# UNIVERSIDADE DE LISBOA
# INSTITUTO SUPERIOR DE ECONOMIA E GESTÃO

# INSIDE INTERNATIONAL NEW VENTURES' INTERNATIONALIZATION: UNCOVERING THE LINKS BETWEEN ANTECEDENTS AND PERFORMANCE

Doutoramento em Gestão

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# Abstract

International Entrepreneurship (IE) literature has focused on the relationship between several antecedents - usually related to the entrepreneur, the firm, the industry or the markets - and the main IE process outcomes, namely, internationalization (degree, scope or speed) and performance. However, the literature that answers the *why* question related to the International New Ventures' (INVs) internationalization and that examines the influence of managerial 'actions' shaping these firms' internationalization process is still scarce.

Drawing from resource-based theory, network theory, and knowledge-based view theoretical approaches, this research aims to contribute to broadening the theoretical and empirical knowledge about the INVs' internationalization process. The present investigation analyzes the influence of antecedents on managerial actions and the influence of the latter on INVs' international performance. Hence, this dissertation attempts to fulfill the following research objectives: i) to develop a holistic framework for the INVs' internationalization process, where a set of managerial actions as mediators explain the connection between the INVs' antecedents and their international performance; ii) to identify relevant managerial actions of the INVs' internationalization process; iii) to identify its antecedents related to the industry, the entrepreneur, and the firm itself, and iv) to understand the influence of the diverse managerial actions on INVs' international performance.

The test of the hypotheses was made through the use of survey data combined with secondary data from eInforma Dun & Bradstreet database, for 416 Portuguese INVs founded between the years 2000 and 2009. The results of this dissertation contribute to fill two main gaps concerning: i) the development and assessment of a holistic framework of the INVs' internationalization process, and ii) the examination of several managerial decisions or actions in the context of this process. The managerial 'actions' considered in this research were: international social networking, entrepreneurial alertness, absorptive capacity, and competitive generic strategies.

This dissertation provides empirical support for the relationships between several entrepreneurs' characteristics (such as educational level, number of foreign languages spoken, interest in traveling, professional and educational experience abroad, professional experience in management and risk perception) and firm's antecedents (firm resources, foreign market knowledge, entrepreneurial orientation, and managerial capabilities). There is also empirical support for the positive relationships between some industry characteristics and firm's antecedents: technological turbulence is associated with entrepreneurial orientation and competitive intensity is related to firm's managerial capabilities.

Additionally, an association was found between several firm antecedents and firm actions variables. Foreign market knowledge, entrepreneurial orientation and management capabilities are positively related with both, entrepreneurial alertness and absorptive capability. Entrepreneurial orientation and management capabilities are positively associated with all the competitive generic strategies identified (innovation differentiation, marketing differentiation, quality and service differentiation and cost leadership). Finally, entrepreneurial orientation and foreign market knowledge are positively related with international social networks measures (value chain social network, institutional social network and foreign knowledge social network), while firm resources is negatively related with the same measures of international social networks.

This dissertation also found empirical support for the positive effect that entrepreneurial alertness, absorptive capacity, value chain social network and marketing and quality and service differentiation strategies exert on INVs' international performance, and negative support for the relationship between institutional social network and INVs international performance.

**Key Words:** International Entrepreneurship; International New Ventures; Internationalization Process; Managerial Actions; Competitive Generic Strategies; International Social Networking; Entrepreneurial Alertness; Absorptive Capacity; International Performance.

**JEL Classifications:** M13 - New Firms; Start-ups; M16 - International Business Administration.

# Resumo

A literatura de Empreendedorismo Internacional (IE) tem focado as relações entre diversos tipos de antecedentes – relacionados com o empreendedor, com a empresa, com o sector ou com os mercados – e os principais resultados do processo de IE, nomeadamente: a internacionalização (grau, amplitude e velocidade) e a performance. Contudo, ainda é rara a investigação que procura responder à questão do *porquê* que está subjacente à internacionalização de novas empresas internacionais (INVs) e que examina a relevância de determinadas 'ações' de gestão no processo de internacionalização destas empresas.

