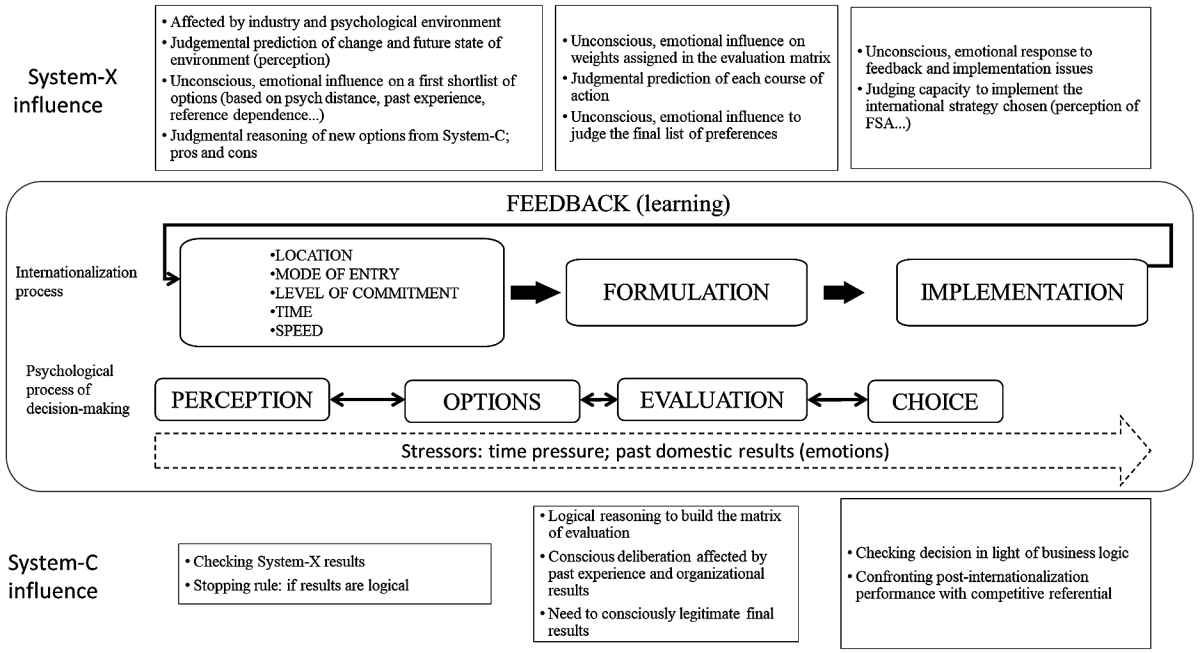


Table 2. Overview of interactive effect (moderation) of the entrepreneur's cognitive system and the perception of host environment validity

		Internationalization Pattern in Perceived…	
		High Validity Host Environment	**Low Validity Host Environment**
Entrepreneur's Cognitive Systems Predominance	**System X** > System C	Boosts Accelerated mode (+)	Softens Gradual mode (-)
	System X < **System C**	Softens Accelerated mode (-)	Boosts Gradual mode (+)

Source: own draft

ceptable, which is dependent upon the predominance of one cognitive system over the other. If the entrepreneur perceives a host-environment as highly valid, then s/he will tend to replicate the business model already applied in the domestic market. As far as this perception remains from market to market, then the entrepreneur will apply this analogy and no change in strategy is warranted. This helps explain why accelerated or early patterns of internationalization are more likely to happen in global industries: the average manager will tend to think that there are no substantial differences between the markets.

However, if an entrepreneur has an exacerbated System-C in such a context, then the result of his/her cognitive systems will yield a different prediction (i.e. increased foreign market and outsider liabilities) and will seek a process, which is characterized by gradualism and stages since s/he will hold a higher risk averseness and intolerance to ambiguity. Likewise, in the case of low validity environments, gradual

processes of internationalization are warranted since the entrepreneur will perceive the host environments as unpredictable and there is no way to gain knowledge from inexistent environmental cues. Or, at least, his/her cultural schemata will be unable to interpret such environmental stimuli, which a national can better do. Yet in that context, an exacerbated System-X may bias the entrepreneur's judgment and reach to the conclusion that the perils are acceptable since s/he thinks his/her intuitive expertise has already been in a similar situation. This kind of overconfidence will introduce a departure from the normative theory. Furthermore, taking into consideration the bounded rationality, the managerial objective for the SMEs internationalization outcome is more about satisficing than optimizing (Pitelis, 2007), which additionally explains the observed heterogeneity in strategic internationalization decision making.

Implications for Theory

The internationalization decision-making process is a complex process plenty of uncertainties and risks. For SMEs, although entrepreneurs are frequently labeled as risk-takers, they will have a tendency to simplify complexity and lower uncertainty to his/her own acceptable level. The mechanism explaining choices in SMEs internationalization is situated on the (mis)fit between the perception of environmental validity (comparison of domestic and host market) and how the entrepreneur-managers' cognitive systems govern the subsequent process of immediate, unconscious responses followed by deliberation and analysis. To become sure that the decision made fulfills the SMEs and environmental requirements, the manager-entrepreneur checks the results of both cognitive systems X and C (the outcomes of inner feelings and calculated estimations of future states). As explained from the psychological point of view, System-X provides always the first impression when making decisions, which allows them to reduce complexity and uncertainty by narrowing the number of available options. System-C is the main responsible for the later evaluation by analytically scrutinizing options, although System-X intervenes in weighing the critical variables. Correspondingly, the final decision has to meet the requirements of both. Stressors to make decisions –limited time and bounded knowledge– call for scholars to rethink and supplement the SME's internationalization with the decision-making process. The Dual-Process Theory has shown to be a fruitful approach: both cognitive systems intervene in the decision-making, while perception antecedes the intervention of both systems. The interaction between the entrepreneur's level of reliance on each cognitive system and the environmental validity will tend to make a certain decision. Our theoretical deduction is that the implementation of the Dual-Process Theory can help explain a significant portion of the observed heterogeneous behavior when it comes to internationalization patterns.

Implications for Practice

While considering the usual factors (e.g., industry, market, firm's psychic and cultural distances), entrepreneurs rarely consider stepping back and questioning why precisely they made certain decisions, or which factors have influenced their internationalization decision. Essentially, the authors expect that the entrepreneurs who are required to or who wish to follow an accelerated or early process of internationalization should have a higher tendency to rely on System-X. This is because this system outperforms the System-C in situations where the perceived level of complexity is high. However, they should be aware that if the host market is essentially different to the domestic market, then they might fall in the bias of representation: they translate experiences from the past in the domestic market to new host markets and this may not necessarily yield a valid result. Unmet clues in the foreign market occur

either because the environment is insufficiently predictable or because of the absence of opportunities to learn its rules. Kahneman and Klein (2009) already noted that decision-makers do not have a strong ability to differentiate and recognize correct intuitions from faulty ones. Eventually, even the highly skilled experienced decision makers do not appear to be skilled in acknowledging or recognizing certain patterns and regularities in the environment in order to identify the basis for their judgments. However, a manager with a developed System-X seems to be more appropriate to filter information from high-velocity industries such as high-tech industries where the INV and BG are most common. Although this has to be proved yet, this is because the learning process of System-X is faster, provided that there are enough clues for the learning process to happen. Since high-tech and knowledge-intensive services industries are considered as global in terms of competition, the national markets are likely to work in an extremely similar way, so environmental clues are likely to be similar.

Meanwhile, those entrepreneurs with a higher natural tendency to rely on System-C are more likely to be found and perform best in low-velocity industries, usually traditional manufacturing industries. Ventures in the traditional industries follow a slower gradual and sequential process, mainly because they tend to emphasize caution in their business models instead of speed or quick results (Hennart, 2014). In traditional manufacturing industries, the effect of scale economies and fixed costs are extremely relevant, which entails higher economic risks. In high-velocity industries, speed calls for obtaining quick returns from investments, which requires a quick decision-making process as not to lose the opportunity window. Meanwhile, in traditional manufacturing industries, local differences are usually present, and products require certain levels of adaptations to the local context, so these firms will tend to go international to those markets that require a low level of adaptation, such is the case of culturally proximal markets. This proximity should be then understood as *uses of the product/service in that market*.

The effects of the industry experience shape the cognitive reasoning predominance as a part of the experiential learning. Since an entrepreneur-manager with a predominance of System-C will always require further information on host market conditions, s/he is less likely to incur in cognitive biases or in the overconfidence that the initial knowledge of host market available is enough to make a decision. Therefore, this type of managers will investigate profoundly new host-markets, which is a time-consuming task slowing down the entire process of internationalization. Even in the case that a new host environment is similar to another host environment that the firm has entered previously, this manager will tend to devote resources to market exploration before making a decision, which slows down the entire process.

FUTURE RESEARCH

The proposed framework provides testable propositions for future research. Additionally, future empirical investigations should test whether the predominance of any cognitive system is more suitable for certain type of firms, industries, and environments and whether there is a linkage between that and post-internationalization performance. Furthermore, new research avenues towards the promising land of applied social cognition should be opened from international entrepreneurship, i.e. how scholars can investigate further the issues around perception and decision-making in internationalization. This should be made departing from the individual unit of analysis before escalating the theory to the socio-technic context of the firm and larger organizations such as multinationals. This will provide additional insights into how different combinations of cognitive systems in the group can yield the best results at every stage of the decision making process while avoiding the risk of biased decisions. Future developments

should investigate how to train decision-makers to shift from one cognitive system to the other in their decision-making processes, depending upon contextual factors around the decision –task dependence. The open question is whether there is an optimal combination of both cognitive systems along the entire process of internationalization decision-making, or whether one cognitive system is preferable over the other in each stage of that process.

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Chapter 18
Challenges of the Internationalization Strategy of a Technology-Based International New Venture

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ABSTRACT

The present study seeks to analyze the behavior of a technological start-up regarding its entry modes in foreign markets. It is based on the case study of a company in the field of 3D printing and takes into account the analysis of topics such as the internationalization of start-ups and modes of entry in foreign markets, considering several theories of internationalization. As the company analyzed is a start-up, the research is supported by the analysis of the characteristics present in the process of internationalization of small and medium-sized enterprises (SMEs). The study closes with the conclusion that this SME matches the profile of an International New Venture/Born Global (INV/BG), although the company takes advantage of the network-based theory and relationship orientation to enter international markets. The most used mode of entry by the company in international markets has been exporting activities.

DOI: 10.4018/978-1-5225-8479-7.ch018

INTRODUCTION

Internationalization is very important for SMEs, especially for technology-based ones seeking new markets to exploit their competitive advantages (Stanisauskaite & Kock, 2016). Internationalization has been traditionally analyzed from an incremental perspective as SMEs tend to be gradually involved in international markets through a series of evolutionary stages (Bell, McNaughton, & Young, 2001; Ribau, Moreira, & Raposo, 2015).

In a new reality, marked by the globalization of markets and technological innovation, the emergence of internationalized, more agile and flexible companies, are based on behaviors that go beyond those analyzed in the traditional internationalization models. With the pervasive effect of the globalization process, the internationalization of stat-ups has increased steadily and research has stressed the importance of the concept of INVs, as well as the need to understand the factors that influence the success of such companies (Oviatt & McDougall, 1994; Tanev, 2012). INVs represent a growing and important type of start-up. They are defined as business organizations that, from inception, seek to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries (Oviatt & McDougall, 1994; McDougall, Shane, & Oviatt, 1994).

Research conducted regarding rapid internationalization and INVs highlight the way companies start and grow by meeting customers' and international markets' needs (Oviatt & McDougall, 1999; Cavusgil & Knight, 2009). The literature provides clear evidence of rapid and dedicated internationalization of INVs and BGs (Bell et al., 2001), by adopting a global approach since their inception or up to their first three years (Danik & Kowalik, 2015). However, the literature on INVs is still scant (Ribau, Moreira, & Raposo, 2018a).

Based on the case study of a singular company in the field of 3D printing – for confidentiality reasons hereafter known as OMEGA – this chapter seeks to analyze the behavior of a technological start-up in what concerns to its process and mode of internationalization. It considers the theories of internationalization, as is the case of the traditional Uppsala model, network-based theory, relationship orientation and INVs, in order to understand the characteristics that define the type of company under study. Although this technology-based company, focused on 3D printing, has a strong technology orientation, it can be seen that the modes of entry in international markets have limited its external growth.

The analysis of this case study aims at exploring the behavior of this technology-based start-up, namely of the following typologies / theories: INVs/BGs; Uppsala model; network theory and relationship orientation, in what concerns its internationalization process. For that purpose, a qualitative methodology shall be applied, based on structured interviews as the method of primary data collection. The main contribution of this chapter stems from dealing with a real case situation of a technology-based firm that has internal competencies and seeks to internationalize its activities. As such, several internationalization theories are discussed on how properly they fit the internationalization process of the firm.

The rest of the chapter is structured as follows: the first section covers the literature review of the main types of firms that fall in the internationalization theories and modes of entry. The second section addresses recent topics on 3D printing. The third section presents the research method. The fourth section presents the case study. The fifth section discusses the findings. Section sixth presents the conclusions of the chapter.

LITERATURE REVIEW

Internationalization

The concept of internationalization has evolved over time (Ribau et al., 2015). It has been incorporating varied theoretical perspectives as well as several analytical influences. For example, Calof and Beamish (1995) define internationalization as the process of adapting business operations to the international business environment. There are several definitions that encompass different phenomena under study that involve spot and continuous export activities, cross-border collaboration, alliances, Greenfield investments, the establishment of subsidiaries, branches and joint ventures (Chetty & Campbell-Hunt, 2003), which are based on an outward perspective. Although the inward perspective is also important (Moreira, Ferreira, & Silva, 2018), this chapter deals only with the outward perspective.

Internationalization is seen as a key factor for growth and industrial competitiveness (UNCTAD, 2013). However, even if SMEs are becoming active players in global markets, outward internationalization is a risky process even for experienced large firms (Meyer & Gelbuda, 2006). If the internationalization process imposes several challenges to SMEs as a result of governmental, cultural and psychic differences among countries (Li & Guisinger 1991; Reardon, Erramilli, & Dsouza, 1996), SMEs need also to face the internal barriers, which are related to their business activities. According to Johanson and Vahlne (2009), the main challenges firms face during the internationalization process are the following ones: liability of outsidership, which is the lack of knowledge on the target market and its players, and the liability of foreignness, which is the psychic distance covering factors such as laws and language barriers. Although internationalization is understood as an uncertain activity in a broad, unknown and challenging contextual environment (Figueira-de-Lemos, Johanson & Vahlne, 2011), typical of a globalized economy, the decision not to internationalize is seen as a more risky decision (George, Wiklund, & Zahra, 2005) as firms that do not internationalize can lose competitiveness and rely excessively on a single and / or domestic market (Hilmersson, 2014).

Hilmersson (2014) understands internationalization as the set of activities of firms that seek to find and establish network positions in international markets in order to implement cross-border networked-based relationships (Johansson & Mattson, 1988). These networks play a key role in creating initial contacts, assessing experimental information, and increasing export capacity (Christensen, 2006).

Uppsala Model

Several authors have studied internationalization as a process that involves evolutionary, sequential steps in which firms move from occasional exporting activities to international production activities over time (Johanson & Wiedersheim-Paul, 1975; Johanson & Vahlne, 1977; Ribau et al., 2015). This behavioral model of internationalization, known as the Uppsala model, explains the internationalization process through the process of learning companies deploy in the context of internationalization, as well as the impact of this learning on its international performance (Forsgren, 2002). According to this model, as firms internalize knowledge gained in unfamiliar foreign markets, they are willing to move on to more resource encompassing stages of the outward international path (Johanson & Vahlne 1977; 1990).

According to the Uppsala model, entering new foreign markets is a process based on phases of gradual construction of knowledge, and uncertainty and risk reduction based, on the choice of certain nearby / familiar markets ((Rahman, Uddin, & Lodorfos, 2014; Ribau et al., 2015).

When they begin their internationalization process, firms are faced with different cultures and languages, opting to enter markets whose "psychic distance" is lower. For "psychic distance" is meant the set of factors that hinder the flow of information to and from a given market (Johanson & Vahlne, 1977). This distance refers to the set of social and economic aspects in a given market, such as language, education, culture, politics, business practices or differences related to industrial development (Rahman et al., 2014). Thus, culture presents one of the main barriers to internationalization, and this is one of the reasons why companies start their internationalization process in markets that have cultural similarities and that guarantee them a lower perception of risk and uncertainty (Rahman et al., 2014).

As market knowledge is considered tacit knowledge, the Uppsala model argues that the learning process should be carried out through active behavior with a greater focus on operations than in the collection and analysis of information (Forsgren, 2002). This type of approach, that involves a growing risk, enables companies not only to gather information but also to establish a close relationship with these foreign markets (Forsgren, 2002). In this way, companies that operate in certain markets, and develop activities that allow them to gather extensive knowledge and experience about them, will be better able to identify opportunities and threats (Johanson & Vahlne, 1977).

The Uppsala model presents a pattern of internationalization in which, on one hand, companies opt to invest in only one or few neighboring countries – instead of investing in several countries simultaneously – and, on the other hand, that these investments are carried out in a sequential and cautious way, based on the rationale that the acquisition of market knowledge leads to larger and subsequent investments, which, in turn, lead to the acquisition of more knowledge by reinforcing new investments in order to gradually reduce risk perception (Forsgren, 2002). In this way, companies opt to start establishing commercial relations with culturally closer countries, later on investing in markets with greater psychic distance (Johanson & Vahlne, 1990; Forsgren, 2002).

In general, the Uppsala model argues that the process of internationalization unfolds in an evolutionary way as a consequence of an increase in knowledge and commitment acquired through operations in foreign markets, and can be divided into four phases: exports; independent representatives (agents or distributors); establishment of a foreign sales subsidiary; and establishment of foreign production / manufacturing units (Ribau et al., 2015).

It should be noted that some studies criticize the Uppsala model for assuming a pattern of static behavior that is based on a slow internationalization process focused on steps that consider factors such as psychic distance and risk aversion in the choice of markets (Forsgren, 2002; Ribau et al., 2015). Based on this type of assumption, the model does not allow to predict different behaviors on the part of the companies, not explaining how and when the process of internationalization of companies begins, focusing only on the activities that take place after the initiation of this process (Oviatt & McDougall, 1999; Moen & Servais, 2002; Rhanman et al., 2014; Ribau et al., 2015).

Network-Based Theory

The Uppsala Model assumes that firms learn and increase their knowledge about foreign markets over time, primarily based on the acquisition of experience in markets that share socioeconomic similarities, and then increase their market expansion, and only in a final stage, expanding its business to more distant markets and assuming high-commitment entry modes (Oviatt & McDougall, 2005; Johanson & Kao, 2010).

Based on the changes of international markets, Johanson and Vahlne (2003) referred the importance of collecting information and knowledge (proposed on the initial model) by establishing networking relationships with customers and suppliers. This type of relationship of greater commitment may allow companies to identify business opportunities in foreign markets without the need to adopt the traditional incremental process (Johanson & Vahlne, 2003).

The network-based view of the firm (Håkansson, 1982; Håkansson & Johanson, 1984), based on a relational-based perspective among market players, has also been important in explaining how SMEs succeed in international markets.

This network-based perspective can be the result of an extension of the Uppsala model and seeks to analyze and understand industrial systems through three variables: (1) agents, as individuals, companies or groups; (2) activities; and (3) material, financial or intangible resources, such as knowledge (Ribau et al., 2015). In addition, the network-based internationalization model is based on three essential points: (1) the strength of the network links; (2) the network size; and (3) the overall network density (Oviatt & McDougall, 2005). Therefore, it is assumed that the development of closer and consolidated relations between companies and their stakeholders is carried out by investing in relationships based on high commitment and trust, i.e. those that follow a long-term perspective (Oviatt & McDougall, 2005).

Although network-based relationships extend to companies of various sizes, this type of approach is mainly focused on SMEs, since they have more limited resources, being dependent on other agents and, therefore, seek building relationships that allow them access to the resources they need, and internationalization is a way of ensuring the survival of these smaller companies (Johanson & Mattsson, 1988; Ribau et al., 2015).

This new networking model demonstrates that there is a close relationship between the internationalization of the firms and the relations it establishes with other international organizations (Johanson & Vahlne, 2009).

The intensive search for opportunities is a behavior that has emerged in the last decades. Companies with a sophisticated network of contacts are likely to look for opportunities in different ways from companies with limited experience that do not use the same network (Johanson & Bai, 2017).

One can argue that opportunities depend to a large extent on the type of network in which the company is embedded as well as on the intellectual capital of the company. Following the same line of thinking, several studies argue that the rapid international growth of a company can result from the level of networking relationships companies have, being this behavior more evident in the modes of entry in international markets of young and small companies whose resources are limited (Coviello & Munro, 1997). As such, strong international business relationships represent one of the most important characteristics to the success of global start-ups (Johanson & Kao, 2010).

In fact, when committing different stakeholders to networking relationships, companies can have access to cheaper resources, extended opportunities and specific knowledge, advantages that would not be available without the existence of a well-established network of contacts (Dubini & Aldrich, 1991; Witt, 2007).

In general, one can argue that the traditional perspective based on power and control between companies gave way to a strategy based on cooperative relationships that aim to access international business opportunities (Wright & Dana, 2003; Ribau et al., 2015).

It is clear that the existence of a well-established relational network can represent a strong competitive advantage in the process of internationalization of SMEs, supporting firms in the adoption of different behaviors from those initially proposed by the traditional Uppsala model – through the identification

of business opportunities, sometimes leading to cooperative strategies, as well as to access to resources that would not be available without this network (Johanson & Vahlne, 2003; Oviatt & McDougall, 2005; Lin & Chaney, 2007; Ribau et al., 2018a; 2018b).

Internationalization of Start-Ups

SMEs increasingly internationalize their activities (Coviello & McAuley, 1999; Ruzzier et al., 2006), expanding their exports to several target markets (Christensen, 2006). SMEs are unlikely to escape international competition even if they serve only the domestic market. Moreover, the small changes and limitations of domestic markets force early exports, when market deterioration occurs (Christensen, 2006).

There are three major dimensions about internationalization that should be taken account (Christensen, 2006):

- Time, which corresponds to the period from the beginning of the firm's foundation to the beginning of the firm's export activity. It is imperative that SMEs reduce the time between the establishment of the company and the beginning of the export activity (reduction of timelag). This issue is central to internationalization as time is decisive for the construction of internal and external resources in order to respond to the market;
- Internal resources: they adjust the firm's capacity to find, include and use external resources in favor of exports;
- External resources: the need to commit resources to support the expansion of exports, i.e. the acquisition of relevant information, since firms do not have the time, resources or experience to support the formal process of information construction.

On the other hand, there are several obstacles to internationalization of SMEs, among which the following stand out (Johanson & Vahlne, 2009; Li & Guisinger, 1991; OECD, 2009; Meyer & Gelbuda, 2006; Reardon, Erramilli, & Dsouza, 1996; Schweizer, 2012):

- Lack of top management commitment, which in turn leads to high rates of failure of export activities;
- Lack of planning or rational analysis of internationalization;
- Lack of governmental information;
- Passive marketing behavior or management not committed to international markets;
- Strong ties as companies can be heavily involved in local, regional and national activities; the reasons that foster these organizational habits can be difficult to change;
- Risk awareness and resistance to change.
- Shortage of working capital;
- Identifying foreign business opportunities;
- Limited information to locate/analyze markets;
- Inability to contact potential overseas customers;
- Obtaining reliable foreign representation;
- Lack of managerial time to deal with internationalization;
- Inadequate quantity of and/or untrained personnel for internationalization;
- Difficulty in matching competitors‘ prices;

- Lack of home government assistance/incentives;
- Excessive transportation costs;
- Liability of outsidership;
- Liability of foreignness.

It is also worth noticing that international experience is an important factor in the export activities of start-ups (Bloodgood, Sapienza, & Almeida, 1996; Reuber & Fischer, 1997; Stucki, 2015).

As start-ups do not have great experience and international credibility, the initial human capital and founders' skills are seen as crucial elements in the company's internationalization (Reuber & Fischer, 1997). As founders are the key decision makers (Stucki, 2015), they need to be able to discover, evaluate and exploit new business opportunities (Schweizer, 2012). However, during the process of internationalization they deal with high degrees of uncertainty and ambiguity (Acedo & Jones, 2007; Chandra, Styles, & Wilkinson, 2009).

Human capital is directly related to a company's ability to identify and exploit external market opportunities and to manage business operations (Reuber & Fischer, 1997). Consequently, the founders' human capital affects: the probability of start-ups receiving funding (Hsu, 2007); the survival of the company (Gimmon & Levie, 2010); and exerts a fundamental influence on growth (Colombo & Grilli, 2005). In short, human capital does not only affect the overall performance of the company, but is also crucial for the export activities of start-ups.

Although the founders may not have specific human capital at the foundation of the company, it can be acquired over time through (Gibbons & Waldman, 2004): learning; socializing with other stakeholders of the in social networks; improving sector specific knowledge; and acquiring knowledge relevant to the management of the company. In addition, as companies grow older, many of them also gain experience in exporting.

This evidence leads one to believe that creating a start-up requires knowledge in many different areas. Thus, it is imperative to have a clear understanding of the differences in language, culture, technology, logistics, and law between exchange partners in order to decide the best alternative to internationalize (Styles & Ambler, 1994; Verwaal & Donkers, 2002). At the same time, it requires a specific knowledge regarding finance, production or marketing management (Schweizer, 2012).

International New Ventures / Born Globals

BGs are companies that expand to international markets, taking advantage of both new global contextual conditions and new needs, based on rapid internationalization approaches (Ribau et al., 2015), which pinpoint the ineffectiveness of the traditional theories of internationalization. However, the research that has been developed so far does not seem to be enough to anchor a new consensual theory about the definition of new internationalization phenomena (Ribau et al., 2015).

In short, BGs can be characterized as business organizations that, from the outset, seek competitive advantages from the use of resources and the sale of products in several countries (Weerawardena et al., 2007; Covielo, 2015). On the other hand, INVs are companies that from the beginning seek to obtain competitive advantages, through the use of their internal resources, through international sales (Oviatt & McDougall, 1994). INVs arise through the exploration of entrepreneurial orientation, i.e. the propensity to take risks; proactive behavior; innovation and commercial aggressiveness (Coviello & Cox, 2006).

Over time, they create images based on the level of service they offer, which affects end consumers and the choice at the time of purchase.

In this chapter, despite some conceptual specificities that still set apart INVs and BGs, both typologies (INVs/BGs) are going to be used indistinctively.

INVs/BGs are companies that generally start as domestic institutions and internationalize as they grow and identify opportunities for expansion (Vanninen, Kuivalainen, & Ciravegna, 2017). As a rule, BGs present themselves as domestic companies that begin their internationalization by exporting products, only subsequently choosing to enter other geographical locations when they find more favorable conditions for their growth (Vanninen et al., 2017).

The main characteristics of INVs/BGs are the following ones (Ribau et al., 2015):

- Global perspective and aims from the beginning of activity;
- Managers with previous international experience;
- Access to international networks;
- Technology-based and highly specialized companies.

Modes of Entry in International Markets

The modes of entry in international markets are extremely important since they allow companies to ensure a greater proximity to the customer (Lu & Beamish, 2001).

Typologies of modes of entry in international markets are based on the degree of involvement in external markets, which in turn depend on the level of resources (investment) involved in external markets and on the degree of control over international operations (Grünig & Morschett, 2017; Moreira, 2004).

There are two different modes of market entry (Calabrese & Manello, 2018): exports, which involve production in the domestic market (direct export and indirect export), and a second type of entry mode that involves production abroad (production contract, licensing agreement, franchising agreement, technology transfer, service contracts, management contracts, strategic alliances, joint ventures and total ownership through direct foreign investment).

These two modes of entry involve different costs and benefits (Katsikeas, Leonidou, & Samiee, 2009). There are clearly important differences in these two modes of entry, since exporting products to the destination market / country involves fewer resources and risks than the second mode of entry where there is the possibility of transferring the firm's resources (technology, capital and human labor) to a foreign country. Equally important is the fact that the products are sold directly to the end customer or shipped to be produced and sold in the destination market.

Grünig and Morschett (2017) propose the following modes of entry in international markets: exports (indirect, direct and own exports); contractual modes (licensing out; management contracts; international outsourcing); and foreign direct investment (acquisitions; joint-ventures; strategic alliances; partially or 100% controlled subsidiaries).

Exports are the most basic form firms use to address international expansion (Salomon & Shaver, 2005). Indirect exports occur when the company does not develop particular efforts in terms of international marketing, being dependent on third parties to sell in international markets (Moreira, 2004; Grünig & Morschett, 2017).

Although export activities demand resources, they can be carried out to obtain resources, i.e. to find, commit, direct, coordinate and evaluate external resources for export (Christensen, 2006).

Larger export volumes allow firms to achieve economies of scale and scope and, consequently, increase: labor productivity; management efficiency; cost savings; and profitability. Other indirect benefits should consider learning and experience that involve and exploit tangible and intangible resources more broadly (Ramaswamy, 1992; Giachetti 2012).

Exporting activities can be divided into three distinct forms: direct, indirect and own exports.

Direct exporting occurs when the company sells to an importer from a foreign country (Simões & Esperança, 2013). Direct exports means that the company does not delegate any international marketing operation to third parties, using its own resources in the exploration of international markets.

Indirect exporting occurs when it involves the use of intermediaries, such as import-export agents, trading companies, sub-contractors and central purchasing centers of large distribution chains located in the country of origin (Simões & Esperança, 2013).

Clearly, indirect exporting require less resource involvement and less risk than direct exports (Grünig & Morschett, 2017), since they do not involve gathering information and establishing the distribution, communication, and pricing policies / strategies in international markets.

In short, indirect exports may be a good option for companies that occasionally sell products abroad and / or if international sales occur in countries where it is difficult to build specific knowledge (Grünig & Morschett, 2017).

There is also the own exporting activities that result from direct sales to the final customers in the country of destination, without intermediaries. In this case, the exporting company is responsible for the marketing and distribution of its products.

Licensing agreements involve a deal signed between at least two parties where one company concedes the other company the right to use certain knowledge and / or to exploit industrial property rights (trademarks, patents, designs or designs) against a certain payment, usually through royalties (Grünig & Morschett, 2017). On the other hand, franchising is a specific form of licensing in which a franchisor licenses franchisees for them to market or produce a product / service in a particular territory or country, according to the business model created by the franchisor (Grünig & Morschett, 2017). Finally, international outsourcing involves an agreement between an international company or one that intends to internationalize (contractor), and a company in the country of destination (subcontracted), which manufactures the products or components thereof.

Acquisitions involve the purchase of companies in the target markets and privileged access to their resources and their knowledge of customers and other stakeholders.

Joint ventures involve the participation of several companies in the capital of a business unit, in order to develop a productive and / or commercial activity, thus giving rise to the sharing of their assets, profits and business risk (Grünig & Morschett, 2017; Moreira, 2004). In turn, strategic alliances can be understood as a combination of two or more organizations to achieve common strategic objectives and encompass several situations of commercial relations between companies from different countries, often competing among them.

Relationship Orientation

Several studies suggest that internationalization is no longer just related to country specificities, but to specific business relations (Hånell, Nordman & Tolstoy, 2017). Following this logic, unlike distant relations mostly based on transactions, the most important business relationships of an international organization are based on strong long-term commitment strategies (Johanson & Mattson, 1988).

This situation is justified by the fact that long-term relations promote knowledge development that leads to change and provides organizational evolution (Johanson & Mattson, 1987). Therefore, business relationships have the potential to facilitate the learning process, which in turn allows companies to meet the needs and requirements of specific markets in constant change, enabling faster and more innovative responses to their clients' needs (Hånell et al., 2017).

Close long-term business relations between customers and suppliers are important as they drive internationalization decisions through collaborative business strategies, considering partners as part of the organizational strategy (Johanson & Vahlne, 2009). These types of relations develop through social processes of interactive and sequential sharing which results in gaining knowledge and building trust and commitment, enabling companies to achieve their goals (increased productivity, better and faster customer service, among others) (Johanson & Vahlne, 2009).

In brief, relationship orientation is a concept that seeks to determine how firms interrelate with each other, being this concept more specific than market or customer orientation as it considers high levels of trust, commitment and reciprocity (Carvalheira & Moreira, 2016; Moreira & Alves, 2016). Relationship orientation requires not only that firms cooperate closely with each other but also that they overcome situations of conflict in order to achieve common goals (Carvalheira & Moreira, 2016; Moreira & Alves, 2016).

3D PRINTING

Brief History of 3D Printing

Two different techniques can be used in the making of an object: subtractive technique, related to Computer Numerically Controlled (CNC) machining; and additive technique, referred to as Additive Manufacturing (AM) process (Gibson, Rosen, & Stucker, 2015).

AM technology, popularly known as 3D Printing, is nowadays used by makers around the world, but its beginning can be registered in the 1980s, when it was called Rapid Prototyping (RP) (Gaubatz, 1996). RP was conceived as a fast and economic method for prototyping the product development within a given industry.

Just like the industrial revolution, the assembly line, the advent of the Internet and the social networks phenomenon, 3D printing will "change the rules of the game". According to Wohlers (2015), the world-wide 3D printing market, which includes printers, services and printing systems, components, products and after-sales services, is estimated to have grown by 25.9% in 2014, and reached a total of $ 5.2 billion by the end of 2015, the sales volume of 3D printers representing $ 2.4 billion of that total market.

OMEGA is currently positioned in a sub-segment of this market, the Desktop 3D printing segment, defined at a retail price below 5000 € per unit. Sales growth in the Desktop segment grew 69.7% in 2015, reaching a total of 278,385 units, with a sales value of US $293.6 Million (Wohlers, 2015).

3D printers are becoming increasingly accessible and in the near future they will be easily found in any home, just as their two-dimensional counterparts are found today (Kietzmann, Pitt, & Berthon, 2015).

Compared to other manufacturing techniques, anyone can easily design through a 3D printer without having to master complex processes or require operational skills (Hu & Yin, 2014). With this, one just needs to draw the part on a computer, convert the process into a digital STL format and then send the

request to the 3D printer (Hu & Yin, 2014). It is expected that 3D printers will become increasingly popular just as regular as personal computers did in the past (Hu & Yin, 2014).

RESEARCH METHOD

The case study methodology, proposed by Yin (2004), is one of the ways to investigate a contemporary phenomenon within its real-life context, where the limits between the phenomenon and the context are not clearly defined. It is one of the most common research methods used in social sciences as it is particularly useful when one looks forward to understanding, exploring and describing events and complex contexts, in which diverse factors are simultaneously involved and in which researchers have a weak control over the real occurrences (Yin, 2004).

This case study is of an explorative nature as the knowledge base used is underdeveloped (Doherty and Alexander, 2004; Yin, 1994). It draws on the interpretive research tradition, as qualitative techniques and descriptive data was used.

The qualitative research design, provides a holistic yet focused means of data gathering, analysis, interpretation, and understanding that is particularly suited for research that investigates the ''why'' and ''how'' of management decision-making in organizations (de Massis & Kotlar, 2014). Moreover, this case study method is particularly useful, as a qualitative methodology, to explain complex and dynamic realities (Malhotra, 2017).

According to Easton, Wilkinson, and Georgieva (1977), this type of methodology is also appropriate to investigate industrial networks and international market entry strategies because of its complexity and dynamism, which limits the application of positivist studies.

The qualitative analysis of data followed an inductive process and observed the recommendations of Morse (1994) and Lindlof (1995).

Considering the exploratory nature of this research, the case study method is appropriate to address the objective identified in the literature. The firm was chosen because it exhibited contextually rich data on the internationalization processes, supporting empirical research in the real-world setting (Eisenhardt, 1989).

The data collection process included different sources of information (interviews, background information and secondary) in an attempt to triangulate findings.

This type of methodology does not try to find ultimate truths, but to report open accounts to data obtainment, analysis and interpretation.

CASE STUDY

History, Mission and Objectives

OMEGA is a start-up that was born in the Business Incubator of the University of Aveiro in 2011. Currently its headquarters are located in Ílhavo, a county in the district of Aveiro, Portugal.

OMEGA is one of the main manufacturers of 3D printers in Portugal and was one of the primary drivers in the development of this concept in Portugal.

This project resulted from the creative idea of two former students of the University of Aveiro who began the development of the first low-cost 32-bit electronic board for 3D printing. This electronic board was the first product marketed by OMEGA, which was followed by the development of their first 3D printer.

OMEGA's mission is to "imprint change" as they believe that 3D printing will change the paradigm of mass-production, bringing it closer to the individual consumer in a way as to take them into a more leisure-oriented society. This start-up considers personal creative expression to be a way to the future.

OMEGA's main goals are to deliver innovative and reliable solutions to the market and to develop technology for tailor-made projects. In order to reach these goals they focus on 3 important objectives:

1. To be at the cutting edge of the 3D desktop printing business by developing, delivering and generating friendly solutions with innovative approaches and exceptional design and quality. At the very core of their values is a deep preoccupation with sustainability since they argue that 3D printing is not a conventional way of going about things, but one that will allow great improvement and progress on a global scale.
2. Construction and nurturing of close long-term relationships with customers, partners and collaborators. As they argue that success is a goal that cannot be achieved without a strong relationship between all these stakeholders which is why they focus on people's personality and creativity.
3. Commitment on challenging the *status quo* of 3D printing. The local community has a strong contribution by encouraging OMEGA's intensive work and participating in the creative process of product development. The idea is to get 3D printing closer to people; therefore, OMEGA's products are committed to challenge the *status quo* of 3D printing as it is known. In general, the appeal to the community and the investment on this kind of networking helps OMEGA bringing 3D impression to the "next level".

Product and Service Portfolio

Currently OMEGA offers a wide range of products and services. The following ones are among OMEGA's main products:

- 3D PRINTERS (printers for different markets / target segments): for domestic and professional use; for the 3D printer Makers; for the educational market (from Pre-School to University Education).
- SUPPLIES (filaments for printing) in four different types of materials: Poly-Lactic Acid (PLA), which is easy to use and commonly used in home and office contexts; thermoplastic polyurethane, which is a highly flexible material; copolyester, which is very resistant and has excellent mechanical properties; NYLON, which is resistant and semi flexible material.
- Printing support accessories: Printing table; spatula and forceps; maintenance kit; conveyor box; various components for the makers to build up the printer; power supplies.

The different types of filaments are available in various colors and have applicability in all commercial printers, except for a 3D printer for the domestic material that supports printing in PLA.

OMEGA provides three main services. A three-dimension validation and printing service, in which the objective is that the user designs a template for printing, go to one of the 3D printers and through a

pen drive, choose the color for printing and wait for the printed part. This concept of service incorporates the strategy that aims to get 3D printing to the maximum possible target.

A second service is no more than the possibility of extending the standard warranty derived from the purchase of an OMEGA's 3D printer.

Finally, there is software that is made available online for download at no cost to the user. The download of this software may only be performed on some OMEGA's 3D printers.

Main Projects

The MELT project, the European Space Agency (ESA) together with other entities, allowed OMEGA to develop a printer with unique features. This project aimed to design and develop an Additive Layer Manufacturing (ALM) test card capable of printing functional 3D printing parts on the International Space Station with high performance polymers in a microgravity environment (gravity 0).

The 3D International Expansion project began in 2015 with the objective of promoting the internationalization of OMEGA by implementing a "*geographic markets diversification strategy based on the launch of new products*." As a result, OMEGA is trying to exploit a market penetration and market expansion strategies in high-growth markets.

The international promotion of a new printer, the result of its strong commitment to innovation and research and development (R&D), "*aims to respond to the needs of a more demanding and sophisticated market segment*." This new printer will stand out by a set of technological more sophisticated features.

Market Results

OMEGA has seven years of activity focused on the "*design, development and commercialization of 3D printers*."

The national and international markets have a balanced weight in OMEGA's sales volume (varying between 40%-60%) that represented in the year (2017) a total of 408,000 €.

Currently OMEGA has 25 employees that are "*creative and passionate about technology*", of which 90% hold higher education degrees. The team is also distinguished by a strong R&D and innovation orientation. 70% of the employees who have embraced this project from the beginning are still in the company.

Looking now at the international expansion strategy, OMEGA began marketing products abroad in 2013, but in 2014 they consolidated their presence globally. According to the latest data (2017), they are present in 33 countries, in several continents. The most relevant markets are "*UK, Australia, Netherlands, Middle East, France, Italy*" and future prospects are to strengthen their presence in "*North America, Latin America, Germany and Nordic countries*." The factors that influence the selection of these destinations are: the potentiality of the business; the investment that is being made in education; Industry 4.0 and the Internet of Things (IOT). The destination that represents a greater effort on the part of the sales is Brazil, due to intricate customs barriers. The mode of entry in these markets is done through direct export, by agents and distributors, and indirectly by resellers.

Among the reasons that supported the leapfrogged internationalization process, are the following ones: increasing market share; profitability of the company; new business opportunities; little acceptance of the national market; brand awareness and recognition; and benefits and incentives of the Portuguese State.

OMEGA is involved in intense business intelligence analysis to gather information on the target markets. The mode of entry in these markets was based on the information gathered from secondary sources and from visits and presences at international trade fairs. Both the role of social networks and networking activities abroad have also been important.

The main obstacles felt in the internationalization process are the following ones: bureaucratic issues; language / cultural issues; technology and lack of information about international markets. OMEGA is trying to maintain close contact with entities related to internationalization activities, as is the case with AICEP in order to mitigate this impact of the liability of foreignness. For that they are trying to gather "*more information about the bureaucracies with the competent entities, investment in information sharing / evangelization of technology*."

The financial support was essential in OMEGA's internationalization process. OMEGA's representatives give some recommendations to future start-ups that follow the internationalization path namely that they "*study the various markets and the competition; differentiate; and prepare to invest in communication and evangelization of the product / service*".

DISCUSSION

This section presents a discussion based on OMEGA's performance/internationalization path and a comparison with the literature review carried out, so that data can be analyzed regarding the internationalization strategy adopted by this Portuguese start-up.

Table 1 relates the results found in this case study and the theories analyzed. It shows that the key aspects of the strategy adopted by OMEGA, in general, concur with the main literature carried out in the third section of this chapter.

It is important to note that, due to its small size and restricted human and financial resources, it is not surprising that OMEGA has chosen low commitment entry modes in international markets, such as Export. Following this, and given its rapid internationalization path, one can claim that OMEGA follows the typical profile of a BG/INV, as shown in Figure 1.

Based on the Uppsala model, it was found that there is a very limited connection with this theory. For example, OMEGA did not opt for markets with low psychic distance, *vis-à-vis* the traditional perspective poses. However, one can claim that OMEGA could have used the "International 3D community" (e.g. discussion forums, consortium of firms, open-source technology, etc.) to reduce its psychic distance to familiar markets and to deploy contacts or networking activities in this technology-based community.

In fact, OMEGA's internationalization process was neither slow nor sequential, since the product global distribution was materialized soon after OMEGA was set up.

According to the network-based theory, the web of contacts represents an important activity, regarding the establishment of partnerships with local and international agents, which have allowed an early internationalization and a continuous interest in the expansion for new markets.

Furthermore, there is an extensive network of national and international partners that allows OMEGA to have access to important resources (e.g. financial resources, knowledge, skills, etc.) that otherwise would not be so easily available.