Com base nas perspetivas teóricas da teoria baseada nos recursos, visão baseada no conhecimento e teoria das redes, a presente investigação pretende contribuir para aumentar o conhecimento teórico e empírico sobre o processo de internacionalização de INVs. Este estudo analisa a influência dos antecedentes nas 'ações' de gestão, bem como a influência que estas últimas têm na performance internacional das INVs. Assim, esta dissertação pretende responder aos seguintes objetivos de investigação: i) desenvolver um modelo holístico para o processo de internacionalização das INVs, em que as relações entre os antecedentes e a performance internacional das INVs sejam mediadas por um conjunto de 'ações' de gestão; ii) identificar 'ações' de gestão que sejam relevantes para o processo de internacionalização das INV; iii) identificar os antecedentes destas 'ações', relacionados com o empreendedor, com o sector e com a própria empresa; iv) entender a importância que as diferentes ações de gestão têm na performance internacional das INVs.

As hipóteses foram testadas através de uma combinação entre dados recolhidos por questionário e dados secundários obtidos da base de dados eInforma da Dun & Bradstreet, para 416 INV Portuguesas, criadas entre os anos de 2000 e 2009. Os resultados desta dissertação contribuem para colmatar duas lacunas, nomeadamente: i) desenvolvimento e avaliação de um modelo holístico do processo de internacionalização das INVs; ii) avaliação de diversas decisões ou 'ações' de gestão no âmbito deste processo. As 'ações' de gestão consideradas neste estudo foram: redes sociais internacionais, alerta empreendedor, capacidade de absorção de conhecimento, e estratégias competitivas genéricas.

Esta dissertação encontrou suporte empírico para as relações entre diversas características dos empreendedores (tais como o nível educacional, o número de línguas estrangeiras faladas, interesse em viajar, experiência profissional e educacional no estrangeiro, experiência profissional em atividades de gestão e propensão ao risco) e um conjunto de antecedentes relacionados com a empresa (recursos da empresa, conhecimento do mercado estrangeiro, orientação empreendedora e competências de gestão). Também foi

encontrado suporte empírico para as relações positivas entre algumas características sectoriais e antecedentes relacionados com a empresa: a turbulência tecnológica está associada com a orientação empreendedora e a intensidade competitiva está relacionada com as competências de gestão da empresa.

Adicionalmente foi encontrada relação entre diversos antecedentes relacionados com a empresa e as variáveis relativas às 'ações' de gestão. O conhecimento de mercados estrangeiros, a orientação empreendedora e as competências de gestão estão positivamente relacionados com o alerta empreendedor e a capacidade de absorção de conhecimento da empresa. Por outro lado, a orientação empreendedora e as competências de gestão da empresa estão positivamente relacionadas com todas as estratégicas competitivas genéricas identificadas (diferenciação pela inovação, diferenciação pelo marketing, diferenciação pela qualidade e serviço e liderança pelos custos). Por último, a orientação empreendedora e o conhecimento dos mercados estrageiros estão positivamente relacionadas com as medidas de redes sociais internacionais (redes sociais da cadeia de valor, redes sociais institucionais e redes sociais de conhecimento sobre o estrangeiro), enquanto os recursos da empresa estão negativamente relacionados com estas mesmas medidas de redes sociais internacionais.

Esta dissertação também encontrou suporte empírico para os impactos positivos que o alerta empreendedor, a capacidade de absorção de conhecimento, as redes da cadeia de valor e as estratégias de diferenciação pela inovação e pela qualidade e serviço exercem na performance internacional das INVs, bem como para o impacto negativo que as redes sociais institucionais têm nessa mesma medida de performance.

**Palavras-Chave:** Empreendedorismo Internacional; Novas Empresas Internacionais; Processo de Internacionalização; Ações de Gestão; Estratégias Competitivas Genéricas da Empresa; Redes Sociais Internacionais; Alerta Empreendedor; Capacidade de Absorção de Conhecimento; Performance Internacional