Table 1. Empirical review and theoretical match in the case of OMEGA

Empirical Review	Theoretical Review
• OMEGA's expansion process through exports; • Not limited to the domestic market; • Establishment of network positions in several markets; • Representative market scope: 33 countries in several continents; • Importance of field work (search for new ideas); • Financial capital (CEO's own investment).	Internationalization of start-ups
• Rapid internationalization; • Global positioning (presence in several continents); • Reinforce/expand its presence in specific markets (North America, Latin America, Germany and Nordic Countries); • Small enterprise (25 employees); • Low commitment entry mode (exports); • Gradual knowledge construction, result from the attendance at fairs; search on specialty websites; demand for information about foreign markets bureaucracies with the competent national authorities (AICEP) – proactive conduct; • Second stage of the process: export by independent representatives (agents and distributors).	BG/INV
• Development of closer and consolidated relationships: the strong contribution of the local community supports and encourages the intensive relational work; • Networking clearly present in SMEs: agents, partners and distributors; • Intensive search for opportunities: attendance at fairs, presence on social networks and network of contacts (AICEP); • Collaborative strategies: partnerships in common projects.	Network-based theory
• Construction and maintenance of close and lasting relationships with clients and partners; • Win-win relationships: success is a goal that cannot be achieved without the close relationship with and among these agents. The main focus is people: their personality and creativity are printed daily in what they do.	Relationship orientation

Figure 1. Positioning of OMEGA as a BG/INV

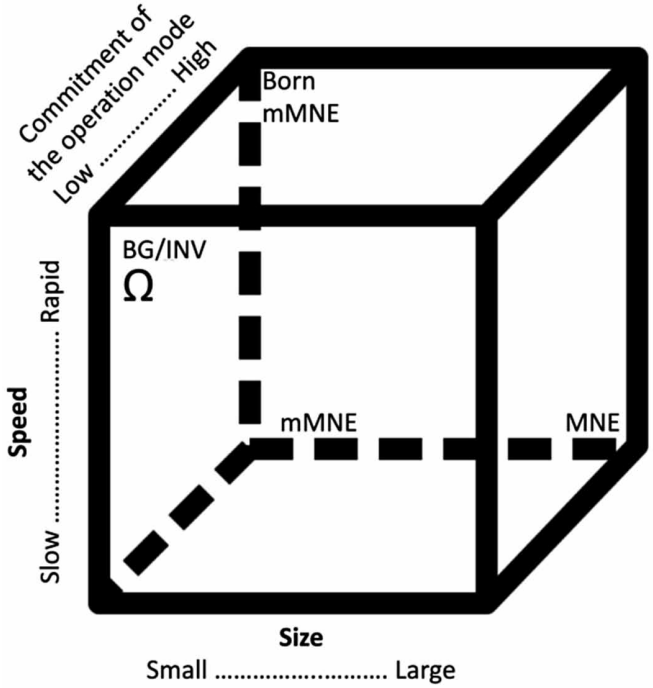

Table 2. Overview the case study

	OMEGA
Number of Employees	25
Product portfolio (3D printing sector)	3D printers, Filaments, Printing support accessories.
Exports (%)	50%
International profile	Proactive profile - search for new markets; Attendance of international fairs and pursuit of international contacts / social networks and contact networks.
Foreign market entry mode	Direct export (through agents and distributors) and indirect export (through resellers).
Main markets	UK, Australia, the Netherlands, Middle East, France and Italy.
Relationship orientation	Construction and maintenance of close relationships with clients, partners, employees and local entities are crucial.
Network relevance	Highly relevant to the activity and to the international expansion. Presence in different consortiums. Large network of national and international partners (University of Aveiro, University do Minho, Siemens, Microsoft, University of Texas at Austin, among others).
Main resources	Specialized human resources, creative and passionate about technology (50% in R&D and Innovation department).
Intellectual Capital	Extensive expertise of the CEO and the marketing and sales department executives.
Relationship reinforcement aspects	International 3D printing community; Discussion forums; open-source technology; maker community; Projects with other entities.
Exit of foreign markets	Brazil is a possibility, since this market demands a significant sales effort due to customs barriers. Insignificant sales volume.
Prospects for future internationalization	Reinforce the presence in North and Latin America; Germany and Nordic Countries.

Based on the network-based theory, one can claim that OMEGA has been implementing a relationship orientation market strategy since it has been involved in collaborative business strategies (e.g. MELT project, as well as in the international 3D community), considering partners as part of the business strategy, encouraging win-win relationships.

CONCLUSION

The internationalization of a start-up, such as OMEGA, follows the common standards of the main theories and internationalization modes applied to most SMEs. Table 2 summarizes the case study presented.

According to the theoretical framework and given its rapid internationalization and the option to export as the main way of entering in the international markets, one can claim that OMEGA follows a similar profile of that of a BG / INV. Moreover, although there is some correspondence to the Uppsala model, it is quite limited. On one hand, the network-based theory is clearly present since there is a crucial relationship with partners and local and international entities. On the other hand, the construction and maintenance of close and lasting win-win relationships with the different stakeholders expresses the relationship orientation.

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KEY TERMS AND DEFINITIONS

Born Global: It is a type of company that from the beginning of its activities pursues a vision of becoming global and globalizes rapidly without any preceding long term domestic or internationalization period.

Case Study: It is a qualitative research method normally used in social sciences. It seeks to interpret a reality through a particular perspective.

Contextual Conditions: They normally characterize a country, a region, or a market, based on a set of political, social, economic, and cultural dimensions, which are useful to depict how those contextual conditions differ across countries, regions, or markets.

Globalization: It is a worldwide movement toward economic, financial, trade, and communications integration. It is normally envisaged as a lack of trade barriers between nations, which are removed through free trade agreements throughout the world and between nation states.

International New Venture: it is a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs in multiple countries.

Internationalization: It is the process of increasing involvement of enterprises in international markets. It involves a strategy carried out by firms that decide to compete in foreign markets. It involves cross-border transactions of goods, services, or resources between two or more firms or organizations that belong to two different countries.

Internationalization Process: It involves the emphasis of a trajectory of a company in its transition from a national market to a particular foreign market. It normally involves several entry modes (exports, FDI, franchising, etc.) that exert a critical influence on the subsequent trajectory, as well as on cost related to the internationalization process.

Network-Based Approach: It based on the industrial networks theory, which states that firms evolve on the basis of established relationships. It considers the companies' internationalization process through their integration into networks and relationships.

Relationship Orientation: Is a concept much more specific than market orientation. It involves the commitment of one party that believes that a relationship is worth working on to ensure that is endures throughout time. The relationship orientation is built on the foundation of mutual trust and commitment.

Small and Medium-Sized Enterprises (SMEs): Although there are plenty of definitions across the world, the working definition used in this document is the one that was created by the European Commission, to permit a coherent and effective access of SMEs to European community funds.

Uppsala Model: It has been one of the most discussed dynamic theories. It explains the process of internationalization of companies, namely how organizations learn and the impact of learning on the companies' international expansion.

Chapter 19
An Analysis of Internationalization Theories and Behavior of Finnish Retail SMEs in Russia

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ABSTRACT

The internationalization of large multinational retailers has been investigated and much intention has been given to their market entry mode choice and motives of internationalization. However, there is no enough research has been conducted to specifically describe the internationalization and market entry mode choice of small and medium-sized enterprises (SMEs) from retail industry. To cover the research gap, this chapter will describe the main theories of internationalization and then sheds light on motives, barriers, reasons, and mode of entry of Finnish retail SMEs in the Russian market. Data were collected through a mail survey questionnaire, and 145 usable responses were received. Findings, the implication of the study, and directions for future research are then discussed.

INTRODUCTION

International business (IB) literature has acknowledged internationalization as one of the most important subject of firm's progress and accumulated performance (Lu & Beamish, 2001), which has been perceived globally through fast internationalization of markets, industries and firms since the middle of the twentieth century (Olejnik & Swoboda, 2012). According to Fletcher (2001) internationalization process of the firms is one of the most regularly researched topics in international business over the past 40 years. Recently, internationalization developments have mainly been examined with reference to multinational corporations, but less for small - and medium-sized enterprises (SMEs) (Jansson & Sandberg, 2008; Wright, Westhead & Ucbasaran., 2007). The main reason for this was that smallness

DOI: 10.4018/978-1-5225-8479-7.ch019

is frequently revealed as a problematic in internationalization, as SMEs often have a disadvantage in resource access (Jansson & Sandberg, 2008). Consequently, for SMEs internationalization is an attentive challenge, nevertheless many theories and approaches exist (Olejnik & Swoboda, 2012). Today SMEs are able and enforced to search for foreign markets though the foreign players enter their home markets. For the last two decades' internationalization has been studied, the emphasis on has been moving from company related characteristics towards environment-related attributes and from large companies towards small- and medium sized companies.

Presently, SMEs represent the mainstream of firms in most countries, and therefore, they play a very significant role in the economic growth of their representative countries. Even, the number of small firms operating in international markets has been increasing (Nummela, Saarenketo & Loane, 2016). As a result, the internationalization process of SMEs has become a subject of educational, political, and governmental consideration and research (McDougall & Oviatt, 1996; Nakos & Brouthers, 2002). Indeed, the decision relating to international market selection (IMS) (Ellis, 2000; Sakarya, Eckman & Hyllegard, 2007) and entry mode selection (EMS) (Brouthers & Nakos, 2004; Lu, 2002;) are considered acute for a firm's success abroad (Agndal & Chetty, 2007).

The present market capacity of most emerging economies is pushing more retailers to grow internationally as it is becoming tougher to attain local market growth. As a result, the level of international competition in the retailing industry is becoming fiercer; particularly in saturated product markets. Adverse developments of recent years for example the economic downturn, credit crisis, and a drop in consumer confidence, have further strengthened the international rivalry in the retail industry (Global Retailing 2009). Ample research have been conducted on the internationalization of retail operations (Williams, 1992a; Sternquist, 1997; Vida, 2000), but, it is interesting to note that the majority of studies have focused on the activities of large retail organizations (Burt, 1986; Alexander, 1990; Williams, 1992b; Sparks, 1995; Arnold & Fernie, 2000). Therefore, it is significant to investigate the internationalization of SME's in the retail industry. In order to understand and benchmark the internationalization process and market entry mode choice of smaller retailer following cases have been found within Europe; Neals Yard Remedies (UK), Godiva Chocolatier (Belgium), L'Occitane (France), Jil Sander (Germany), Bitte Kai Rand (Denmark), La Cicogna (Italy) and Lundia (Netherlands). It has been claimed that these smaller retailers have larger apparent in international markets than larger retailers weighed down by organizational predeterminations (Alexander & Quinn, 2002).

The dissimilarity between large firms and SMEs can be recognized in relations of physical size and presence. Cataloging of SME size can comprise number of employees, number of retail outlets, annual turnover, and a combination of employee and turnover measures (Kaynak, Ghauri & Olofsson-Bredenlow, 1987; Masurel, 2001). Though, empirical studies across industries emphasis on sales turnover as the optimum indicator of distinguishing between smaller and larger international firms (Cavusgil, 1976, Beamish, Craig & McLellan, 1993). Definition of SME varies significantly across continents. But for the development of this study it will be consider the definition of the European Commission (2014). An SMEs in Europe is a firm that has fewer than 250 employees and a turnover not exceeding 50 million euros or a balance sheet total not exceeding 43 million euros.

However, this chapter will discuss the reality about the internationalization of the retail Finnish SME's to Russia market.

The trade between Finland and Russia has extended backgrounds (Kallonen & Ketola 1996). Since 2007 to 2013 Russia was the biggest trading partner of Finland but in the beginning of 2014 Germany became the biggest trading partner. Though, Russia is still Finland's major state of imports and the third

biggest country of exports (Tulli, 2014.) Finland's part in the foreign trade of Russia is also decreasing, due to other countries, which are expanding their operations in Russia. Consequently, the contention in the Russian market is getting firmer (Mustajoki 2007.) Nevertheless, neighboring closeness to Russia gives Finland geographical benefit and plus in transportations paralleled to competitors (Vahvaselkä 2009). In order to get benefit of possibilities of the Russian market, Finnish firms need knowledge about Russia and how to do business with Russians, and abilities to assess the risks of Russian capitalism (Mustajoki 2007; Ollus 2008). According to different sources, the volume of Russian retail market in 2018 is estimated from around $285bn (A.T. Kearney, Euro monitor International, Jones Lang LaSalle) to $250bn (Economist Intelligence Unit). Russia's retail market potential is projected to be double its present size. Russia is the fastest rising retail food sales market in the world, with the potential to over double in size by 2019. According to some estimates by 2018, the food market is expected to be the largest grocery market in Europe. In Finnish perspective Russian retail industry is very significant and as mentioned-above due to closeness and long term trade relations with Russia, Finnish firm's eager to avail the opportunity and investigate the market in context of suitable entry mode, barriers and motivation.

So the fact that dynamic smaller Finnish retailers with strong concepts, operations and products have shown themselves proficient of fast international growth has been overlooked in the literature. In that way, the very majestic objective of this study is to investigates what are the determinants of internationalization process of Finnish retail SMEs in Russia market.

To achieve main objective following research questions have been formulated:

RQ1: What are the motives behind international expansion of retail SMEs in Russian market?
RQ2: What types of barriers constrain international expansion for Finnish retail SMEs in Russia?
RQ3: What types of entry mode choices are available and suitable to international Finnish retail SMEs in Russia?

CONTEXTUALIZATION OF THE STUDY

Plentiful of the early literature on internationalization was motivated by general marketing theories. Afterward, internationalization dealt with the choice between different market entry modes like export vs. FDI. There has been a variety of different approaches to explain the internationalization of business activities. They normally focus on distinct aspects of the reasons for firms operate in more than one environment and what have been changed during the last decade. Whereas traditional theories have focused their attention on the internationalization of production and foreign direct investment (FDI) where multinational enterprises (MNE) was focal point of investigation. Recently scholars have shifted their focus on small and medium sized enterprises (SMEs) due to globalization and changing environment.

Role of SMEs in Finnish Economy

Luostarinen, Korhonen, Jokinen & Pelkonen (1994) state, Finland is an interesting example of a small and open economy (SMOPEC), which is to a high degree dependent on its international business relations, and where SMEs play a significant role in the economic growth of the country. In fact, 99.8% of all companies operating in Finland employed less than 250 persons and had an annual turnover of less than 50 million Euros in 2012, and therefore they were classified as small or medium in size (Statistics

of Finland 2014). SMEs also employed 63% of all personnel and accounted for 53% of total turnover of the country (Federation of Finnish Enterprises (2107). The role of SMEs in the Finnish economy and employment is significant. SMEs are accountable for more than 36% of Finland's export income. As a small and open economy, Finland is very reliant on small and medium-sized enterprises. However, SME internationalization is still a relatively new and underdeveloped area of research (e.g. Korsakiene & Tvaronaviciene 2011; Kannie 2010). In small and open economies, specifically, often the only way for SMEs to grow is to establish and expand operations into foreign markets (Agdahl & Chetty 2007). In case of established Western markets, SMEs have been particularly interested in seeking growth from the emerging markets of the Central and Eastern Europe (CEE) and the Baltic States. When it comes to Finnish SMEs, they have been particularly interested in expanding their operations into Russia and neighboring economies.

General Information About Russia

If measured by square kilometers Russia is the largest country in the world (17.075.400 sq. km.). Russia is also the ninth most populated nation with approximately 160 million inhabitants according year 2017 statistics. Approximately 80 percent of the occupants live in the western part of Russia. The mainstream, which is about 75 percent, of the inhabitants live in cities. Russia has 12 cities with populations over one million people. GDP in 2017 was $1 579 trillion, life expectancy in 2017 was 68.6 years and literacy rate 99.6%. (Russian Federal State Statistics Service, Transparency International).

Russian Retail Industry

The Economist Intelligence Unit positions Russia as the 12th largest retail market in the world (2006) and the sixth largest across Europe, only slightly behind major Western European countries. Moreover, retailing is one of the most dynamic sectors of Russian economy. For example, the retail sales growth is very impressive: it grew by 12.4% in 2009/2010, 16.1% – in 2011/2012, 19.0% – in 2013/2014, and 20.5% – in 2015/2016. A similar growth rate is forecasted in 2018. Main factors determining active development of Russian retail trade are favorable macroeconomic situation and stable economic growth; increase of real disposable incomes; intensive development of consumer credit; and vast geographic territory. The retail market was one of the first industries to be denationalized in Russia and has been one of the main sectors for new business development, because of the comparative ease of entry. Yet, the domestic retail market has been slow to be established and Russian customers have trusted heavily on imported goods. During the 1990s and early 2000s, imports accounted for over 50% of the consumer market that replicated the stirring potential of the market for foreign players (Macroeconomic Research, 2006). Customer outgoings has also increased quickly for the past few years, driven not only by an income growth rate but also by rising consumer credit. Robust retail sales growth in Russia is estimated over the medium term. In the period from 2007–2017, retail sales grew up by average of 8.7% per annum. This matches with circa 2.5% average growth in the Czech Republic, 1.6% in Hungary and 1.5% in Western Europe.

Table 1 illustrates the main players and their entry mode strategy in retails industry of Russia. It is significant there is no much data available about small retailer firms and therefore, in this investigation, retail SMEs are the focal point of research.

Table 1. Main foreign players in Russian Retail Association (2015)

Name of Company	Stores	Year of Entry	Formats	Strategy	Number of Stores
Stockmann (Finland)	Stockmann	1989	Department store	Greenfield in- vestment, Franchising	17, including 13 in Moscow, 4 in SPB
KESKO/Rautakesko (Finland)	K-Rauta	1996	DIY	M&A, Greenfield in- vestment	23 in SPB
KOS, Enka, Migros Turk/ Ramenka (Turkey)	Ramstore	1997	Trade center, Convenient stores, Hypermarket, Supermarket	M&A, Greenfield in- vestment	76, including 35 in Mos- cow, 4 – SPB 27 – regions
IKEA (Sweden)	IKEA	2000	Home improvement, MEGA malls	Greenfield in- vestment	10, including 3 in Moscow, 2 in SPB, 5 in regions
SPAR International, SPAR Central Rus- sia (Holland)	SPAR	2001	Supermarket Convenience stores Hypermarket	Franchising, Sub-franchising	90, including 22 in Mos- cow, 68 in regions
Metro Group AG (Germany)	Metro Cash & Carry	2000	Cash and carry	Greenfield in- vestment	33, including 9 in Moscow, 3 in SPB, 21 in regions
	Real	2005	Hypermarket		8, including 3 in Moscow, 1 in SPB, 4 in regions
	MediaMarkt	2006	Supermarket (consumer electron- ics)		19, including 15 in Moscow, 4 in SPB, 2 in regions
Groupe Auchan SA (France)	Auchan	2002	Hypermarket	Greenfield in- vestment	32, including 26 in Mos- cow, 2 in SPB, 4 in regions
	Leroy Merlin	2004	DIY	Greenfield in- vestment	3 in Moscow
	Atac	2005	Convenience store	Greenfield in- vestment	18 in Moscow
	Decathlon	2006	Hypermarket	Greenfield in- vestment	8 in Moscow
Edeka (Germany)	Marktkauf	2003– 2006	Hypermarket	Bought by Metro in 2006	9 in Moscow
Tengelmann (Ger- many)	OBI	2003	DIY	Franchising, joint venture	33, including 24 in Moscow, 5 in SPB, 4 in regions
Rewe (Germany)	Billa	2004	Supermarket	Joint venture	29, including 28 in Mos- cow, 1 in regions
BHS (UK)	British Home Stores	1997	Department store	Franchising	9 in Moscow

INTERNATIONALIZATION

Small and medium-sized enterprises (SMEs) are approved as the main element affecting the progression of economy in developed, emerging and third world countries. Majority of scholars determined that SMEs prevail in private sector of all over the world and create work opportunities (Agndal & Chetty, 2007; Hessels & Parker 2013). According to Ruzzier, Hisrich & Antoncic (2006) SMEs are vulnerable to the aggressive competition and hence, targeting to grow and contest in international markets. He argued

that therefore internationalization of SMEs is valuable for the country's progress and growth. Recently, European Union launched appropriate policies, which focused on the promotion and development of SMEs (Korsakiene, Diskiene & Drutekiene, 2014).

The study of internationalization, mainly of SMEs has been of aggregated attention to the research community (e.g., Etemad, 2004; Kuivalainen, Sundqvist, Saarenketo, & McNaughton, 2012; McAuley, 2010) as relationship between SME effectiveness and increased output, elasticity and an active occurrence in the worldwide market. While SMEs internationalization is a subject that has previously received distinct consideration, it is still comparatively new. Usually, research has comprehensively concentrated on big manufacturing firms, especially on the activities of multinational enterprises (MNEs) (Dana 2001; McAuley, 2010; Wright & Dana 2003). Moreover, research has inspected this subject from diverse approaches, including organizational theory, marketing, strategic management, entrepreneurship, and small business management (O'Cass & Weerawaradena, 2009). SME seek to grow revenues and to protect their domestic market position and find entry mode option which is less risky in order to gain access of foreign markets (Salomon & Jin, 2008).

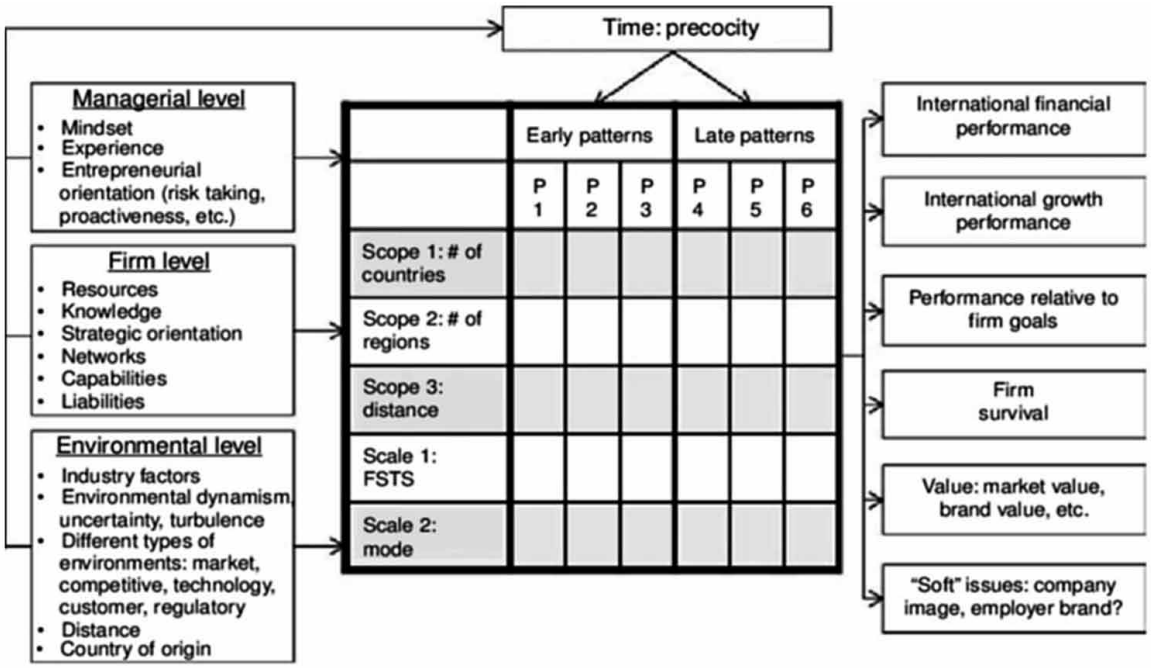
According to mainstream literature, the concept of internationalization has evolved. It appears to be an ambiguous term in the literature and its definition varies according to the phenomena under study (Chetty & CampbellHunt, 2003) such as exports, trade, cross border cluster, alliances, subsidiaries and joint ventures that extend beyond the home country environment (Singh, Gaur, & Schmid, 2010). According to Ruzzier et al., (2006) internationalization also includes a process of increasing involvement in international operations.

Agandal and Chetty (2007) defined internationalization as the process focused on dynamic international activities of the firm and suggested the opportunities to change the strategy in different directions. Minina and Dimitrienko (2011) clarifies the internationalization as a process of a firm's involvement in international transactions. Welch and Luostarinen (1988) defined internationalization as the process in which firms increase their involvement in international operations. Afterward, Calof and Beamish (1995) defined internationalization as "the process of adapting firms' operations (strategy, structure, resource, etc.) to international environments". According to Buckly (1989) internationalization is connected with a high level of risk and therefore inadequate resources of SMEs are the main barrier to their overseas expansion. However, SMEs can survive with these barriers for example by retaining the strategy of differentiation or by involving in networks, which may be valuable to all partners (Hutchinson, Quinn & Alexander, 2006).

According to EIM Business and Policy Research (2010), starting business operations in foreign markets is beneficial for SMEs as mentioned in the report of European Commission. It is argued that entry into foreign market is linked with a high growth of turnover and higher innovation activities. Conversely, substantial shortcoming for SMEs trying to internationalize their activities are the absence of resources, particularly financial, and the subsequent necessity for a speedy return on investment. Moreover, it also leads towards limited options for market entry mode choice (Mwiti, Ofafa & Mkim. 2013).

According to Oviatt and McDougall (1994), there are three pattern of internationalization which are scale (e.g., export intensity), scope (possible indicators include market distance and number of markets), and time (speed) of internationalization. Kuivalainen et al. (2012) state that with these three dimensions it is likely to make a difference between start-up patterns. Based on start-up patterns the authors alienated knowledge-intensive SMEs to three groups: (1) Born globals, (2) Born-again globals, and (3) Traditionally internationalizing firms. Kuivalainen et al. (2012) agree with Oviatt and McDougall (1994) about the idea of three main factors that have an effect to the start-up patterns. They are time, scale and scope.

Figure 1. Internationalization patterns
Source: Kuivalainen et al. (2012)



Scale of internationalization is mostly related to export intensity, which is the share of turnover from foreign markets of the total turnover. Frequently the ratio is about 25% with early and rapidly internationalizing SMEs (Knight, 1997; Knight & Cavusgil, 2004; Sullivan, 1994; Kuivalainen et al. 2012). The scale conveys how effectively firm has been in its' worldwide operations.

Scope illustrates number of markets as an internationalization pattern measure (Kuivalainen et al. 2012). Generally, number of markets means number of countries, but it is also possible to divide one country into many markets. Particularly this might be adequate when country is relatively large like Russia, India or China. The figure 1 shows how SMEs have been allocated to three groups according to the internationalization pattern; (1) Traditional pattern, (2) Potential Born again Global pattern and (3) Potential Born-global pattern. Kuivalainen et al. (2012) studied knowledge-intensive SMEs, but in this study case, companies will be from different industries and are not necessarily knowledge-intensive. However, the framework is suitable for the study, with minor changes to number of countries that can also mean number of areas in Russia. Shahzad and Elenurm (2018) studied SMEs market entry mode choice in Estonia, they have argued that Uppsala model of internationalization still valid as majority of firms start foreign operation with export mode. They also proposed that future research must choose one specific industry and compare the results with other industries.

THEORIES OF INTERNATIONALIZATION

Most of the recognized theories of internationalization have been developed as an outcome of internationalization activities of multinational enterprises (MNEs). In this work, these theories will be discussed

in context of small- medium sized enterprises (SMEs), and it will be the focal point of investigation that which theory explains SMEs internationalization process in a best way. In this work following theories will be discussed Uppsala model (1970), Transaction cost theory (1976), Dunning's eclectic theory (1977), Network internationalization approach (1988), Institutional theory (1990), international entrepreneurship theories (2005) and Uppsala Revised Mode (2009).

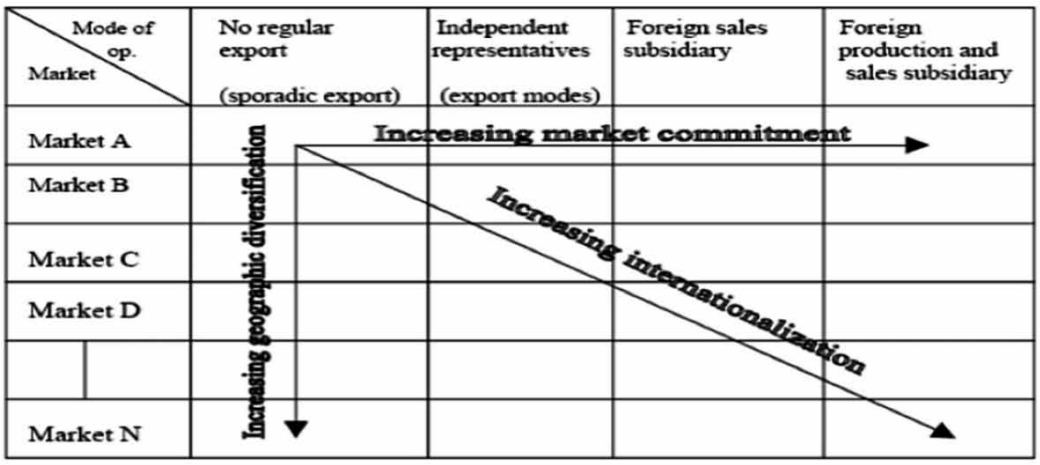
The Uppsala model was presented in the 1970s at the Uppsala School (Johanson & Weidersheim-paul 1975; Johanson & Vahnle 1977). The theory aimed to explain how firms get involved in foreign markets and how they establish resources commitment. The theory has been used to explain market selection and has had a role in explaining other FDI choices (Luostarinen 1979; Johanson & Vahlne 1977). The Uppsala model is based on the empirical observation from four Swedish manufacturers and influenced by the works of Penrose (1959).

Above diagram illustrates that Uppsala model define internationalization into four stages, which cannot be viewed independently of a firm's situation and market knowledge:

1. No regular export activities;
2. Export via independent representative (export mode);
3. Establishment of a foreign sales subsidiary;
4. Foreign production/manufacturing.

Uppsala model has two proportions: "market commitment" and "market uncertainty." Market uncertainty refers to the need to calculate present and future market factors approximately due to lack of experience, of evaluate competition and of the market itself. Internationalization theory argues that in the beginning firms do not invest in new markets. A firm sells its products in an international market through exports due to lack of sufficient market-specific knowledge and, as a result, a high degree of market uncertainty. Initial operations in a foreign market facilitate a firm to gain knowledge, which helps to reduce market uncertainty. If market uncertainty decreases to a low point and a firm perceives an opportunity to expand further into the market, the firm increases its market commitment step by step. This, in turn, leads to

Figure 2. Internationalization of the firm
Source: Adapted from Hollenson (2011)



a lower level of market uncertainty and higher market commitment. A firm may choose higher market commitment modes at the time of entry if the host market seems very attractive with lower commitment possibly being inadequate to meet market demands (Johanson & Wiedersheim-Paul 1975). According to Luostarinen (1979), the so-called physical, cultural and economic distance is collectively referred to as "business distance." Nordic researchers have only utilized cultural and geographical factors and they are referred to as "psychic distance."

Uppsala model is also subject of criticism. Ojala (2008) argues that the Uppsala model proposes that indirect entry modes upturn firm's knowledge about the target country and permit it to acquire about how to deal with the customers in the certain state. When the country becomes familiar for the firm, it is possible to establish direct operations and the firm may establish a sales subsidiary. However, it needs more knowledge and promise to the target country associated to indirect entry modes. In the fourth stage, a firm may start production or manufacturing activities in the market. Nevertheless, one of the flaws of the Uppsala model is that it does not include joint venture operations or affiliating which also require intermediate level of knowledge and commitment (Johanson & Wiedersheim-Paul 1975).

Williamson (1975) introduced the transaction cost (TC) theory. He argued that transaction cost appears when markets fail to operate under the requirements of perfect competition (friction free) and the cost of operating in such markets would be zero and there would be little or no incentive to impose any impediments to free market exchange. According with this theory, companies search for new markets to cut costs, so the internationalizations happens because the joint coordination of different activities in different countries may incur less cost than using market mechanisms between countries. But, in real world there is constantly some kind of friction among buyer and seller which outcomes in transaction costs. Figure 4 illustrates the principles of TC model. Williamson (1985) defines that friction between buyer and seller can often be clarified by opportunistic behavior, which is called 'self-interest seeking with guile'. It contains approaches of misleading, distortion, disguise, and confusing. To defend against the hazards of speculation, the parties may engage a variety of protections or governance structures.

There are several researchers those criticized TC. For an instance Goshal and Moran (1996) have criticized Williamson work and argue that Williamson assumed too tapered assumption of human nature and why the theory's mainstream development has stayed resistant to such important contribution. TC

Figure 3. Uppsala model
Source: Adapted from Johanson and Vahlne (1977)

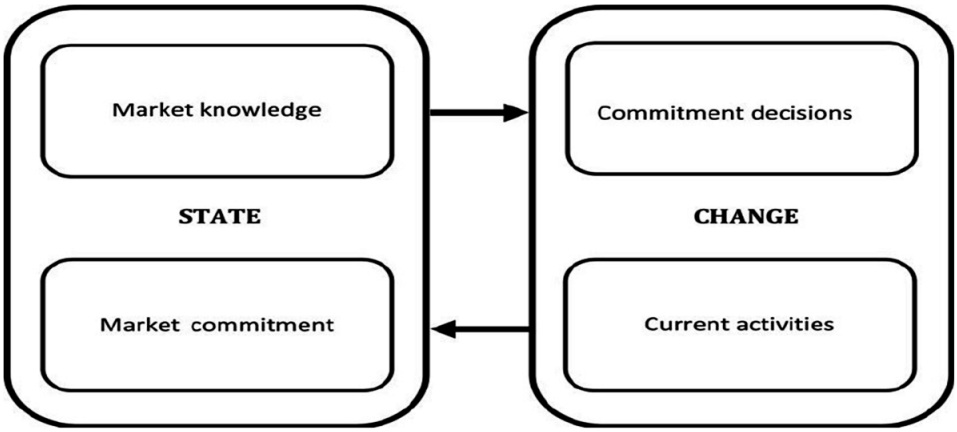
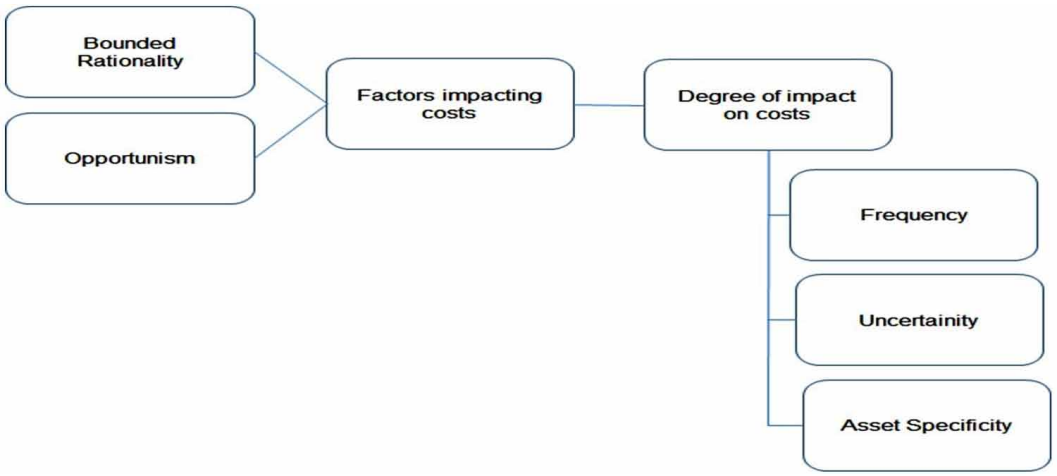


Figure 4. Transaction cost theory
Source: Adapted from Williamson (1985)

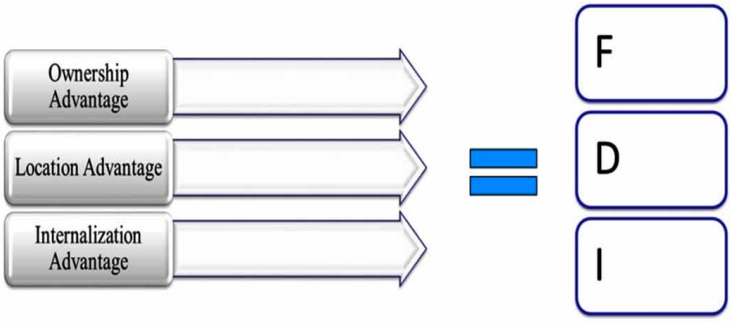


framework disregard the 'internal' transaction cost, supposing zero friction within a multinational firm. So, there is also a key question regarding relevance of TC framework for SMEs internationalization.

The eclectic paradigm, proposed by Dunning (1977) which based on Hymer's (1976) concept of firm-specific advantages. John Dunning developed idea further and proposed OLI paradigm of FDI. This model suggest that firms choose foreign direct investment (FDI) mode by considering ownership, location and internalization advantages. Agrawal and Ramaswami (1992) argue that these three sets of advantages influence a firm's FDI activities of resource commitment, market attractiveness and cost integration.

The ownership advantages arise from intangible assets such as innovations, patents or experience. The location advantages concern advantages that add competitive advantage in terms of location of production, resources, energy or market. The internationalization advantages mean that it has to be more profitable for the company to run all the operations, that it is running by itself instead of outsourcing them (Dunning, 1988).

Figure 5. Eclectic theory
Source: Adapted from Agarwal and Ramaswami (1992)



Ownership advantages provide firms advantage to own high quality product, brand equity, competent marketing department, or well-trained sales force. According to Dunning (1993) it is mandatory to have ownership advantage in order to expand business into foreign markets. Location advantages is concerned with the choice of location and competitive advantage for the organization (Dunning 1988). Cantwell (1995) argue that location advantages are country-specific factors associated with market potential, risk, low cost labor, ease of doing business, subsidy in certain industries by government, etc. The third proposition of OLI has to do with the internationalization advantages. It reflects the degree to which firms decide internationalizing activates in far distance locations and is related to lowering search and negotiation costs, controlling market flaws and compensation for the absence of future markets (Dunning 1993). Cantwell (1995) argue that eclectic theory incorporates fundamentals from varied cradles and can be similarly applied at the micro and macro levels.

The Network-based Internationalization Approac**h** is presented and developed by Johanson and Mattson (1988) and tries to explain the internationalization of firms by considering the environment as a business network and market. The partakers (suppliers, buyers, competitors or other institution) in the process and the environment affect the way in which firms interact. Madsen et al. (1997), argued that network-based internationalization should be based on the context in which participants activate and on the condition in which they operate and on the interdependent non-hierarchical exchanges (Covielo, Ghauri & Martin, 1998) that lead to the emergence of the concept of business networks. According to Johanson and Matsson (1988) internationalization is an evolutionary process that is conducted in three sequential stages: market expansion, market penetration, market integration.

The position of the firm in the network (market) is the most significant driver for internationalization. This position is definite based on two principle elements: Degree of internationalization of the firm, and the degree of internationalization of the network (market). According to these two elements, they identified four-market position for firms: the Early Starter, the Lonely International, the Late Starter and the International among Others.

The Early Starter: this kind of firms is situated in a market that its suppliers, competitors, and its other supportive businesses have limited international relationships, and the firm does not have enough knowledge about foreign markets.

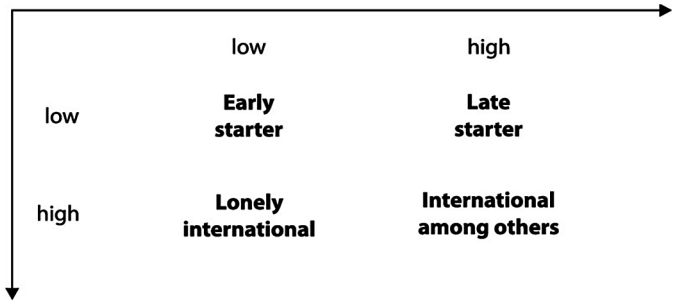
The Lonely International: suppliers, competitors, clients and partners do not have access to international market, so they cannot help the firm to enter international market. However, the firm own sufficient experiences and information about foreign market and have competitive position over their opponents.

The Late Starter: these firms are in an environment, where competitors, suppliers, and allies have extensive worldwide relations but the firm does not have sufficient knowledge and experience about foreign activities. Lonely starters usually have a insubstantial position than their contestants do and building a strong network is problematic for them (Johanson & Mattsson 1988).

The International among Others: this situation is formed, when the firm and its environment are extremely internationalized. In this position, companies can have constricted networks, which delivers exterior resources and allows them to enter to third countries via compliant strategies (Johanson & Mattsson 1988).

Researchers imply to several applications and benefits of networking and network relationships in the context of entry into foreign market. According to Kontinen and Ojala (2011), Social Network Approach and its models, such as weak and strong ties and social capital have mainly applied in the background of SMEs. Researchers have used them to authenticate the transnational opportunity appreciation by entrepreneurial companies, the selection of a foreign market by born global firms (Sharma & Blomstermo

Figure 6. The network-based Internationalization Model
Source: Adapted from Johanson and Mattson (1988)



2003), the international performance of start-ups (Han 2007), and their foreign expansion choices in to foreign markets (Kiss & Danis 2010).

At the Institutional Theory, building on the 'rules of the game' comparison, North (1990) describes institutions as the humanly devised restraint that systematized human interaction. The term institution comprises mixed set of factors, such as customs and beliefs, religion, judicial system, governance structures, and market set-ups. Institutions play an important part in international business as they upset the aptitude of a firm to correlate with players in a new market and affect the relative transaction and coordination costs of production and ownership decisions in specific locality (Dunning & Lundan, 2008). Scholars have typically used institutional theory to study the effect of institutions on different approaches of firms (Peng & Khoury, 2009; Scott, 2008; North, 1990). Researchers branded institutional distance into formal and informal institutions distance to study entry mode selection of firms.

There are three main pillars of institutional theory, which are normative, regulative, and cultural-cognitive. Normative pressures may arise from exterior sources or within the organization itself. External sources can be for example governmental institutions. These pressures can have enormous influence on organization, which guides behaviors through by defining social appropriateness, represented in values and norms. The regulative, which escorts behaviors through sanction and conformity, is usually in form of governmental legislation and industrial agreements and standards. Finally, the cognitive, which guides behaviors through subjectively constructed frames and meaning that used to interpret the world (Scott 1995).

Why Institutional Environment is significant for SMEs? Bruton, Ahstrom and Lin (2010) argued that Institutional environment both assists and restrains entrepreneurial prospects. Institutional environment can have positive and negative effect. For example, institution with more fortunate market incentives and availability of capital could enable the formation of new projects. On the other hand, a fragile and underdeveloped institutional environment inclines to upturn the transaction cost involved in entrepreneurship. SMEs should act in accordance with high number of difficult regulations. In the worst circumstances, lack of institutions aiming at protection for property rights in emerging economies like Russia renders ventures to building costly informal institutions such as managerial ties with key governmental officials (Bruton et al. 2010).

Oviatt and McDougall (2005) argue that international entrepreneurship as the discovery, enactment, evaluation, and exploitation of opportunities, across national borders to create future goods and services. The prompt fluctuations in the business and global economy obliged firms to fast-track international

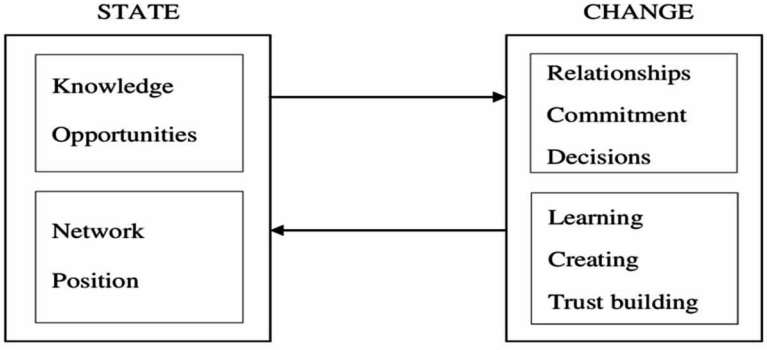
market entry strategies, which are not netted by the incremental and traditional models (Prange & Verdier, 2011). In spite of the determinations to introduce new models, theories and proofs in the business internationalization area, these theoretical improvements have not harmonized with the fast developing economies (Dhanaraj & Beamish, 2003). The emerging global environment underpinned various studies analyzing SMEs and entrepreneurs, as they no longer compete solely in their domestic markets.