**Classificações JEL:** M13 – Novas empresas; *Start-ups*; M16 – Gestão de Negócios Internacionais.

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# List of Abbreviations

AGFI - Adjusted Goodness-of-Fit Index

CFA - Confirmatory Factor Analysis

CFI - Comparative Fit Index

DNV - Domestic New Venture

DNVs - Domestic New Ventures

$D_2$ - Mahalanobis Distance

EFA - Exploratory Factor Analysis

GFI - Goodness-of-Fit Index

IE - International Entrepreneurship

IFI - Incremental Fit Index

INV - International New Venture

INVs - International New Ventures

LISREL - Linear Structural RELationships software

MNE - Multinational Enterprise

NFI - Normed Fit Index

NNFI - Nonnormed Fit Index

PGFI - Parsimony Goodness-of-Fit Index

RFI - Relative Fit Index

RMSEA - Root Mean Square Error of Approximation

SEM - Structural Equation Modeling

SME - Small or Medium Enterprise

SMEs - Small and Medium Enterprises

SPSS - Statistical Package for the Social Sciences

SRMR - Standardized Root Mean Squared Residual

$\chi^2$ - Chi-square Statistic

$\chi^2$/df - Normed Chi-square

SEM - Structural Equation Modeling

# 1   Introduction

The majority of studies in IE field that analyze the international new ventures' (INVs) internationalization process usually focus the direct relationships between the antecedents and the outcomes of this process. This dissertation intends to go deeper, by introducing some firm actions or decisions as mediator variables. These firm actions or decisions are presented as the mechanisms that lie behind the 'black box', which are usually omitted in order to create direct relationships that connect several antecedents related to the entrepreneur, the environment or the industry with INVs' speed, degree, or scope of internationalization, and performance. In this sense the main objective of this dissertation is to open this 'black box'.

This study intends to conceptualize and test an integrated framework, regarding the INVs' internationalization process, which will be used to analyze the influence of several firm actions on INVs' international performance.

In this section, the research scope, the main research question, and research objectives are presented, followed by the contributions proposed and the dissertation structure.

## 1.1   Research Scope

In recent years, several authors (Aspelund, Madsen, & Moen, 2007; Keupp & Gassmann, 2009) have identified a major gap in the international entrepreneurship (IE) field. The majority of the cross-sectional studies that analyze the INVs' internationalization process typically focused the direct relationships between the antecedents (related to the entrepreneur, the environment or the firm itself) and the outcomes of the internationalization process (such as speed, degree or scope of internationalization or performance), and omitted the process that supports those relationships. Therefore, the perception of an excessive simplification as regards the examination of this phenomenon – INVs' internationalization process – and the comments presented in the literature review studies by Keupp and Gassmann (2009) and Aspelund et al. (2007) had been the triggers that drives the present research.

The purpose of this study is to focus on the IE research field, which is still recognized as an emergent discipline (Jones & Nummela, 2008; Mathews & Zander, 2007), namely, the analysis of the new ventures internationalization process. Research in the IE field has been identified as one of the critical areas for further work within the international business domain

(Dimitratos & Jones, 2005; Ellis & Pecotich, 2001; Styles & Seymour, 2006; Young, Dimitratos, & Dana, 2003; Zahra, 2005). Currently this field of research can be defined as a domain that "examines and compares – across national borders – how, by whom, and with what effects those opportunities are acted upon" (Oviatt & McDougall, 2005c, p. 7). Several types of research may be developed within the limits of this field, namely research about: i) entrepreneurial internationalization; ii) international comparisons of entrepreneurship; and iii) international comparison of entrepreneurial internationalization (Jones, Coviello, & Tang, 2011; Oviatt & McDougall, 2005b). This dissertation will engage with the first type of investigation – entrepreneurial internationalization – which is related to the cross-national-border behaviors of entrepreneurial actors (Oviatt & McDougall, 2005b).

Inside this area, the present dissertation will investigate the INVs' internationalization processes. An INV is a firm "that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs to multiple countries" (McDougall, Shane, & Oviatt, 1994b, p. 470; Oviatt & McDougall, 1994, p.49).

Even though the INVs have been largely studied in the last couple of decades, the literature has essentially focused on the 'how' question (Autio, 2005; Keupp & Gassmann, 2009; Zettinig & Benson-Rea, 2008). The greater part of the literature regarding INVs analyzes *how* different types of antecedents influence outcomes (Keupp & Gassmann, 2009). The research that examines the 'why' question as the focal point still remains at an early stage (Keupp & Gassmann, 2009; Knight & Cavusgil, 2004; Rialp, Rialp, & Knight, 2005a). This dissertation focuses precisely on this 'why' question by analyzing several factors that may be comprised in the 'black box' which are usually omitted in the research that focuses on the 'how' question. The factors that usually are omitted are related to managerial decisions, firm capabilities, strategic decisions, and opportunity seeking (Keupp & Gassmann, 2009).

On the one hand, this study tries to answer to a research question (Aspelund et al., 2007; Jones, 2009; Keupp & Gassmann, 2009), which argues in favor to the development of an integrated or holistic framework to analyze and to provide a dynamic perspective on the INVs' internationalization process (Coviello, 2006; Mathews & Zander, 2007). Therefore, this doctoral dissertation will try to answer the call that pledges for more research focused on the 'why' question. The conceptually integrated framework that will be developed and tested will incorporate several firm actions or decisions that mediate the relationships between the antecedents and the outcomes of the INVs' internationalization process.