International entrepreneurship (IE) research developed intensely as a consequence of its multiplicity of several approaches (McDougall & Oviatt, 2000; Dana & Wright 2004) that restrained hierarchical, transactional models to embrace relational network-based models, in which information, knowledge and technology were part of a interdependent managerial perspective with focus on a multi-polar network world. Entrepreneurs with a vibrant global attitude often start born global enterprises and studying them implicates appreciative the significant transition of processes, structures, and organizational mindsets at many organizational levels (Weerawardena, Mort, Liesch & Knight, 2007). An International new venture has been defined as a business organization that, from beginning follows to initiate considerable competitive advantage from the use of resources and the sale of outputs in numerous countries (Oviatt & McDougal, 1994). IE research is repeatedly regarded as starting with Oviatt and McDougall's (1994) key article on international new ventures (Autio, 2005; Zahra, 2005), which well-defined the back ground of as well as the necessary and adequate situations for the appearance of born globals (e.g., Madsen & Servais, 1997) or "international new ventures – INV's" (e.g. Oviatt & McDougall, 1994). The main characteristics of born globals and INV's are the following: a global visualization from the beginning; previous international experience of the management team (making them aware of international opportunities); access to international networks; technology-based firms, knowledge-intensive industries; and highly specialized firms with very narrow core capabilities.

Johanson and Vahlne (2009) reviewed their previous internationalization model by applying an elementary networking viewpoint. Figure 7 shows the mechanism of their Uppsala revised model.

This model has two main parts; state variables and change variables. The state and changing extents of the model offer an interface contrivance to clarify the internationalization process in a network background. According to network model, firms in the international setting, try to advance their knowledge about new openings via their network location. The vibrant nature behaviors (learning, creating, trust-building and commitment to the relationships) that labeled as the change dimension in the model can shake the state variables (knowledge opportunities and network position that can facilitate or not the

Figure 7. Uppsala revised model
Source: Adapted from Johanson and Vahlne (2009)



internationalization). In return the state dimension will foster the dynamism of the change aspect (Johanson & Vahlne 2009). Overall, this framework validates the internationalization of the firms, based on the interface of two extents include state and change.

Next section of the chapter sheds the light on market entry modes and their implications.

ENTRY MODE DECISION

In today's international business environment, it is mandatory for corporations to sell their products and services in numerous physical sites of the world. To achieve this objective, foreign extension by companies is a fundamental philosophy. This majestic objective can be accomplished through different entry modes. Foreign entry mode decisions are the most demanding search topic in International Business Management (Brouthers & Hennart 2007). According to Root (1994), entry modes can be defined as an institutional arrangement that makes possible the entry of a company's product, technology, human skills, management or other resources into a foreign country. So, entry strategy consists of a complex set of decisions regarding entry into a market.

Researchers have categorized market entry mode based on a level of control, resource commitment, and risk involvement. According to Albaum and Duerr (2008) firms are sighted dissimilar types of entry modes when expanding in the overseas. They also specified that the different entry modes vary not only for the level of control but as well as the level of commitment, risk, and involvement. Canabal and White (2008) argued that entry mode could be divided into two categories; equity and non-equity. Both categories differ concerning investment requirements and control. Pan and Tse (2000) have developed a hierarchical model of market entry modes which can be classified as equity-based and non-equity based. In equity-based entry mode, the local enterprise is either partially owned or wholly owned and it assumes effective management control (Agarwal & Ramaswami, 1992). Equity-based entry modes can be categorized as wholly owned operations (e.g greenfield and acquisitions) and equity joint ventures (EJV). On the other hand, a foreign entrant (Erramilli, Agarwal & Dev 2002) can define non-equity modes as modes that do not entail equity investment. Within non-equity modes, a firm has to choose between contractual agreements (e.g licensing, R&D contracts, alliances and franchising) and export (e.g direct export and indirect export).

In the non-equity modes, the Export is the simplest form of internationalizing a domestic business. Exporting is the process of sending goods or services from one country to another for use or sale. There is three major types of export modes: Direct Export, involves sales to consumers either distributors or end-users located outside of firm's home country, and allows to increase valuable expertise about operating internationally and specific knowledge concerning individual countries in which firm operates (Hollensen 2012); Indirect Export, occurs when a firm sells its products to a domestic customer, which in turn exports the product, in either its original form or an altered form (Hollensen 2012, 235); Intracorporate transfer, is the selling of goods by a firm in one country to an associated firm in another.

Also in the non-equity modes but in the contractual agreements, the Licensing is an attractive entry mode for companies when they want to expand their business (Mottner & Johnson, 2000). In this kind of contract, a company gives license to a foreign company that enables them to use, for example, manufacturing, processing, trademark, or name for selling purposes (Root, 1994). According to Cateora and Ghauri 2006 small and medium-sized companies consider licensing as one of the most favorable types of entry modes. The advantages associated with licensing are as follows: it is effective as a mode of entry

when capital is limited or when restrictions forbid other entry-mode. It is considered as the quickest and easiest way of entering into international market especially when firms do not have too many financial resources (Chen & Messner, 2009).

Business format franchising is a type of commercial relationship based on a contractual agreement between two independent business parties, the franchisor (the seller of the business proposition) and the franchisee (the buyer of the business proposition), in which the franchisor grants the franchisee, for the term of the contract, the right to buy and operate the franchisor's branded and formatted business system for a fee and according to the prescribed rules and procedures developed for the system by the franchisor (Hollenson 2012). Franchising is advanced form of licensing and firms utilize their brand equity and value through entering into foreign markets by franchising. This mode provide opportunity to the firms to expand globally without compromising on quality and brand while at the same time investment risk is low. Now a day's fast food retailers often use this market entry mode e.g. McDonalds and Subway.

There is another form of non-equity-based entry mode, which is management contract. Management contract can be defined as an arrangement between a property owner and a management company, who agrees to take on operational responsibilities. The owner, on the other hand, agrees to finance and build the property, project, or manufacturing plant and to pay for the management services (Garcia-Falcon & Medina-Munzo, 1999).

In the equity-based entry modes the Joint Venture, is very common in the international market (Li, 2007). Joint venture means the shared ownership of two firms of which one located in the home nation and the other located in the host nation (Johnson & Tellis, 2008). The equity share of the firm can vary from 10% to 90%, but generally, it is between 25% to 75% (Levi 2006). In that way, the main feature of the joint venture is that ownership and control are shared (Albaum & Duerr, 2008). According to Benavides (2011) international joint venture is very useful for a firm to share the risks that occur in the foreign market with the local partner and to interchange knowledge about different markets, access to financial resources, shared research efforts, product development and wider distribution channels. So the Joint Ventures are a widespread entry choice for companies to enter in a foreign market (Hollensen 2012)

Also, in the equity-based entry modes, the Wholly owned subsidiary can be set up either by acquisition or by establishing a completely new entity - Greenfield investment (Hill & Jones, 1998)

In the Acquisition mode, the firm buy or acquire local firm in the target market. According to Hollenson (2012) can be very complex, involving bankers, lawyers, regulators, mergers, and acquisitions specialists from several countries. Hongxin, Luo and Suh (2004) argue that main motivation behind this market entry mode is to get control over firm's factories, employees, technology, brand names, and distribution network smoothly and rapidly.

In the Greenfield mode the firm start a business in a foreign market from scratch. Firm buys or lease land, construct new facilities, hires managers and employees and launches new operation (Hollensen 2012). Greenfield investment has several advantages like: firms can select the site that suits best and builds modern, up-to-date facilities; local communities often offer economic development incentives to attract such facilities because they will create new jobs; managers do not have to deal with existing debts, outdated equipment, and there is no need to modify old work rules and change organizational culture (Vibha, Pan, Yigang & Ugson, 2002; Hollensen 2012). However, the Greenfield mode also has a couple of disadvantages: to build a new plant or hire land takes time; often land is desired location is not available or may be very expensive; firms must hire local employees and have to train them to meet the desired performance.

Next section sheds the light on motives and barriers for internationalization.

THE MOTIVES AND BARRIERS OF INTERNATIONALIZATION

Motives of Internationalization

The literature provides diverse purposes related to the firm's international expansion. Numerous writers raise the questions: Why do enterprises choose to involve in internationalization? What is driving them or stimulate towards internationalization? As Senik, Isa, Scott-Ladd and Entrekin (2010) argue variables influencing SMEs decision to involve in the process of internationalization can be studied through motives. These motives have been explored by Deresky (2000), Yip (2003), Mwiti et al. (2013) and all studies agreed on one common point. That motives not only enable managers to prepare for the internationalization process but can also help to target the governmental support for internationalization properly. The literature provides various classifications of the internationalization motives. Minina and Dmitrienko (2011) argue that there are external and internal motives for internationalization. According to Mwitie et al. (2013) in the internal motives can be considered all factors associated to the effect from inside the firm e.g. quality products for foreign market, vision of the owner, network with foreign partners and market knowledge, while external factors are those restricting from the firm's outside environment like, attractiveness of the market and industry growth. Root (1994) distinguished four groups of motives:

- The motives connected to the assets and resources: lower costs of workforce, natural resources, management and technological abilities, secure supply of the resources;
- The motives related to the market: market attraction, the prospect to defend present market and exploit new marketplaces;
- The motives connected to the strategy: the goal is to upsurge global perception of the product and to cultivate global network, to develop good image of the organization and increase sales;
- The motives related to the value: economy of scale and divergence of risk.

Hollensen (2008) sheds the light on proactive motives, that can consist of increase profit/growth, increasing market share through foreign market entry and low taxes. On the other hand, reactive motives are competitive pressure, small local market, seasonal sales and network in foreign markets.

The push and pull factors were introduced by Onkelix and Sleuwaen (2008). According to them, pull factors are defined motives that arise from attractive conditions in foreign markets and from an advantageous growth of foreign markets. However, push factors are the motives that imitate the specific characteristics of the firm given by its funds, competitiveness, and product life cycle.

Albaum and Duerr (2008) suggested to distinguish motives of internationalization according to the follow aspects: internal motives, related to the firm, and encouraging the firm to change; external motives stemming from external environment of the firm, encouraging actively react to the aim to increase profit and sales; passive motives related to the intentions to maintain current profit and sales

It is concluded, and in line with the opinion of some scholars, for example, Hollensen (2008), that the decision for internationalization is determined by more than one motive, and diverse factors can contribute for companies search new markets abroad.

Barriers of Internationalization

The investigation of the scientific literature reveals that the scholars approve several factors, obstructing internationalization process. Numerous authors (e.g. Knight 2000; Dohetry 2005; Wolff & Pett 2000; Shahzad & Elenurm) note that international expansion of the business is impacted by internal and external variables such as unstable economic environment, less advanced institutions and internal factors, like corporate strategy, availability of resources and insufficient information about the foreign market. Ojasalo & Ojasalo (2011) distinguish specific and general barriers which are: development of formal and informal networks; small size of the firm; complicated foreign legal systems; cultural distance; lack of network in foreign market; high cost of local operations; difficulties of obtaining information about competitors, distributors, etc.

Leonidou (2004) defines that internationalization barriers to the national and international expansion of SMEs are those hindering internationalization process. Rutashobya and Jaensson (2004) emphasized the number of internationalization barriers including financial resources, management and marketing skills, currency risk, lack of foreign market knowledge, cultural difference, fear of foreign market risks and less advanced institutions. In 2004, European commission acknowledged the greatest obstacle by SMEs as the high costs of the internationalization process are market analysis, purchasing costs, legal consulting services, translation of documents, an adaptation of products to foreign markets, besides the higher business and financial risk incurred. Furthermore, OECD in (2018) recognized political risk, international compatibility issue, corruption, rules of law and issues related to intellectual property protection, are the main barriers encountered by SMEs in international business. Moreover, Lu and Beamish (2006) and McDougall and Oviatt (2000) established that SMEs internationalization process is probable to upturn as the world becomes more integrated, trade barriers decline, and as transportation and communication become more effective.

So, the mainstream of the scholars decided that main barriers, affecting the internationalization process are poor knowledge of the foreign market, financial costs, cultural distance, unstable legal and political environment, network and relationship with local stakeholders.

RESEARCH METHODOLOGY

Data for experiential investigation were collected via a survey questionnaire between 15 November 2017 to 10 March 2018. The population of this investigation is Finnish retails SMEs that have business activities in Russia. In total, initially 495 questionnaires were mailed: 35 were returned as non-deliverable, which compacted the sample size to 460 questionnaires. Overall, 145 usable questionnaires were received which represents an overall 31.59% present response rate. The data was analyzed by using cross tabulation method in SPSS software. The target audience for collecting data were CEO (55.6%), managing directors (30.4%), and Business Development Managers (10%).

The first 2 questions of the questionnaire are about the characterization of companies (number of years of activity and number of employees). The next questions (3 and 4) are about the pattern of internationalization and afterwards questions (5, 6 and 7) are about the market entry mode choice. At the end, questions number 8 and 9 are about motives and barriers to internationalization for SMEs.

FINDINGS

Regarding the sample studied, tables 2 and 3 show the main characteristics regarding the number of years of activity and of workers.

Table 2 sheds the light on characteristics of the firms, taking into account the years of operations. SMEs with 7-10 years of operations are top on the list with 35.17%, following by 3-6 years with 29.65%, third is 1-2 years with 11.03% and last one is less than 1 year with 7.58%.

Table 3 illustrates that more than 50% of the SMEs employs 5 to 50 employees with a percentage of 65%, while another 25% SMEs have between 50 to100 employees, 10% SMEs have between 100 to 200 employees.

Table 4 illustrates the internationalization process, where 40% of firms used systematic Uppsala approach for internationalization, while 35.9% firms mentioned that utilize their relations with stake-

Table 2. Characterization of SMEs by year of operations

Years of Operations	Number of Firms	Weight in Sample
Less than 1 year	11	7.58
1-2 years	16	11.03
3-6	43	29.65
7-10 years	51	35.17
Total	121	100.00

Table 3. Characterization of SMEs by number of employees

Employees	Number of Firms	Weight in Sample
Less than 5 people	11	7.58
5-25	39	26.89
26-50	71	48.96
51-100	11	7.58
101-150	9	6.20
More than 150 people	4	0.027
Total	145	100.00

Table 4. Internationalization Process

Process	Number of Firms	Weight in Sample
Step by step internationalization	58	40.0
Internationalization through network	52	35.9
Rapid internationalization	35	24.1
Total	145	100

holders and adapt network approach. On the other hand, 24.1% firms used rapid internationalization approach. These findings show that the majority of firms follow systematic approach (Uppsala model) of internationalization while only 24.1% firms adopted rapid expansion strategy (born global or INVs).

Table 5 illustrates the terms of mode of entry into the foreign market. Franchising is the most popular mode with 55.17%, while 17.93% choose wholly owned subsidiary, 12.41% choose joint venture, licensing 7.58% and exporting 6.89%. So, we have to highlight that Non-FDI modes have been chosen by 75% SMEs and FDI modes were only followed by 24.5%, which explains that step by step internationalization as the major model for retail SMEs.

Table 6 highlights the key motives why Finnish SMEs internationalize to Russia market. It has been found that majestic reason of internationalization was revenue generation/increases in profit (40% top on the list), which followed by capture market share (28.96% of the firms). Besides that, 20% of the respondents chose vision of the owner and 10.34% the market knowledge. The other reasons for make the internationalization process represent just 1.0% of the responses.

Table 7 list out the aims or obstacles to internationalization. Respondents informed that risk and uncertainty in Russian market is the major barrier in the way of internationalization; second barrier is less advanced institutions; third one is the lack of market knowledge; fourth one is the weak network; the fifth, is high cultural distance between Finland and Russia; and sixth reason, is SMEs high competition.

Table 5. Mode of entry

Mode of Entry	Number of Firms	Weight in Sample
Exporting	10	6.89
Licensing	11	7.58
Franchising	80	55.17
Joint Venture	18	12.41
Wholly owned subsidiary	26	17.93
Total	145	100

Table 6. Reason for internationalization

Reasons	Number of Firms	Weight in Sample
Revenue generation/increase in profit	58	40
Market Knowledge	15	10.34
Capture Market Share	42	28.96
Vision of the owner	29	20
Other reasons	1	0.68
Total	145	100

Table 7. Reasons for non-internationalization

Reasons	Number of Firms	Weight in Sample
Cultural Distance	14	9.6
Lack of network in new market	23	15.87
Less advanced institutions	25	17.24
Lack of market knowledge	20	13.7
Risk and uncertainty	30	20.68
High Competition	8	5.51
Total	145	100

DISCUSSION AND CONCLUSION

This study contributes to the theory of internationalization in the context of retail SMEs and research on entry mode choice, barriers and motive of internationalization. It has been found that there is no general theory, which explains completely the internationalization process to Russia of Finnish retail SMEs. Numerous themes develop from this study, some encompass the themes offered in the theoretical outline, and others add new perception for retail SMEs internationalization. Findings of this study say that Uppsala model of internationalization still valid in context of SMEs as majority of Finnish SMEs of the retail industry follow step-by-step internationalization process.

Also, findings of this work show that small retailers have both the potential and capability to enter international markets (35% of the studied companies have less than 25 employees). However, the most significant contribution to theory and literature was the findings of the major determinants of market entry mode choice, barriers, and motives of internationalization, of this kind of firms. A number of managerial suggestions for business practice arise. For SMEs based in a market like Finland with a relatively small local market, internationalization of SMEs can be a very crucial theme. However, research on internationalization of SMEs from developed economies to transition/ emerging economies has not been so developed, as the investigation has been done on MNEs.

According to the results of the study, increasing profits and capture market share were the main reasons for internationalization. It is quite clear that the Finnish market is small and therefore, SMEs have to go for other foreign markets for generating more revenues.

Data analysis also shows that a high number of SMEs enter into Russian market by Franchise mode, followed by the joint venture, WOS, licensing and then export. It is significant to see the difference here that retail SMEs start with franchising instead of export mode and then followed FDI entry modes. The key reason for entering in foreign market through franchise mode is suitability and industry specification. If we compare Uppsala model and findings of this investigation than it will obvious that SMEs use Non-FDI as the first step to enter into the distant market and afterward firms go for other modes of entry e.g. joint venture, acquisition, and wholly owned subsidiary. Majority of firms pointed out that reason behind choosing to franchise as an entry mode is to avoid risk in the context of financial and market knowledge limitations and it is the source of income generation with tight control on quality as well. The majority of firms agree that market risk and uncertainty, market knowledge, and less advanced institutions in Russia are major barriers in the way of internationalization.

The finding of this work complement the early investigation and provide new insights for an instance. Shahzad and Elenurm (press) investigated Finnish SMEs determinants of market entry mode choice in Estonia and found that firm, country, industry and institutional environment affect the decision of market entry mode choice. Hessels and Parker (2013) sheds the light on constraints of internationalization for European SMEs and found that having a foreign supplier is more common internationalization strategy among European SMEs then exporting. Krikstuly and Korsakiene collected the data from 2000 to 2015 on SME internationalization. They have found that majority of scholars suggested that main barriers of SMEs internationalization were unstable legal, political and economic environment, the lack of knowledge of foreign market, cultural distance and inappropriate support of the government. On the other side, the importance of the role of the entrepreneur/manager in internationalization of SMEs have been confirmed by several studies within literature (Reid, 1981; Apfelthaler, 2000).

This investigation proposes discernments into the SME segment of the Finnish retail industry in Russian market, and highlights the importance of franchising on the internationalization of retail companies and the barriers associated with the lack of knowledge about the market, potential partners (network) and about the risks of the country.

So, it is recommended that policy makers need to distinguish the characteristics of retailing in contrast to manufacturing, and consequently, adapt the franchise entry mode, to suit better the needs of retailers. Eventually, government organizations must prepare and offer programs of development of channel relationships and networking contacts for SMEs.

In that way it will be expect to create a better knowledge to managers of retails SMEs about foreign markets and potential obstacles, facilitating the access to international markets (as mentioned before in the table 6, 20% of the respondents confirmed that vision of the owner was the reason of internationalization).

Next section explains limitations and future research direction of the studies.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

A significant limitation of this study is that might need more factors to acquire a better-off understanding of the determinants of market entry modes. On the other hand, this study could not cover all barriers and motives of internationalization of SMEs. Consequently, one future study may consider investigating other variables, which affect the decision of market entry mode choice and barriers and motives. Internationalization process of SMEs from other important industries of Finland like Information and Communication Technologies, manufacturing, and wood could be investigated and comparative analysis can be conduct. Furthermore, it would be attentive to examine the role of different factors in the choice of specific entry mode like how institutional environment affect the choice of greenfield entry mode. Besides that, In this work, data was collected from a limited number of firms. Future studies may overcome this limitation by increasing the number of respondents in order to increase the validity of the results. Also, future studies may compare developed and developing markets and may examine why SMEs follow specifics internationalization models and what are the factors which describe those decisions, providing definitely new insights.

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APPENDIX

Questionnaire

1. How many employees does your company have?
   a. 0-4
   b. 05-25
   c. 26-50
   d. 51-100 more
   e. 101-150
   f. More than 150
2. How long your company has operations in foreign markets?
   a. 0-4 years
   b. 1-2 years
   c. 3-6 years
   d. 7-10 years
   e. More than 10 years
3. Does your company has done foreign operations (have subsidiary outside of your home country, export, franchising etc.)?
   a. Yes
   b. No
4. After foundation of your company, which year company started operations in foreign market or markets?
   a. 0-4 years
   b. 1-2 years
   c. 3-4 years
   d. 5-7 years
   e. 8 – 10 years
   f. More than 10 years
5. Which entry modes you have been adopted for international expansion for your company?
   a. None
   b. Export
   c. Franchising
   d. Licensing
   e. Joint Venture
   f. Acquisition
   g. Greenfield
6. How many countries does your company do exports?
   a. 1-3 countries
   b. 4-6
   c. 7-10
   d. More than 10 countries

7. Approximately what percentage of your company generates outside the home country last year? (2016-2017)
   a. None
   b. 1-5 percent
   c. 6-10 percent
   d. 11-20 percent
   e. 21-30 percent
8. Please select one or more motives of your company's foreign expansion?
   a. Sell more products
   b. Generate more revenues
   c. Get knowledge about new market
   d. Capture market share
   e. Build the network
   f. Vision or strategy of the company
   g. Leadership initiative
   h. Other (What)
9. Please choose one or more factors or which you think was the reason of non-internationalization)
   a. Host country investment and uncertainty risk
   b. Weak network or no contacts in foreign market
   c. Lack of knowledge about foreign market
   d. Complicated rules and regulations of foreign market
   e. Less advanced institutions
   f. High competition
   g. Other (what)

Thank you very much. I appreciate that you have shared your valuable time with us.

Chapter 20
Internationalization and Risks: Case Study

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ABSTRACT

This chapter focuses on the risks associated with globalization and on the risk management techniques that may be used to mitigate them. Therefore, the main objective of the research was to demonstrate how a Portuguese company in the sector of the ship-chandler, with an activity focused on international customers, is exposed to the risks of internationalization and how it operates to mitigate such risks. Consequently, the research methodology used was the case study. It was observed that even though the company was subjected to country, credit, and foreign exchange risk, which had an impact on the functioning and activity results, it did not apply any risk-management technique. For that reason, a model for the management of these risks has been proposed in order to mitigate their impact on activity and improve and streamline future operations and financial results.

INTRODUCTION

After the 1970s, the rapid expansion of international trade and the use of different currencies by countries led to an increase in companies' exposure to the risks of internationalization, with special emphasis to currency risk. Although it has already been extensively studied, risk management continues to evolve.

At European level, although there is evidence of reduced exposure to exchange rate fluctuations with the introduction of the euro, the issue of exchange rate risk continues to be relevant as a result of the economy's increasing globalization which leads to the increase of international trade.

Thus, considering that variation in exchange rates alter the companies' value, both at the accounting level and the activity's cash flows level, with implications on the financial decision and business profitability, risk management remains a fundamental theme in today's business context.

DOI: 10.4018/978-1-5225-8479-7.ch020

Presently, there is a global competition that companies must value and be prepared to face. The internationalization of organizations begins with their integration into a transnational value chain, which can take the form of a network based on inter-company agreements at national and international levels. Internationalization is a dynamic process that uses various operating modes associated with the companies' growing commitment to the respective markets they serve. The ability to produce products and services that can be sold in the international market is a way of ensuring competitiveness and adjusting the companies' strategic positioning in the face of increased competition resulting from globalization. The inherent uncertainty in globalization is an opportunity for start-ups and spin-offs in a market where the size is no longer a competitive requirement, since flexibility and adaptability supported by knowledge, improvement, and creation of products according to the market's needs and trends, are a crucial source of competitiveness. The companies' international inexperience should not be seen as a handicap since internationalization is a phenomenon of continuous learning in the face of the challenges arising from competition.

Therefore, this chapter focuses on the risks associated with globalization and on the risk management techniques that may be used to mitigate them. The primary objective of the study is to demonstrate how a company in the Ship-Chandler sector, with an activity focused on international customers, is exposed to the risks of internationalization and how it can act to mitigate such risks. Therefore, a model for risk management will be proposed in order to mitigate their impact on activity and improve and streamline future operations and financial results.

This chapter is organized into two parts. The first part contemplates a literature review developed from earlier research about the most important concepts on the topic under analysis, again, risk and its management, types of risk in international trade, with special emphasis in exchange risk, and various hedging techniques for the most common risks in the activity of international companies (credit risk, foreign exchange rate risk, interest rate risk and country risk). Therefore, the risk management strategies in international trade will be analyzed, such as credit risk management techniques (payment techniques and forms of financing), foreign exchange risk management techniques (internal and external techniques to the organization) and interest rate risk management techniques.

In the second part, the empirical study is presented, characterizing the recent evolution of a Portuguese company (which for the purpose of the study will be named "Navigation, Ltd") and its international activity, along with the associated risks and risk management techniques. This part ends with the study's conclusions.

LITERATURE REVIEW

Risk: Concept and Management

The management literature presents several definitions for the term "risk". According to Bernstein (1997), *"the word risk derives from the ancient Italian risicare"* (p. 8). The term "risk" is understood more as a choice than as a fatality or fate (Howe, 1991). The widespread use, albeit often ambiguous, of the term "risk" leads to some confusion about its true meaning. Possibly, the best definition of risk is the one related to the double dimension uncertainty/undesirability which can be associated with a given result of a certain event (Howe, 1991).

Obviously, the degree of acceptability related to a given event varies from person to person and depends on the circumstances in which it occurs, so there is the need to consider the risk profile of the economic agent (Howe, 1991).

According to the risk management Standard issued by the *Federation of European Risk Management Associations* (FERMA) (2003), the risk can be defined as the combination of the probability of an event and its consequences. The simple fact that there is business activity raises the possibility of occurrence of events or situations of which the consequences, constitute opportunities to obtain advantages, or threats to success (FERMA, 2003).

Gitman (1997) considers risk as the possibility that the results achieved may differ from those expected. The author stresses that shareholders have risk aversion, and it is crucial to avoid it. Thus, they expect higher return rates on investments with higher risks and lower return rates in those with lower risks.

As per Drew and Kendrick (2005), the risks can be classified according to their source, nature, impact, the likelihood of occurrence or duration.

The classification of risk types is essential not only to direct the priorities and attention of managers but also to help build models of cause and effect and designate measurement systems for risk management. The various risks can be caused by internal or external factors to the Organization (Drew & Kendrick, 2005).

According to the Brazilian Institute of Corporate Governance (IBGC) (2007), external risks are instances associated with the macroeconomic environment, political, social, or sector in which the organization locates, such as the level of credit expansion, the degree of market liquidity, emerging technologies, political instability, social conflicts, environmental disasters, public health problems, amongst others. As such, the organization, in general, does not exert direct control over these events but can be prepared to, as far as possible, anticipate them and react as quickly as possible. On the other hand, internal risks are events originated in the very structure of the organization caused by its processes, workforce or technological environment. The organization can and must interact directly with a proactive action (IBGC, 2007).

The IBGC (2007) still classifies the risks, according to their nature, in three categories: strategic risks, financial risks, and operational risks.

The strategic risks are associated with the high-level decision-making executives and can generate a substantial loss in economic value. An example of strategic risks is the failure to anticipate or react to competitors' actions, such as mergers and acquisitions or a decrease in the company's products market share caused by obsolescence due to the development of new technology by the competition. Coimbra (2006), adds that the strategic risks may also be associated with environmental changes, which may occur due to the development of new technology, changes in the competitive arena, regulatory requirements, changes in customers habits, amongst others. Considering the opinions of various authors (IBGC, 2007; Mcgee, 2005; Slywotzky & Drzik, 2005), strategic risks can be divided into subcategories, related to industry, technology, brand, competition, customer and social-political environment.

The financial risks are defined by the IBGC (2007), like those relating to the operations that define the structure of reinvestment of the activity. As such, they may be related to credit risk, interest rate risk, currency risk and market risk (IBGC, 2007; Jorion 2001).

The operational risks are associated with the possibility of losses (production, assets, customers, and revenue) resulting from faults, deficiencies or inadequacy of internal processes and systems of the normal activity (Culp, 2001; IBGC, 2007; Jorion, 2001). Operational risks usually involve total or partial reduction, degradation or interruption, of the activities, with a negative impact on the Organization's reputation, as well as potential creation of financial, legal and environmental liabilities (IBGC, 2007).

The Committee of Sponsoring Organizations of the Treadway Commission (COSO), initially named *the National Commission on Fraudulent Financial Reporting*, was created in 1985 in the United States, as an independent initiative to study the causes of occurrence of fraud in financial reports. It is a non-profit organization sponsored by five of the main associations of professional classes related to the financial sector in the United States: *American Institute of Certified Public Accounts* (AICPA), *American Accounting Association* (AAA), *Financial Executives International* (FEI), *The Institute of Internal Auditors* (IIA) and *Institute of Management Accountants* (IMA). COSO (2009) defines risk management as a process conducted in an organization by the Board of Directors, management and other personnel, applied in a strategy setting, formulated to identify throughout the organizational structure, potential events that may affect its success.

COSO (2007) lists four categories of risks related to an organization's objectives: strategy, operations, reporting, and compliance.

The strategic category refers to the organization's goals and objectives that support the mission. The operation category refers to the effective and efficient use of resources. The reporting category relates to the reliability of the external financial statements. The compliance risk is the occurrence of negative impacts in the results or capital, resulting from violations or non-compliance with respect to laws, regulations, specific regulations, contracts, rules of conduct and relationship with customers, instituted practices and ethical principles that materialize in legal sanctions, in limitation of business opportunities, in reduction of the potential for expansion or in the impossibility to demand the fulfilment of contractual obligations (COSO 2007).

As for risk management methodology, its function is also to manage the risks in order to keep them compatible with the Organization's and its managers' profile and provide reasonable assurance concerning achievement of objectives (COSO, 2009).

In the view of La Rocque and Lowenkron (2004, p. 2), risk management *"historically was based on the measurement of impacts of the isolated variation of factors such as interest rates, currencies, and commodities on company-specific action areas: cash applications, a portfolio of derivatives or foreign revenues."*

According to FERMA (2003), *"business risk management is a process developed by an entity's board of directors, management and other employees, applied in the establishment of the strategy across the enterprise. This strategy is designed to identify potential events that may affect the entity, and manage the risk according to the entity's risk appetite, to ensure a reasonable certainty on achieving its objectives"* (p. 3).

Furthermore, FERMA (2003) considers that *"the central point of good risk management is their identification and treatment. Its goal is to add sustainable value to all the Organization's activities"* (p. 3).

In this same line of thought Davis and Blaschek (2006), define risk management as a logical and systematic process, in which organizations can identify and evaluate risks and opportunities, aiming at a better decision-making and performance evaluation. The authors add that risk management is geared towards the future because in addition to prevent and minimize losses it also identifies opportunities.

Davis and Blaschek (2006), state that there is no completely safe environment, however, *"many risks can be avoided, reduced or eliminated, with good risk management, which must be well-planned, logical, comprehensive and strategically documented. This strategy provides general guidance for plans, policies, and procedures"* (p. 5). The risk management strategy must be well developed on the daily activity, in order to ensure that risk management meets its purpose.

FERMA (2003), highlights that risk management supports the Organization´s objectives in the following way:

- Contributes to creating a structure within the organization that allows the development of the future activity in a consistent and controlled manner;
- Improves decision making, planning, and priority setting, through the structured and comprehensive interpretation of business activity, the volatility of results and the project's opportunities and threats;
- Contributes to a more efficient use/allocation of capital and resources within the Organization;
- Reduces volatility in non-essential business areas;
- Improves the management of the company's assets and image;
- Contributes to people's knowledge management and of the Organization;
- Optimizes operational efficiency.

Therefore, risk management in a company intends to mitigate the risks, as well as to identify, control, plan, manage and develop models and mechanisms capable of predicting future threats to which the organization is susceptible.

The Internationalization and the Risk

The Internationalization

With the progressive liberalization of world trade, international expansion has been the companies' response to the generalized increase of competition and threats to its survival. Welford and Prescott (1994), state that the expansion into international markets is one of several growth strategies, which, Fernández and Nieto (2005), consider to be the most complex strategy that a company can adopt.

Simões (1997) calls attention to the existence of different definitions of internationalization, based on two dichotomies: the micro-macro approach, which confronts the national economy optics with that of the company; the internalization inward and outward aspects, that is, "inside-out" operations (exports, overseas licensing and investment abroad) and "outside-in" operations (imports, foreign technology acquisitions and foreign investment).

At a business level, amongst the various definitions of internationalization, one can mention Meyer's (1996), which defines it as the process by which a company increases the level of its activities outside of the country of origin.

Calof and Beamish (1995) refer that internationalization is the process of the company's operations adaptation to international environments (strategy, structure, resources, amongst others).

For Chetty and Campbell-Hunt (2001), the internationalization cannot only be seen as a process of "increasing progression", but as a phenomenon with setbacks, in which companies can reduce the internalization level, by discontinuing a product or abandoning direct investment abroad, and concentrating on export mode or even ceasing their international activities.

From Galan and Gonzalez-Benito's (2001) point of view, the research on the internationalization process should answer the following questions: (1) why internationalize? (2) how to internationalize? and (3) where to internationalize?

Deresky (2004), points out that there are different reasons why a company decides to internationalize, some reactive, other proactive. The reactive reasons can derive from global competition, trade barriers, regulatory constraints imposed by Governments, and from consumer demands. Amongst the proactive reasons, one can highlight: obtaining economies of scale, growth opportunities, access to resources, cost savings and incentives (tax exemptions and subsidies).

About how companies internationalize, Johanson and Wiersheim-Paul (1975) and Johanson and Vahlne (1977), present four progressive steps of entry into international markets. These steps represent different degrees of involvement in foreign markets, such as, simple exports, exports via independent representatives, establishing an international sales subsidiary or international business units which contemplate all of the business' value chain activities. These authors have reached such empirical evidence, after conducting research with Swedish companies.

According to Root (1994), the entry mode into foreign markets can occur through export (indirect, direct via agent/distributor or representative), contract (licensing, franchising, technical agreements, service contract, management contract, construction contract and manufacture contract), and investment (acquisition and joint-venture).

However, more recently the topic of companies' internationalization has been studied through the theory of the Born Globals (Oviatt & McDougall, 1995). In the 90's, this theory emerged, as it was perceived that the pace of companies' internationalization was occurring very intensely. Therefore, the thesis of gradual and incremental expansion did not fully explain the internalization process, especially in small and medium-sized companies that practiced a significant international activity since their inception. Thus, the Born Global thesis arises based on the companies which are involved in international activities since their first years of activity (Andersson and Wictor, 2003; Bell, 1995; Coviello and Munro, 1997; Crick and Jones, 2000; Oviatt and Mcdougall, 1994).

In Oviatt and McDougall's (1995) vision, the Born Globals are companies that, from the beginning of their constitution, seek to develop significant competitive advantages in the use of resources and the sale of products or services in several countries. The Authors, also add, that the Born Globals have a proactive internationalization strategy and a commitment to sell their products or services in global markets, even without possessing business units overseas.

Knight and Cavusgil (1996) defined Born Globals as companies that sell at least 25% of their products in foreign markets and began their export activities after their first three years of activity.

Research conducted by Moen and Servais (2002), involving small and medium-sized exporting companies from Norway, Denmark, and France, points out that, in one-third of the companies studied, the period between their constitution and export was less than two years. The results also indicate that competitiveness can be considered as the leading cause of internationalization and that the company's basic resources and competencies are developed during the establishment phase.

Concerning the motivations for the rapid internationalization of Born Globals, Cavusgil (1994) indicates several factors, amongst them, he highlights the growing role of markets' niches, increased demand for specialized or customized products and shorter product cycles.

However, the companies' involvement in international markets is a highly complex decision. According to Han, Kim, Jang and Choi (2009), the decision of internationalization divides into three phases: (1) identification of countries that are more favorable and with lower risk factors; (2) selection of the project to be carried out in that market; (3) viability determination of the internationalization's opportunity.

Root (1994), listed a set of factors that affect business decisions (dividing them into internal and external). As external factors, the author highlights the country's characteristics (size and market growth,

political and economic environment, and infrastructures), trade barriers and Government regulations and the products' characteristics. As internal factors, he refers to the managers' experience which condition the management objectives and markets' selection strategy. In the early stages the internal and external factors are what enables the company to identify the various possible entry modes; from here it uses economic variables to select the most appropriate entry mode.

Young, Hamill, Wheeler, and Davies (1989) suggested a similar evaluation method in which they specify the entry objectives, assess their relative importance from the company's point of view, defining their relative weights, in order to sort the various strategies.

One of the constraints of the process of internationalization refers to the opportunities that the company or the decision-maker identify and how they are prepared to act accordingly (Johanson & Vahlne, 2006).

Johanson and Vahlne (2006), still mention the opportunities as all the productive possibilities that the managers identify and can take advantage.

Research on the background of opportunities demonstrated the relationship between managers prior experience with the opportunities to be developed (Leonidou, Katsikeas, & Piercy, 1998).

Another factor that influences the process of business internationalization is uncertainty and is seen as the opposite of an opportunity in the scope of internationalization (Weber & Milliman, 1997).

From the perspective of Madsen and Servais (1997), the features and experiences of the decision-making processes are attributes of the decision-makers, which will influence the decision about which are the most attractive markets and what are the opportunities worth pursuing, as well as what factors will reduce uncertainty about the specific market.

On the other hand, it has also been studied the social ties implications (contacts in target markets) as determinants of the internationalization process. This perspective was developed as a result of the perceived failure of the research that investigated the process by which companies identify export markets and the existing specific buyers in those markets (Ellis, 2000).

Still, Ellis (2000) argued that the apparently irrational behavior of who decides which market to enter provides a rational basis for the study of the company's internationalization process from a perspective of social ties, that is, the contacts that have implications on the process.

Thus, it is possible to identify a multiplicity of decision-making factors concerning the internationalization process which are generally associated with the activity, the immense potentials and the competitive capacity of the company vis-à-vis its competitors.

Risks in International Trade

According to Ryan (2009), international trade (export and import) is the essence of international finance. As exports and imports take place between entities of different parts of the world, separated not only by physical distance but by different policies of each country, it becomes increasingly important to manage the risk of international trade. For this reason, new protocols, rules, and regulations have been developed more assiduously for exporters and importers to comply with their obligations. For example, the exporter may not provide the right type of product, not deliver the goods by the established deadline or may not supply the negotiated quantity. On the other hand, the importer may reject the goods by demanding quality standards, not pay the value according to the terms negotiated or within the appropriate term (Ryan, 2009).

In the same way, that there is no standard definition for the risk, there is no universally applicable risks' classification to the companies' activity in international trade. The definition of risks' typology

or classification considered by an organization depends on the context in which it inserts, the industry that belongs to and the chosen strategy (Drew & Kendrick, 2005). For example, a financial institution must focus on credit risk, interest rate risk, exchange rate risk, liquidity risk, and operational risk, while a multinational factory must be concerned about the political, economic and financial risks of each country in which it operates, in addition to the above risks (Drew & Kendrick, 2005).

According to Boczko (2005), the sources of risk in international trade divide into four categories: country risk, credit risk, property risk, and currency risk.

Country risk, as per, Ryan (2009), is defined as the loss that may arise from conducting business in a foreign country. The country´s risk refers to the likelihood that changes in the business environment, in the social, political, legal and financial scenario, may reduce the profitability of the business conducted in that country. Ryan (2009), studied if the country's risk is relevant to determine the markets in which the company should engage in trade relations. In his studies, he found that the socio-political risk is an important part of risk assessment in the country and that the existence of a higher level of democracy positively conditions the level of the country's risk and guarantees higher trade flows. The credit risk is also related to the country's risk because companies in some countries experience difficulties sending payments to their suppliers or receiving from their customers due to government policies.

Thus, the credit risk is associated with the loss caused by lack of payment or breach of contract by the counterparty. When an entity lends money to another, it expects to receive the borrowed money, as well as interest. In this way, the entity is dependent on the debtor's ability to pay, suffering a loss if he does not pay the interest or return the capital. Credit risk occurs whenever there is a probability that a counterparty does not pay the other party a cash flow in the future. Examples of direct credit risk situations include standard loans and unsecured loans like credit cards; guarantees provided and written letters of credit; agreed lines of credit that may be extinguished; receipts of commercial transactions; other receipts, like derivatives (Pinho, Madaleno, & Valente, 2011). Another risk associated with the debtor's ability to pay is liquidity risk which can be defined as the risk of a company's inability to meet its commitments when the values of the monetary assets are not sufficient to meet the current liabilities. In this situation, there may be a decline in credit institutions' confidence that can hinder the funding, making it more expensive or inaccessible. Thus, the company may have greater difficulty in meeting its obligations, possessing a higher liquidity risk.

The property risk is related to the possibility of loss or damage to goods in foreign countries, for example, theft, loss or damage (Alves, Teixeira and Rita, 2007).

The exchange risk is associated with the change in the price of one currency in relation to another. In addition to the exchange rate fluctuations arising from the business and financial operations, the exchange risk is also strongly linked to the country's risk, because customers can choose to buy goods in countries with the same currency or countries with less valued currencies. So, they get lower prices and sometimes without exchange-rate differences, which can have a very significant impact on the company's sales. If a company invoices in euros which appreciates, the international customers outside the Eurozone must exchange more currency to buy in the companies within the Eurozone. As a result, the products will become more expensive with less competitive prices. Therefore, the exchange rate risk has a significant impact on organizations that operate in international markets, and the companies should give enough relevance to its management.

Other authors such as, Neves (2011) and Pinho et al. (2011), still, refer to the interest rate risk as resulting from changes in the reference rate value of financial instruments which can generate losses for investors.

The evolution of exchange rates presents a strong relationship with the other mentioned risks. Regarding country risk, this relation shall be established through the evolution of economies and its impact on inflation and interest rates that, in turn, influence the foreign exchange rates. Concerning credit risk, it is also associated with the risk of the country and consequently to the exchange rate risk and interest rate risk, because fluctuations of the currency reserves might hinder the companies' liquidity and their ability to fulfill their obligations with third parties, as well as increase the cost of the interest payable to obtain financial resources.

Thus, due to their importance in the operational activity of companies with an internationalization strategy, the exchange rate risk and interest rate risk will be treated in the following points of the chapter.

Currency Risk

Since 1973, with the decline of the *Bretton Woods*[1] system and the exchange rates flexibilization in more developed economies, researchers and managers have sought to understand, the impacts that this new scenario has brought to the business world, especially to organizations with international activities.

The exchange risk relates to the change in the price of one currency in relation to another and "(...) can be generated by trade activities (import/export) with foreign countries, by a financial activity in foreign currencies and also by the multinational development of a company" (Gillot & Pion, 1993, p. 17).

In addition to the exchange-rate risk generated by the aforementioned operations, the variation of exchange rates can also affect (in the medium-term) the company's competitive position, which occurs when the exchange rate trend benefits a foreign competitor. When a country's currency depreciates against another, goods produced in that country became cheaper for international buyers, which leads to an increase in the companies' competitiveness in that country (Gillot & Pion, 1993).

From a temporal perspective, "*a company is exposed to exchange risk at the moment it performs a commercial or financial transaction, carried out in a currency different from its domestic currency*" (Debeauvais & Sinnah 1992, p. 109).

According to Debeauvais and Sinnah (1992), this risk may assume the following typologies, (1) commercial exchange rate risk, when the underlying operation is commercial; (2) assets' exchange rate risk, when it stems from investments abroad; (3) competitiveness risk, when companies are exposed to intense international competition.

The studies of Shapiro (1975), Hodder (1982), and Heckman (1985), emphasized the effect that the exchange rate has on companies' cash flow. These studies demonstrated that the variation in the exchange rate might affect the companies' market value since it focuses directly on their cash flow and indirectly on their cost of capital.

Dumas (1978), Adler and Dumas (1984), and Hodder (1982) defined the relation between the companies' market value and the unexpected changes in the exchange rate as "*economic exposure to exchange risk,*" or the risk of foreign exchange rate exposure.

According to Cornell and Shapiro (1983), economic exposure to exchange risk has two distinct components: transactional exposure and operational exposure. The transactional exposure, i.e., the transaction risk, is the possibility of incurring in exchange rate gains or losses, at a future date, in transactions performed in foreign currency, whose effects usually are felt in the short-term. The operational exposure, i.e., the risk of conversion, results from fluctuations in the currency value, along with the prices adjustments, being able to affect in the long-term the company's operating cash flow.

In this way, the risk of exposure to foreign exchange does not depend only on the number of international transactions that a company performs, but also on the degree of exposure to external influences that the economy of the countries in which it operates is exposed, like for example, the interest rates.

According to Ferreira (2008a), the exchange rate risk can be divide into three distinct types, the conversion risk, the transaction risk, and the economic risk.

The risk of conversion, also called accounting risk, measures the effect of variations in the exchange rate of foreign currency transactions and in translation (consolidation) of a companies' financial statements to its functional currency, whose assets and liabilities are recognized initially in foreign currencies. In accounting terms, the difference between the assets and the liabilities exposed is generally designated by net exposure. If the amount of assets exposed is greater than the liabilities exposed, depreciation of foreign currency will result in losses, while the appreciation will result in profits. On the other hand, if the amount of assets exposed is lower than the liabilities exposed, depreciation of foreign currency will result in profits, while appreciations will result in losses. The risk associated with the consolidation may not be managed since it has no impact on future cash flows. However, during successive currency devaluations in the markets where the subsidiaries locate, the parent companies will be able to compensate the devaluation of their equity through the negotiation of financing in those market's currencies. The value of the assets, liabilities, and equity in foreign countries is expressed in local currency, as are the results generated in that country. These can change the value of the equity of the parent company to another value greater or smaller due to exchange fluctuations between the functional and the local currency. At the time of presentation of financial statements in the country of origin, the parent company is required to integrate the financial statements of their international affiliates, following the procedures set out in the Portuguese accounting and financial reporting standards no. 14 – Business Activities Concentrations (which follow the principles of the International Financial Reporting Standard (IFRS) no. 3 – Business Combinations) and no. 23 - The Effects of Changes in Foreign Exchange Rates (which follow the principles of IFRS no. 21 – The Effects of Changes in Foreign Exchange Rates). In companies with considerable foreign investment, this becomes a considerable risk and "can lead to significant losses in the parent company's equity" (Ferreira, 2008a, p. 17).

In addition to the accounting risk, it is also important to understand the transaction risk and economic risk. According to Ferreira (2008a), the transaction risk refers to the potential changes in the value of receipts and payments, due to changes in foreign exchange rates between the beginning and end of the contract. On credit purchases and sales, loans obtained and granted, as well as results to be received, if they are denominated in foreign currencies, are some examples of operations exposed to transaction risk. If the receipts are higher than the payments, depreciation of the foreign currency will lead to losses in the treasury, and appreciations will lead to profits. If the receipts are lower than payments, depreciation of the currency will lead to gains in treasury and appreciations will generate losses.

The economic risk, i.e., the economic exposure, also referred to as operational exposure, measures the impact of foreign exchange rate fluctuations on the net present value of future cash flows of the company's activity. The concept of economic risk generally applies to future cash flows generated by operations abroad, and may, however, also apply to cash flows generated in the domestic market (Ferreira, 2008a). This risk is associated with the company's ability to mitigate the impact of foreign exchange rate fluctuations in the prices of production factors and selling prices of its products on international markets.

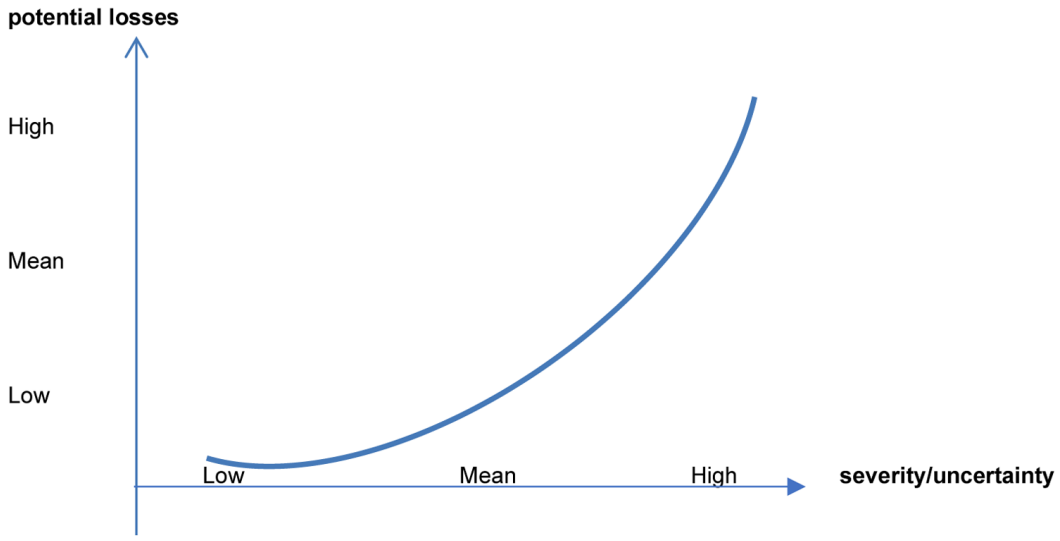
Interest Rate Risk

The interest rate risk is an unfavorable fluctuation in interest rates. For example, in transactions with variable rates, the increase on the interest rate of a loan would aggravate the installment to pay the Bank, causing difficulties in treasury management, leading to liquidity problems in companies; a reduction in interest rates would result in a more favorable treasury situation. Conversely, in the case of treasury applications, lower interest rates lead to a reduction of the available resources, that is, the amount of interest periodically received decreases, while the opposite situation generates an increase in the amount of interest received (Ferreira, 2008b).According to Ferreira (2008b), "analysis and evaluation of exposures to interest rates allow companies to decide on the *severity* and *uncertainty* of open positions and about potential losses" (as can be seen in Figure 1) (p. 38). According to the same author, the entities will have to program risk management methods more suitable in the case of situations in which important potential losses can occur. These methods can have three objectives:

- To balance exposure to fixed and variable rates;
- Careful management of loans and investments, to reduce any possible risks;
- Protection against adverse changes in the levels of interest rates on the yield curve (in general, to lend money for a longer period, the financier requires a higher interest).

Still, according to the same author, the interest rates are important for the whole economy, since a change in their value can affect the global economy in several ways. For example, an increase causes a reduction in consumption and investment, slowing down the economy. On the other hand, when the value of the interest rates decreases, companies have greater access to financing, allowing the expansion of their activities, generating a higher production capacity and a potential increase in wages levels. Such

Figure 1. Risk management curve
Source: adapted from Ferreira (2008b:39)



reality naturally introduces greater economic dynamics and a more favorable environment for business operation, positively acting on the companies' results. Thus, at, the business level, the interest rate risk not only, focuses on financial transactions (loans and applications) that companies perform but also on the evolution of the business itself by also conditioning the potential market's characteristics.

Risk Management Strategies in International Markets

As mentioned above, the decision of internationalization, involves a series of risks, amongst other, the entry mode in foreign markets, the company's competitiveness, the context of markets and the risks of the countries involved in the companies' business.

As such, the decision of internationalization must be the result of the strategic analysis, to assess the economic and financial viability to approach new markets, as well as the potential benefits to be obtained given the associated costs. Also, and on a more operational level, companies are confronted with credit risks, interest rate risks and foreign exchange risks, in trade and financial operations that they perform daily within their operating cycle, transforming sometimes great opportunities into financial catastrophes. As these risks strongly affect companies' normal activity in international markets through higher financial costs arising from receipts that don't occur, from unfavorable exchange differences or negative evolutions in the interest rates, different strategies to manage these risks will next be addressed.

At first, the payment techniques and sources of financing in international trade, that allow to mitigate the credit risk and to protect the company's treasury, will be presented. Then, the techniques to hedge exchange risk and interest rate risk will be studied, to highlight how they could improve the international business' margin.

CREDIT RISK MANAGEMENT TECHNIQUES

Payment Techniques

"These instruments, if properly used, can make international operations not only safer but also less expensive, thus contributing to their development and strengthening" (Porfirio, 2003, p. 121).

Gogoski (2012), refers that the payment techniques are indispensable for organizations and the proper functioning of the economy. They allow money to fulfill its function as a mean of exchange in the purchase/sale of goods or services.

If money is the essence of modern monetary economies, monetary payment techniques are what makes the system circulate. A well-conceived payments infrastructure contributes to the smooth functioning of the markets, helps eliminate friction in trade, ensuring financial stability in the markets (Gogoski, 2012).

Bolt and Chakravorti (2010), suggest that the choice of payment techniques depend on several factors, such as transaction features, stakeholders location and structure costs.

Porfirio (2003), mention that there are several payment methods applicable to trade with foreign countries, which can be grouped into two broad categories, depending on how the documents are transacted:

- Direct settlement operations, in which the documents are sent directly to the purchaser of the goods. They comprise two means of payment: foreign cheque and money order.

- Documentary operations, in which the transmission of documents is always carried out through financial institutions. They include two methods of payment: documentary remittances and documentary credits.

The parties, taking into account the safety of their operations, may choose the procedures that best serve their interests.

On the assumption that the purchase is not immediately paid and considering the good international trade practices in this area, as well as the growing number of economic agents involved in this activity, the documentary credit has become the most widely used and secure mean of payment to assure the interests of the various parties involved in international trade (Agência para o Investimento e Comércio Externo de Portugal [AICEP], 2010).

The bank draft is quite different from what it was referred in the previous paragraph, as there is a more significant timeline between the moment of the importer's account debit and the moment the exporter actually receives (Banco Português de Investimento [BPI], 2014). The bank draft is a payment document issued by a Bank, over an owned account or of any other financial institution, with provision guarantee. It is a product aimed at companies that develop an import/export activity of goods or services, used in transactions with suppliers or customers abroad, with which they have a high degree of confidence. The exporter sends the goods and the documents which represent them directly to the importer. The importer instructs his bank to issue a foreign cheque by debiting his account, in favor of the exporter over a bank account within the exporter's country. The issuing bank debits the originator's account by the total amount plus expenses and delivers him the cheque for submission to the beneficiary. The beneficiary then presents the cheque to the issuing Bank or any other bank where it has an account, in order for the Bank to trade it or send to collection.

Foreign payment orders or international transfers are banking operations that involve credit institutions from different countries and allow the transfer of funds between accounts in any currency, made at the initiative of a private payer or a company, that requests a credit institution to debit its account and to credit another, that of the beneficiary, which is domiciled in a credit institution abroad. The main advantage of these operations is the convenient, fast and safe way to send funds abroad, reducing costs and administrative burden associated with the implementation and control of payments, as well as the possibility to associate foreign exchange operations previously contracted with the Bank (Instituto de Apoio às Pequenas e Médias Empresas e à Inovação [IAPMEI], 2011).

The consignment is the most basic mean of payment in documentary operations, but is also the least secure for the exporter, since the importer may have access to the goods before going to the Bank to fulfill his obligations (BPI, 2014). It consists of an order given by the exporter to his bank to send bills of exchange or other financial documents, for payment or acceptance by the importer. As a rule, these financial documents relate to a shipment of goods. The exporter sends an acceptance on the importer with the agreed value, and the issuing bank sends the acceptance to the correspondent bank with instructions to obtain the acceptance and make the payment at maturity. After acceptance, the correspondent bank sends it to the issuing bank that delivers it to the exporter or, keeps it for collection at maturity (BPI, 2014).

Concerning documentary remittance "it is a more elaborated operation than consignment, which requires a higher involvement of financial institutions than in the case previously analyzed, thereby providing a safer form regarding liquidation of international trade operations than the other ones analyzed" (Porfírio, 2003, p. 102).

"The fundamental difference with consignment has to do with the simple fact that, through the documentary remittance, the importer only gets effective possession of the shipped merchandise after payment or acceptance, which corresponds to the actual value of the operation in question" (Porfírio, 2003, p. 102).

Documentary remittance is an operation in which the seller dispatches the goods, however, the documents, particularly those that transfer ownership, are sent, in general, through the seller's bank to a bank in the buyer's location, that will deliver them under certain conditions. Eventually, the discount of remittances contained in the bill of exchange issued may occur. In this case, the Bank advances the funds on the transaction value, crediting the exporter maintaining the right of recourse against him in case of buyer's default (IAPMEI, 2011).

The documentary credit, originally named "letter of credit (L/C), defines the primary form of exchanging messages between financial institutions via a letter, where all the terms inherent to a documentary credit were included. With the evolution of information technology in general and, especially, the creation of the SWIFT entity (Society for Worldwide Interbank Financial Telecommunication), the exchange of this type of documents between financial institutions began to be carried out in a generalized way through the SWIFT system. As such, the letter of credit designation in some way fell in disuse in its Portuguese expression, assuming the name of documentary credit" (Porfirio, 2003.p.102). The documentary credit is a payment guarantee for the transaction of goods/services consisting of an order given by the importer to his bank, which assumes, towards the exporter, the obligation to pay, accept or negotiate a certain amount (value of the goods), provided that the beneficiary submits all the required documents in accordance with all the terms defined in that commitment (letter of credit). It is aimed at companies with an international activity that need to perform collections or payments, and the degree of trust between the buyer/seller is meager (Montepio, 2014).

In the case of a documentary credit with payment against presentation of the documents (spot), the importer requests his bank to open a credit, which then demands a bank in the exporter's country to notify him, informing the conditions under which the credit is opened. The exporter reviews the terms of the letter of credit (previously agreed with the importer) and proceeds to the shipment of the goods to the destination indicated in the letter of credit. Within the stipulated term, the exporter delivers the required documentation to the notifier bank; If the confirming bank confirmes the documentary credit and if the documentation submitted comply fully with the stipulated conditions, the confirming bank pays the exporter the value of the credit and sends the documents received to the issuing bank. In case, the credit is only notified the exporter's Bank sends the documentation to the issuing bank, requesting immediate reimbursement. In either case, the issuing bank checks the documents conformity with the terms of the letter of credit, and if there is no divergence, it reimburses the bank that sent the documentation and delivers it to the importer against payment of the used amount. The importer upon possession of the documents collects the goods. In the case of a documentary credit against acceptance or deferred payment (term), the process is identical, except for the payment which is replaced by the acceptance of an effect and or payment deferral for the agreed deadline (IAPMEI, 2011).

In addition to the payment techniques, it is important to mention the importance of companies' forms of financing in international markets since the proper use of financing can be crucial to any company's strategy of expansion, as it may allow balancing the cash situation, compensating the receiving deadlines granted.

Financing Forms

The forms of financing in international markets include some instruments through which companies can finance themselves in foreign markets, Such as, the bills of exchange, *forfaiting* and bank acceptances (Eiteman, Stonehill, & Moffet, 2002; Porfirio, 2003).

Eiteman et al. (2002), state that the bills of exchange are a form of short-term financing. The customer when paying an invoice through a bill of exchange transaction can lengthen its payment period. On the other hand, the holder of the bill of exchange can cash it at the bank, receiving the money in advance.

However, in foreign trade, the bills of exchange are often bought by banks, an operation called *forfaiting*. With this option, the seller of the bill of exchange can eliminate his exposure to risk (Millennium BCP [BCP], 2015).

Thus, the financing at *forfait* or *forfaiting* consists of the purchase by discount by the bank forfaitor, without recourse to the exporter, of debt securities (letters, promissory notes or other instruments of debt recognition). The forfaitor bank by purchasing without recourse to the exporter assumes all the risk of the international transaction. Hence, these operations may often be subject to a guarantee by a foreign financial institution, which in this case, assumes its client's (importer) risk. This solution allows the exporter to sell debt securities to the Bank in order to take advantage of immediate payment rather than to wait for maturity dates, releasing the credit limits to the extent that the exporter exonerates himself from the operation. The exporter immediately receives the net amount (deducted from interest and expenses), while the importer pays within the agreed timeframe the imported goods, most of the times including in that payment, interest, and, expenses charged by the Bank.

About bank acceptances, *"the use of banks acceptances assumes the existence, in a company's portfolio, of some credit titles accepted by a particular importer of another country and guaranteed by a financial institution of the importer's country"* (Porfírio, 2003, p.152). In other words, the bank acceptance is used to designate a contract, which takes the form of a title, accepted by a bank for payment of a certain amount in a future date. These titles will allow the exporter to request his bank their discount, with chances of recourse and agree with this same bank a fee for this operation (BCP, 2015).

In conclusion, currently, there are several payment techniques and forms of financing that can be applied to operations performed in international markets that allow a decrease in credit risk within foreign clients. Thus, the techniques to be used should consider, the knowledge of the risk associated with the debtors with whom the company conducts business and the activity's financial needs which may require prioritize liquidity and shorter receiving deadlines.

Currency Risk Management Techniques

Companies can use a variety of techniques to manage and hedge the exchange rate risk and interest rates. As per Matos (1992), the exchange rate risk management techniques can be distinguished between internal and external as shown in Table 1.

Internal techniques are those with lower costs for companies because they consist of hedging operations performed without resorting to financial markets. On the other hand, external techniques consist of hedging operations using financial instruments and companies must resort to external entities incurring in higher costs.

Table 1. Risk hedging techniques

Internal Techniques	Existing Positions	• Advance payment • Technique of *Leading and Lagging* • Compensation
	Future Positions	• Choice of invoicing currency • Actions on sales prices • Actions on assets and liabilities • Diversification of currencies
External Techniques		• Fixing of Exchange rate (Forward) • Arbitration of futures positions • Matching • Advance payment of foreign currency • Prompt payment discounts • Currency Futures contracts • Currency Swaps • Currency Options contracts • Coverage by official entities

Source: adapted from Alves, et al., 2007

Internal techniques may be further divided into those which apply to existing positions and those which apply to future positions.

Internal Techniques

These hedging methods involve adopting measures at a strategic level regarding financing, commercial and investment policy. Typically, this type of risk management leads to production relocation and financing in the same currency or another with a strong correlation with the billing currency of exports (Porfirio, 2003).

Regarding internal techniques on existing positions, previously referred to in Table 1, the company can resort to the prepayment, to the leading and lagging technique and compensation.

In prepayment, the importer pays the exporter before the shipment of the goods. The prepayment is the most interesting option for the exporter, which receives payment in advance. The importer assumes the risk, that may not receive the goods or receive it in conditions not previously agreed upon. Although the advanced payment is not a usual procedure adopted, it can occur when there is a trust relationship between the companies involved. It is also used amongst companies of the same economic group and, also by importers that seek to avoid future appreciations of the currencies that they must pay.

The technique of leading and lagging involves an amendment to payment and receipt dates as a precaution against possible devaluations or expected appreciations of foreign currencies. Abor (2005) defines the lead strategy as the anticipation of the receivables when the currencies involved will suffer depreciation, as well as the anticipation of payments when it is expected an appreciation of the foreign currency. Regarding lag strategy, it is a balanced combination of performance indicators which aims to delay the recovery of amounts receivable when an appreciation of the associated currency is expected as well as the delay of payments when the currency is expected to suffer a depreciation. This method requires some leverage or strong trust relationships between the business partners, being always easier between companies of the same group than between practically unknown companies. The success of this technique also depends on, the interest rates applied in the countries in question, since it can lead to

short-term funding requests or no applications of funds in cases of delay in receipts, as well as applications of funds in case of receipts anticipation with eventual financing request by the paying entity. Therefore, the foreign exchange earnings will necessarily have to be greater than the losses regarding interests.

Another internal technique on existing positions is compensation that according to Abor (2005), is the attempt to reconcile the amounts payable and receivable under the same currency with the same partner and on coinciding dates with the objective to reduce exposure to exchange rate risk and reduce costs related to funds transfer. This type of technique implies effective treasury management and is widely used in multinational companies.

Regarding internal techniques about future positions, the choice of invoicing currency stands out. This technique depends on the company's capacity to negotiate with its customers, a critical factor because if the company is able to invoice and receive in its domestic currency, it will eliminate the currency risk. In the event, the company is unable to invoice in its domestic currency it is critical to be able to invoice and receive the money in currencies which are currently or potentially strong. In the importer's case, he must try to negotiate in currencies with a tendency to depreciate.

The circulation of the euro for most of Europe brought more stability to the companies. Therefore, interest rate and foreign exchange risks, as well as transaction and accounting risks tend to be more reduced in trade relations between companies based in countries that joined the single currency, since they all use the same function currency.

According to Peynot (1987), the technique of actions on the sales prices can also be used, and consists in increasing the price of products or services provided in order to compensate the depreciation of the currency in the case of the exporter, or the attempt to negotiate a lower price by the importer if he envisages a possible foreign exchange loss. Two parties may renegotiate sales prices taking into account appreciations or devaluations in the invoicing currency. In this case, the foreign exchange loss of one of the parties is compensated by the gain on the action on the price and the other party's exchange gain is eliminated by the loss on the action on the price. Another possibility is indexing the prices to the exchange rates in order to compensate one party's gains with the losses of the other.

The author also refers, techniques of actions on assets and liabilities to avoid losses in the accounting records and conversion in the process of consolidation from subsidiaries abroad into the parent company. The objective is to reduce asset values and boost liabilities with values denominated in currencies with a tendency to depreciate and do the opposite with currencies that are expected to appreciate.

Per last, the diversification of currencies is another risk management technique that consists in extending the range of currencies transacted, avoiding dependence on a single currency. Brealey and Myers (1998) referred to the adoption of a strategy of currencies' diversification as a way of ensuring attractive profitability and, at the same time, a decrease in risk. The focus of diversification is the choice of currencies which have reduced or negative correlation, i.e., do not have similar behaviors.

Despite internal techniques are common and present lower costs for companies, usually are not enough for effective management of foreign exchange risk. Hence, sometimes companies must resort to external techniques for the management of foreign exchange risk.

External Techniques

As mentioned before, external techniques consist of hedging operations using financial instruments, negotiated with other entities.

Within the range of choice of existing Forward contracts, the Exchange Forwards and the Short-term Interest Rates Forwards (FRA - Forward Rate Agreement) are the derivatives most commonly used by companies[2], allowing the hedging of two types of risk, exchange risk, and interest rate risk.

With regard to Foreign Exchange Forwards and following the concept of Mota and Custodio (2006), they are a binding agreement between two entities, for purchase (sale) of a currency A and sale (purchase) of a currency B, at a price (forward rate A/B) at a future date (maturity of the forward). In these transactions, there are two types of motivation, hedging exchange risk or speculation. In the first case, the uncertainty regarding the future value of a certain exchange rate is eliminated by fixing the Forward price, thereby limiting in advance the future value of a certain transaction. As regards to speculation, the contract can be performed in order to obtain a gain resulting from a favorable difference between the contracted exchange rate through the Forward and the rates of exchange ruling in the maturity.

The arbitrage technique of forward positions allows making the arbitration between a short or debtor position and a long or creditor of two foreign currencies. For example, in a situation in which a company has a foreign currency X amount to receive at three months and must pay an amount in foreign currency Y at six months, it may purchase at a three months term the foreign currency Y using the forward contracts previously explained. The company may change the foreign currency X received at the end of the three months' term, for the foreign currency Y which will need to pay at the end of 6 months' term and may even benefit from interest from a possible application of capital until the payment to the supplier is due. In this case, the exchange rate risk will be eliminated. If the amount received in the currency X exceeds the Y currency amount, the surplus can be sold over time against the national currency. If the amount in the currency X is lower than that of the Y, it will be necessary a forward buy of the currency Y in the amount to be paid. This method allows, at the moment that the future transactions in foreign currencies are foreseen, to eliminate or greatly reduce the foreign exchange risk of more than one currency.

The matching consists in the compensation of debits and credits on a currency, provided that companies of different countries have coinciding debits and credits. According to Dhanani (2004), companies with more frequent import and export movements have greater ease in finding amounts receivable and payable in the same currency with similar timelines, eliminating currency risk.

The currencies advance, according to Abor (2005), allows for an exporting company to receive in advance an amount in foreign currency and convert it to domestic currency, as soon as the goods are dispatched and not only on the date of payment from the customer, eliminating much of the currency risk. This technique is based on a request for short-term financing in the currency of the commercial operation, the amount of which will be returned as soon as the customer pays his obligation to the company. Thus, the amount received in foreign currency shall be sent to the bank which will require the payment of interest. The amount of interest will be the only value subject to currency risk in case the amount receivable is inferior.

Prompt payment discounts consist in the payment or receipt of the goods or service at the time of the business transaction, obtaining or granting a discount which makes it attractive to both parties to match the economic and financial flows (Alves et al., 2006). In this case avoids the situation of uncertainty related to the value of the currency, since the foreign exchange risk occurs between the time of negotiation and the time of the operations' liquidation.

As Pinho et al. (2011) mention, the derivatives are primarily used for risk hedging but can also be used for speculative reasons. Given the multiplicity of risks that investors intend to transfer, the derivatives contracts have multiplied, and there are many contracts to choose from, highlighting, by its greater use, the Futures contracts, Swaps, and Options.

Futures are forward contracts that are transacted in regulated markets (stock exchanges) that enforce a set of rules and functioning mechanisms, that set them apart from the Forwards referred earlier (Mota & Custodio, 2006).

In a Swap, the parties agree to exchange on a regular basis (every six months, annually) until the expiration date of the contract, flows (fixed interest rate vs. variable interest rate, variation of a stock index vs. the variation of another stock index, et cetera) that are calculated from a theoretical amount (Mota & Custodio, 2006).

Regarding options, the purchase (sell) options provide the buyer, upon payment of a premium to the seller, the right to buy (sell) a given amount of the underlying asset at a price initially established (exercise price) at or up to determined future date - expiration of the option (Mota & Custodio, 2006).

According to Pinho et al. (2011), the hedging of risk through derivatives contracts reduces operational and financial risks, in case of adverse movements in prices of the underlying asset. So, for the investor to hedge the risk, he should acquire in the derivatives market an equal position but of opposite direction to that of the asset he holds, that is, the hedging strategy is achieved using a position-taking in contracts of derivatives, contrary to earlier positions taken on the spot market. This is possible because asset prices of the spot market and the forward market derivatives are correlated.

According to Mota and Custodio (2006), a Future is a contract between two entities for the purchase/sale of a given asset at a future known date. The aspect that differentiates between a Future and a Forward is that the future is transacted in an organized market (stock exchange), with a set of rules and procedures.

At the expiration date of this contract, two distinct situations may occur, the physical or the financial liquidation of the contract. In the case of physical liquidation, which can happen when the underlying asset is materializable, the Future's seller delivers the assets related to the active contract to the buyer, while the buyer pays the amount corresponding to the value of the contract, which is calculated based on the closing quotation of the last day of transaction. In the case of financial settlement, after the last day of transactions, the balance of the margin account is made available to the buyer and seller (Mota & Custodio, 2006).

Despite these conditions, the buyer or the seller of the Future can liquidate their position in the contract before the due date. To do so, they only have to perform a symmetrical transaction to the one performed at the beginning of the contract and may then withdraw the margin account's balance (Mota & Custodio, 2006).

When comparing Futures with Forwards, the former present distinctive characteristics that aim greater liquidity and credit risk minimization. For this to happen, Futures are more standardized, enforcing a reduced number of due dates, a fixed minimum amount and only multiples of this amount. This standardization aims to increase market liquidity, avoiding the dispersion of capital by a wide range of amounts and maturities while allowing the optimization of prices. Finally, there is a lower risk of credit for the fact that there are daily mechanisms for clearance of results and margin, as well as, by the fact that the business's counterpart is the stock exchange (Mota & Custodio, 2006).

With regard to the Currency Futures' contracts (or exchange rates) they are an agreement in which the contracting parties compromise to hand over (one party) and to receive (the other party) a certain amount of a given currency at a future date, at a price (exchange rate) agreed upon in the present, and all the clauses of that agreement, with the exception of price, are predefined in a standardized way by the markets' managing entity in which this agreement is concluded (Ferreira, 2008b).

As per Eitman et al. (2005), Futures are contracts that, at the beginning of the 19th century, allowed to guarantee prices of agricultural products and some raw materials for a future date, mitigating the

impact of price fluctuations in the markets. At the beginning of the 70's, due to the development of the variable foreign exchange quotations by the abandonment of fixed exchange rates, fluctuations demanded the introduction of currency derivatives for managing that risk (risk on the price of products and raw materials). The most relevant currencies are the US dollar, the Euro, the Japanese yen, the Pound Sterling, the Canadian dollar, the Australian dollar, the Swiss franc and Brazil's real. The weight of foreign exchange futures in the total of futures contracts has been negligible, despite presenting a growing trend. The American market is the most representative with 90% of the total foreign exchange futures. A foreign exchange futures contract is traded only in organized markets and specifies the price at which a currency can be bought or sold at a future date. The contracts are adjusted every day at market value, and stakeholders may at any time close the positions. The International Money Market (IMM) from Chicago was the pioneer market and continues to be one of the main markets, along with the Chicago Board of Trade (CBT), the New York Futures Exchange, the London International Financial Futures Exchange (LIFFE), the Singapore Mercantile Exchange (SIMEX), the Marché à Terme d' Instruments Pomegranate (MATIF) from France and the Tokyo Stock Exchange.

According to Ehrhardt and Brigham (2011), a Swap is precisely what the name suggests – two parties agree to exchange (swap) something, usually obligations to make certain payments. Most Swaps involve the payment of interests or currencies, but almost everything can be the target of a swap.

The swaps can reduce risk by allowing each company to equate the variability of its interest payments with the variability of its cash-flows. However, there are situations in which the Swaps can reduce both the risk and the effective cost of debt (Ehrhardt & Brigham, 2011).

As Pinho et al. (2011) state, companies can be exposed to the risk in certain markets with different currencies or operations with a fixed or variable interest rate, which are not the most appropriate to the economic and financial development of countries, desiring to reduce or eliminate those risk exposures. By allowing exchanges of exposures, the swaps allow an improvement in the equilibrium of the management of investment portfolios or financing. For example, the exchange of interest payments through swaps allows separation of risk associated with the financing inherent commitments, such as interest rate and foreign exchange risk.

According to Silva, Quadri, Mota and Pereira (2013), the currency swap is an agreement in which both parties shall exchange among themselves a currency by another, over an agreed period, in order to ensure hedging of the currency risk. The exchange rate negotiated for the Swap transaction will tend to reflect the benchmark interest rate of the two money markets. In other words, exchange rates and interest rates, of the different markets will tend to match up swap operations (interest rates parity theory), promoting a balance between the rates of the different markets. The Currency Swap allows dynamic and cheap management in obtaining financial resources in foreign currency, diversifying the sources of funding and reducing the financial costs.

Currency Options contracts, according to Black and Scholes (1973), allow the negotiation between two parties (buyer and seller) intending to establish an exchange rate and a date to make a financial transaction, for example, buying and selling foreign exchange. Eitman et al. (2005), consider them a kind of insurance contract in which the payment of the premium[3] was made at the time of purchase of the same. It differs, however, from an insurance contract in two aspects: those who acquire it are not obliged to exercise it, although they keep the right to do so; in the insurance contract one party wins, and another loses while that in an option is possible for both parties to win or lose. While the purchaser may exercise the right (buy or sell) the seller of the option cannot, having to abide by the decision of the former, getting, in return, an amount equal to the market price of the option and what is known as

option prize. If the option buyer decides to use the right to buy or sell, it is said that he exercised the option and the exercise price will be used.

The options present several advantages that can be summarized in the fact that they offer complete coverage, in case an unfavorable development of the market occurs, and allows a potential gain in the event of favorable development of the value of the underlying asset, losing only the value of the initially paid premium. Finally, they offer total flexibility which allows the buyer to decide about the exercise of the option considering the anticipation of the evolution of the share price, volatility and other relevant variables for the decision (Eitman et al., 2005).

According to Dhanani (2004), these contracts are divided into American options (option holder can exercise the option at any time up to the maturity date of the contract) and European options (the holder of the option may exercise the option at maturity of the contract). American options present a higher risk to the seller as he may have significant losses when the buyer has the option of choosing the moment to boost his winnings. In this case, the premium to be paid to the seller will have to be naturally higher. An option, according to Matos (1992) is called *"*at the money*"* when its price is equal to the underlying asset (immediate exercise of the option does not originate losses or gains). In this case, the buyer's loss is the value of the premium paid to the seller, and it is indifferent to opt for the fulfillment of the contract or not, given that the exercise price is equal to the market price on that date (spot price). When the exercise price is lower than the spot price in a Call Option[4] or the opposite in a Put Option[5], then the option is called "in the money", i.e., the exercise of the option immediately originates a benefit. In the reverse situation, namely, when the exercise price of the underlying asset is higher than the market price (the immediate exercise of the option would lead to a loss) the option is called "out of the money", and it should not be exercised, it will be more beneficial to negotiate it in the spot market. One can say that the loss of a buyer (long position) is limited to the premium paid, and the earnings are unlimited and as greater as higher the evolution towards "in-the-money". In the case of the seller (short position) of a contract the situation is completely opposite, i.e., the gains are limited to the premium received, and the losses are unlimited and as higher as the movement towards "in the money". Therefore, this type of instrument has, low risk to the purchaser, since the losses are limited and known at the beginning. On the other hand, the risk is enormous for the seller, because it has limited gains to the premium received initially, but can have unlimited losses, this being the reason why this type of approach (seller of options contracts) is used typically by speculators and not by managers.

Finally, companies can also resort to insurance through official entities, like COSEC and COFACE for credit risk hedging and management, collateral and investment in countries with commercial or political high risk. For example, in the case of exports, the company can negotiate insurance that covers 90% of the credit guaranteed, in exchange for payment of the insurance premium (AICEP, 2015).

In the next point, the interest rate risk management techniques will be addressed.

Interest Rate Risk Management Techniques

Concerning interest rate risk management techniques, one of the most used is the negotiation of long-term interest rates (fixed or variable). Some contracts that set forward rates do not imply a financing or a financial application, just, the settlement of the difference between the interest rate that results from the market and the one negotiated (guaranteed). In this perspective, these are very useful instruments to eliminate the risk.

According to Mota and Custodio (2006) the interest rate derivatives represent a replica of a set of operations on traditional markets, that is, they generate a set of identical financial flows to the set of operations on the spot markets that they are replicating, combining them into a single instrument. Within derivative products, one can highlight four groups which aim to hedge the risk of interest rates: the Forwards (FRA contracts), Futures, Swaps, and Options.

FRA (Forward Rate Agreement) represents the celebration of a contract between buyer and seller, of forward fixation a certain interest rate.

Like the foreign exchange forwards, this instrument can be used in risk hedging, in this case of the interest rate, concerning the income of a financial application, or the cost of financing at a future date, setting at present the interest rate of the operation. Another motivation that may be present in the use of a FRA is the use with speculative intent, and in this case, the claim is to obtain a return with the future variation of a given interest rate. This is possible since the purchase of a FRA does not involve performing any application or financing (Mota & Custodio, 2006).

In their maturity, the financial settlement is obtained through the calculation of the result of the FRA, in which the party with an unfavorable result, pays the other the amount due.

The use of the FRA as a mean to fixate a future interest rate, allows participants to eliminate the uncertainty concerning its future variations. Given this objective, the investor's position in a FRA depends on the type of operation to be developed. If he wants to finance, the position to assume in a FRA must be the one of the buyer, setting the rate of future funding. If he wishes to make a financial application, he should assume the seller's position, fixing the interest rate that will determine the profitability of the application.

The Interest Rate Swap is an agreement by which the financial institution and the company agree to exchange periodic interest payments (monthly, quarterly, biannually or annually), being both financial flows indexed to different interest rates, one at a fixed rate and the other at a variable rate, during the duration of the contract (BCP, 2015). The two financial flows of interest payments are in the same currency and calculated based on a given nominal amount, which can cover entirely or partially the amount of funding (BCP, 2015).

For example, through the swap of a variable interest rate for a fixed one, on each of the dates of payment of interest the following exchange will occur (BCP, 2015):

- The financial institution delivers to the company the interest amount calculated based on the variable rate that is fixed for that interest period, covering the financial costs of the loan operation that originated the Swap.
- The company delivers to the financial institution the amount of interest calculated based on the fixed rate agreed in the Swap, which allows it to become immune to undesirable increases in variable interest rates.

Also, the Swap is a product of interest rate hedging structured with the needs of the company and whose main characteristic is to transform the responsibilities, regarding interest rate - fixed to variable - of any given financing. If the company has financing at a fixed rate, the financial institution can also structure the hedge operation with a Swap of fixed interest rate to a variable (BCP, 2015).

Concerning the options contracts, they are constituted by the contracting of interest rate options, Cap or Floor or a combination of both, known as Collar (BPC, 2015).

The Cap is a financial instrument for interest rate risk hedging aimed at financing indexed to a variable interest rate, which allows the buyer, upon payment of a premium to ensure the upper limit of the index fluctuation, fixing the financing's maximum cost. Simultaneously, the company buyer of the Cap may benefit from reductions that will occur in the reference rate, below the rate guaranteed by the Cap, throughout the operation (BPC, 2015).

The Floor is a financial instrument to hedge the interest rate risk for indexed applications to a variable interest rate, which allows the buyer, upon payment of a premium, to ensure the lower limit of fluctuation of the index that wants to cover fixing its minimum income. At the same time, the buyer of the Floor can benefit from increases that occur in the reference rate, above the rate guaranteed by the Floor, throughout the operation (BCP, 2015).

The Collar is the financial instrument of interest rate risk management resulting from the combination of two options - Cap and Floor - both with the same characteristics, regarding amount, rate and term, and one of the options is bought and another is sold to the Bank.

Thus, the Collar is a product that is intended to manage the interest rate risk of any operation indexed to a variable rate, financing or application, with the periodical roll-over, for equal and successive periods. The position of the company in the purchase or sale of the Cap and the Floor will depend on the underlying operation whose risk is intended to hedge (BCP, 2015).

If the underlying operation is financing indexed to a variable interest rate, the company buys a Collar, that is, purchases a Cap and sells a Floor to the Bank, getting protected against rising interest rates above the rate of the Cap, but benefiting from lowering rates up to Floor level.

If the underlying operation is a financial application indexed to a variable interest rate, the company sells a Collar, that is, purchases a Floor and sells a Cap, getting protected against lowering interest rates, below the Floor rate, but benefiting from rising interest rates only up to the level of the Cap.

Finally, Futures contracts on interest rate hedging tend to reflect market expectations about the interest rates' evolution, thus allowing to fixate an interest rate at a term, beginning at a specific future date, of an application or financing by minimizing the risk associated with possible increases or decreases in interest rates.

RESEARCH OBJECTIVES AND METHODOLOGY

This research's general objective is to identify how, a company that operates in the naval supply sector with activity in Portugal and Angola, is exposed to the risks of internalization and how it acts to mitigate such risks.

In order to achieve this objective, the empirical study will be based on the following steps:

- Characterization of the company and its recent economic and financial evolution;
- Characterization of international activity and the risks to which it is exposed;
- Identification of risk hedging techniques used;
- International trade risk management model proposal.

Because the general objective of this research study is to understand how a naval supply company is exposed to the risks of globalization and how it acts to mitigate such risks, the research method used will be the case study (Ryan, Scapens, & Theobald, 2002).

The case study is an investigation methodological approach particularly suitable when the author seeks to understand, explore or describe events and complex contexts in which several factors are simultaneously involved. Yin (1994) states that this approach adapts to research in education, when the investigator is faced with complex situations, in such a way that makes it difficult to identify the variables considered important; when the researcher seeks answers to the "how?" and "why?"; when the investigator seeks to find interactions between relevant factors to an entity; when the objective is to describe or analyze the phenomenon that directly accesses, deeply and globally; and when the researcher intends to grasp the dynamics of the phenomenon, the program or process.

In this study, the sample consists of a Portuguese company, selected because its main activity is the naval supplies, in which the export is essential for the business development, and it is exposed to various international risks. In the course of the study, for the sake of confidentiality, the company will be named Navigation, Ltd.

Concerning data to be analyzed, it refers to the transactions and movements taken from the financial statements of the company that constitutes the sample, as well as other internal documents obtained through the company's management software, within the period of five years, from 2010 to 2014. This period was chosen since over those years many currency and economic changes have occurred in the countries in which the company operates, namely Portugal and Angola, allowing the authors to verify, how the company is exposed to risks in international trade and how it can mitigate them.

In the data collection process, the case study uses various investigation techniques. Although the most commonly used methods of data collection on a case study are observation and interviews, no method can be disregarded. The case study employs various methods - interviews, participant observation and field studies (Hamel, Dufour & Fortin, 1993). The methods for collecting information are chosen according to the task to be accomplished (Bell, 1989).

Therefore, multiple sources of evidence or data were used in order to allow, on the one hand, the study's participants different perspectives and on the other, to get several measures for the same phenomenon, creating conditions for data triangulation, during the analysis phase. According to Yin (1994), the use of multiple data sources to build a case study allows to consider a more diverse set of analysis topics and at the same time allows to corroborate the same phenomenon.

Thus, the study was based on two of the most important sources of information, namely, interviews and internal documents. Interviews with the Chief Financial Officer and the Managing Director were conducted, in order to know the company's history, how long it has been in the market and in which countries. Regarding internal documents, the financial statements, accounts and management reports were consulted.

The use of these different instruments is a way to obtain different data types, which provides the possibility of cross-checking information.

As for, the structure of the empirical study, beyond the company's history and the analysis of recent financial evolution, it was based on risks and management techniques studied in the theoretical framework.

COMPANY STUDIED

Characterization of the Company and Its Recent Financial Evolution

The Navigation, Ltd. is a Ship-Chandler, in other words, is a specialist in the naval supply of materials, tools, food or equipment, known as onboard provisions. The company began its activity in the year 2000 and belongs to a worldwide maritime services group, supplying the industry, merchant and military marine, and offshore platforms. Navigation, Ltd. believes in offering innovative quality services that create value for its customers and in their satisfaction. The company, thanks to the group it belongs to, is seen as a reference in the naval supply sector, both at national and international level, because the group operates in more than 600 ports worldwide, ensuring greater credibility and notoriety.

Between the year 2000 and 2007 the Portuguese company only conducted business at a regional level, serving all ports in Portugal, but with a higher incidence in Setubal, Leixões, Lisbon, and Sines, where it provided a variety of products ranging from food to technical equipment and spare parts, to all kind of ships.

During the period mentioned above, although the company acted only in the Portuguese market, more than 50% of its sales were from clients of other nationalities. However, given the stagnation of the Portuguese market and the difficulty in meeting its activity profitability objectives, the internationalization to the Angolan market began, during the year 2007.

Since then, the company has invested, successively, in the renewal of its fleet, in the improvement of the used software, in the training of its professionals and, above all, in finding new clients and markets.

Concerning the company's results, between Portugal and Angola, the total invoicing ascends to 10 million EUR, of which approximately 40% corresponds to the Angolan market. Since 2007 the company's turnover has been significantly growing, and the activity in Angola has greatly contributed to this favorable evolution.

The year 2011 proved to be quite positive, having a turnover increase of 17.3% over the previous year, which led the company to achieve one of the best results ever. Regarding 2012, there was an overall decrease in the turnover of around 25% over the previous year. This decrease was essentially due to the global economic condition which led to a reduction in customers' costs of the merchant sector. Despite this, the company's result was still positive. In 2013, the turnover amounted to EUR 10 850 302, registering an increase of 30.8% compared to the previous year. The net result was EUR 368 038, which represents a growth of 324.5% compared to the previous year. This was mainly due to the increase in sales in the Angolan market. Finally, in the year 2014, the turnover showed a decrease of 13.8% compared to the year 2013. However, the net result amounted to 516 074 Euros, representing an increase of 40.2% over the previous year, mainly due, to the improvement of trade margins.

Internationalization caused an increase in the investments in the activity, and in 2012 there was even the need to increase the share capital in order to improve the company's financial sustainability.

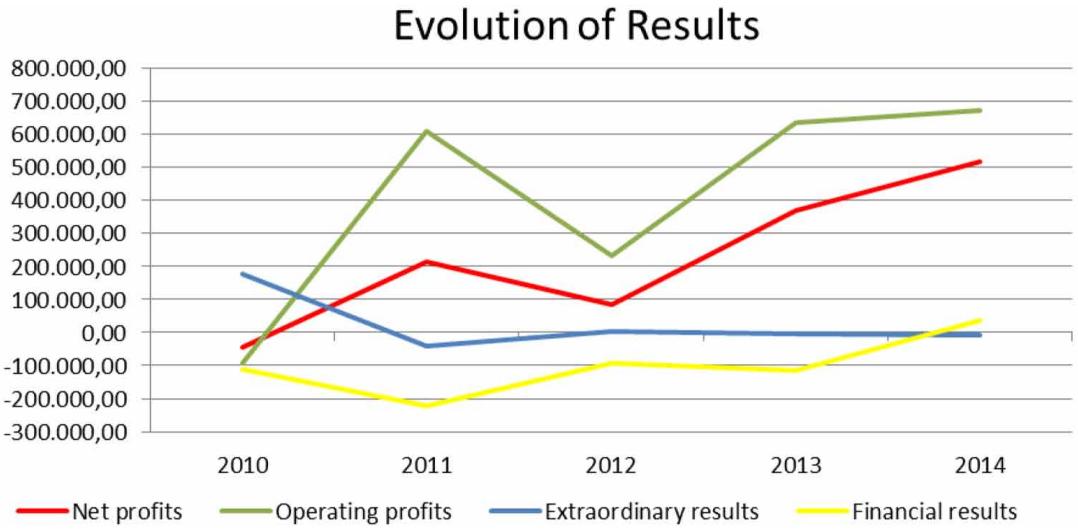
Thanks to the obtained results and the increase of share capital, the company has evolved positively financially and shows in 2014 a reasonable degree of solvency and Shareholders Equity. Liquidity values also demonstrate, the company's ability to meet its short-term obligations with their current assets.

Table 2. Navigation, Ltd.'s economic analysis (EUR)

Indicators	2010	2011	2012	2013	2014
Revenues	92 243 864	11 154 981	8 297 559	10 850 302	9 347 630
Operating profits	-91 387	609 802	231 502	637 448	673 918
Net profits	-42 726	215 126	86 699	368 038	516 074
Non current results	178 048	-40 238	4 688	-3 352	-8 147
Financial results	-111 768	-223 111	-93 575	-114 444	35 083
Gross value added	540 133	1 211 021	832 568	1 353 513	1 348 980
Return on equity	-18,1%	49,8%	5,4%	18,7%	21,1%

Source: Navigation, Ltd.

Figure 2. Evolution of results of navigation, Ltd (EUR)
Source: Navigation, Ltd.



**For a more accurate representation see the electronic version.*

Table 3. Evolution capital of navigation, Ltd. (EUR)

Indicators	2010	2011	2012	2013	2014
Share capital	50 000	50 000	1 150 000	1 425 000	1 425 000

Source: Navigation, Ltd.

Internationalization Activity Level

As previously mentioned, it was in 2007 that the company decided to internationalize to the Angolan market.

In Angola, given the difficulties in the merchant ships' segment (ports needing investments, high waiting times for entrance and exit of goods and corruption in customs), the company has focused on,

Table 4. Financial analysis of the navigation, Ltd. (EUR)

Indicators	2010	2011	2012	2013	2014
Assets	4 410 480	3 400 973	3 404 490	4 551 463	4 676 111
Equity	236 139	432 239	1 618 906	1 964 001	2 441 552
Liabilities	4 236 123	2 968 734	1 785 585	2 622 645	2 249 348
Current ratio	96,6%	104,0%	155,6%	145,7%	173,1%
Shareholder Equity Ratio	4,0%	12,7%	47,6%	42,4%	51,9%
Equity to debt ratio	4,0%	15,0%	91,0%	74,0%	108,0%

Source: Navigation, Ltd.

the offshore segment, that is, working primarily with oil-related companies, through a partnership with an Angolan supplier. Currently, the Angolan market represents 40% of the turnover.

Furthermore, in a sustained growth strategy, the company intends to start its internationalization for attractive markets such as Brazil and Mozambique, in the short-term.

In this sense, it has been present at several international fairs, namely, the Offshore Brazil and International Conference oil and gas industry, in Macaé. It is, also, creating new businesses, in Angola, such as a catering service to companies.

Exposure to Risk in International Trade

In addition to exporting to Angola, the company acts directly in the country through a local partner. In this sense, given the investments that it already has in this market, it becomes critical to analyze the country's risk. This is also fundamental because as previously mentioned, credit and exchange risks are highly conditioned by the economic, political and social developments of the countries.

Country's Risk Characterization

In 2002, Angola came out from a civil war that devastated the country for 27 years, and it has emerged as a regional power in the context of sub-Saharan Africa, converging to a market economy with a per capita annual income of about 6,000 USD (AICEP, 2015). It is the second largest oil producer and the fourth largest producer of diamonds, in the region. However, despite the enormous potential, given the abundance and variety of the country's natural resources, the economy remains underdeveloped and poorly diversified, depending on oil, which represents 88,4% of the exports of goods and services and 54,4% of GDP (AICEP, 2015).

However, the impact of the global financial crisis and a decrease in oil production led to a significant slowing down of the Angolan economic development, and between 2009 and 2013, the average annual rate of GDP growth has fallen to 4%. Additionally, the significant decrease in oil prices during part of 2014, further accentuated the descent in growth, which was 3.5% that year (AICEP, 2015).

Consequently, given the lack of diversification of the country's economy and a budget dependent on tax revenues, the State Budget for 2015 had to be rectified, in which the price of a barrel of oil was assumed to be at $40/barrel (the initial version indicated $81/ barrel), and points out a number of areas where expenditure were contained, as well as the freezing of new admissions of staff for the public

administration. So, it generated an economic/financial instability in the country due to lack of liquidity which causes difficulties for Portuguese companies to access currencies, because there was a depreciation of the Kwanza and there are no US dollars available in the country.

Concerning organizational risk, the company is also exposed to harmful situations. This risk is related to the possible losses which result from inadequate systems or control as well as management failures and human errors that lead to delays in contract negotiating, negotiations with suppliers and customers, delays in receipts or even in the deliveries of goods. As the corruption levels remain quite high, foreign companies struggle to establish themselves in the country, often having limited access to resources and potential markets.

Additionally, the Kwanza's volatility against the United States dollar (USD) has historically been high, which led to the objective of stabilizing the exchange rate over the past ten years. Until 2012 this stability was possible, given the high oil revenues that allowed the increase of currency reserves and a more significant intervention in the primary exchange market by the Monetary Authority. However, in the last two years studied, this stability that was forecasted has not happened. On the contrary, with the fall in the price of the oil barrel, the revenues that were foreseen to be high fell to half during the year 2014 and stability in the country is not expected in the short term.

Although Navigation, Ltd. has its main structure in Portugal and its customers are from other nationalities, which decreases the credit risk, given the current difficulty of currency exiting from Angola, the activity in Portugal ends up being conditioned by the delay in sending the currencies to Portugal, not only by the lack of currency but also by the existence of a 15% rate on money transfers from the country.

Due to greater economic instability, and the subsequent difficulties, there may also be some difficulties at a political level, which will contribute to an increase, in the short-term, of the country risk in the Angolan market.

Figure 3. Average annual evolution USD/AOA
Source: xe.com

Characterization of the Activities in Foreign Currency

Regarding commercial transactions, the company has an amount of purchases of goods and services, in GBP, less than 1% of its total amount, and in USD, of approximately 30%, which concern supplies made in the Angolan market, whose local supplier invoices in U.S. currency. The remaining 70% of purchases are in Euros.

Company's sales can be expressed in Euros or USD depending on the customers or markets to which it sells. Dollar sales represent about 40% of the company´s turnover, with the remaining 60% in Euros, while customer receipts represent approximately 51% of the company's sales since the receipt deadline is about 180 days.

Both the company's wages and financial transactions (whether loans or applications) are all transacted in Euros.

Exposure to Credit, Interest Rate and Exchange Risks

Considering that the economic and financial situation in Angola has been degrading, the difficulty to remove currencies from the country has increased which caused some pressure in the treasury of Portugal's business. Thus, the exposure to credit risk is high.

As for the currency risk, the company is exposed through the import and export operations in foreign currencies (mainly in USD). Taking into account the exchange differences presented in the following point, one can state that, the variations in exchange rates have an impact on the accounting results and in the company's treasury situation.

Regarding the interest rate risk, the company is only exposed to it in applications and financing, performed in Portugal in the domestic financial market.

Finally, it is also important to mention exposure to the foreign exchange risk, also called operating exposure which is related to the impact of the exchange rates on the net present value of future operating cash flows in the middle and long-term, decreasing the company´s competitive capacity. The Navigation Ltd. is highly exposed to this type of risk in the Portuguese market, as customers from other countries, with other currencies, may choose to acquire their products from suppliers with a more favorable currency to them than Euro. Thus, the fluctuation of exchange rates could also lead to a reduction in the company's profit margins by reducing the price of sales or increasing the prices of the production factors, in the case of the Angolan market.

Table 5. Exchange rate differences (EUR)

Exchange Differences	2010	2011	2012	2013	2014
Favorable	144 303	146 399	88 557	21 698	114 383
Unfavorable	66 286	178 128	75 886	58 566	19 822
Results	78 017	-31 730	12 670	-36 869	94 561

Source: annual report of the Navigation Ltd

Accounted Exchange-Rate Differences

The exchange rate differences in the company's accounting records in the last five years are presented in table 5. The foreign exchange differences come from purchases and sales, with deadlines for payments and receipts that extend over time, mainly from customers and suppliers operating in the Angolan market.

Regarding the year of 2014, the favorable exchange rate differences represent almost 20% of the operating profits and 22% of the net profits. Thus, it is a relevant value, consequence of the appreciation of USD on the sales.

However, if the USD has an unfavorable evolution for the company, it may have a negative impact on the business' profitability. Therefore, the use of exchange risk hedging techniques may be essential to ensure the activity´s sustainability.

Table 7 shows how the evolution of the unfavorable differences in currency exchange created by the appreciation of the US dollar. In the recent years their value decrease. That is a consequence of the company negotiate with Portuguese suppliers to avoid USD appreciations.

Proposed Model for Risk Management in International Trade

In this point, a model for the credit and foreign exchange risks management, to which the Navigation, Ltd. is exposed to in international trade, will be proposed. Currently, the company does not use any risk hedging techniques.

In the case of credit risk, it is important that the company finds a financial partner that helps cover the delays in payment by the customers, in order to make the business' cash-flow more sustainable.

Thus, the proposal is that the company uses financial instruments such as documentary credit, forfaiting and credit insurance with entities such as COSEC and COFACE.

The confirmed documentary credit is the safest way for the company to sell goods because it always guarantees the receipt of the transactions' amounts, although it also entails more costs for the company.

Table 6. Weight of the favorable exchange rate differences in the results (EUR)

Indicators	2010	2011	2012	2013	2014
Favorable exchange rate differences	144 303	146 399	88 557	21 698	114 383
% Operating profits	257,90%	24,01%	38,25%	3,40%	16,97%
% Net profits	437,74%	68,05%	102,14%	5,90%	22,16%

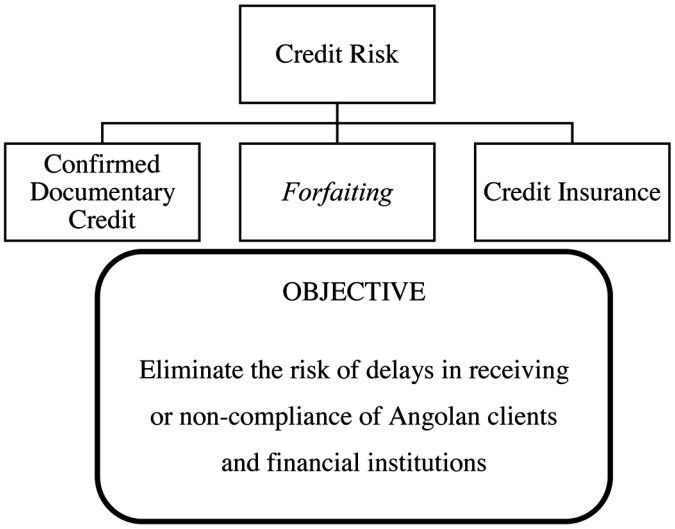
Source: annual report of the Navigation Ltd

Table 7. Weight of unfavorable exchange rate differences in the results (EUR)

Indicators	2010	2011	2012	2013	2014
Unfavorable exchange rate differences	66 286	178 128	75 886	58 566	19 822
% Operating profits	72,53%	29,21%	32,78%	9,19%	2,94%
% Net profits	155,14%	82,80%	87,53%	15,91%	3,84%

Source: annual report of the Navigation Ltd

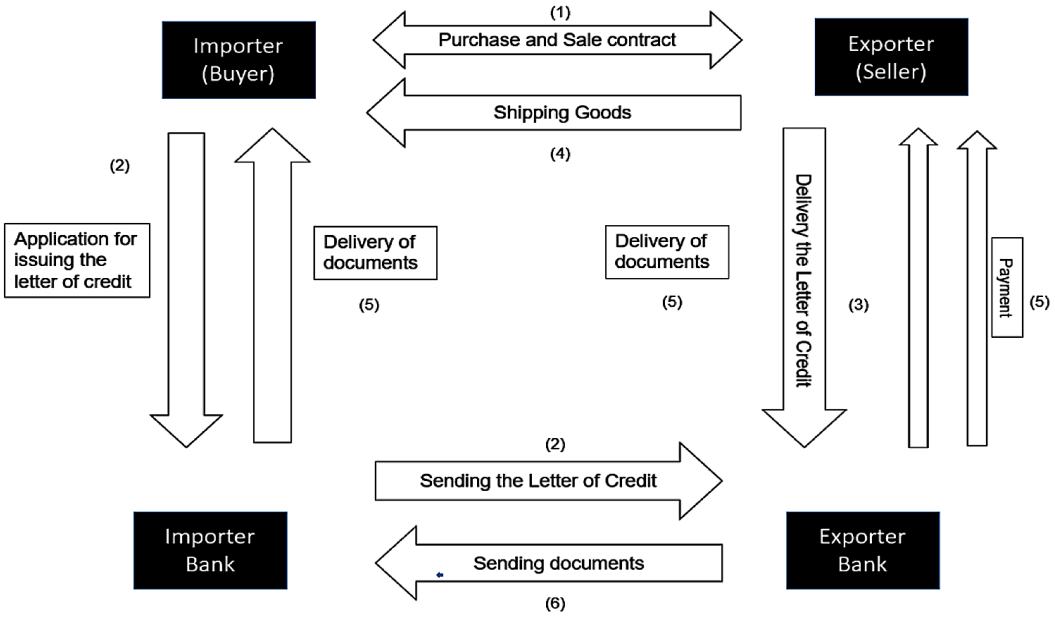
Figure 4. Proposed model for credit risk management
Source: Prepared by the author



However, acting in risk markets such as Angola, the recourse to documentary credit can be quite beneficial to the company, that always timely receives, because the bank in Portugal ensures the payment amounts, regardless if the Angolan entities have paid any currency amount.

In this way, the company avoids credit risk and country risk, not being exposed to the possibility of bankruptcy or lack of financial capacity of its clients and the Angolan Bank.

Figure 5. The confirmed documentary credit
Source: Banco Montepio



Forfaiting, as previously mentioned, is a way for the company to finance itself in international markets. In this case, the company will be able to have funds at the time it wants to negotiate the purchase of goods and can pay cash and get prompt payments discounts from its suppliers reducing the costs of the *forfaiting* operation.

Regarding export, with the use of *forfaiting* the company is able to mitigate the risk associated with the political and economic situation of the importer´s country (political risks), because it sells to its bank without recourse, the credit securities accepted by the customer, usually endorsed by a bank that assumes the commitment to pay in the event of customer default.

Finally, in the credit risk management model, it is also proposed, that the company uses export credit insurance through official entities. As mentioned earlier, there are institutions in Portugal for this purpose, for example, COFACE and COSEC. The percentage of coverage can go up to 90% of the credit guaranteed in the foreign market, depending on the country. The premium rate varies according to the application of various criteria and is defined after the study of the customer portfolio of the potential insured. For the risks of a commercial nature, as a rule, the premium rate is set at values below 1% of the insurable amounts (AICEP, 2015). These costs will be compensated for, by timely receiving, improving the company's liquidity and increasing the credibility with financial institutions.

Concerning the exchange rate risk, which consists of carrying out transactions in foreign currency, both imports, and exports, the proposed model is based on internal techniques because they represent a

Figure 6. Forfaiting
Source: Banco Montepio

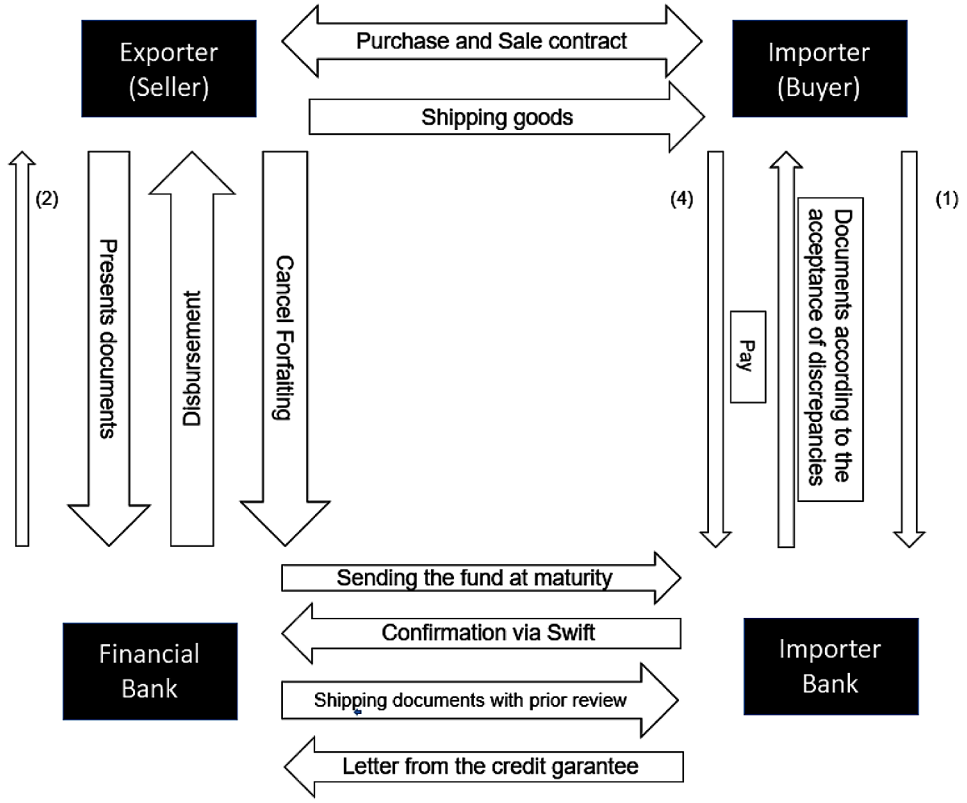
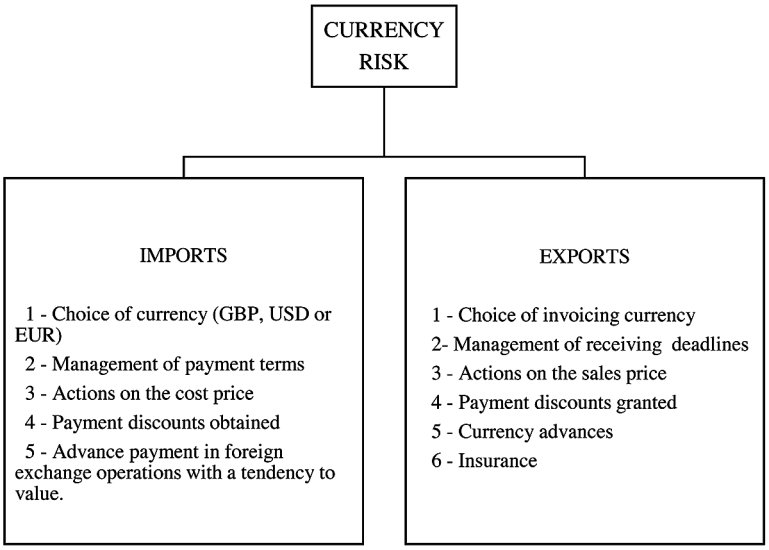


Figure 7. Proposed model for foreign exchange risk management
Source: Prepared by the author



lower cost to the company. External techniques have higher costs for the company and present a greater risk because the company might not receive from their customers who operate in the Angolan market.

In the case of imports, the proposed model includes the choice of currency, payment deadlines management, actions on price costs, or even try to obtain cash rebates by prepayments.

In the currency choice, it is important for the company to have several possible suppliers and to be able to choose from multiple currencies depending on whether they depreciate, allowing the purchase of goods at lower costs, thus making their prices more competitive.

The payment deadlines management can be made through a cash budget for payments and receipts by currency type. Thus, the company can reconcile the payment dates with receipts in order to compensate for the purchase currency appreciation with the values received in that currency.

In the actions on cost price, the company can share the risk with its business partners (suppliers) depending on the appreciation or devaluation of the payment currency. As such, it can negotiate the cost price, depending on the evolution of the exchange rate, ensuring that the value of the final payment is the same. For example, the contract can stipulate that if the exchange rate of the currency appreciates, the product cost price is adjusted accordingly.

In the case of advance payments to obtain payment discounts, it is important to verify if there is money available or if financing will be required. It is essential that the prompt-payment discounts and the expectations of currency appreciation, compensate for the cost of any loan because otherwise, the financial operation could generate a higher cost.

In exports, the proposed model is based on the choice of invoicing currency, receipts deadlines management, actions on the sale price, prompt payment discounts granted, the advance of currencies and resorting to insurance.

As for the choice of invoicing currency, the company can negotiate with its customers invoicing in Euros because, in this way, it will not be exposed directly to exchange rate risk. If it is required to invoice in USD then should make purchases in that currency, in order to compensate the values.

As per receiving deadlines management, as already mentioned in the case of imports, the company should have a cash budget and try to reconcile receipts with dates of payments on the same currency in order to mitigate unfavorable exchange differences. The company must also be able to negotiate the terms of receivables for shorter periods than the payments in order to avoid lack of liquidity.

Regarding actions on the sale price, the company should be aware that those should be defined according to the exchange rates. Moreover, in the case of currency appreciation, the company may risk that higher prices become less competitive, and customers will use other suppliers. In this case, the company must provide strong competitive advantages in areas such as innovation and quality in order to avoid the price being the main factor of the customer's choice. Otherwise, it should have leeway to lower the sales prices according to the invoicing currency appreciation. If the currency depreciates, the company may become more competitive in prices, but may not be able to meet the operating costs if these are associated with transactions in foreign currencies. In these situations, the company should have a diverse range of suppliers to mitigate the loss of purchasing power due to the currency's devaluation by selecting those who use weaker currencies.

The company may grant discounts to promote advance receipts if the exchange rate is more favorable concerning future expectations or if is in need of liquidity, thus avoiding resort to external entities for financing with potentially higher costs.

Concerning the currencies advance, the company can negotiate with the bank to receive in advance foreign currency values and trade it to Euros, thus eliminating the future exchange risk. However, the company must ensure that the receivable values will be enough to cover the cost of the initial loan.

Finally, the company can contract exchange risk insurance for export, in order to mitigate the currency risk associated with export activities. However, it will have to negotiate with companies like COFACE and COSEC, and the costs may be higher.

CONCLUSION

Presently, internationalization is a contributing factor to the success of companies since it creates vast opportunities for growth in attractive markets.

Clearly this whole process has associated risks, amongst them, the country risk, credit risk, foreign exchange risk, interest rate risk, and price of goods risk. Therefore, when a company intends to internationalize it is quite important to study the risks to which it is exposed and how best to mitigate them.

Throughout this study, payment techniques and sources of financing in international trade were discussed as a way for companies to reduce credit and country risks in their operations.

It was found that one of the most critical risks is the foreign exchange risk that can be classified into three types, conversion, transaction, and economic.

In this sense, the hedging techniques for currency risk and how the company can use them were addressed. It was suggested that, if possible, the company privileges the use of internal techniques, because these can be used without resorting to financial institutions, leading to lower costs. Due to the relationship between interest rates and exchange rates, the interest rate risk management techniques were also analyzed.

Regarding the empirical study, the findings indicate, through the economic and financial indicators of the analyzed period, that the internationalization process was very positive and fundamental to the development and competitiveness of the studied company.

The company's exposure to the risks of conducting business in international markets was also analyzed, and a model for the management of credit and foreign exchange risk was proposed, in order to mitigate these risks, improve and streamline future operations.

The proposed model, based only on internal risk hedging techniques that present less costs and complexity of management, can be very important, since the company works with the Angolan market, very conditioned, by the evolution of oil prices, and with a currency, the USD, which shows a marked volatility against the euro. The credit letter and the forfaiting can reduce the reception difficulties coming from Angola and the techniques of hedging currency risk may help to mitigate the potential negative impact of eventual devaluations of the USD (note that a considerable part of the company's sales is made in this currency).

Concerning future researches, they could include more companies in order to know better the evidence obtained in the current study, that internationalization contributes to companies' growth and why companies do not regularly use hedging techniques to mitigate the credit and exchange risks associated with the international trade.

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ENDNOTES

1 The Bretton Woods Institutions are the World Bank, and the International Monetary Fund (IMF). They were set up at a meeting of 43 countries in Bretton Woods, New Hampshire, USA in July 1944. Their aims were to help rebuild the shattered post-war economy and to promote international economic cooperation. The original Bretton Woods agreement also included plans for an International Trade Organisation (ITO) but these lay dormant until the World Trade Organisation (WTO) was created in the early 1990s. (Bretton Woods Project).

2 Mota and Custódio (2006)

3 This is usually quoted as a percentage of the price of exercise or in absolute terms, in cash.

4 **Call Options (Options):** Give their owner the right to buy the underlying asset at a price fixed in advance, and during a given period of time.

5 **Put Option (Options):** Give the holder the right to sell the underlying asset at a predetermined price during a given period of time.

Chapter 21
Managing Customer Credit to Reduce the Company's Risk and Overdue Credits

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ABSTRACT

Most companies give credit to customers when selling products or providing services. It has advantages as more customers may be willing to negotiate with the company, but it increases the company's risk. Therefore, the company must analyze the pros and cons of giving credit. This chapter summarizes all information needed for a company to establish credit policy for each customer or group of customers. First, credit risk and customers' credit risk are explained to call the attention to the need to manage it. Then it shows how a company can manage credit to maximize its value and reduce its risk. The inputs needed to determine a customer credit policy are explained. Credit risk models are presented. And finally, a recovery method to collect overdue credits is presented. This chapter aims the help the company to solve liquidity and solvency problems and to stablish long-term relationships with customers.

INTRODUCTION

In a competitive world, companies need to sell differentiate products or provide singular services to survive. Although it is not enough, and thus companies need to have a strategy and management techniques to assure economic and financial sustainability. Moreover, risks should be avoided as they are related with uncertainties and the probability of negative events. Some risks the company cannot foresee, as for example changes in policies, while others the company can try to forecast and avoid or reduce it. Credit risk is one of this risk that the company can manage to decrease it.

DOI: 10.4018/978-1-5225-8479-7.ch021

Some companies receive the payment of the products sold or services provided in the moment of delivering or before, in the moment of the order. Although, most companies give credit to customers, not only because their competitors also do it, but also to appeal their products and services to customers. The problem arises when customers do not fulfill the contract obligations, it means, when customers do not pay in the contract period, delaying payments, or do not pay at all. If customers delay or fail their payments, the company must deal with costs, as cost of materials, workforce costs, supplies and services costs, among others, but have no revenue (income) to support it, leading to some financial distress, and to losses.

Managing customers' credit is not a new issue, but it has gained prominence in the last years specially after the financial crisis of 2007/2008. Diverse companies went to bankrupt or had solvency problems. This has led to a snowball effect: customers have not payed to suppliers, suppliers who are also customers of other companies have failed their payments, and in the end diverse companies have deal with financial problems, and some went to failure.

Moreover, not only customers financial problems are relevant. Some problems arise due to countries' financial problems. For example, some customers give authorization to pay their obligations to foreign suppliers, although the country government did not allow the bank to transfer the money and thus, the customer failed its contract obligation, but not due internal causes. Likewise, it is important not only to understand customers financial situation, but also the industry and the market situation.

Managing credit risk nowadays is crucial to almost every company but is even more relevant when the company sell or provide services to external markets due to the country risk, and the difficulty to solve divergences when it happens since the legal system is different.

This chapter aims to explain how the company can manage credit risk, from the moment of the decision to grant credit till the moment the amount in debt is collected. How the company should manage credit? Which information the company should collect? Where the company can look for that information? How the collected information should be related and supported? Which factors should be considered in the moment of credit decisions? Should the company look for additional protection to avoid risk? Which procedures should be used to collect the money? How to deal when the customer does not pay even if the company have used all the ways to receive the amount in debt? How to reflect bad debts and doubtful accounts in financial statements? This chapter provide answer to these questions, helping companies in their decision of granting credit.

Using the information provide in this chapter, companies can draw customers' profile and understand if should or not give credit to them. Moreover, they will understand which procedures should be following to act proactively instead of solving existing problems. The main aim is to avoid bad debts, increase company's return, solvency and liquidity, and decrease company's risk. This chapter is relevant to practice but is also relevant to theory since it is an in-depth study that provides all information needed to deal with this thematic.

The chapter is organized as follows. After this introduction topic, in topic 2, a definition of risk is provided, as well as risk's classifications to frame the thematic. Then credit risk and its relevance to companies its explained. Topic 3 explains how to manage customer credits and the steps companies must follow to deal with it. The conclusion is in topic 4, some recommendations in topic 5 and the chapter ends with suggestions for future analyses.

BACKGROUND

Risk Definition

Every company deals with several risks that impact its activity and return (Brealey, Myers, and Allen, 2017). Usually risk is linked with uncertainty, an exposure to danger, a probability to damage, a loss or any negative occurrence (Securato, 2002; Silva, Mota, Queirós, & Pereira, 2013). Financially speaking risk is the probability of a return be different than the expected one. Likewise, risk is related with the volatility of assets and liabilities.

The Federation of European Risk Management Association (FERMA, 2010) argues that risk is the effect of an uncertainty on the company's aims, and can be positive, negative or a simple deviation on an expected fact. Therefore, in some situations risk can lead to opportunities, being good for the company's improvement and success, while other times it can lead to threats and negative impact in the company. This last type of risk is the one that companies want to avoid or at least reduce.

Company's should identify, measure and apply procedures to avoid negative consequences of risk. There are several classifications of risk, depending on the perspective. Drew and Kendrick (2005) argue that risks can be classified according to its source, nature, impact, probability of occurrence and duration.

Risk Types

In this work the classification of risk proposed by Neves (2012) is followed. The author argues that risk can be divided into two main groups: systematic and unsystematic risks, and then divided in other sub-groups.

Systematic risk, also called market risk or undiversifiable risk, is the uncertainty inherent to the entire market or a market segment. This risk results from external factors and is not controlled by a company or individual. It is difficult to eliminate through investment diversification, since it influences all the industries, and are beyond the control of a specific company. It is related with (Banco de Portugal, 2007; Neves, 2012; Silva *et al*, 2013):

- Interest rate risk arises from changes in interest rates, it means, is the percentage of the amount charged by a lender to a borrower for the use of assets;
- Inflation risk occurs due to changes in the price level of goods and services in the economy over a period;
- Currency risk appears when the currency is other than the domestic one; it is related with exchange rates;
- Country risk results from investments in foreign markets, and is more significant in emerging markets;
- Political risk occurs due to instability or changes in a country, as recession, wars or others.

The unsystematic risk or specific, diversifiable risk is the risk that affects an industry or a specific company. It can be eliminated using investment diversification since its impact is different depending on the industry, company's dimension, among others (Neves, 2012). Examples of this type of risk are (Banco de Portugal, 2007; Deloitte, 2017; Neves, 2012):

- Industry risk, which is the uncertainty of an industry, as for example liquidity risk that is common in the construction industry; change is specific legislations, that can increase costs or difficulties of production, product recall, among others;
- Strategic risk results from technological changes, new competitor in the market, shifts in customers' demands, among others;
- Operational risk is related with failures in the company's day-to-day, caused by employers or processes. For example: a lack of internal or external information, lack of the definition of responsibilities, lack of aims and strategical plans, frauds, process layout not accurate, system overloads, among others;
- Financial risk is related with financial losses that a company can have. Examples are credit risk, risk due to debt loans, and others;
- Reputational risk is when the company's image is damaged due to bad reputation.

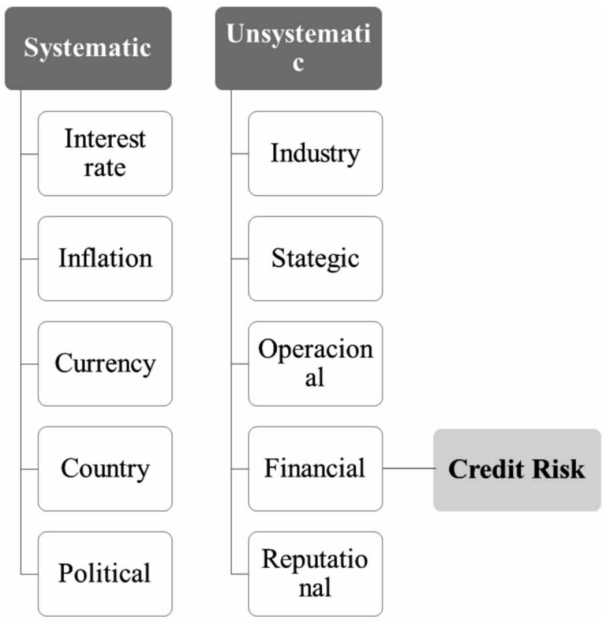
Schematically, the different classifications o risk can be presented in figure 1.

Companies cannot avoid all risks, but can manage them, drawing a strategy do lead with them in the day-to-day activity. Likewise, the company can benefit from the positive consequences of risks which will help to reach its aims.

Credit Risk

Credit risk results when the company gives credit to customers. The company and the customer establish a contract where the company accepts to provide the product or service requested, and the customer

Figure 1. Types of risk
Source: researchers



(debtholder) agrees to fulfill the contract' obligations. Although, the customer may fail the agreement, and may not pay the money in debt (Securato, 2002).

Every company wants to increase profits. To reach it, the company needs to increase sales to benefit from the dilution effect of the fixed costs (fixed costs does not change with quantity so the unit fixed cost decreases with quantity). Therefore, to use all the company's capacity there is a tendency to increase sales, even if for it the company needs to sell on credit.

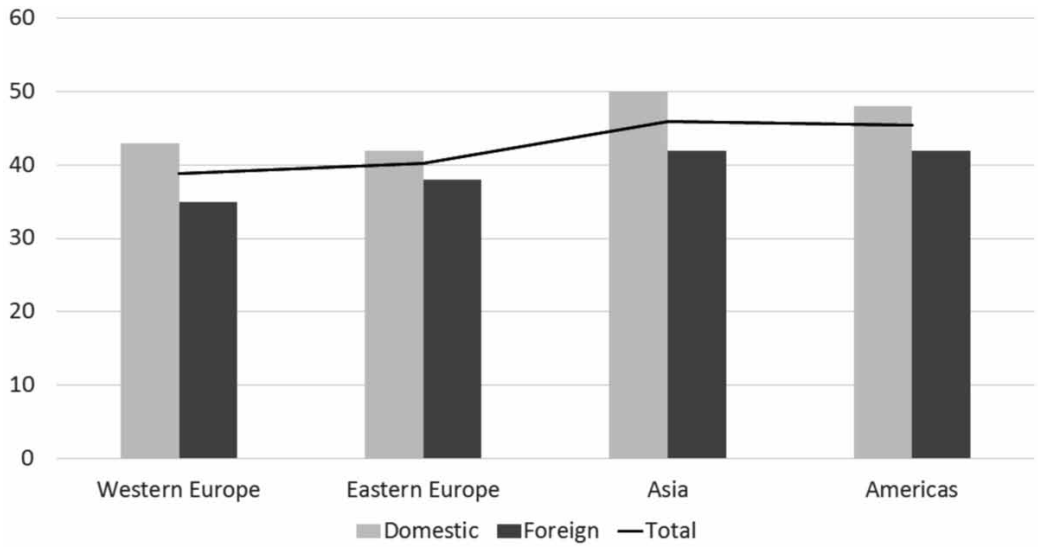
Some companies receive the payment of the products sold or services provided in the moment of its delivering (e.g. accommodation, catering, retail, among others), although, most industries give credit to customers. Giving credit is a requirement in today's economy as it is a way to compete in the market. Brealey *et al.* (2017) argue that to industrial companies accounts receivable is more a less one third of current assets. Selling on credit has advantages since more customers may be willing to negotiate with the company. Although, it increases the company's uncertainty as buyers must threat credit terms.

Companies all over the world give credit. According to Atradius (2017b), the proportion of sales made on credit is (in mean) the presented in figure 2.

Figure 2 shows that more than 40% of the sales all over the world are made on credit, especially to the domestic market. With regards to exports, as suppliers are less protected by law, since there are different codes and legislation, depending on the country, companies usually receive the amount in debt promptly or sell on credit but receive part of the payment in advance as a guarantee. These results are mean values, to some industries the average of sales made on credit is higher, while to others is zero, as for example the industries of accommodation, catering and similar (Banco de Portugal, 2018).

Giving credit increases the amount of accounts receivable in the balance sheet and decreases the amount of cash flows (Siekelova, Kollar & Weissova, 2015). Therefore, it has impact on the company's working capital. Working capital represents the company's operating liquidity. It is the difference between current assets, namely cash and equivalents, accounts receivables, inventories, among others, and current liabilities – accounts payable, and others (Brealey *et al.*, 2017).

Figure 2. Proportion of sales made on credit
Source: Researchers with information collected in Atradius (2017b)



$$Working\,capital = Current\,Assets - Current\,Liabilities$$

Working capital depends essentially from the credit given to customers, the amount invested in inventories and the credit received from suppliers (Neves, 2012). A company that pays to suppliers before receiving from customers has financing needs. A higher investment in working capital means that the company has a lot of money to receive in the future (or that is already money if it is cash or equivalents), but in the present needs to finance its activity since the company must pay to suppliers, to workers, VAT and other taxes, and have not received yet income. The quickly the company receives from its customers, the less investment in working capital, and consequently more cash flow the company has. When the credit given to customers increases, current assets also increases, and if the company needs cash flow it must look to bank loans or others. Forecasting accounts receivables is so relevant to understand the working capital and financing needs (Szpulak, 2010).

Suppose the following example. In year N a company sell € 100 000. The company's manager has two possibilities: 1) give a credit of 60 days to customers, 2) receive sales promptly. Ignore VAT or other taxes. See the example in table 1.

In table 1, it is possible to observe that income statement reports the same amount of sales. The difference is in the balance sheet; if the company sells on credit its cash flows in the moment are reduced (the amount in cash is smaller), and thus the company's financial needs to sustain its activity will increase, since the amount in accounts receivable increases (accounts receivable is calculated multiplying the total value of turnover per day multiplying by the number of credit days).

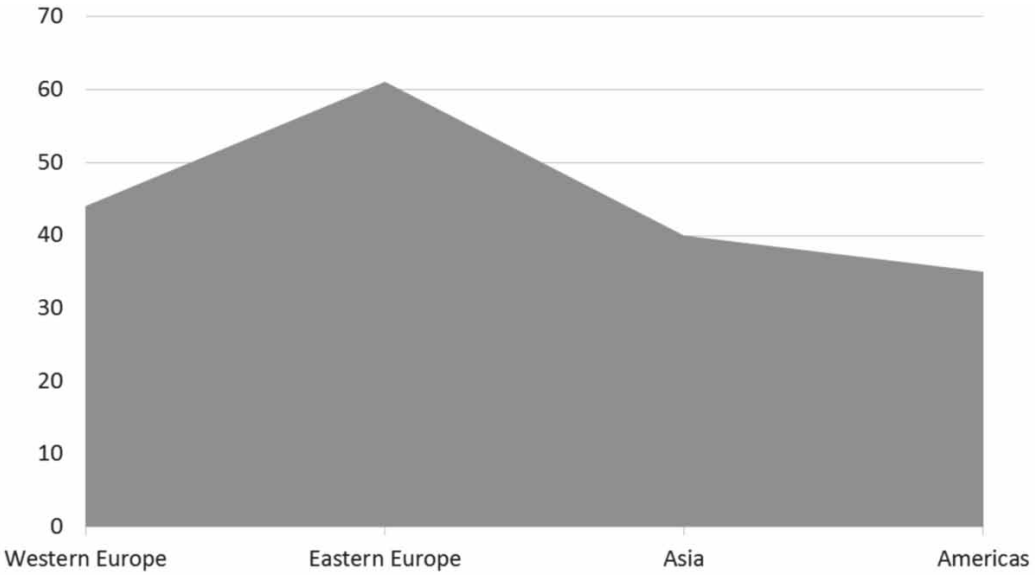
This example calls the need to the company to establish a singular credit policy. Although, when the company is not unique in the market, it must follow the mean value of the industry otherwise may have no customers interested in its products or services. Moreover, the days sales outstanding (DSO) depends on the country analyze. While some countries, as countries in Eastern Europe, have longer payables cycles (for example Poland has 80 days of average DSO), in other countries the average of days sales outstanding is shorter (the DSO in Australia is in average 22 days) as we can see in figure 3 (Atradius, 2017b).

Table 1. Impact in financial statement of giving credit

	Hypothesis 1		**Hypothesis 2**
In income statement			
Net sales (turnover)	€ 100 000		€ 100 000
In balance sheet			
ASSETS			
Current Assets			
Cash	€ 83 562		€ 100 000
Marketable Securities			
Accounts receivable	€ 16 438	(100 000 x 60/365)	
Inventories			
Prepaid income taxes			
Other current assets			
Total current assets	€ **100 000**		€ **100 000**

Source: researchers

Figure 3. Mean of days sales outstanding
Source: Researchers with information collected in Atradius (2017b)



This means that some companies have more financial needs than others. This problem increases as sales and services can be paid later than the agreed period. Atradius (2017b) reports that more 41.9% of credit is overdue all over the world (in the Americas is more than 46.2%). Therefore, every company must take decisions to avoid customer's non-payment as it can cause a negative impact in the company's financial position. If a customer does not pay back his/her obligations, the company not only has this loss, but also must support costs with costs of goods sold, workforce costs, and other, that will not recuperate. This may cause an increase in the company's indebtedness and risk.

In 2017, 1 to 2% of sales were uncollectable, especially the sales done in the domestic market (Atradius, 2017b). The main reason given by customers is financial problems (insufficient funds to pay). To external customers, the complexity of the payment procedure is also a reason to not pay on time. Bloem and Gorter (2001) argue that customers do not pay back to suppliers due to 1) an inadequate policy of credit management, and 2) inflation and/or special conditions of the market.

Bad debt is one reason of the company's failure. When a company does not receive from customers, then will have insufficient money to pay to suppliers, and may ask for bank loans, increasing it indebt and the difficulty to pay back. This leads to the domino-effect (Ooghe e Prijcker, 2008). Therefore, every company must establish an accurate credit policy to act proactively instead of reacting to problems after they appear (Ketzner, 2005).

MANAGING CUSTOMER'S CREDIT

Establish a credit period is not enough to assure that credit will be collected. Therefore, the company must manage customer's credit not only to control customers and avoid bad debts, but also to increase cash flows and decrease indebtedness, to help in the decision making, to understand the company's threats

and try to change it into opportunities, to have an overview of the business, to efficiently use capital, special liabilities, to efficiently use assets, to reduce earnings volatility, to increase the company's image, to be more efficient (FERMA, 2010). Liu, Mao and Nini (2018) found that companies with riskier receivables have more difficulties in access to debt, since "trade credit represents an asset that is effective collateral for supplier firms" (Liu *et al*., 2018, p. 456). Moreover, these firms when facing negative liquidity shocks have greater probability to default (Mateut and Chevapatrakul, 2018).

To reduce the risk the company must identify, control, plan and establish mechanisms to anticipate threats, rather than try to solve problems after it happens. Understand the reasons for late payments and understand the entire process from sales/services till receiving the money in credit is crucial. In fact, some risks arise inside the company due to lack of experience, fraud, dishonesty when managing customers (Santos, 2003). This type of risk can be eliminated when all the process is known, and the performance is measured. Risks inherent to customer, industry and country are more difficult to control, but when managed they can be at least reduced.

Every company should decide its credit policy. Batista (2004) argues that there are three main types: restrictive, moderate and liberal. The restrictive policy is when the company only grants credit to customers that have almost sure that they will pay back their credits. It is a type of non-risk taken policy. Applying this type of policy will guarantee no financial problems, as receivables will be transformed into cash flows, but will limit the company's growth in the future, since other competitors will give better conditions to customers. In the moderate credit policy, the company also analyses customers and gives credit if customer's risk is not too high. In this case the company takes more risk than adopting the previous policy but, will also have more customers and a better image in the market. Finally, in the liberal policy, companies grant credit to obtain more customers, even if their risk is high. This type of policy cannot be applied for long periods as the company can have some cash flow's problems as well as high risk of failure.

There is not an optimal type of credit policy (Lewellen, McConnell & Scott, 1980), it depends on the customer, industry, country, and the company itself (life cycle of the company and products). Usually companies prefer the moderate credit policy but in some moments of the time can use the liberal or the restrictive policy. According to Ross, Westerfield and Jafe (2016) a company's optimal credit policy is the one that match the equilibrium between the benefits and costs, it means, when cash flows increasement is enough to support the additional costs supported due to the increasement in accounts payable. These costs are costs to give credit, as costs to manage credit, costs due to uncollectable credits, and others, and opportunity costs, as lost turnover because the company do not give credit to customers (Ross *et al.*, 2016). Managing customers credit is not only relevant to sustain but also to increase a healthy credit portfolio.

Therefore, the company must establish credit policies, it means, a set of rules that help to guide managers to grant credit (Batista, 2004). For it, the company must create criteria and methodologies to analyze and evaluate credit decisions.

Not all companies must give credit. It depends of various factors. Suppose a company that is producing a specific product to a customer and supports high distribution costs. In this case the company must receive the amount of sales in advance, or at least part of it (for instance 30% or 40%) to assure that the customer will maintain the contract with the company (Brealey *et al.*, 2017). Moreover, companies that sell perishable products usually do not give credit but receive the amount in debt in the moment when acquired since the customer will consume the product in a short-period (Brealey *et al.*, 2017). The consumer demand should also be considered. A systematic customer may return and buy again to the

company. Therefore, the probability that the company will recover the amount in debt is high, comparing to a customer that buy only one time it is difficult to recover the debt. When the profit when selling a product or providing a service is small, the company must avoid giving credit since it may increase its costs, leading to losses. Finally, the company must analyze the customer financial situation (the authors will explain later how), its bargaining power, and the competitors, since the company is not alone in the market (Brealey *et al*., 2017, Mateut & Chevapatrakul, 2018).

When giving credit, the payment conditions should be adjusted to customer and discussed with them. It is not stable over time as the customer financial situation or the market or country environment change overtime, impacting the customer's conditions to pay their credit. Therefore, the company must have three areas: to analyze customers' financial situation and decide whether to grant credit and the credit period and other conditions, to follow customers to analyze if they meet credit obligations or not, and to recover credits when customers do not fulfil their obligations on time to avoid bad debts (Ross *et al*., 2016). The four steps presented after are recommended to be follow.

Understand the Customer's Financial Situation and Risk

Stiglitz (1985) argued that the lack of information increases the company's risk due to the probability of existing bad debts. Therefore, the company must have a department or a person responsible to collect accurate information to help to analyze the risk of every customer.

Collecting information is hard to achieve, not only because this data must be collected from multiple systems, and sometimes it can be costly, but also it has diverse formats, making it difficult sometimes to identify potentially risks. The technological evaluation helps to surpass some of these difficulties making easier to the company to access to different information.

To analyze the customer's ability to meet their obligations, its historical and financial statements should be collected, and credit risk models must be used to analyze the customer's financial situation, to verify its creditworthiness, and to decide if guarantees or credit insurance will be needed.

This analysis should be done to every customer, but it should be done in more detail to new ones, since to existent customers the company already has a previous analysis and a history of payments, the new analysis is to detect changes in financial situation.

Collecting Information About the Customer

Information about the customer can be collected directly with him/her and through specialized companies. When the company has a close relationship with customers and they have nothing to hide, the customer usually provides their own financial information. The most relevant information are financial statements as income statement and balance sheet, historical payments of the customer with other suppliers and with the company (to an existing customer), and credit quality given by the bank or other financial institution (Ross *et al.*, 2016). Auditing reports, fiscal and legal incidents, and additional information can also support to draw customer's profile. Mateut and Chevapatrakul (2018) argue that customers with strong financial health have low accounts payable since have already paid do suppliers.

With this information the company can do a characterization of the customer, regarding credit risk. For it the 5 C's model proposed by Weston, Besley, and Brigham (1996) can be used. This model helps the company to decide whether to give credit to a customer.

Character

It includes information about the customer's intention and ability to pay their obligations. The customer's punctuality to meet obligations, the existence of negative information's given by banks or other suppliers, the change in procedures, and some characteristics about the customer as age, size, source of income, effort to meet obligations, and other are relevant factors to decide about the customer's character.

To understand the customer's punctuality to meet obligations and change in procedures usually the company considers historical relations with customers to see if they have paid on time and how they are doing it. The company must see if the customer fails more than x days the period of payment. If the customer fails he/she is defaulting, and the company should consider this information for future contracts with him/her. Although the future ability to pay is not directly related with the past. Moreover, to new customers the company had no access to this information. Likewise, the company must ask information to other suppliers and banks if possible. The answer should be positive or negative.

To understand customer's characteristics, some variables can be used as (Neves, 2012; Ohlson, 1980, Pindado & Rodrigues, 2004):

Age defined as being the number of years that the firm has been operating, or its natural logarithm. Older firms have more available information to understand its ability to meet obligations.

Size measured as the natural logarithm of a company's assets or number of workers. Large-size firms are usually more diversified and thus have less risk, although may have more difficulties to manage the company itself.

Source of income, measure as turnover over total income, helps to understand if the company is focusing in the main activity and try to increase sales and services or no.

Effort to meet obligations usually measured as the days payment outstanding (DPO).

$$DPO = \frac{Suppliers}{Purchases \times \left(1 + VAT\right)} \times 365$$

It helps to understand the mean number of days the company needs to pay to its suppliers. The higher the value of DPO means that the company or has negotiate a large period of credit with suppliers or has difficulties to pay its obligations.

Efficiency measured as turnover over total assets. A low value means that the company is not generating sufficient volume of business given its investments.

Although, describe customer's character is difficult as sometimes some customers have possibility to pay and delay some the payment some days, while have no financial possibility to pay their obligations and need to sell some assets to meet their obligation. The character of both is different but is difficult to know the real reasons for the payment delay.

Capacity

The company must analyze the customer's ability to manage the commercial and financial areas. Not only the payment ability is relevant, but also the competitiveness, the company's return, solvability and liquidity. For it the company must calculate some ratios to understand the credit risk (Neves, 2012; Pindado & Rodrigues, 2004).

Solvency measures the company's ability to meet liabilities using own capital.

$$Solvency = \frac{Equity}{Total\,Liabilities}$$

Creditors prefer high solvency ratio since a low value means that liabilities may not be paid due to insufficient capital. In theory it should be greater than 50% to give confidence do creditors but in practice it depends on the industry and the firm's age. New firms have more liabilities and less equity since have few retained earnings (leading to low equity) and need to finance all the investments of the firm (thus it increases liabilities). Some industries also need to successively invest in fixed assets to follow the market, and thus are too dependent of bank loans or similar, which is translate in an increase in liabilities and a decrease in this solvency ratio.

Current ratio measures the company's short-term solvency.

$$Current\,ratio = \frac{Current\,Assets}{Current\,Liabilities}$$

Creditors prefer high current ratio since it means that the company have money or will receive money in a short term that is enough to meet obligation due one year. In theory it should be greater than 100% to give confidence do creditors but in practice it depends on the industry. Moreover, a high value may not be a good sign of solvency since the company must have a large amount in accounts receivable and some of these credits may be difficult to recovering, so will not be transformed in cash as expected. Although high value means that the company is doing nonproductive investments. If the high value is due to customers it means that the company in not efficient in receiving its creditors; if it is due inventories the company may have some troubles since inventories are not turn into cash quickly; if it is due to cash and equivalents the company should try to paid promptly to suppliers, receiving some discounts, or could invest without looking for bank loans.

Some researchers exclude inventories from current assets as inventories are more difficult to sell when the company needs to pay some obligation (at least selling without additional discount).

Working capital to total assets ratio measures the amount of the company's operating liquidity over total investment made.

$$Working\,capital\,to\,total\,assets\,ratio = \frac{Working\,Capital}{Total\,Assets}$$

A higher value means the company can generate more money in the short run, so has more probability to pay its obligations.

Collateral

The company must understand if the customer has assets that can be used as collateral in case of failing an obligation. It is usually measured using asset structure.

Some researchers also include inventories to fixed assets as inventories can have significant value at the time of the company's liquidation.

Capital

The company must also analyze customer's financial independence, its market value, and return as it helps to understand its ability to pay obligations. Usually the following ratios help to understand this factor (Neves, 2012; Pindado & Rodrigues, 2004):

Capital ratio shows the company's financial independence, it means, how much the company's investment is financed through own funds.

$$Capital\,Ratio = \frac{Equity}{Total\,Assets}$$

In theory it should be higher than 35% but in practice it depends on the industry and the company's age since some industries make high investment in fixed assets and for it need bank loans or other type of liabilities, and new firms have lower equity since have few amounts of retained earnings. A company with a low capital ratio (compared with the industry) is more in debt and gives less confidence to creditors and suppliers, since it will be more difficult to pay all debts. Likewise, it will be costly to the company to borrow additional funds without raising total equity since creditors will be reluctant to lend money. A company with negative capital ratio means that have negative equity due to negative past earnings. In this case the company is in technical bankruptcy and its risk is too high.

EBITDA-to-interest coverage ratio measures if the company's profitability is enough to pay off its expenses. It is used to analyze the company's financial durability.

$$EBITDA\text{-}to\text{-}interest\,coverage\,ratio = \frac{EBITDA}{Interest\,Expenses}$$

A high value means that the company generate enough earnings to pay financial expenses, giving more confidence to creditors.

Percentage of retained earnings shows how much the company's investment is finance though self-finance.

$$\%\,retained\,earnings = \frac{Retained\,Earnings}{Total\,Assets}$$

The higher the ratio the less dependent is the company from other sources of finance. It provides good sign for the company as the company is efficient in reinvesting funds to make new investment.

Return on assets (ROA) measures the company's operational activity per euro of investment.

$$ROA = \frac{EBIT}{Total\,Assets}$$

Return on assets should be positive, to mean that return is generated, and the highest as possible, to means that the company is efficient since the investment made are generating returns. Although if the value is too high the company may be close to its maximum capacity.

Contextual Surrounding

Economic and industry factors may decrease or increase the customer's risk. It includes governmental policies and instabilities, regional factors, natural disasters, competitors, among others that may impact the customer's ability to pay its debts. Usually it is measured analyzing the annual growth of the gross domestic products, but the country risk can also be considered.

Some authors also call the attention to the need to consider information about the industry since some payment practices are explained by it.

This information is relevant to design the customer's profile, although, when analyzing financial ratios some precautions should be taken because the financial information of a period may not reflect the financial situation of a company. Companies with some problems of solvency and liquidity but with profitability growth are usually companies that have made new investments. If the financial situation does not change and the financial independence is low the company may enter in distress. Moreover, the financial situation of some companies may be growing in the last years, and so it is expected that its financial situation will be better in the future, while others are in a decreasing position, so if the company do not change its strategy and try to recover its financial situation, it may fail. Analyzing only one year in at a moment of time may be insufficient to make decision.

To existent customers, the seller can also help to design customer's profile as the seller is in direct contact with the customer and may have additional information that can be relevant in the decision making. Although, as sometimes friendship connections are established, it can also contribute to barging for a higher credit limit or an additional discount, which may lead to an increase in the company's risk (Tsuruta, 2013).

The company must also look for additional information, not only financial but also legal and commercial information. For it the company must look for some database, as for instance: Informa D&B, Iberinform, Experian, Equifax, Atradius, Cosec, among others.

- Informa D&B (https://www.informadb.pt/) provides a report about the company (customer) risk, with information about the risk of failure, the risk of payment, the credit limit recommended and legal incidents. It uses a traffic lights to classify the company's risk as high (red color), moderate (yellow color) and low (green color) risk. This indicator ranges from 1, low risk, till 4 high level of risk. The failure risk is based on a scoring model and helps to see the company's probability of failure with debts to pay. If the failure score is 13/100 it means that this firm as high probability of failure is the future. This score ranges from 1, high probability of failure, till 100, reduced probability of failure in the future. The payment index - Paydex®, created by Dun & Bradstreet, shows the company performance with regards payments. It helps to understand how many days, after the days sales outstanding provide by the supplier, the company need to pay their debts (in mean) and

compare it with the industry and the market (national and international). Moreover, Informa D&B report information about the monthly credit limit recommended, if some credit is recommended.

- Iberinform (http://iberinform.pt) helps to analyze the customer's risk, providing information about previous problems with payments of debts. Iberinform creates a score to evaluate risk from 1 to 10 (high to small risk) that shows the default's probability of a company in the following 12 months. It looks for a company's financial statements and previous problems with payments, then considers the industry and finally macroeconomic factors. With this information the company should decide if gives credit to customer or no. Additionally, to credit and risk management, they help to manage contacts and payments, and provide help to recover the money in debt.
- Experian (https://www.experian.co.uk/) provides a credit report with a credit score (number) and its classification, explaining the positive and negative factors. They look for 6 years information to classify the credit.
- Equifax (https://www.equifax.pt/) they provide information about the customer that are in different data base in a singular one. The information is daily update. Moreover, they have a software that allows to control and classify the customer risk, to anticipate the probability of the customer fail its credit obligations.
- Atradius (https://group.atradius.com) provide services to help a company to deal with customers credit risk. They provide credit insurance using an anonymous policy. It the customer has two positive experiences in a year, Atradius will say how much will grant from credit. Likewise, bad debts are avoided. Moreover, the company provide a service of debt collection to help the company to recover the money.
- Cosec (https://www.cosec.pt/) is an insurance company that offer different credit solutions. They provide feedback about customers and their ability to meet their obligations, a service to collect money in debt, and they cover against non-payment of credits and limits granted by Cosec.

CREDIT RISK MODELS

Another way to analyze customers risk is using credit risk models. There are several models. The more relevant are the following:

Credit Scoring

The scoring method consists in give a score to customer's credit risk using statistical analysis (Caeiro, 2011). It takes into account several factors as age, industry, financial-economic situations, among other. Then it classifies customers in: customers with probability to meet their obligations and creditors with high probability of default. Using credit scoring the company has additional information to decide customer's credit conditions and can see the risk the company faces when give credit to the specific customer. Some companies also use credit scoring to decide about credit limit.

Vale (2010) argues that it is important to establish the notion of credit default for the company, the type of customers and the aim of the model. Moreover, the more accurate variables considering the aim of the model and the company that is using should be selected as well as limits to these variables. Then the sample should be created to define the classifications that will help the company in the decision making of giving credit.

The ability of this model depends on the information collected and the ability to relate all information, so it is costly to apply. Usually it is based on historical information, but the risk taken is not only based on the past but also in the future, and so sometimes the company tries to speculate the customer's future financial decision. Moreover, not always the financial information in financial statement has quality, which impacts the decision making (Anderson, 2007).

Even with these limitations, researcher consider that using credit scoring a company will understand if credit given will be paid back on time, and so bad debts will be avoided, and company's earnings will increase (Anderson, 2007).

Rating Models

Like the previous ones, rating models classify the customer risk into letters, considering the customer's financial history and ability to meet its obligations. It is usually provided by credit agencies that classify credit from the better to the worst. The more common international rating agencies are Moody's, Standard & Poor's, and Fitch. Their rating classifications are in table 2.

Credit classified as AAA means that the credit quality is high and the probability to meet obligations is high. For another side, the letters C and D are related with speculative credit, the probability of default is very high since the customer may be unable to meet its obligations.

To create a rating model, the company must consider qualitative information as information about the industry the customer belongs, their market share, macroeconomic and political conditions, as well as quantitative information obtained through the calculation of financial ratios as solvability, capital ratio, current ratio, among others (Securato, 2002).

This model also has advantages and disadvantages. If for one side helps to reduce the company's risk, for another side, customer's situation changes too fast and these models usually not follow these changes, and consequently, may suggest the company to give credit to a customer that has nowadays financial problems.

Table 2. Rating classifications

	Credit Quality	Moody's	Fitch	Standard&Poors
Investment grade	Excellent quality	Aaa	AAA	AAA
	Good quality	Aa	AA	AA
	High capacity of payment	A	A	A
	Accurate capacity of payment	Baa	BBB	BBB
Speculative grade	Maybe payments are insure	Ba	BB	BB
	High risk debts	B	B	B
	Probability of non-compliance	Caa	CCC	CCC
	Default or bankruptcy	Ca	CC	CC
		C	C	C
		-	D	D

Source: Adapted from information collected in Moody's, Fitch and Standard&Poor

Establish Credit Conditions

Understanding the customer's profile, the company can decide if should give credit or no. In case of an affirmative answer, the company must set the days sales outstanding as well as cash or other's discount, specially to encourage the customer to pay early. For that the company must know in detail its competitors, specially the main competitor, with regards not only the product sold, and service provided, post-sales service, price, and credit sales. Information about the country is also relevant to understand the government strategy. For example, if money transferences to foreign countries are not allowed, the company must not sell to that specific country. If the country has financial difficulties the customers of that country must also have, making it difficult to receive from that customers.

First the company must analyze the opportunity cost to increase days sales outstanding to the same or higher than competitors. If the company normally gives 25 days of credit and their competitors give 30 days, the company must analyze how many additional customers can win if reduce DSO, and which additional costs (financial and others) will have to support. See the example in table 3.

In this example, the company gives more 5 days of credit period. It represents more € 50 000 of money invested (5 days x one day's sales), and an additional financial cost of € 2 500 (considering 5% as the cost of borrowing funds if the company needs). Although, if the amount of daily sales increases, this cost can be support and the company can have more benefits.

For another side, the company must also analyze the early-payment discount that can give to customers. For it the company must understand the potential saving that will benefit if the customer pays promptly or early than the normal credit period. If the company receive early the days sales outstanding reduce, and more cash is available to reinvest in the company.

Suppose a company that usually giver 90 days of credit and support a cost of borrowing funds of 8%. The amount of discount that the company should propose to customer if he/she pay promptly is the following:

$$discount\,rate = 1 - \frac{1}{\left(1 + 8\%\right)^{\frac{90}{365}}}$$

$$discount\,rate = 1.9\%$$

This is a simple example that ignore some relevant factors. First, the company must understand how customers pay. If they use cash transfer, the money will be available in the same day or the day after,

Table 3. Impact of DSO change

DSO	25	30	5 days difference
One Day's Sales	€ 10 000	€ 10.000	-
Cash Invested	€ 250 000	€ 300 000	€ 50 000
Annual Interest Supported (i=5%)	€ 12 500	€ 15 000	€ 2 500

Source: Researchers

but if they use bank check, the company may wait some days till the money be available. Therefore, the company's credit conditions should also take it into attention. Moreover, if the company has high levels of indebtedness, it may benefit to receive early from customers, even if the discount rate is higher than the calculate one, since the company may have difficulties to access to new bank finance.

The company can ask the customer for additional assets to grant credit. The amount of the guarantee must be similar or superior than the amount in debt to assure that if the customer goes to bankruptcy, the company will recover the amount in debt. Not all the business use guarantees it depends on the customer location, costs to access to customer, its liquidity, among others.

At this moment of time, the company can also decide to contract a credit insurance. In this case the company looks for a credit company that will indemnify in case of debt default. The company pays a commission to the credit company and if the customer fails credit obligation the credit company will indemnity the company. The conditions of the insurance will be negotiated between the company and the credit company, mainly the rights and obligations of both parts, the risk, commission and indemnity.

Credit companies will also analyze customer information and give an opinion about whether credit should be given to a specific customer and till what amount. Although, using credit insurance does not substitute managing customer's credit.

Some companies prefer to use factoring, that is a financial transaction. In this case the company sells its invoices to a third part, the factor, at a discount. The factor will be responsible to manage invoices and collect the money. It helps the company in the way that the factor will give immediately the cash of the invoice less the discount. Moreover, the costs to manage credits are avoided, as bad debts are reduced, since not only the company analyze customer's risk, but also the factor do it. Although, this amount works as a lending as if the customer fails the payment the company will be responsible for a part of that amount, depending on the contract negotiations (Santos, 2001).

Establish Credit Limits

The company must also establish credit limits to approve new orders and avoid bad debts. Some credit limits are establishing based on the maximum number of invoices in payment, the maximum amount of credit, the number of additional days the customer may have to fulfill his/her contract obligations, or other. When these limits are exceeded the company must block new orders, since if customers have not payed yet the amount in debt, will have more difficulties to pay a high amount in debt, leading to bad debts.

Suppose the following example: a customer that usually orders quantities for one month and have 30 days of credit; to reduce the amount of payment in one time and to benefit from more time can decide to order quantities per week (only 25% of the monthly amount), instead of quantities per month. Doing it the customer will enlarge the period of payment, although the company will also have more costs since instead of delivering one time must deliver four times. To avoid this the company can limit the number of invoices in payment.

Another example is a customer that has a credit limit of € 10 000. Suppose that the customer orders a new amount of € 2 000. Two situations can happen: 1) the sum in debt with this new order not exceed credit limit, 2) it exceeds. In the first situation the company can release the order, since the limit is not surpassed. In the second situation the order should not be release, since if the customer already has a big amount in debt and the company is not sure if he/she will pay back, increasing this amount only increases the company's risk and probability of increase its costs.

Although, credit limits should be regularly revised as the customer and external situation can change. For it, the company must have a credit department to analyze all situations and give timely information to sales department. The idea is to act proactively, before the problems arise.

Decide Which Procedures Will Be Followed Till the Money Is Collected

Following all the previous steps does not guarantee that the company will not have credit risk since the customer may still fail the contract obligations. The risk only finishes when the customer pays the amount in debt (Santos, 2003). Therefore, managing customer's credit only finishes when the contract also ends.

The company must decide which procedures should be followed to assure the credit sales are collected. How and when the customer will be contact? Who is responsible for the contact with the customer? Which protocol should be followed? These procedures should be written in internal manuals.

The company must have a department or a person responsible to collect customer's payment (Albright, 2017). They will be responsible to follow the credit and to collect the money in debt. Therefore, they need to know and understand the conditions given to customer and what the company wants to accomplish (zero delay, increase the number of customers, among others).

The Accounting Minute blog by Sutherland Global Services (in McDaniel, 2017:26) suggests that "26% of invoices 3 months old are uncollectible, 70% of invoices 6 months old are uncollectible, 90% of invoices 12 months old are uncollectible". Hence, the company must try to receive early or near the credit deadline to assure that credit will be pay. The responsible to collect customer's payment should act proactively to assure instead of reacting when debts are overdue (Batista, 2004).

One way to control customers credit is using the aging method summary to see the amount in debt due, and the amount overdue and the time of delay. See the example in table 4.

Using this draft the company can predict the uncollectible amount and act previously to payment get uncollectible. Moreover, can monitor the payment and be more aware about the customer's delay to meet their obligations, which is relevant information to include in the credit models explained before.

The days sales outstanding (DSO) can also be used but as it is a mean value the information provided can biased the decision making. Thus, usually companies analyze the time taken to collect each invoice to see how many days effectively the customer needs to fulfill its obligations.

To avoid credit overdue the company must contact the customer and ask for payment. Sending reminder emails, phone calls or letters helps to decrease uncollectable (Siekelova *et al.*, 2015). Some companies combine emails and phone calls, others only use one method. Each company should see the methods more accurate to the business itself and explain to all collection team.

Table 4. Aging method summary

	Total Amount In Debt	Not Overdue	Overdue				Impairments
			0-30 Days	31-60 Days	61-90 Days	More Than 90 Days	
Customer A	€ 100 000	€ 80 000	€ 10 000	€ 10 000	-	-	-
Customer B	€ 150 000	-	-	€ 30 000	€ 100 000	€ 100 000	€ -80 000
Customer C	€ 50 000	€ 10 000	-	€ 30 000	€ 10 000	-	-

Source: Researchers

Sometimes, customers are not consciously when decide to avoid paying their debts, they simple forget, so it is relevant to remember that the period of credit is finishing (McDaniel, 2017). Other times the payment delays are due problems in invoices - the amount in invoice is different from the agreed one. Therefore, the company must contact the customer to understand the reason of the payment delay. If the customer has some financial difficulties a payment schedule can be design. If the reason is non-matching balance, the company and the customer can try to solve this divergence. If the customer does not give any reason, neither try to solve the problem, the company should be persistent in contacts (Batista, 2004). The collection team should also understand the payment methods used by customers, since if they use bank checks the payment delay can be due to delays in mail delivering, for instance.

The company must recall the customer to remember to pay their obligations. If after one month the customer continues in delay, the company must try to find an agreement to reschedule the payment. If after two months the credit still overdue the company can ask help of a collection agency or lawsuit. All the process should be document to prove that the company has make all the efforts to recover the money in debt.

Schematically the payment collection process will be as presented in figure 4.

At the same time the company must create the impairment of the credit overdue. Likewise, company's financial statements will show the money that can real be collected and the additional costs the company has because has some overdue credit.

The following example (in table 5) show the difference between a company that create the impairment to credit overdue and another that do not do it.

In the first hypothesis the company decide to not create the impairment of overdue credit. Therefore, its net profit and total assets will be higher than the ones of the company in hypothesis 2, that create the impairment to overdue credit. In this second case the company has an additional cost, the impairment of 6 000 of overdue credits, and the amount in accounts receivable is also smaller in the same amount. Some companies avoid creating impairments special when have net losses, but this is not an accurate procedure and can lead to earnings management.

Figure 4. Payment collection
Source: Researchers

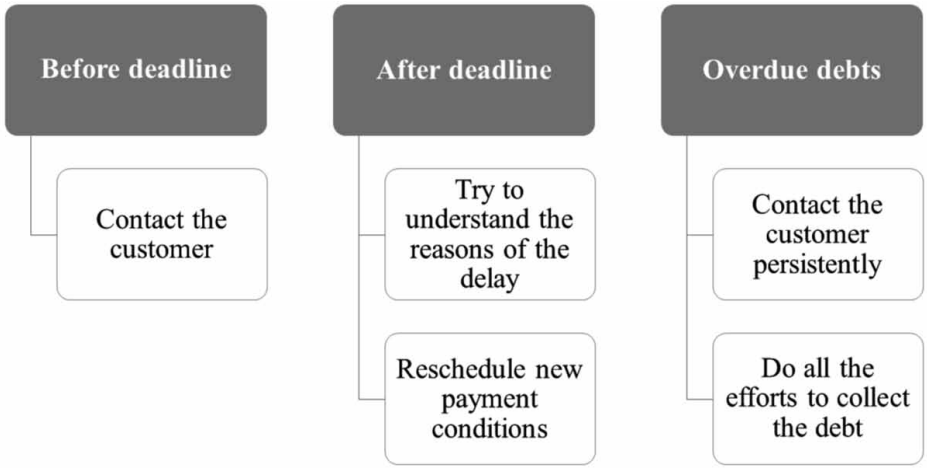


Table 5. Impact of impairment in financial statements

	Hypothesis 1		Hypothesis 2
In income statement			
Net sales (turnover)	€ 100 000		€ 100 000
Impairment			€ **-6 000**
In balance sheet			
ASSETS			
Current Assets			
Cash	€ 83 562		€ 83 562
Marketable Securities			
Accounts receivable	€ 16 438	DPO = 60 days € 6 000 are overdue	€ **10 438**
Inventories			
Prepaid income taxes			
Other current assets			
Total current assets	€ **100 000**		€ **94 000**

Source: researchers

The experience of the collection team and the good relationships with customers are two relevant factors to avoid bad debts. A company that manage customer's credit is more efficient in collecting debts, has more cash flows and less investment in credit granted, avoid bad debts and doubtful accounts. For it the company must analyze accounts receivable, see trends and signs of negative changes, must set credit limits and establish credit criteria. The company should act proactively. Although, credit conditions depend on the industry, country and macroeconomic conditions. Hence, it is important to consider everything in the moment of the decision making.

CONCLUSION

Companies need to adapt management practices to follow the market tendencies. The high competitiveness and the globalization of the world have contributed to decreases in gross margins. This has led to an increase in the company's risk, that is heighten when the company gives credit to customer. Diverse companies sell on credit to attract more customers, since they buy today but will only pay latter. A contract is established between the company and the customer. Although, sometimes the customer fails its contract obligations and fail the payment of the amount in credit. This problem is enhanced when customers belong to external markets as the legal system to solve this problem is distant. Likewise, every company should carefully manage customer's credit.

Credit policies should be adapted to every customer or group of customers. Customer's singularities, regarding the capacity of payment, the character, the capital, the collateral assets, and the surrounding context, have impact on its profile. Therefore, the first step the company should do is look for information about the customer, financial, legal, commercial and other relevant information, to see the customer's risk. This information should be actual and true, otherwise the decision making can be skewed. This

step is more relevant to new customers, as the company has no historical information about them. Although, to existent ones, the company should also regularly update information. Moreover, industry and country factors, as well as macroeconomic environment also change over time, and may cause impact in customer's ability to pay their credits. Credit models should also be used to help the company in its decision of whether to give credit to a specific customer.

The company then should decide about the more accurate days sales outstanding, discounts, and the need of guarantees. These decisions should be discussed with the customer and included in the contract. At this moment the company can also increase its protection against doubtful receivables by contracting a credit insurance or looking for factoring or other financial instrument to collect money.

Internally the company must establish credit limits and have a person or a department to follow the customer till credit obligations finishes. Failures in payments, delays or other identified situations should be reported to the sales department to stop new order to avoid the increase in the amount of bad debts.

The company must have a close relationship with the customer, should try to understand the reasons of the payment delays, and should try to solve all divergences and problems. The faster the company collects customer's credit, the lower will be its risk. Moreover, the company will have more cash flows and will need less finance, which leads to an increase in the company's financial independence and solvency.

RECOMMENDATIONS

Companies that manage customer's credit avoid bad debts and have fewer financial problems since are more efficient in generating cash flows. Therefore, every company should do it.

First, the company must design the customer's profile. With this information the company can be aware of the customer's credit risk. This should be done to all customers, but in more detail to new ones as are the ones without historical relations with the company.

Although customer financial situation, as well as macroeconomic factors change over time. Hence, the company should collect credit information and updated it regularly, to the decision-making be the more accurate. The company must understand if credit terms are appropriate and discuss it with sales department. Should additional credit limits be considered? Should days sales outstanding be reduced or enlarged? How much should be the discount given to customers to encourage then to pay early?

Moreover, the company should see if invoices are accurate and prompt. The company should use electronic invoices to reduce the collection cycle, since if invoices are sent by mail it can delay the payment two to six days on average (McDaniel, 2017). This procedure also contributes to decrease labor and material costs.

The person or department responsible for credit collection knows the procedures to follow? And understand the credit conditions given to customers? The aging method summary is relevant to understand the overdue debts and to be aware of the credits that may be not recovered at all. Moreover, information about past-due accounts should be given to sales department to have accurate information in the following credit conditions. The company should remember the customer to pay on time, and if the deadline is exceeded they should try to understand why customers are failing their contract obligations. Are these reasons due to customer's problems, changes in the industry, country impositions or are internal problems (problems in products delivering or services providing, lack of quality of the products/services, invoices inaccurate or delivered late, discrepancies in invoices, among other). Should the company consider

outsourcing to collect the money? Finally, the company must create impairments to overdue credits to show a true picture of its financial situation in financial statements.

The company must work together with customers, training them to pay on time. Moreover, when customer delay their payments, the company must try to negotiate longer periods to pay their credits to suppliers, to try to first receive from customers and then pay to suppliers, decreasing cash pressures.

Finally, the company must focus on the idea of profits and value maximization, avoiding bad debts, and thinking in the future since what happened in the past may not be repeated (Braley *et al.*, 2017).

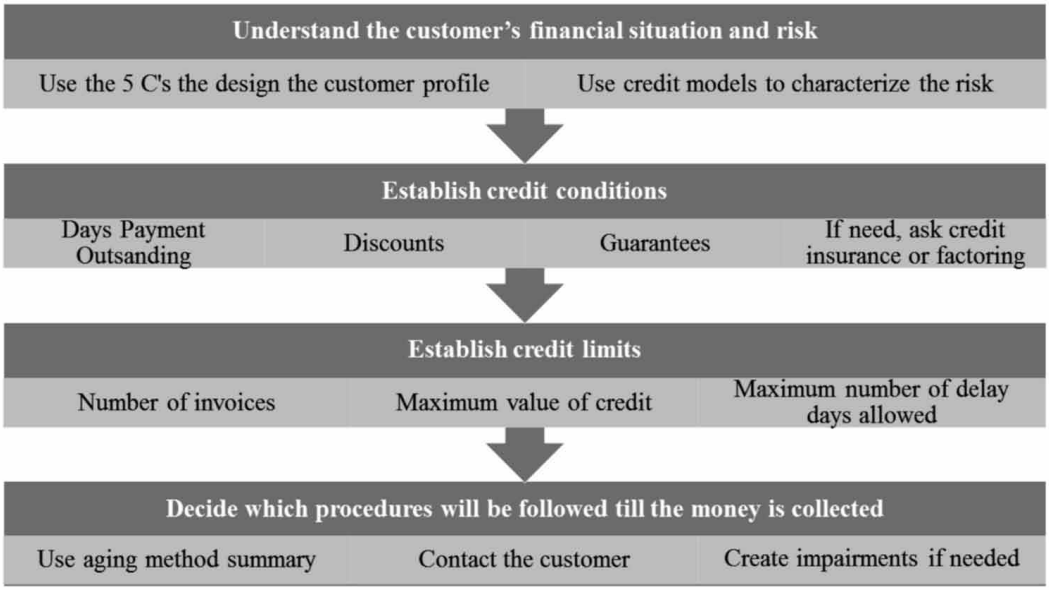
Schematically, the process is the presented in figure 5.

FUTURE RESEARCH DIRECTIONS

With this work companies and financial institutions will understand what they should do to avoid bad debts and doubtful accounts. Moreover, they will understand which methods are more accurate from the moment the company decide to provide credit till the moment the credit is collected. Moreover, this is one of the first works with a deep analysis about customer's credit management, being useful to all readers. Although the thematic does not finish with this work.

For future analysis will be relevant to see the impact of the proposed procedures in the company's performance and risk. When the company manage customer's credit its performance increases and its risks decrease? Are the differences significant? The company will have more customers working with them? And the impact in financial risk is also relevant? The researcher proposes a set of procedures to avoid bad losses, and thus to reduce the company's risk and increase net profit, as less impairments will be created. Although, the impact of these procedures is not analyzed in this work, so it is a future line of research.

Figure 5. Summary
Source: researchers



Moreover, country risk should also be addressed to this analysis. The researchers only argue that the surrounding context should be consider in the analysis. Although, a deep analysis about country risks should be addressed in the future and included in the 5 Cs model proposed.

Companies may use additional financial instruments depending on the country. In riskier countries the impact of using the proposed procedures in the company's performance and risk may be different. Moreover, companies that use additional instruments to protect from country risks and the remain may have different risk. These comparisons should also be address for future analysis.

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Chapter 22
Responsible Leadership and Expatriation:
The Influence of National Culture

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ABSTRACT

One of the consequences of globalization was the internationalization of organizations. In this context, expatriation has become fundamental for the competitiveness of the organizations. Training is indispensable to adjustment of expatriates in a new culture. Poor performance by expatriates compromises the success and competitive capacity of organizations. Like expatriation, responsible leadership is a very important topic. Responsible leadership can be the answer for a more ethical business in a context full of uncertainties. In literature there are a variety of definitions about responsible leadership. In spite of that, the relationship between leaders and stakeholders (internal and external) to achieve a common objective is vital. Leaders interact with different stakeholders with different costumes and culture. Knowledge of national idiosyncrasies is very important because these are a key element in the internationalization process as well as a factor of success in expatriation and responsible leadership.

INTRODUCTION

The origin of globalization dates back to the fifteenth and sixteenth centuries and is attributed to the Portuguese, specifically to King D. João II and Prince Henry the Navigator's audacity (Devezas and Modelski, 2006). Modern globalization took its first steps in the 1940s, but it was only in the 1980s that technological advances began to make free trade and international financial flows globally tangible.

One of the consequences of globalization is the mobility of people on a worldwide scale. In fact, the mobility of people has always existed as a way of survival or improving living conditions. These migratory movements continue to exist but now also as an imposition for organizations, representing an added value for them and, more often, the only way to survive.

DOI: 10.4018/978-1-5225-8479-7.ch022

According to Yip (1989) to develop their strategy, organizations first foster their core business strategy, then internationalize it through international expansion and finally globalize the implemented strategy in other countries.

The internationalization of organizations enables increasing business opportunities by acting as a catalyst for the economic growth of these organizations, as new markets may arise from a source of knowledge giving the opportunity to seize other cultural perspectives.

In this way globalization has increased the opportunities for people to work in organizations outside their native countries. Expatriation has become very important to organizations. An expatriate has been defined as an employee sent by her/his organization to another country on a temporary basis, to fulfill specific organizational objectives (Dowling and Welch, 2004; Richardson and Mallon, 2005).

Expatriation is important for organizations' strategy and is also very important for workers. It is simultaneously the only way workers have to avoid breaking their relationship with the organization in which they are inserted and an opportunity to leave their comfort zone by developing their adaptability, acquiring knowledge inherent to the new context and ensuring the continuity of their professional career.

One of the many challenges expatriates can face is cultural (mal)adjustment. The cultural distance between the native culture and the new culture determines the cross-cultural adjustment of expatriates (Takeuchi, Lepak, Marinova and Yun, 2007). Training is thus fundamental for the adjustment of expatriates in a new culture. The objective of cultural training is to help members of one culture to interact successfully with the members of another culture. Studies reveal that cultural training has a positive effect on adjustment to a new culture (Black, Mendenhall, Oddou, 1991; Hammer and Martin, 1992).

Like expatriation, responsible leadership is also becoming a very important topic in academia and in the business world. Responsible leadership emphasizes that the influencing power of leaders "should be used to improved everybody's lives, rather than contributing to the destruction of value of individual careers, organizations, economies and societies" (Marques, Reis, Gomes, 2018, p.3). Responsible leadership had been defined according to two perspectives. First, as "a social-relational and ethic phenomenon, which occurs in social processes of interaction" (Maak and Pless, 2006, p.99) and second, as "the consideration of the consequences of one´s actions for all stakeholders". In this point of view, responsible leadership is embedded in networks of flexible hierarchies and stakeholders, encompassing multiple markets and cultures based on ethical and normative considerations (Miska and Mendenhall, 2018).

Like expatriates, responsible leaders interact with different stakeholders while at the same time are embedded in different national systems and embracing different societal values (Schneider, Barsoux, Stahl, 2014). This parallel between expatriation and responsible leadership provides the opportunity to argue that cultural training should also be applied to responsible leaders.

Expatriates and leaders will need intercultural skills. Expatriates need intercultural skills to integrate successfully in a new culture and responsible leaders need these skills to interact with stakeholders with different interests, values and cultures.

Culture can be defined as "shared motives, values, beliefs, identities and interpretations or meanings of significant events that result from common experiences of members of collectivities and are transmitted across age generations" (House, Hanges, Javidan, Dorfman and Gupta, 2004, p.15). These authors identified and proposed nine cultural dimensions of national culture: (1) Power Distance (2) Gender Equality; (3) Assertiveness; (4) Institutional Collectivism; (5) Endogrupal Collectivism; (6) Avoidance of Uncertainty; (7) Human Orientation; (8) Orientation to the Future; and (9) Performance Orientation.

We argue that cultural training for expatriates and leaders should include knowledge of those dimensions. As noted above, knowledge of cultural values, which postulate the principles and norms that are

accepted (or not) in a society and define behaviors that are accepted or not in that society is vital and a key element in the internationalization process and indispensable for success in expatriation and responsible leadership. Besides, cultural diversity can be a competitive advantage for organizations.

Therefore, this chapter aims to review the literature on expatriation and responsible leadership, systematizing the most important studies published in recent years. At the same time, the chapter introduces a parallel between expatriation and responsible leadership providing the opportunity to apply key issues concerning expatriation to the study of responsible leadership, and also to understand why culture is fundamental in expatriation and responsible leadership.

We begin with the notion of expatriates, after which, we defend the importance of cultural training for their adjustment and then explain the notion of responsible leadership and the importance of cultural training for responsible leaders. Following this, we explain what is understood by national culture in intercultural studies and the impact that it can have on expatriate adjustment and on the promotion of responsible leaders. For this reason, it should be considered an important variable in the proposed cultural training program described below. We end the chapter with conclusions and future research directions.

BACKGROUND

Expatriation, Cultural Adjustment and Cultural Training

Globalization could be considered as "the process of integration of goods and capital markets in world trade" (Kihçarslan and Dumrul, 2018, p.115). Kaypk (2011) suggests that globalization has three dimensions: economic, political and social-cultural. The economic dimension leads to the development of a world market, the political dimension reflects the coalition of forces in the political field and the socio-cultural dimension mirrors the economic and political dimensions.

The effects of globalization are controversial and there is no consensus in the literature about it. For Mutuascu and Fleischer (2011), states benefit from the positive effects of globalization such as the opportunity for new business and are negatively affected by the impoverishment of national economic autonomy. As such, there is substantial growth in the gross domestic product of some countries, but also new forms of social exclusion.

Globalization has accelerated the internationalization of organizations and modified organizational structures to respond to the various challenges posed by the current situation (Camara, 2011). One of the challenges is to understand the complexity of the different institutions, cultures and economic systems (Spender and Scherer, 2007).

Internationalization has been defined as "the process of going beyond domestic operation and operating internationally" (Bose, 2016, p.88). In other words, internationalization is a process in which organizations gradually increase their international involvement (Johanson and Vahlne, 2017). In this context, transferring employees has become an important mechanism for transferring corporate knowledge or technology (Cho, 2018). And thus, expatriation became very important for organizations' global operations (Maitlis and Christianson, 2014).

An expatriate has been traditionally defined as an employee sent by its organization to another country usually on a temporary basis, to fulfill specific organizational objectives (Dowling and Welch, 2004; Richardson and Mallon, 2005). In the literature, expatriates are considered a homogeneous group but in recent years efforts have been made to understand whether expatriates are in fact a homogenous

group or not. Hence, the distinction was made between assigned expatriates and self-initiated expatriates (Andresen, Biemamn and Pattie, 2015). According to Dorsch, Suutari and Brewster (2013), the need for this distinction arises from two simultaneous factors: first, a need to distinguish between different forms of global employment mobility and second that this mobility seems to be a complex process.

McKenna and Richardson (2016), suggested that an assigned expatriate refers to a person who moves from one country to another with organizational sponsorship while self-initiated expatriates move from their home country to another of their own volition and independently of an organizational employer (McKenna and Richardson, 2016). In other words, self-initiated expatriates refer to people seeking employment abroad on their own initiative and who are then hired as a local in a different country (Crowley-Henry, 2007). We argue that a self-initiated expatriate could also be someone who is sent by an organization to another country and after ending that connection, seeks to be hired as a local by a new employer instead of returning to her/his own country. In this case, expatriates have the advantage of already knowing the local customs and culture. The definition of expatriate as well as types of expatriation is not definitive and will soon probably include situations of wider global mobility than those considered in this review in order to apply to new situations.

At this point it make sense to understand the benefits and negative consequences of being an expatriate. The benefits may include developing global management skills (Daily, Certo and Dalton, 2000) and international abilities for the organizations (Sambharya, 1996). We argue that benefits also include a higher probability of being hired again, since some countries, in the Middle East for example, give priority to individuals who already have experience in the context they are applying for. The negative consequences can involve poor performance due to difficulties in adjusting to the new culture (Takeuchi, 2010). Expatriates who have adjusted to the new culture are able to add new behaviors, norms and rules to their own (Church, 1982). On the other hand, maladjusted expatriates tend experience situations of anxiety with host country nationals (Richards, 1996), which tends to be reflected in their job performance (Naumann, 1993). Therefore, adjustment to the new culture is a determinant factor for expatriates and for the organizations they work for. Poor performance by expatriates compromises the success and competitive capacity of organizations.

Expatriate performance includes contextual and task elements (Wu and Ang, 2011): the contextual element refers to the interaction and relationship with host country nationals (Kraimer and Wayne, 2004) and the task elements refer to the technical and managerial aspects of work (Bhaskar-Shrinivas, Harrison, Shaffer and Luck, 2005).

The main purposes of expatriation are not the same for organizations and expatriates. From the organizations' point of view there are three main purposes: (1) to fill international positions when qualified locals are not available, (2) for management development and (3) to help control, coordinate and assist in the transfer of a firm's culture (Edstrom and Galbraith, 1977; Harzing, 2001). According to McNulty and Inkson (2013) expatriates are also used for: (1) corporate cultural reasons (continuing to use expatriates because they have always been used), (2) functional requirements (when a client requires the use of expatriates), (3) financial reasons (cost advantages associated to using expatriates from a certain location), and (4) convenience reasons (employees who want to be transferred for their personal benefit).

On the other hand, from the expatriate point of view there are four main reasons for expatriation: (1) to escape a current situation at home, (2) financial motives, (3) to see more of the world and enhance their career, and (4) job promotion opportunities (Richardson and McKenna 2002). According to Vijayakumar and Cunningham (2016) the first and the third reasons to expatriate are more related to affective decisions while the second and the fourth reasons to expatriate are more related to cognitive decisions.

The first reason to expatriate has been negatively associated with work performance, work effectiveness and job satisfaction (Selmer and Lauring, 2012). For Richardson and McKenna (2002), individuals who expatriate for the second reason are willing to adjust to the host country irrespective of the difficulties in order to earn and save money. The third reason to expatriate is shown to be motivated by desires for adventure and travel (Richardson and McKenna, 2002). Mahpar, Abdullah and Darlis (2015) state that the fourth reason to expatriate is significantly and positively related to work performance, work effectiveness and job satisfaction. Summarizing, from the organization's point of view, the first and the fourth reason for expatriation are ideal because they are associated to work performance, work effectiveness and job satisfaction. It would be interesting to understand whether the expatriate is more open to cultural training and considers that training is fundamental to achieve his/her goal when the main reasons to expatriate are also the first or the fourth.

Up to the 1970s expatriation did not draw much attention in academic literature but in last decades the number of studies has grown significantly. The focus on this subject began with studies on selection, training and placement of expatriates for international assignment (Adler, 1984; Izraeli, Banai and Zeira, 1980).

Helping expatriates to be successful in the new culture became an important topic in the literature and cross-cultural adjustment and cross-cultural training were seen as important mechanisms to achieve this. Results from studies conducted by Black, Mendenhall and Oddou (1991) and Hammer and Martin (1992) indicate that cross-cultural training has a positive effect on adjustment to a new culture. The objective of cross-cultural training is to help members of one culture to interact successfully with the members of another culture (Waxin and Panaccio, 2005).

And what is understood by cross-cultural adjustment? Cross-cultural adjustment has been defined as the "process of adaptation to living and working in a foreign culture" (Palthe, 2004, p.39). According to Kraimer, Bolino and Mead (2016), the interest for expatriate adjustment was a direct result of Tung's (1981) work about expatriates failing in a host country.

Additionally, Black (1988) defined cross-cultural adjustment as the degree of psychological comfort with the new culture. According to this author, there are three factors that influence adjustment: (1) work adjustment, (2) interactional adjustment, and (3) general adjustment. Work adjustment refers to the degree to which expatriates fit into their workplace, with regards to their responsibilities and performance; interactional adjustment refers to their capacity for interacting and socializing with the locals; and general adjustment refers to the degree of adjustment to several aspects such as climate, food, healthcare and accommodation. Black, Mendenhall and Oddou, (1991) develop an integrative model of international adjustment. The model suggests that there are two key factors in the adjustment process: anticipatory adjustment and in-country adjustment. Anticipatory adjustment includes individual (e.g. training and previous international experience) and organizational (e.g. selection criteria and mechanisms) elements. In-country adjustment includes individual (e.g. relational skills, perceptual skills), job (e.g. role clarity, role discretion), organizational culture (e.g. social support, logistical support), socialization (e.g. socialization tactics) and nonwork elements (e.g. culture novelty) (Kraimer, Bolino and Mead, 2016).

As mentioned above, cultural training is vital for the adjustment of expatriates and companies as well as for the success of international businesses. Providing individuals with information about the new culture is important to reduce uncertainty associated to the international transfer. Having information about the new culture is important for forming accurate expectations, and in this respect, previous international experience is a very important source of information (Black, Mendenhall and Oddou, 1991).

Selection criteria and mechanisms are also important because they help to match the individual with the needs of the firm (Black, Mendenhall, Oddou, 1991). Relation-building skills are essential as these help in interaction with nationals in a new culture and in obtaining information about what is appropriate or not (Black, Mendenhall and Oddou, 1991). On the other hand, perceptual skills help to reduce uncertainty about the new environment (Mendenhall and Oddou, 1985). Like perceptual skills, role clarity helps to reduce uncertainty but concerning the work situation (Black, Mendenhall and Oddou, 1991). Social support helps expatriates to understand the organizational setting and logistic support and contributes to reducing uncertainty about important issues such as housing and education (Tung, 1981). Furthermore, socialization tactics are also important to the content of socialization and culture novelty is fundamental in nonwork interactions (Black et al., 1991).

Takeuchi's (2010) studies on expatriate adjustment consider a new perspective. The author considers a multiple stakeholder perspective of expatriate adjustment by including individuals and groups who can influence or can be influenced by expatriates. Firth, Chen, Kirkman and Kim (2014) propose to examine expatriate work adjustment over a period of time using motivational control theory. The results show that the effect of the motivational factors on expatriate adjustment is dependent on time.

Besides information about the new culture, personality traits are also important for adjustment. Some studies examine the relationship between personality traits and expatriate adjustment. Shaffer, Harrison, Gregersen, Black and Ferzandi, (2006) found that openness to the new experience relates positively to work adjustment and job performance. Other authors identify the personal values, traits and skills that would be required to have cross-cultural competence (Bird, Mendenhall, Stevens and Oddou, 2010; Johnson, Lenartowicz and Apud, 2006).

Cultural intelligence is a skill trait that has been studied by some authors (Ang, VanDyne, Koh and Templer, 2007; Earley and Ang, 2003). Cultural intelligence has four dimensions: (1) cognitive, which involves having specific knowledge of cultures; (2) metacognitive, relative to understanding other cultures; (3) behavioral, concerning how individuals act in other cultures, and (4) motivation, meaning the determination to understand other cultures (Kraimer, Bolino and Mead, 2016). According to Lee and Sukoco (2010) cultural intelligence relates positively to expatriate performance mediated by cultural adjustment and communication effectiveness.

Interacting with people from different cultural background is inevitable in an increasingly globalized world (Schlagel and Sarstedt, 2016). The culture distance between one's home country and the host country determines the cross-cultural adjustment of expatriates. The adaptation in a new country involves the ability to deal with stressful situations in a new cultural context. Stressful situations may arise from work adjustment or global adjustment. In order to adjust to a new culture, it is necessary that expatriates learn about the new culture (Nunes, Feliz and Prates, 2017). As a consequence, cross-cultural training is vital for adjustment in a host culture. To be successful in a new context, expatriates should learn about the new culture and understand the cultural differences between the country of origin and the destination country. Cultural training is fundamental for expatriates because it enables expatriates to show the right attitudes and behaviors in a new culture, which favors their adjustment. Cultural training should consider national cultural dimensions because those dimensions have a significant impact in communication process, decision-making, customs, relationship between leaders and subordinates, negotiation and resolution styles, social mobility and face to face interactions.

A question remains: what type of cross-cultural training should be given to expatriates?

Brislin (1979) states that there are three approaches that can be used in cross-cultural training: (1) cognitive approach; (2) affective approach, and (3) behavioral approach. The first approach involves the

dissemination of information, using participative sessions (Waxin and Panaccio, 2005). The second approach involves learning to deal with critical cultural incidents. And the third approach involves training to adapt to communication in a new culture and to establish positive relationships with the members of the new culture (Okpara and Kabongo, 2011).

A few years later, Tung (1981) argued that are other approaches that can be used in cross-cultural training. For the author, there are five training programs that are indispensable: (1) didactic training; (2) culture assimilator; (3) language training; (4) sensitivity training and (5) field experience. According to Tung, the approach should be chosen according to the type of assignment. We believe that distinguishing the training programs according to the type of assignment may not be the best for expatriates in every situation. All expatriates have one thing in common: living in another culture for a certain time. So, all of them should have access to the fifth type of training.

For Gertsen (1990), cross-cultural training should have two categories: (1) conventional training and (2) experimental training. The first, conventional training, concerns unidirectional communication. The second, experimental training, requires dealing with real life simulation.

According to Arthur and Bennett (1995) expatriate success depends on several factors, like technical skills, host country language fluency, intercultural competencies, relational skills, family support and flexibility.

Despite the differences, all the approaches aim to help the expatriate's adjustment in a new culture. At the same time, all the approaches seem to consider culture a fundamental factor that should be inherent to the training.

We argue that cultural training for expatriates should include learning about the specific dimensions of the national culture of the host country. Research indicates that there is a link between societal culture and the business world (Silva, Roque and Caetano, 2015). The more different the expatriates' own country and the host country are, the more difficult the adjustment will be. Cultural training is fundamental for expatriate adjustment in a host country and those two are vital for the success of international business (Dowling, Festing and Engle, 2017). Cross-cultural training facilitates and accelerates expatriate adjustment (Waxin and Panaccio, 2005). Work adjustment, adjustment in general and interaction with the locals could be easier if expatriates learnt exactly what dimensions are more or less valorized by that society. However, the more sensitive the leaders of these organizations are in relation to the cultural differences and difficulties derived thereof for all expatriate workers (subordinate to the leaders), the easier the adjustment will be.

Responsible Leadership

Although responsible leadership is a recent topic, it is becoming very important in academia and in the business world. Countries all over the world have been exposed for their unethical business practices and responsible leadership can be a solution in this respect (Witt and Stahl, 2016). Maak and Pless (2011) state that irresponsible leadership is a fundamental cause of economic crises. When we look at leadership in both organizations and governments, there is a gap between what is needed and what is being done (Broadbelt, 2015). Due to a context of continuous change and unpredictable circumstances, the importance of good leadership is growing (Woszczyna, Dacko-Pikiewcz and Li, 2015). Responsible leaders have the important assignment of reconciling the notion of effectiveness and that of responsibility (Pless, 2007, p.450). Thus, this chapter asks whether it is possible to do better and to provide answers to global issues.

In the literature on this topic, there are a variety of definitions around the concept of responsible leadership. Most commonly, responsible leadership is defined according to two perspectives: firstly, as an ethical phenomenon and secondly, associated with the notion of responsibility in the leader's actions. The first perspective proposes that responsible leadership is "a social-relational and ethical phenomenon, which occurs in social process of interaction" (Maak and Pless, 2006, p.99). Pless defines responsible leadership "as a values-based and through ethical principles driven relationship between leaders and stakeholders who are connected through a shared sense of meaning and purpose through which they raise one another to higher levels of motivation and commitment for achieving sustainable values creation and social change" (Pless, 2007 p.438). This definition of leadership emphasizes the rational dimension as well the emotional dimension of the role. These authors consider leadership in a normative perspective and trust in the relationship with stakeholders inside and outside of the organization is considered essential (Antunes and Franco, 2016). The relationship between the leaders and those who are affected by their leadership (stakeholders within and beyond the company) is seen from an ethical point of view and is developed through a social process of interaction (Maria and Lozano, 2010).

Maak and Pless (2006) distinguish between values-based roles and operational roles. Values-based roles place the leader as steward, citizen, servant and visionary. Operational roles involve the leader as coach, networker, storyteller, architect and change agent. According to this perspective, leadership ability is related to the leader's actions but also to the leader's values.

The second perspective states that responsible leadership can be defined as "the consideration of the consequences of one's actions for all stakeholders, as well as the exertion of influence by enabling the involvement of the affect stakeholders and by engaging in an active stakeholder dialogue. Therein responsible leaders strive to weigh and balance the interests of the forwarded claims" (Voegtlin, Platzer and Scheer, 2012, p.59). For Voegtlin, this definition of leadership means that leaders have to consider the consequences of their decisions inside and outside the organization.

Like Voegtlin (2016), Marques, Reis and Gomes (2018) also reinforce the notion of responsibility in leaders' actions. For them, the power of leaders should be used to improve the life of people inside and outside the organization, including the societies in which they are embedded. According to these authors, responsible leadership rests "on responsibility and directing attention to others, especially to those for whom a leader must be responsible". The notion of responsibility is equally valuable for Haque, Fernando and Caputi (2017), who claim that it is a very important point that is missing from other theories of leadership.

Furthermore, the relationship between stakeholders and leaders is highlighted in the literature. The impact of leaders' decisions for internal and external stakeholders is a fundamental element for some authors (e.g. Haque et al., 2017; Marques, Reis, and Gomes, 2018; Voegtlin et al., 2012) while for others, it is the values and ethical principles of leaders which are considered fundamental (Maak and Pless, 2006).

Regardless of the perspective adopted for the definition of responsible leadership, it is important to understand what is considered responsible behavior by leaders.

According to Waldman and Galvin (2008), there are two perspectives: a limited economic view and an extended stakeholder view. The limited economic view argues that leaders' decisions should consider only the maximization of stakeholder value. The extended stakeholder view (Stahl and Luque, 2014) argues that leaders' decisions should consider a broader set of constituencies and distinguishes two dimensions of responsible behavior: avoiding harm (proscriptive morality) and doing good (prescriptive morality). Avoiding harm, on the one hand, refers to decisions which avoid bad consequences for the stakeholders and society, while doing good, on the other hand, indicates contributing to a better society. Responsible

leader behavior is defined as "intentional actions taken by leaders to benefit the stakeholders of the company and/or actions taken to avoid harmful consequences for stakeholders and the larger society" (Stahl and Luque, 2014, p.238). This definition is in line with the notion of proscriptive morality. For the authors mentioned above, responsible leadership is underpinned by avoiding bad consequences for the internal and external stakeholders and society at large.

Marques et al., (2018) also view responsible leadership in a broader manner. For these authors, responsible leadership cannot be circumscribed to the relationship between leaders and employees and must consider the objectives of all stakeholders equally (internal and external).

In responsible leadership, leaders are engaged in an ongoing exchange with their subordinates, team, organization and society (Doh and Quiley, 2014). From this point of view, leaders interact with different stakeholders and are confronted with concurrent demands of various dimensions: (1) ethical as they deal with different stakeholders with different interests and values; (2) diversity as they deal with people of different countries and cultures; (3) business according to how they operate; (4) stakeholder demands as they create good relationships with different stakeholders (Maak and Pless, 2006).

According to Maak and Pless (2011), the purpose of responsible leadership is to create trustful relationships with all the stakeholders, achieve common objectives and share their business vision. To do so, for these authors (Pless and Maak, 2011), leadership englobes five aspects. First, responsible leadership considers stakeholders inside and outside the organization. Second, responsible leadership serves different stakeholders and has a clear purpose at organizational and societal levels. Third, responsible leadership is based on inclusion, collaboration and cooperation with all stakeholders. Fourth, a responsible leader makes decisions while considering their impact on others. Fifth, responsible leaders employ change to achieve a higher social goal.

According to the stakeholder theory, leaders are responsible for the interests of all stakeholders and thus, their individual needs should be considered in the decision-making process (Antunes and Franco, 2016). This aspect is crucial but it is not the only one. In a globalized world network and multi-stakeholder environments, leadership is developing a new meaning. As such, the leader must be linked to stakeholders and responsible leaders should act with "modesty and integrity, trying to make decisions based on listening to different points of analysis and with definitive attention to the social networks they are part of" (Antunes and Franco, 2016, p.132).

As mentioned above, the establishment of relations of trust with clients is a fundamental element in responsible leadership. Dirks and Ferrin (2002) distinguish two aspects of trust in leadership: relation-based perspective and character-based trust. The first perspective is based on mutual trust in relationships and the second perspective is based on the leader's characteristics. For Voegtlin, Patzer and Scherer (2012), the concept of relation-based trust makes more sense in responsible leadership since leaders' characteristics do not play a central role in this theory. For these authors, a trustful relationship with stakeholders is easier to achieve when leaders are able to estimate the consequences of their decisions. If leaders assess the consequences of their decisions, they could avoid possible negative consequences. This is essential for stimulating good relationships based on transparency and trust (Dirks and Ferrin, 2002).

More recently, another important approach emerged with a focus on multiple levels of analysis in responsible leadership (Miska and Mendenhall, 2018). According to these authors, it is possible to focus on micro, meso, macro and cross levels in analyzing responsible leadership. Micro level analysis focuses on individuals and investigates individual values and ethical motivations. Meso level analysis looks at the organizational context, where it is possible to identify two approaches. Firstly, an approach based on the linkages between responsible leadership and some organizational elements, such as responsible

management, corporate governance mechanisms and human resources, and a second approach that focuses on the characteristics of responsible leadership and their effects on performance. Finally, macro level analysis concentrates on institutions, culture and society. According to Miska and Mendehall (2018) relatively little research has investigated the macro level or cross level focus on linkages between the different levels.

Like expatriates, leaders face different national cultures with different laws and different stakeholders (Schneider, Barsoux and Stahl, 2014). Multiple stakeholders mean different values, different moral orientations and different laws. In a global and multicultural society multiple stakeholders are inevitable. The actual leaders may also be expatriates. And so, leaders' orientations must vary across institutional and cultural contexts (Witt and Stahl, 2016). Like expatriates, responsible leader should have cultural training and learn about the cultural dimensions of their host environment to enable effective interaction with stakeholders showing different values and culture from their own. For example, a stakeholder from a society with small power distance, where subordinates have the opportunity to take part in decision-making, will probably expect their opinion to be considered by their leader in the decision-making process, and will further expect that any communication will be bidirectional with constant feedback. This, naturally, might not be the case in practice when the host country's power relations function differently.

Cultural training and specifically one that favors dimensions of national culture is essential to create trustful relationships and, at the same time, to anticipate stakeholder's attitudes inside and outside organizations. Accordingly, we propose a cultural training program extendable to expatriates and leaders of organizations who operate in contexts that are different from those of their country of origin.

National Culture

As has been argued throughout this chapter, both expatriates and responsible leaders should attend a cultural training program, where knowledge of the destination country is essential. Here, it is important to clarify what is understood by national culture in the context of intercultural studies.

According to Sackman and Philips (2004), three lines of investigation can be identified in this regard. The first includes studies that are interested in varying values in different cultures. This line of research is associated with the work of Hofstede (1980, 2001), Schwartz (1994) and House, Hanges, Javidan, Dorfman and Gupta (2004), based on the positivist paradigm. Moreover, comparative studies are associated with this line of research, examples of which are the works conducted by D'Iribarne (1997) and Redding (2005).

The second line of research focuses on intercultural interactions, investigating the processes and practices that link culture, particularly at the national level, with the organization (Sackman and Philips, 2004). An example of this line of research is the work undertaken by Brannen and Salk (2000).

The third line of research is associated with the multiple perspectives of culture and highlights the various levels of analysis, such as nation, organization, groups and professions (Sackmann and Philips, 2004). The work done by Fischer, Ferreira and Asmar (2005) exemplifies this approach.

The study of values has been recognized as crucial for understanding the role of national cultures in intercultural management (Knafo, Roccas and Sagiv, 2011). This line of research is important to our work since it provides a key to understanding the differences between national cultures and how to adjust our behavior in a particular culture thus helping expatriate adjustment and promoting responsible leadership.

Culture represents a response to environmental adaptation and social integration problems (Silva, Roque and Caetano, 2015). It can be defined as a set of "shared motives, values, beliefs, identities and

interpretation or meaning of significant events that results from common experiences of members of collectivities that are transmitted across generations" (House, Hanges, Javidan, Dorfman and Gupta, 2004, p. 15).

Social practices, norms and values at the macro level affect the way people behave in social and organizational life, as well as the different organizational processes (Dartey-Baah, 2013; Zhaidman and Brock, 2009; Yao, 2014; Zhao, Lou and Suh, 2004). Values also play an important role in business decisions, people management, and organizational structures and processes (Jesuíno, Torres, Teixeira 2012; Lagrosen, 2003. Success in interacting with other cultures is also dependent on cultural patterns (Javidan and House, 2001), which provide benchmarks that allow us to predict and adapt behaviors in a given context (Lewis, 2005).

Intercultural management studies have identified a number of dimensions of national culture (e.g. Hofstede, 1980; House, Hanges, Javidan, Dorfman and Gupta, 2004). The GLOBE project (House, Hanges, Javidan, Dorfman and Gupta, 2004) proposes nine cultural dimensions: (1) Power distance; (2) Gender Equality; (3) Assertiveness; (4) Institutional Collectivism; (5) Endogrupal Collectivism; (6) Avoidance of Uncertainty; (7) Human Orientation; (8) Orientation to the Future and (9) Performance Orientation.

Studies conducted on the impact of culture in human resources management practices demonstrate that some of these practices are more subject to the impact of culture than others. And that some cultural dimensions have a stronger capacity to explain cultural differences than others (Myloni, 2002; Sparrow and Wu, 1998; Yuen and Kee, 1993).

According to some authors, power distance (Graf, Koeszegi and Pesendorfer, 2012; Triandis, 2004) and collectivism (Oyserman, Coon and Kemmelmeir, 2002; Triandis, 2004) are two of the cultural dimensions that are most widely used in empirical studies.

Power distance expresses how people expect that power and privileges should be shared. Power bases tend to be stable and determine access to resources and there is limited upward social mobility. In high power distance cultures, workers are often expected to render unconditional obedience to supervisors' instructions. Silva, Roque and Caetano, (2015) and Graf, Koeszegi and Pesendorfer (2012) argued that in cultures with large power distance, subordinates consider it normal for leaders to make decisions. In a society with high power distance, it is thus expected that members of society will respond positively to their superiors as a source of guidance (Smith, Peterson and Thomason, 2011). According to these authors, power distance seems to underpin trust in centralized control by one person. Indeed, a study by Wong and Birnbaum-More (1994) found that banks are more centralized in societies with a large power distance.

In another study on worker participation in organizations, Wang and Clegg (2002) suggest that in a country with a large power distance, subordinates are supposed to depend on and obey their hierarchical superior; whereas in a country with a small distance, hierarchical superiors tend to trust their subordinates and there are opportunities for the latter to take part in decision-making and be more open in relationships with others in hierarchically higher positions (Malek, Budhwar and Reiche, 2015).To the contrary, according to Sagie and Aycan (2003), in cultures with high power distance, decision-making appears to be a privilege of managers.

Collectivism is also seen as one of the cultural dimensions that can help to explain why cultures differ when it comes to decision-making (Triandis, 2004). In the most individualistic organizations, members tend to assume that they have been hired for their capabilities and skills (House, Hanges, Javidan, Dorfman and Gupta, 2004). A study conducted in Japan emphasized the usefulness of establishing a strong system of norms that serve to guide an organization's members (Brannen and Kleinberg, 2000). This

suggests that trust in unwritten norms may be associated with societies that lean more towards collectivism as argued by Smith, Peterson and Thomason, (2011). In such societies, life satisfaction is derived from compliance with norms and social obligations (Markus and Kitayama, 1991). The members of more collectivist organizations tend to see themselves as quite interdependent with their organizations and assume that their relationships, rights and obligations are central elements in the decision to recruit them (House, Hanges, Javidan, Dorfman and Gupta, 2004).

Individuals with different values have different preferences regarding human resource management practices, leading organizations to develop management practices that are (or not) aligned with the dominant cultural dimensions of the society in which they operate (Lagrosen, 2003). Culture affects the way people behave in social and organizational life. Individuals from different cultures have different attitudes and different answers for the same questions. In fact, individuals from different cultures have different preferences regarding human resource management practices or sources of guidance for decision-making, or even different forms of communicating with others.

Therefore, knowledge of national culture is fundamental as it plays an indispensable role in organizational practices, the adjustment and aspirations of employees and the competitiveness of organizations. At the decision-making level, knowledge of culture can prove to be a key ally in helping managers to choose which decisions fit best in the various contexts. Even communication is influenced by the context in which the leader is inserted. In a country with high uncertainty the language used must be clear, explicit, tendentially structured and formal. In a country with high power distance culture, communication will often be in one direction only and it is not desirable in most cases for subordinates to express their opinion. As in cultures with a high degree of human orientation, a leader should have more paternalistic characteristics, making communication more focused on the individual.

Expatriates and their leader should both have information about these national cultural dimensions. Possessing this information will help them to better adjust in a new culture. It follows that cultural training is considered vital as it will avoid a poor adjustment. This information will not only help expatriates in interaction with supervisors and other workers in general but, at the same time, will help expatriates to deal with locals. Responsible leaders should also have an element of cultural training as it will help them to interact with stakeholders with different values and from different cultures, while at the same time it will give them the possibility to predict and adapt their behavior. All of this represents an advantage in negotiation and in the business world.

THE EFFECT OF CULTURAL TRAINING ON EXPATRIATE ADJUSTMENT AND ON THE PROMOTION OF RESPONSIBLE LEADERSHIP

Expatriation and responsible leadership are, as we have said, very important for the competitiveness of organizations. There is no doubt that globalization has accelerated the internationalization of organizations. In this context, expatriation has become very important for the success of organizations' operations and being successful is vital for the competitiveness of organizations. But how can organizations operating in a host country achieve this?

Expatriates are people who leave their country and take their traditions and customs with them. These traditions and customs are often quite different from the destination country, with cultural shock possibly becoming imminent in the face of these cultural differences, giving rise to the question of how to minimize these differences and avoid cultural shock. Knowing the customs and traditions as well as the

recent history of the destination country in advance is crucial. In this way, the expatriate will be able to adapt personal behavior to the new reality. Having advance information about the context helps to create expectations that are closer to reality and decrease the anxiety towards the unknown. Knowledge of cultural values and practices has the potential to help mitigate anxiety and promote cultural adjustment. Several studies (Black, Mendenhall, Oddou, 1991; Hammer and Martin, 1992) indicate that cross-cultural training has a positive effect on adjustment in a new culture, as mentioned in the literature review.

Training is crucial for work adjustment, job performance and general adjustment in a new culture. Behaving in an appropriate manner in a new country is essential to expatriate adjustment and to the organization. Poor adjustment compromises expatriate success and consequently, organizational success as well.

Cultural training is vital and should include learning about cultural dimensions of the host country. Individuals from different cultures have different levels of power distance, gender equality, assertiveness, collectivism, uncertainty avoidance, human orientation, orientation to the future and performance orientation. Preferences regarding human resource management practices, guidance sources in decision-making, interaction with supervisors and communication process are influenced by culture (Abdulai, Ibrahim and Mohamed, 2017; Lagrosen, 2003; Roque, 2017; Roque, Silva, Ramos and Caetano, 2017; Silva, Roque and Caetano, 2015).

We believe that cultural training is fundamental for the adjustment of expatriates and a number of studies reinforce this idea.

Desphande and Viswesvaran (1992) state that cross-cultural training was strongly and positively correlated with cross-cultural skills development, cultural adjustment and job performance. According to the authors, the effects of adequate training are important for the expatriates themselves and their organization since the training contributes to their job performance. A study conducted by Okpara and Kabongo (2011) also reveals that cultural training has a positive effect on adjustment.

Learning about the new culture seems to be a determinant factor to adjustment. A recent study with Portuguese citizens who moved to the United Kingdom reveals that one of the most mentioned reasons for easy adaptation to the host country was their identification with British culture (Farcas and Gonçalves, 2017). The results of this study reinforce the idea that cultural understanding is determinant for the adjustment of expatriates to a new culture and for the success of the organizations operating in international scenarios. Previous research has shown that one of top reasons for expatriates failing is their inability to "adjust to a different physical and cultural environment" (Tung, 1981, p.76).

Anticipatory adjustment, like training is crucial but in-county adjustment is also important. Camara (2011) suggests some steps that can facilitate the initial integration, ranging from reception upon the expatriate's arrival, participation in a social program for integration in the community to which the expatriate belongs as well as logistical and domestic support.

If the expatriates go to the country of destination with their family, support is important in relation to the school that the children will attend and the professional framework of the spouse. After initial adjustment, expatriates have other battles to win, as adjustment is also influenced by other factors like fitness for work and capacity to interact with the locals.

Culture is something that characterizes every country, every region and that makes citizens unique across the world. Individuals with different values have different customs, traditions and preferences. Understanding a culture enables us to better predict and adapt to individuals' behavior in specific contexts (Lewis, 2005). Success in interacting with other cultures depends on knowledge and respect for

those cultures. However, the greater the difference between the culture of the country of origin and the culture of the country of destination, the greater will be the difficulty experienced by the expatriate.

The cultural context in which individuals are inserted should also consider management practices by leaders of organizations. Leaders interact with different stakeholders, each with different customs and culture. Once again, culture could be an element for the success of organizations.

Considering a macro level analysis, some empirical studies investigate how institutional and cultural factors affect leaders' values and attitudes. Leaders' approaches to responsible leadership vary across cultural contexts, as they embrace different societal values (Schneider, Barsoux, Stahl, 2014; Waldman, Luque, Washburn and House, 2006). This means that national context can affect leaders' orientations and decision-making abilities.

The study conducted by Waldman, Luque, Washburn and House, (2006), shows that cultural context influence leaders' values. Differences in cultural values force people to reflect on their expectations of what is acceptable or not in a leader's behavior. The study examined the relationship between socially responsible orientations of top management and two country-level cultural dimensions. It found that in countries with high institutional collectivism and low power distance, leaders manifested behavior associated with concern for stakeholders and societal welfare. It was also found that in countries with high power distance, leaders limited their concern for stakeholders and societal welfare.

A different study suggested that people in countries with high human orientation were considered to show behaviors that take in account the interests and the well-being of others while people in countries with low human orientation were considered to have behaviors that did not care for the well-being of others (Martin, Cullen, Johnson and Parboteeah, 2007). Human orientation is positively associated to whether leaders consider the needs of stakeholders and society (Witt and Stahl, 2016).

Another study conducted by Martin, Resick, Keating and Dickson (2009) compared business ethics between managers from Germany and the United States, concluding that approaches to responsible leadership are quite different in the two countries. The authors found that the German perspective is based on a social-market philosophy while the United States' perspective rests on utilitarianism. To have acceptable behavior in a specific context it is indispensable to know the values and norms of the society or organization in which the leaders are placed. Besides knowing the cultural values in which the organizations are inserted, responsible leaders should be able to analyze and criticize values whenever necessary, play the role of intermediary between all stakeholders, think about social and environmental consequences of the organization's operation and ponder about long-term benefits for the organization (Voegtlin, 2016). Witt and Redding (2012), examined cross-societal variations in corporate responsibility values of leaders in several countries and they found that in each country, leaders were concerned about particular contexts. Another study conducted by Witt and Stahl (2016) with 73 managers from Hong Kong, Japan, South Korea, Germany and United States, shows that the managers perceived their responsibility to the stakeholders and society in different ways. These differences have implications in a leader's decision-making and reveal that the meaning of social responsibility is not the same across the globe.

A study conducted by Roque et al., (2017), aimed at identifying the sources of guidance most commonly used by leaders in Portugal and Angola in making decisions about work events reveals that differences exist between Portuguese and Angolan leaders. The Angolan respondents displayed a trust in formal rules and procedures as a source of guidance, which is consistent with the medium/high level of collectivism in Angola (Silva, Roque and Caetano, 2015). Coherent with small power distance, managers in Portugal (Roque Silva, Ramos and Caetano, 2017) show trust in subordinates as sources of guidance.

All these studies highlight the importance that societal culture has in explaining, at least in part, the organizational culture and in particular the attitudes and behaviors of leaders. Their orientations and decisions are never completely isolated and far from the context in which they are inserted. Organizational culture is not independent of the society in which it is placed and reflects the values that are acceptable in that society. In order for leaders' orientations and decisions to be acceptable, they must also reflect society's values. Hence, expatriates and responsible leaders should have cultural training as they interact with different stakeholders with distinct cultural backgrounds and attitudes regarding decision-making, communication, feedback, competitiveness or future investments.

Therefore, we propose a cultural training program aimed at facilitating the adjustment of expatriates to a new culture, not only contributing to their better performance, but which also enables leaders to develop management practices that are more suited to the context in which the organization operates. Consequently, organizations would become increasingly competitive and successful.

Gertsen (1990) suggested a classification of cultural training based on two categories: conventional training, where the information is conveyed in a unidirectional form and experimental training, where the expatriate is given the opportunity to participate through simulations of real situations. There are also two possible orientations during the training: the focus can be place on the notion of culture in general or, instead, cover a specific culture, aimed at the participants' acquisition of skills in a very particular cultural context (Waxin, Panaccio, 2005).

Considering the importance of cultural training in the adjustment of expatriates and based on the cultural training programs developed by Brislin (1979) and Tung (1981) and on the training classification presented by Gertsen (1990), we propose a cultural training program covering four components: linguistic, cognitive, affective and behavioral. Here, the focus will always be on the culture of the country of destination. Let us consider each component in greater detail.

The linguistic component, to be developed only when the official language of the destination country is different from the language of the country of origin and in the event that the expatriate does not know this language. This component of the program should provide elementary knowledge of the language of the destination country, where by the end of the training, the expatriate should at least be able to satisfy minimum courtesy requirements in the destination country. According to Gudykunst and Hammer (1996), the locals value the effort made by expatriates to speak the local language as it reflects interest in the host country and its culture. We consider that experimental training is suited to this component.

The cognitive component involves knowledge of the destination country's cultural profile and understanding of the impact of this profile in social and organizational terms. This knowledge will be based on the nine dimensions of national culture proposed by the GLOBE project (House, Hanges, Javidan, Dorfman and Gupta, 2004): Power distance; Gender Equality; Assertiveness; Institutional Collectivism; Endogrupal Collectivism: Avoidance of Uncertainty; Human Orientation; Orientation to the Future; and Performance Orientation.

The appropriate type in this training component will initially be conventional, as it is first necessary to introduce the destination country's cultural profile to the participants. It will subsequently have an experimental aspect, aimed at enabling the participants to anticipate the impact of the presented profile both at a social and organizational level.

The affective component involves the simulation of situations that might involve possible cultural incidents. Based on the information acquired in the cognitive component, the participants should express the most appropriate solution for the situation in question. The training should be of the experimental type.

Lastly, the behavioral component involves the capacity to adapt to the most suitable communicational style for the destination country, in order to attempt to establish positive interpersonal relationships with the local community. In this case too, the type of training to be used is the experimental.

As noted above, this is a cultural training program that can be applied both to expatriates and leaders, and which we believe will contribute to better cultural adjustment of organizations as a whole.

CONCLUSION

As trends in technology and globalization converge to make business environments more challenging, the ability to attract people from diverse cultural contexts is very important. In fact, a diverse cultural context can contribute to competitive advantages by maintaining the highest quality human resources and lead to gaining a competitive advantage in creativity, problem-solving and adaptation to change (Cox and Blake, 1991).

Expatriation is a very important field. Particularly, training and adjustment play a determinant role in the success of organizations that operate outside their country of origin. The training that expatriates receive in the country of origin should include information about the cultural profile of the destination country. Besides this, training should help expatriates to understand the impact of cultural profiles in three dimensions: organizational, social and interpersonal relationships. It is important that expatriate adjustment should be reflected in all dimensions.

Expatiate training is fundamental to work adjustment and general adjustment in a host country. Poor adjustment compromises the expatriate's performance and the success of organizations. In order to avoid cultural shock, it is important that expatriates have advance information about the host country. Knowledge and learning about cultural values and practices seems to be determinant in the adjustment to a new culture. Studies confirm the positive effect of cultural training in adjustment and job performance (e.g. Black et al., 1991; Desphande and Viswesvaran, 1992; Farcas and Gonçalves, 2017; Hammer and Martim, 1992; Okpara and Kabongo, 2011).

Responsible leadership emphasizes the relationship with stakeholders (internal and external) and the consequences of leaders' decisions for stakeholders and society in general. As such, responsible leadership can be considered an adequate response in the current economic and financial context. From a macro level perspective, some empirical studies investigate how institutional and cultural factors affect leaders' values, attitudes, orientations and decision-making (e.g. Martin et al., 2009; Schneider et al., 2014; Waldman et al., 2006; Witt and Stahl, 2016). This chapter argues that like expatriates, responsible leaders should have cultural training and learn about the cultural profile of stakeholders in order to achieve better organizational adjustment.

Therefore, we end by proposing a cultural training program extendable to expatriates and leaders of organizations who operate in cultural contexts that are different from those of their country of origin. Knowing the cultural profile of countries is very important for expatriates and responsible leaders. For organizations, international success is dependent on expatriate adjustment and the capacity of responsible leaders to interact and communicate with internal and external stakeholders and society.

Future research should explore whether leaders consider it important to align their attitudes and orientations with the cultural profile of the country in which they are placed. In cases where they do align their actions with the cultural profile, it would be interesting to understand if that facilitates the interaction with the internal and external stakeholders and community in general. This could lead to

further understanding of positive macro-level outcomes of responsible leadership such as stakeholder relationships.

It will also be important to note whether certain cultural dimensions have a stronger impact than others in adjustment. For example, if an expatriate goes to a destination country with high power distance, will it make it easier or more difficult to adjust and vice versa if an expatriate goes to a country of destination with a low power distance. Future research should also focus on samples from different sectors of activity, as the links with the local communities can be stronger or weaker according to the activity developed. Which is precisely why knowledge of local cultures is do very determinant.

It would also be interesting for future studies, in addition to the adjustment difficulties of expatriates directly connected to organizations, could also reflect on the concealed difficulties. In other words, the difficulties experienced by family members accompanying expatriates abroad, who can also influence their good adjustment. This further dimension merits investigation.

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Chapter 23
Making the Case for Global Outsourcing

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ABSTRACT

Social media and empowered customers have significantly raised customer expectations of quality. Although there are similarities and differences in the approaches taken by management, they share the common goal of delivering a high-quality product and satisfying their customers. The majority of the case study concentrates on how both companies monitor quality, evaluate performance, train employees, and promote continuous improvement in order to achieve best business practices. The review of the literature on global outsourcing and analysis of the case studies provide evidence that economic development creates both short-term operation advantages through increased levels of efficiency as well as long-term social and cultural changes. Operational and strategic managers can use this information when making decisions on where to locate various aspects of their business. In some cases, it may make sense to outsource a particular task, but in other cases an organization may want to offshore particular tasks in order to keep control of the process.

INTRODUCTION

To introduce the strategic need for global outsourcing and some of the recent public pushback associated with following such a strategy, a basic review of some of the pertinent literature, especially concentrating on the growth of globalism, future aspects of outsourcing, evolution and risks of offshoring operations and services, supply chain management, and supply chain management concerns of offshoring operations and services, will be examined. This discussion will be followed by a few case studies highlighting some of the issues these companies face in the global economy in terms of outsourcing.

DOI: 10.4018/978-1-5225-8479-7.ch023

Global Outsourcing

Since the Industrial Revolution, companies have grappled with how they can exploit their competitive advantage to increase their markets and profits. The model for most of the last century was a large integrated company that can own, manage, and directly control its assets. In the 1950s and 1960s, one of the dominant strategic directions was diversification to broaden corporate bases and take advantage of economies of scale (Mullin, 1996). Even though expansion required multiple layers of management, companies believed that by diversifying they could protect their profits. In the 1970s and 1980s, companies that were trying to compete in the global marketplace "were handicapped by a lack of agility and bogged down by bloated management structures" (Mullin, 1996). In an effort to increase flexibility and creativity, many of these large businesses decided to focus on their core strengths and outsource activities they deemed noncritical.

More and more companies are offshoring portions of their operations to various countries in order to gain a competitive advantage (Mullin, 1996). Offshoring offers companies the opportunity to have certain tasks completed for less labor costs, while still keeping control of the operations (Farrell, 2005). As more companies join the offshoring initiative, the less beneficial offshoring becomes. Not only does an increased amount of overall offshoring decrease the competitive advantage, but also the labor costs begin to rise due to lack of supply in workers (Mourdoukoutas, 2011). A number of authors have examined how the offshoring of processes and knowledge have been affected by economic development and changes in cultural norms; specifically, on how economic development and cultural changes affect the tenor, form, and outcomes of offshoring relationships (Ganesan, Malter, & Rindfleisch, 2005; Gereffi, Humphrey, & Sturgeon, 2005; Grandinetti, Nassimbeni, & Sartor, 2009; Ha, Li, & Ng, 2002; Hallén, Johanson, & Seyed-Mohamed, 1991; Handfield, 1994).

Outsourcing can be defined as the strategic use of outside resources to perform activities traditionally handled by internal staff and resources (Ahsan, Haried, Crosse, & Musteen, 2010; Handfield, 2006). Outsourcing can also be known as facilities management, as it is a strategy by which an organization contracts out major functions to specialized and efficient service providers who become valued business partners (Handfield, 2006). Companies have always hired contractors for particular types of work or to level their workload, and they have formed long-term relationships with firms whose capabilities complement or supplement their own (Mullin, 1996). However, the difference between simply supplementing resources by subcontracting and actual outsourcing is that the latter involves substantial restructuring of particular business activities and can sometimes transfer staff from a host company (Handfield, 2006). Outsourcing was not formally identified as a business strategy until 1989 (Mullin, 1996). However, most organizations outsourced those functions for which they had no competency internally (Handfield, 2006).

Outsourcing support services was the next stage. In the 1990's organizations began to focus more on cost-saving measures, and started to outsource functions necessary to run a company, but not directly related to the core business (Handfield, 2006). "Managers contracted with emerging service companies to deliver accounting, human resources, data processing, internal mail distribution, security, plant maintenance, and the like as a matter of 'good housekeeping'" (Handfield, 2006). Outsourcing components was a significant function to help managers improve their finances. Information-Technology, or IT, outsourcing was also a growing area during this time period ("A Look at the history of Outsourcing in America"). Technological advancement resulted in self-service dashboards, which eliminated the number of errors and discrepancies ("A Look at the history of Outsourcing in America"). In the beginning of the 21st century, there was a "boom in technological developments which brought the history of outsourcing

to greater heights" ("A Look at the history of Outsourcing in America"). Not enough American students possessed the technological education during this period, which was needed because the highest jobs in demand were for IT specialists ("A Look at the history of Outsourcing in America"). There were more students overseas who were pursuing technological education, thus the infrastructure to outsource IT was in place ("A Look at the history of Outsourcing in America").

Over the past two decades or more, a significant number of researchers have published on the concepts of single sourcing, multiple sourcing, network sourcing, concurrent sourcing, strategic sourcing, and outsourcing. However, in spite of the widespread use of global sourcing and interest in various sourcing agreements, global sourcing has not been so much studiedscholarly focus. A number of researchers have published literature on global outsourcing and formulate several propositions suggesting how global outsourcing influences an organization's performance and management decisions (Haried & Ramamurthy, 2009; Oey & Nofrimurti, 2018; Rego, Kumar, & Mukherjee, 2018; Sharma & Joshi, 2018; Sharma & Sharma, 2018; Verma, Sharma, & Kumar, 2018). The advancement of technology and increased business competition have facilitated and impelled organizations to spread out their markets globally (Yavas, Leong, Vardiabasis, & Christodoulidou, 2011). Some of the most thriving companies often manufacture their products in Europe, the U.S., and Asia and sell them globally. International outsourcing has quickly taken place as a precondition for organizations contending in the current market. International outsourcing refers to the combination and harmonization of procurement prerequisites throughout global business units, seeking same products, methods, technologies, and providers (Choi & Beladi, 2014). This procurement approach has broadened companies supply series to an international level.

There were several additional features that added to companies outsourcing in the early 2000s. For example, the year 2003 was declared as the beginnings of the broadband age as sophistication in telecommunications continued (Crandall & Singer, 2010). This allowed the business sector to explore the possibilities for outsourcing other types of jobs ("A Look at the history of Outsourcing in America"). In addition, the development of data storage was another driving force. Data storage not only decreased the costs of paper usage, but also heightened the possibilities of outsourcing more jobs with less of the known risks ("A Look at the history of Outsourcing in America"). "In fact, this development in high tech data storage has driven down the costs of manpower due to outsourcing even further" ("A Look at the history of Outsourcing in America").

Future Aspects of Outsourcing

We have seen where outsourcing has come from and what it has turned into. But, what does the future hold for outsourcing? To examine the potential scenarios, one must first focus on the nature of IT industry. IT outsourcing as a business will continue to grow exponentially. The overall market potential will continue to grow, even as what gets outsourced keeps changing and evolving (Nagendra, 2012). Large corporations whose business is not in IT do not want to turn into "IT hotbeds," so they will want to continue to focus on their core businesses, and allow their IT partners offer the infrastructure and services (Nagendra, 2012). However, according to Nagendra (2012), "outsourcing is not what it was in 2000…The mega deals have vanished." The average deal in 2000 was U.S. $360 million, while more recently it is about third of that amount (Nagendra, 2012).

There are several reasons for this new trend: smaller companies are improving on outsourcing processes and leveraging the cost benefits, and large companies are breaking down their outsourcing requirements and dispersing them out to different providers in order to minimize risk and increase cost-savings (Na-

gendra, 2012). "The global recession has increased the quantum of outsourcing as a response to short-term costs pressure" (Nagendra, 2012). Providers have also had to innovate to minimize costs and offer better pricing models (Engardio, 2006). The biggest gain for outsourcers has been the emergence of an increasing number of standardized solutions from IT infrastructure, consulting, and service providers so that differentiation is visible in performance as well in price (Engardio, 2006). Considering the dramatic changes forced by the recession, the future of outsourcing looks much more robust than ever before. Deal sizes are a matter of concern, but the number of businesses that can influence outsourcing is due to go north (Nagendra, 2012).

LITERATURE REVIEW

Evolution and Risks of Offshoring IT Operations and Services

Youngdahl et. al (2010) conducted research on the evolution of offshore operations while proposing a model for understanding evolutionary roles of offshore operations. This model is based on embedded knowledge, which is reflected by the process and the extent of which customer contact is included in the process. The results of this research show that there are three different levels of knowledge capacity. The lowest level includes back-office processing centers or contact centers. The second level includes solutions, which includes the ability to use expertise along with intellectual property. Finally, the third level includes global service centers. These centers include full ranges of services and require highly collaborative work (Youngdahl et. al 2010). In general, Information Systems (IS) outsourcing is growing at a rapid rate. It is gaining popularity and IT/IS outsourcing currently accounts for more than 67% of all global outsourcing deals (Kailash, Saha, & Goyal, 2018; Oey & Nofrimurti, 2018; Rego, Kumar, & Mukherjee, 2018; Yavas, et al., 2011). There are a number of reasons why firms prefer to outsource IT operations, rather than keep them in-house. Gorla and Lau (2010) suggested that the most common reasons included having a closer focus on the core business, more rapid introduction of new products, greater emphasis on cost reduction, and increased access to technical expertise. Perhaps, the greatest reason is the "lack of required resources or expertise to develop or maintain the information system internally" (p. 91).

With all of these potential advantages resulting from outsourcing, it is important to note that IT outsourcing is not always a positive experience for firms. According to Gorla and Lau (2010), the satisfaction rate of firms that have utilized IT outsourcing has been reported at only 33% satisfaction, which is much lower than the satisfaction rating of 70-80% for non-IT outsourcing activities. With such a significant gap in the satisfaction ratings between IT and non-IT outsourcing, there is obvious cause for concern in regards to IT outsourcing.

Undoubtedly, there are a number of potential risks and problems with IT outsourcing. These problems with IT outsourcing include: degradation of service, the lack of vendor commitment and coordinate, the ineffectiveness of a vendor, cultural dissimilarity, delayed delivery of data, and reduced speed of implementation (Gorla & Lau, 2010). Gorla and Lau (2010) drew a number of hypotheses regarding the risk factors of IT outsourcing, the negative outcomes that may arise as a result of ineffective IT outsourcing, and also the impact of these risks on future outsourcing decisions. Overall, risk factors of outsourcing and the negative outcomes resulting from those risk factors will certainly reduce a firm's future outsourcing decisions. Their first hypothesis was found statistically significant that the risk factors of vendor

attitude, vendor competence, vendor coordination, and in-hour competence problems were inversely related to the future re-outsourcing decisions. In other words, the higher the risk factors, the lower the chance that a firm will utilize IT outsourcing again in the future. The second hypothesis was also found to be accepted and suggested that the risk factors were positively related to negative outcomes. Thus, the higher the risk factor, the higher the chance that there will be negative outcomes from the outsourcing of IT activities. The third, and final, hypothesis found that the negative outcomes of IT outsourcing (e.g., loss of corporate security, degradation of IT services, loss of control, high unexpected costs, and loss of internal IT capability) are inversely related to the future re-outsourcing decision. Ultimately, in the consideration of the re-outsourcing decision from a strategic perspective, the greater the negative outcomes of IT outsourcing, the lower the chance that may result that a firm will continue to utilize such strategies in the near-term future (Gorla & Lau, 2010).

Supply Chain Management (SCM) Concerns of Offshoring IT Operations and Services

A supply chain is a complicated arrangement for a company that must purchase a large amount of parts and products outside the company (Perkins & Wailgum, 2017). Once the decision is made to outsource, the more complex the arrangement, the greater the chances are for quality issues to arise (Nobari, Khierkhah, & Hajipour, 2018; Park & Min, 2013; Rajapakshe, Dawande, & Sriskandarajah, 2013; Rajeev, Rajagopal, & Mercado, 2013). For example, the main theory being tested by Steven, Dong, and Corsi (2014) was that there are positive correlations to the amount of outsourced/off-shored supply chain and the amount of product recalls that are sent back to the firm. They tested whether other supply chain factors with outsourcing, the geographic concentration, and the number of suppliers used. Many researchers have drawn upon previous research on the topic of offshoring to construct a model that describes the key relational success factors in the offshoring client-vendor relationship. Specifically, Haried and Ramamurthy (2009) applied this previous research question to companies who have offshored IT related initiatives in order to determine whether the vendor's perspective should be included in the evaluation of success.

Haried and Ramamurthy (2009) performed case studies on multiple companies and their offshore vendors in order to explore the important relational success factors for offshoring. Eight offshoring projects were studied through interviews of executive and operations personnel from both the client and vendor companies. They compared and contrasted the results of their interviews with a model detailing the "relationship dimensions" that they developed in order to detail the criteria for a successful offshoring client-vendor relationship. The intent of the authors was to establish propositions for future research (Haried & Ramamurthy, 2009). The practice of offshoring has become increasingly common and even necessary for companies in today's society. Offshoring usually offers lower labor costs and allows companies to relocate functions that are not part of their core competencies (Farrell, 2005). This allows companies to focus on the functions that it is best suited to serve, and they reduce risk by shifting responsibility to other firms that are more prepared and structured to handle the risk (Kumar et. al, 2009). One of the more popular business functions to offshore has been IT services.

Besides that, it is also important to understand the relationship between the client and vendor to illustrate an overall view of the components in offshoring.

In order to illustrate the client's and vendor's perspective, Haried and Ramamurthy (2009) focused on relational characteristics only. They developed a model that summarizes the prominent relationship dimensions and success factors in order to provide a general framework for their study of eight IT off-

shoring projects. The model was developed using the transaction cost theory, coined by Ronald Coase and is more commonly known as the make-or-buy decision, literature on the relational view of the firm, and the social exchange theory, which was proposed by George Homans and describes human behavior in relationships. Haried and Ramamurthy (2009) interviewed multiple individuals from both the client and vendor firms involved in each project, compiled their responses, and compared the responses between client, vendor, and the generally accepted beliefs from prior research regarding each relationship dimension in their model. They classified the following as the key relationship dimensions in their model for relational offshoring success: information exchange, legal bonds, mutual obligations, adaptations by client, adaptations by vendor and intercultural competence. Through the case studies, the authors were able to determine how important each of these dimensions are to real-life companies who offshored their IT services departments and their vendors.

Information exchange refers to the ability of the client and vendor firms to communicate effectively and in a timely manner. Traditionally this has been seen as an important, yet challenging in outsourcing projects because of the geographical distance between the client and the vendor. The results from the case studies indicated that both the client and vendor agree that effective and open communication is critical to a successful outsourcing (Haried & Ramamurthy, 2009). Another important discovery from the case studies is the improved information exchange for client companies who were able to obtain on site vendor resources.

Legal bonds are contractual agreements between client and vendor firms that layout the terms of an offshoring agreement. Similar to other agreements, these contracts are written in a flexible manner as to cover as many unforeseen circumstances as possible. The responses from the case studies indicate that legal bonds are more important for the vendor firm than the client (Haried & Ramamurthy, 2009). For the vendor, the contract was found to lay the foundation and goals for their work with the client and ease any uncertainty that the vendor may have.

The authors titled tasks performed by the client or vendor firm not specifically stated in the contract as mutual obligations. The client firms in the case studies were found to place less focus on mutual obligations than the vendors in most cases because the clients were not familiar enough with the contract to know what tasks were actually included. The vendors found more value in completing tasks not specified in the contract because they appeared to be more familiar with the contracts, and they desired to go beyond the contract to provide a higher level of quality to their clients, which is seen as a key for success (Haried & Ramamurthy, 2009).

The case studies also indicated that adaptations made by the vendor were critical to the success of the majority of the IT offshoring projects. Both the client and vendor firms believed that concessions made by the vendor, such as additional costs and longer work hours should be made to keep the projects on track for success. The clients appeared to value adaptations by the vendor even more than the vendors because they showed that the vendor was committed to the project (Haried & Ramamurthy, 2009).

Prior research and documentation on the subject of offshoring indicated that adaptations by the client were also needed to ensure a successful relationship throughout the duration of such a project. The client must adapt to cultural differences and a new workflow that crosses multiple geographic regions; however, some client firms felt that vendors should be the only ones adapting since the client is the customer in the relationship.

The last key relational dimension proposed by the Haried and Ramamurthy (2009) is intercultural competence, or the ability to overcome cultural differences. This struggle is present in nearly all offshoring arrangements and stereotypically the most feared aspect of entering into an offshoring agreement. The

research studies completed by the authors of the article showed that cultural incompatibility was not as big of an issue as firms believed. Both client and vendor firms acknowledged the existence of cultural differences, but they saw the differences as manageable obstacles that could be overcame.

Haried and Ramamurthy (2009) pinpointed three underlying relational success factors by which each of the six relationship dimensions (information exchange, legal bonds, mutual obligations, adaptations by client, adaptations by vendor and intercultural competence) enhance to form a winning client-vendor relationship, namely trust, commitment, and conflict. The six relationship dimensions all contribute to building up the comfort level and trust between clients and vendors. The fulfillment of the responsibilities contained in the contractual agreements, and more importantly, what is not included in them, relies on trust between the client and vendor. When the vendor goes above and beyond the terms of the contract, or when the client makes an effort to adapt to the changes caused by the international sourcing agreement, the client and vendor show commitment to one another and to the project at hand. Every offshoring relationship involves some form of conflict regarding terms of the contract or cultural differences. Each of the relationship dimensions has the potential to stir up conflict. The important aspect of conflict is the ability to manage and resolve the issue at hand.

There can be little doubt that when a firm places an over emphasis on low-cost sourcing (typically the major reason that global sourcing is frequently cited as the preferred method of services and products acquisition in an ever-increasing global economy), it could ultimately result in lower responsiveness and poor customer service. Indeed, such over emphasis on low-cost sourcing most likely will lead to higher costs and more supply chain management-related risk factors (e.g., supply chain disruptions, diminished intellectual property rights' protection and environmental concerns). The recent press of President Donald Trump's tariff wars with China underscores the alleged loss or theft of intellectual property, as many firms must share the technology with China as part of required joint ventures if they are to do business in China, which highlights these concerns by domestic manufacturing and technology-based firms. A study cited by Burnson (2010) indicated that North American and European manufacturers would be better served if they focused on improving their own operations for the medium-term, as opposed to aggressively looking to sourcing partners in order to cut costs. As reported in the global study of over 700 small and medium-sized enterprises (SMEs) in the manufacturing industry, there was found an increased focus on the "importance of customer fulfilment in contrast with a previous emphasis on low-cost sourcing strategies" (Burnson, 2010). One of the major conclusions of the study was that manufacturers were struggling to guarantee customer fulfilment due to complex global supply chains (Burnson, 2010). Having more balanced supply chain purchasing portfolios, besides low-cost strategies, were major themes of research by Pagell et. al (2010).

In a review of the key findings of global sourcing, Cagliano et al. (2012), said that much of the same issues were raised with the previous study associated with low-cost source (e.g., costs and more SCM-related risk factors). According to the authors, near sourcing may be a valid alternative to global sourcing in order to leverage supply chain responsiveness and economic efficiency. Essentially, global sourcing leads to the disadvantages of low-cost sourcing and, unfortunately, many domestic firms become too dependent on low-cost sourcing and do not adequately develop their own competitive core competencies. This leads to a spiraling downward trend of reduced innovation, low intellectual property, and over dependency on companies that many not be trustworthy (i.e., foreign companies may seek to further their own agenda instead of a mutually benefiting relationship).

Basically, Cagliano et al. (2012) found that replacing East Asian suppliers to domestic vendors enables a process named supply chain re-engineering that eventually forces a domestic company to increase its

flexibility and responsiveness to the many demand uncertainties it may experience in typical business uncertainties. Other advantages of near sourcing can include decreased transportation costs, increased economic viability, reduced carbon footprints, and greater innovativeness. Both near- and offshoring strategies have these same goals concerning the benefits of sustainability and its sourcing strategies. Traditionally, the decision-making models for choosing among alternative sourcing strategies are either qualitative or quantitative, and include selection criteria like the geographic distance between the buyer and the supplier, the quality of the infrastructure in the foreign country, the social, economic, and political risks of the foreign country, government policy in the foreign country (i.e., tax rates and investment incentives), and human capital (i.e., workforce availability, experience, and technical and cultural skills). Other strategic and structural issues involve the attributes of the product or process to its market (i.e., goals that a company wants to achieve through outsourcing; its experience in an international context; firm's ability to create value, and its complexity; and the impact of outsourcing on the company's customers). Domestic or near sourcing can have the added benefits of reducing the uncertainties associated with low-sourcing or global-sourcing strategies by more stable lead time, demand certainty, flexibility, quality, and better service levels. There are also financial considerations, such as the amount of required capital investment and on the production and management costs of global sourcing in comparison to near sourcing. Ultimately, Cagliano et. al (2012) concluded with their framework that "near sourcing offers important advantages because it allows companies to enact strategies more agile and responsive to demand variation and uncertainty" (p. 118). There are a number of hidden costs of global sourcing that can offset a major portion of the higher product prices paid to near suppliers. An analytical approach is needed to adequately determine the proper choice between global and near sourcing in a logical and rational way.

METHODOLOGY

This chapter is dedicated to exploring the successful management practices of global near- and offshoring via the business case study method. In any case study, there are basic objectives that may benefit readers with lessons learned from reviewing corporate actions highlighted in approaches to research. In particular, it is important to understand the historic nature of the firms operating environment and its overall contributions via different management styles and processes involved in the particular issues faced. Commonly established case study procedures associated with strategic initiatives and improvements were followed in the present study (Basu & Nair, 2012; Brito & Botter, 2012; Bulcsu, 2011). Much of the factual information was obtained directly from the firms' websites.

BUSINESS CASES

Following basic qualitative business case procedures for best practices, four internationally known companies were briefly examined to identify some of the aspects of successfully global sourcing strategies. The companies chosen span a large spectrum of services and goods producing business entities; namely, U.S. Steel (USS), Alcoa Inc., Mylan Inc., and Microsoft. As in such a case study, there are no specific research hypotheses to be tested, but two research propositions were assumed. They are as follows:

Research Proposition 1: Global companies must deal with the realities of interdependency of supply chains, economies, shared goals, often to the sub-optimization of any one partner involved in the transactions. Profit optimization and cost minimization cannot not be the only goals in development of long-term strategic partners in the global economy.

Research Proposition 2: There will continually be a temptation for the forces of short-term optimization and nationalization to overcome or, at least, reduce, the strategic benefits of globalization. These forces are especially powerful in the current political climate of nationalism and self-protectionism.

Each case will outline the basic operating environment, corporate goals of outsourcing, and an example of some of the major issues associated with such a strategy.

Case 1: U.S. Steel (USS)

The U.S. Steel Corporation (USS) is a company that has its global headquarters in Pittsburgh, PA and plays a major role in the local economy. The company employs many people around the world (29,800), with a net income of US$387 million, based on 2017 figures. Undoubtedly, its long-term practice of global outsourcing has helped USS create most of this success and a unique competitive advantage. According to the company's website, "it is an integrated steel producer with major production operations in the U.S., Canada, and Central Europe and an annual raw steelmaking capability of 27 million net tons" (Corporate Profile, 2012). USS has production facilities in Canada that is considered near shore outsourcing, as well as facilities in the Slovak Republic, which is considered far shore outsourcing. Moreover, production and finishing of raw materials are usually sent overseas due to the lower labor rates. Lower labor rates help the company to maintain a competitive advantage over rival firms within the steel making industry.

For most of its research and development, USS keeps that activity located within the domestic area of the U.S. The main reason that companies keep research and development within the U.S. is because it is an activity that requires more education and special procedures. There is also a higher rate of patent and intellectual idea theft within other countries, thus creating a higher risk for the company that would offset the cheaper costs. Some of the benefits from USS outsourcing is production activities that have cut down on direct labor costs, allowing the company to focus directly on core activities that provide a competitive advantage. Additionally, USS is almost forced to outsource its labor to maintain a competitive advantage over rival firms within the steel industry. According to Clott (2004, p. 155), "the basic business idea of outsourcing is that if a firm does not specialize in a certain function it will be beneficial to transfer control of the function to a specialist organization that will be able to offer better cost and quality". This idea is a general assumption throughout most industries and sectors of the economy.

Some of the disadvantages of using offshoring or outsourcing are a decline in operational efficiency. Even though labor may be cheaper overseas, the company may have to hire additional workers due to the fact that lack of technical know-how and education can create problems in the process. There is also an increased risk of product defects and lower quality because of the inexperienced workforce. In turn, the company may have to hire on additional managers and implement quality control tests that could negate most of the cost savings introduced by outsourcing the activity. When companies look at outsourcing overseas, they should take into account labor ethics issues and if the outsourced employees are making a fair wage for the market they are located within. Many companies in the past have had public outcry over the treatment of their employees in other countries, such as Nike and Apple. Furthermore, another

downside that could be introduced by outsourcing is the public opinion of the company's culture. USS is known for hiring many American employees, and if they shift most of their workforce overseas, it could create resentment towards the company. The public's opinion of outsourcing is very negative in light of the market crash and higher unemployment rates in prior years, making it almost a social responsibility issue. The best way for companies to outsource is to do an analysis both externally and internally, come up with a good strategy, and then execute it.

In all, USS has used outsourcing as a means to lower costs and maintain its competitive advantage over rival firms within its industry. USS had to outsource certain activity functions overseas to maintain its competitive advantage. With one of the company's core values being "focus on cost," outsourcing has been a key driver in keeping labor costs down (Corporate Profile, 2012). With a low-cost strategy now in play for USS, it should be able to continue its success for years to come all thanks to globalization and outsourcing.

Case 2: Alcoa Inc.

Alcoa Inc. pioneered the aluminum business over 125 years ago and maintains its status as a global leader in lightweight metals technology, engineering, and manufacturing. With 60,000 employees in 30 countries, it is the world's third largest producer of aluminum. Having moved its corporate headquarters to New York City, Alcoa still maintains its operational headquarters in Pittsburgh, PA. However, the company does outsource operational tasks to other countries. Alcoa defines outsourcing as the redistribution of tasks, whether it is product manufacturing or providing services (McNeely, 2005). While outsourcing can simply be viewed as cheap labor, Alcoa views it as a significant part of supply chain management. Interviews with some of the management at Alcoa have expressed that they have found that many of its employees across the globe are committed to high levels of achievement, thus ultimately adding value to customer relationships. Outsourcing processes are intended to help reduce management constraints, improve production planning, shorten order cycle times, and decreased finished inventory levels. The goal the company is trying to achieve is not cost-cutting, but rather improving the value stream.

One specific example of outsourcing success can be found with Alcoa's renewed contract with Infosys BPO, a leading player in the outsourcing services sector. Infosys BPO covers services across finance and accounting as well as knowledge services processes. Infosys BPO's engagement with Alcoa reached a level of excellence and sustained performance that enhanced the competitive edge for Alcoa GBS. The end result allowed management to enable the company to provide different types of services to Alcoa business units in a very timely, accurate, and cost-effective strategy (D'silva, 2011). These trends have translated into a profitable business for the company and good relationships with existing customers. Alcoa does not shy away from the advantages of outsourcing and understands the benefits it can bring to bottom-line results.

The company has, however, faced issues with outsourcing in the past, interestingly within the United States. For example, in 2012 there was a fire at a New York plant, requiring Alcoa to rebuild the roof of its caste house. Alcoa hired Fluor, which is a company based out of Irving, Texas, to complete the work, causing concern among local labor unions and tribunal leaders. Local union workers did not understand why they would not be hired for the job since they possessed the necessary skills and resources to accomplish the work. As stated by Village Mayor James Hidy, "with 11% unemployment in the region, in St. Lawrence County particularly, we can't have people coming from out of state and taking jobs from

people in this region. It's unacceptable" (Grant, 2012). Clearly, this action caused tensions locally, not to mention creating a public issue.

Another public issue is that of the US$384 million settlement of criminal and civil bribery charges against officials and federal agencies in Bahrain. "The Securities and Exchange Commission said that its probe found that Alcoa made more than US$110 million in illegal payments to Bahraini officials with influence over contract negotiations between Alcoa and a major government-operated aluminum plant" (Isidore, 2014). These bribes were done through a London-based consultant with ties to the royal family, thus violating the United States Foreign Corrupt Practices Act. As stated by Acting Assistant Attorney General Mythili Raman, "the law does not permit companies to avoid responsibility for foreign corruption by outsourcing bribery to their agents, and, as today's prosecution demonstrates, neither will the Department of Justice" (Isidore, 2014). This specific situation is not to imply that instances like this will always happen as a result of outsourcing. However, companies need to be aware of international laws and regulations as well as the various parties conducting business.

Case 3: Mylan Inc.

Mylan Inc. is a global generic and specialty pharmaceuticals company located just outside of downtown Pittsburgh. With over 20,000 employees and 1,300 different products, Mylan has become a major force. The company stands by "Better Health for a Better World" and serves patients in over 140 countries and territories. It is evident that Mylan embraces globalization and working in foreign markets, which has been accompanied by outsourcing certain functions. It was announced in the spring of 2014 that Mylan and Prosonix entered into a global licensing agreement for inhaled respiratory products used to treat asthma. As stated by Mylan President Rajiv Malik, "we are very excited to enter into this agreement with Prosonix as it represents another development milestone in our global respiratory franchise, one of our key strategic growth drivers, and strengthens our portfolio of difficult to develop and manufacture products. Further, Prosonix's expertise in the development of inhaled respiratory products perfectly complements the strength of Mylan's respiratory R&D capabilities" (Masangkay, 2014). Mylan is clearly outsourcing through the use of Prosonix's manufacturing and commercialization of the respiratory products, benefiting the companies as they will both have marketing rights in defined territories. This example is the proper way to outsource in order to create a competitive advantage.

While more of an acquisition than outsourcing, Mylan has been taking the heat over the issue of inversions. An inversion is effectively a loophole in the tax system that allows for companies to reincorporate in other countries in order to lower corporate taxes and free up cash. However, "this maneuver has raised the ire of some legislators, who view it as a tax dodge, costing the federal government billions in revenue" (Sabatini & Boselovic, 2014). It is argued that shareholders will have to pay capital gains tax when their shares are exchanged for shares in the new parent company. Not only that, but such business deals could actually hurt the American economy in terms of decreasing tax dollars being brought in and lack of job creation for Americans.

Case 4: Microsoft

Microsoft is a multinational technology company, headquartered in Redmond, Washington. Some of the most prevalent Microsoft products include: Xbox, the Microsoft surface touch computer, and the windows computer software. The company began dominating the computer operating system market by

the mid-1980s. Since Microsoft was formally launched in 1990, it has been the top leader in the industry for PC operating system software. In 1999, Microsoft was the most valuable company in the global marketplace. Then sixteen years later, they released Windows 10 and, in that year alone, they generated over US$12 billion in profits. However, there is a 40% profit margin between the classic Office and the new cloud-based office. The cloud-based MS Office is not doing as well as the original was in terms of both market share and profits. Even though the company has been extremely successful, the stock prices have been relatively constant and steady for the past eighteen years. Competitors such as Google, Apple, and Amazon found new ways of computing from scratch, and in return, their stock prices are higher than ever. Unfortunately, Microsoft failed to commercialize any category- defining products or services. Perhaps, this is because Microsoft has a top-down strategy process. The company wanted to make it mandatory that any new product would need to strengthen the existing Windows Office franchise. Because of this, several things were invented and never launched (Ovide, 2013).

In terms of outsourcing, Microsoft has numerous contracted workers in various countries. In general, contractors have assisted in the expertise and tried to add value to the company's services. Michael Simms, CPO of Microsoft, stated in a memo:

Under outsourced arrangements, Microsoft manages projects under a statement of work that is outcome- or deliverable-based and includes a well-defined end-to-end process, consistent key performance indicators and service level agreements. The suppliers manage the day-to-day work of their employees. Beyond managing the work more effectively we think these arrangements also benefit the people doing the work. In our experience this creates role clarity, and improves the experience for external staff by strengthening the long-term relationships between them and their employer ("Microsoft Policy Changes…" 2015).

While the company's strategy may need improved upon according to the prior discussion, Microsoft is not a newcomer to outsourcing and has seen many successes. For instance, Microsoft outsourced its finance operations to almost 100 countries for improvements in performance in 2006. In 2010, Microsoft joined with Infosys Technologies Ltd. to help reduce overall IT costs and to concentrate the resources on the core competences of the company.. This business deal demonstrates potential technological advancement for Microsoft, while also allowing the company to reduce costs. However, the company's image has been denigrated because the hiring of outsourcing companies in other countries has led to lay off thousands of workers in the USA.

DISCUSSION

Short-Term Operational and Strategic Advantages of Outsourcing

Based on various academic literature reviews on outsourcing found in the previous sections (Sharma & Joshi, 2018; Sharma & Sharma, 2018; Steven, et al., 2014; Verma, et al., 2018; Yavas, et al., 2011; Young, et al., 2009; Youngdahl, et al., 2010; Zeng & Rossetti, 2003), which many were based on economic development, national cultural predispositions, and offshoring service and knowledge functions, the short-term operational and strategic advantages will be documented in relationships to Research Propositions 1 and 2. What are less certain are the long-term consequences of offshoring/outsourcing activities. The academic reviews were primarily based on applied research, which was completed by

the various authors previously outlined in this chapter. This research was mostly positional in that the literature was based on opinions as well as facts with regards to how offshoring operations have changed over the years.

Many companies may not be adequately sophisticated to acknowledge that administration costs are significant to the entire sourcing decision. While there are clearly pros and cons for companies to partake in global outsourcing, it is important to assess business situations on a case-by-case basis. In some instances, companies will experience significant cost savings in short-term, while in other instances outsourcing could actually be detrimental to profitability. Product quality and skilled labor must be balanced with training time and costs. Public relations and community welfare are other issues that must be considered.

Long-Term Operational and Strategic Advantages of Outsourcing

The review of these academic literature and studies (Farris II & Hutchison, 2002; Ganesan, et al., 2005; Gavronski, et al., 2012; Gereffi, et al., 2005; Gorla & Lau, 2010; Grandinetti, et al., 2009) provide some evidence that economic development creates long-term social and cultural changes. Operational and strategic managers can use this information when making decisions on where to locate various aspects of their business. In some cases, it may make sense to outsource a particular task, but in other cases an organization may want to near-offshore particular tasks in order to keep control of the process. Some organizations may not have a concern with keeping control over a process, but are forced to keep the process internal due to underlying agreements with their clients.

As countries, such as China and India, continue to develop economically, it will become a give-take situation. The talent pool of individuals will become stronger as residents stay within the country, rather than going to other countries for opportunities, education will continue to increase as economic conditions get better, and operation centers will be pre-developed. The downside of this situation is the fact that as each country develops itself, inflation rates will increase and drive up labor costs. As labor costs increase, the benefits of offshoring will diminish.

Current Events That Impact Outsourcing

In light of all the businesses' successes and failures from outsourcing as seen in the case studies, it is important to consider how current external changes are affecting the way outsourcing is viewed and conducted today. Specifically, recent events such as Brexit and the past 2016 presidential election have significantly impacted the business of outsourcing. The following section provides further detail and evidence of how these two specific events have immensely affected the outsourcing industry. Specifically, Brexit affected the countries that the United Kingdom had previously conducted business with and outsourcing jobs, and Donald Trump's presidency impacted outsourcing with the "America-first" strategy that pulls America out of the Trans-Pacific Partnership, changes the conditions of NAFTA, tightens standards on immigration, and makes it challenging to find talented workers in the U.S. who possess the necessary skills for the ever-changing and advancing technological environment.

As seen in the previous case studies, there is a time and place for outsourcing, and it has the potential to significantly benefit an organization for various reasons. Because of these successes, there was more of a push and encouragement for businesses to outsource, as outlined in the previous timeline. However, as explained below, Brexit and Donald Trump's presidency have arguably impacted outsourcing in that

they either disrupt the outsourcing sector or lessen its presence. Specifically, some of the financial benefits of outsourcing are lost when trade agreements are altered.

Brexit, or Britain's departure from the European Union, occurred in March of 2017. Britain's exit had several consequences for the United Kingdom, the European Union, and the United States. The United Kingdom consists of England, Scotland, Wales, and Northern Ireland. The vote to leave the European Union was a close call, in that roughly 52% voted to leave, while about 48% wanted to stay. In that vote, England and Wales voted to exit, while Scotland and Northern Ireland voted to stay a part of the European Union. However, negotiations are still ongoing to go over the exact terms of the separation. Nevertheless, many were surprised and many will be affected by this decision. More specifically, Brexit had an impact on the business of outsourcing between countries. Since the United Kingdom is the second-largest outsourcer, this change had significant impacts on the outsourcing industry (Hyseni, 2017). Essentially, Britain is no longer able to conduct business or trade with organizations in the European Union tax-free. Thus, trade deals and many other aspects will need to be re-negotiated between the companies, which can increase the likelihood of confusion and conflict. In fact, a majority of respondents in a survey, 73% to be exact, did not want the United Kingdom to withdrawal from the European Union mainly because of existing business and outsourcing relationships (Hyseni, 2017). Being that the United Kingdom is one of the "most advanced" outsourcing markets in the world, this will directly impact IT outsourcing with the introduction of "the cloud, artificial intelligence - AI, and automation applications" (Hyseni, 2017, p. 1).

In addition, it can be argued that Donald Trump's presidency held even more of a disruptive change on outsourcing technology projects (Frazzetto, 2018). As stated previously, outsourcing was a common practice by many businesses and industries. However, this norm has vastly changed with the recent 2016 election, as "the new administration's focus [is] on putting American interests first, limiting immigration, pulling out of the Trans-Pacific Partnership (TPP) agreement and encouraging businesses to invest in American operations" (Frazzetto, 2018). The United States has already seen one aspect fulfilled as President Trump pulled out of the Trans-Pacific Partnership in January of 2017. The Trans-Pacific Partnership initially included Canada, United States, Mexico, Peru, Chili, New Zealand, Australia, Malaysia, Singapore, Brunei, Vietnam, and Japan. After the United States withdrew from the partnership, the remaining countries revised the agreement and it is now known as the Comprehensive and Progressive Trans-Pacific Partnership, or CPTPP (McBride, 2018). Many believed and argued that the Trans-Pacific Partnership would allow the United States to benefit from both an economic and geopolitical standpoint, in that it would decrease tariffs while also increasing access to markets for U.S. exports (McBride, 2018). As a counter weight, Beijing, China was looking to establish a Regional Comprehensive Economic Partnership, or RCEP, which involves "sixteen Asia-Pacific countries but exclude the United States" (McBride, 2018). This example demonstrates how the United States could be excluded from trade negotiations, thus creating less opportunities for U.S. companies. Furthermore, the Trans-Pacific Partnership provided the ability for the United States to develop essential global trade rules (McBride, 2018). This withdrawal can also be seen to affect companies outsourcing projects to other countries. The president quotes the intended impact of the country's extraction: "We're going to stop the ridiculous trade deals that have taken everybody out of our country and taken companies out of our country, and it's going to be reversed" (Baker, 2017). This removal from the partnership has the potential to weaken the relationships between numerous countries, which ultimately can affect companies that currently outsource or that are looking to outsource in the future. However, it should be noted that just one year later, the president has stated that he would be open to a better deal with the Trans-Pacific Partnership. It became apparent that workers such as farmers and some businesses would pay the price for the withdrawal from the TPP, and

thus reported to their Republican legislators. These workers suffered because they export many of their products to these countries. Therefore, President Trump is looking for deals with individual countries, and is open to considering a partnership. The complex timeline with President Trump's actions on the Trans-Pacific Partnership does not strengthen relationships with the countries involved (Taylor, 2018).

The "America-first" approach affected outsourcing in several other ways as well. For example, the United States relies "heavily on global talent and overseas operations" in the technology outsourcing industry (Frazzetto, 2018). With recent changes and a shifted atmosphere, the country will desperately need to seek out those American workers who obtain the relevant skills in the technology industry. Specifically, the rise in artificial intelligence will require a significant amount of talent, which is now to be recruited in the United States. Artificial intelligence, or AI, "was first defined in the 1950s as any task performed by a machine if a human would have to use intelligence to accomplish the simple task. Simply put, AI acts on a situation the same way a human would" (Morgan, 2018, p. 1). Businesses can use artificial intelligence to their competitive advantage, but require the skilled resources, or workers, in order to properly do so. The stricter standards and limitation on immigration make it difficult to recruit the talented workers in the country. For example, in the past, the United States consisted of a diverse workforce: the "Chinese built the Transcontinental Railroad [and] Poles, Czech, and Slovaks built the U.S. steel industry, [and] Jews filled New York's garment center" (Andelman, 2007, p. 1). Now that outsourcing and immigration are on tighter strings, this change will result in a smaller pool of workers who possess the necessary skills and resources. Furthermore, tariffs will lessen the advantage of outsourcing labor to other countries. By imposing tariffs, the financial incentive to build products in other countries is decreased since it will cost more to bring them back into the United States. One example is seen with the emergence of the new NAFTA deal. NAFTA, or North American Free Trade Agreement, has been re-negotiated and is now known as the United States-Mexico-Canada Agreement, or USMCA. NAFTA has a long history with the United States. On January 1, 1994, the North American Free Trade Agreement went into effect. In 1988, Canadian Prime Minister Mulroney and United States President Ronald Reagan began negotiations for the Canada-U.S. Free Trade Agreement. Subsequently, President George H.W. Bush began negotiations with Mexican President Salinas for a trade agreement. Canada requested a trilateral agreement in 1991. NAFTA was signed by President George H.W. Bush, Mexican President Salinas, and Canadian Prime Minister Brian Mulroney in 1992. All three countries legislatures ratified the agreement in 1993. President Bill Clinton signed it into law on December 8, 1993. NAFTA helped increase the competitiveness of the three countries. Regarding gross domestic product (GDP), this was the world's largest free-trade arena. Although it was successful in eliminating barriers to trade and facilitating cross-border movement of goods and services, it led to a loss of U.S. jobs and U.S. wage suppression. Thus, this development of eliminating barriers to trade and facilitating cross-border movements may be setting the stage for the United States-Mexico-Canada Agreement. Under USMCA, "starting in 2020, to qualify for zero tariffs, a car or truck must have 75% of its components manufactured in Canada, Mexico, or the United States" (Long, 2018). In addition, the previous case studies exemplify cheap labor as one benefit of outsourcing. However, USMCA will now have a new rule that Mexican workers must earn at least $16 per hour, which is roughly three times the current rate (Long, 2018). Thus, cheap labor, in this instance, is no longer a relevant factor.

As a result of the lessons learned from the previous case studies of businesses' successes and failures in the global outsourcing industry, organizations must also consider today's current political standings. For instance, Infosys and Cognizant recently "have laid off thousands of workers in India and other regions," and switched to recruiting on United States soil (Frazzetto, 2018). In fact, "the fear of being penalized

by the U.S. government for using resources from other parts of the world has driven many companies to repatriate tech outsourcing" (Frazzetto, 2018). Therefore, it is critical to recruit the talented workers that would further an organization's position, while also considering the external environment. It is also important for companies to figure out how to respond to this new competitive environment. Microsoft, for example, has funded lawsuits to keep programs that allow foreign workers visas and work permits to spouses of foreign-visa workers. Moreover, Microsoft wants to respond and try to compromise by taking their valuable resources, expert workers, and move them to low-density rural areas, which are not as populated. Other companies have not let the external environment affect their outsourcing business. According to a 2017 report, outsourcing of American jobs has not decreased since the Trump administration took office, but rather increased to "record levels" (Faraday, 2017). This increase is significantly due to companies that work for the government, such as General Motors. More specifically, over 10,000 jobs at federal contractors have been outsourced since the 2016 presidential election. This data shows that many companies have not altered their day-to-day business because of the external factors.

CONCLUSION

Managerial Implications

Each case identified and studied in this chapter by the authors indicated one or more of the relational dimensions from the evidence presented to support the two research propositions were presented. In Research Proposition 1, the interdependency of supply chain, economies, and shared goals were analyzed in the case studies and in the discussion section. As we have shown, cost reduction is not the only goal, or benefit, of outsourcing. Furthermore, some of the consequences of near versus far offshoring were discussed. It should be noted that not all consequences and failures from outsourcing are addressed. Regarding Research Proposition 2, current events pose as a significant factor that must be weighed into the benefits of outsourcing.

The research done by the authors only provided a framework for future research. They only analyzed a small number of firms, which could be a limitation on their results. The authors do believe that their results are transferrable to other industries, but this is subject to further study.

In dealing with evidence in making the case for global sourcing, it was found that many of the researchers were clearly investigating the operations management techniques of supply chain management and IT. Choosing the proper location for which different aspects of a business will be completed is very important in any industry. This holds true for both small and large companies, as well as companies that are looking to focus their efforts on where they should receive their supplies or where they should produce their goods and/or services. Evidently, it is very important for companies to monitor current economic situations when deciding whether or not to offshore processes. It is equally important for companies to continue to monitor economic conditions after making the decision to offshore processes. Just because a company has already had certain processes offshored for years does not mean that they need to continue to offshore the process if the costs do not make sense. By completing yearly analysis on what location makes the most sense for locating processing activities, a company can forecast future business decisions with regards to location. Performing factor weighting analysis on each location can help with this type of decision.

Overall, such a review provides good insight on how economic development has changed the way in which offshoring decisions should be made. There is little doubt that offshoring practices will be abruptly different in twenty years compared to where they are now. This assumption is made while focusing on the existing emerging markets.

FUTURE DIRECTIONS FOR RESEARCH

As evident in the business qualitative case studies of several major companies operating in the Pittsburgh area with global connections, as well as another international company with ties in the area, the global economy still flourishes, despite the current U.S. administration attempts to the contrary. All the showcased companies have established high-levels of quality standards and implemented policies on order to remain competitive in an increasingly web-connected environment. Some organizations may not have a concern with keeping control over a process, but are forced to keep the process internal due to underlying agreements with their interconnected clients. As can be seen in the USS, Alcoa, Mylan, and Microsoft examples, these companies have experienced outsourcing successes and outsourcing failures. Although the future cannot be predicted, companies can do their best to analyze both their current situations and that of the external environment in order to make the best possible decision. While the industrial perspective of outsourcing certainly is an important consideration, additional conclusive research must be coupled with this study in order to be relevant for real-life, operations management decision-making. One can easily see the amount of offshored and outsourced supply chain management that is at work in the global economy. The competitive effects that this has on domestic products and services will change the way we look at the decision to outsource. Such companies showcased in this chapter illustrate the need for companies to be proactive and strategic in their decisions to manufacture stateside as well as to determine what task(s) is/are best outsourced. There must be a constant effort to create economies of scale and simplification of the supply chain to eliminate unnecessary complexity that will only lead to serious quality issues. So it will be very important to study the impact of the new challenges of the context, in the way that companies can continue taking advantages on the outsourcing of their businesses.

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