On the other hand, this research takes into consideration the numerous calls for integrating concepts from disciplines other than IE (Coviello & Jones, 2004; Jones & Coviello, 2005;

McDougall, Oviatt, & Shrader, 2003; Rialp et al., 2005a; Zahra & George, 2002a) This means drawing on concepts and variables from psychology, strategic management, entrepreneurship, international business, and marketing, as well as, concepts already in the IE field.

## 1.2 Main Research Question and Research Objectives

With the main purpose of increasing knowledge about the INVs' internationalization process, the main research question of this research can be synthesized as:

**Which is the thread of the process through which entrepreneur, industry and firm's antecedents influence INVs' international performance?**

In this context, the research objectives are to:

- develop a holistic framework for the INVs' internationalization process, where a set of managerial actions, included as mediators, explain the connection between the INVs' antecedents and their international performance;
- identify the managerial actions of the INVs' internationalization process;
- identify the antecedents of the INVs' internationalization process related to the industry, the entrepreneur, and the firm itself;
- assess the effect of managerial actions for the INVs' international performance.

## 1.3 Contributions Proposed

This study has the main objective of understanding which is the process through which a set of antecedents related to the INVs internationalization process influence their international performance. Drawing from several theoretical foundations, namely the resource-based theory, knowledge-based view and network theory, this research seeks to develop a holistic framework that enables the integration of dispersed knowledge about INVs, including antecedents related with the entrepreneur, the industry and the firm itself, firm actions and international performance. Although this framework is not intended to capture all the relevant features regarding the INVs' internationalization process, it seeks to present a wide view of the phenomenon, and to emphasize the relevance of some firm actions to INVs' internationalization process and their international performance. Therefore, this dissertation aims to build up both theoretical and managerial knowledge regarding the INVs' internationalization process.

More specifically, this study aims to develop several theoretical contributions:

- develop and test an integrated framework of the INVs' internationalization process. This framework should include variables related with entrepreneurs' characteristics, industry antecedents, firm characteristics, firm actions and international performance;

- increase the comprehension of the INVs' internationalization process by integrating different theoretical foundations – the resource-based theory, knowledge-based view and network theory;

- understand the role of several firm actions regarding the INVs internationalization process: international social networks; entrepreneurial alertness; absorptive capacity; and competitive generic strategies.

Furthermore, this research intends to achieve several managerial contributions by understanding:

- which entrepreneur's characteristics are more relevant to INVs high foreign market knowledge development;

- which entrepreneur's characteristics are more pertinent to define the INVs' entrepreneurial posture;

- which entrepreneur's characteristics are more likely to affect INVs' management capabilities;

- how environmental factors related to the industry influence INVs characteristics;

- why some firm antecedents, such as firm resources, foreign market knowledge, entrepreneurial orientation and management capabilities influence INVs international performance;

- which firm actions are more important in order to influence international performance.

## 1.4  Dissertation Structure

This dissertation is organized into nine chapters. In this first chapter, a contextualization of the field of analysis and the research problem is presented. The second chapter deals with the literature review, which is divided into six sections: i) the international entrepreneurship research context, ii) the international new ventures, iii) the theoretical foundations (resource-based view, knowledge-based view, and network theory), iv) the analysis of the phenomenon

of interest – the managerial actions within the INVs' internationalization; v) the antecedents of these managerial actions, and vi) the results of the managerial actions.

In the third chapter, the conceptual model and the rationale of the research hypotheses are presented. In the fourth chapter, the methodology is described. In the fifth chapter the data analysis is presented, and is organized into six sections related to the final sample analysis, the initial data screening, the descriptive analysis, the assessment of measurement model, and the assessment of structural model.

The sixth chapter discusses the findings, while in the seventh chapter, the main conclusions, the major theoretical and managerial implications, as well as, the limitations of the study and the suggestions for further research, are presented. Finally, bibliographic references are listed (chapter 8) and several appendices presented (chapter 9).

# 2    Literature Review

## 2.1    Research Context: International Entrepreneurship Field

International entrepreneurship (IE) is a recent field of research which originally emerged because an observed phenomenon – new ventures' internationalization since or soon after their foundation – was poorly explained by existing domains and theories. Actually, this field is the result of the connection between the domains of international business and the entrepreneurship (both of which are multidisciplinary), but which is also influenced by several other disciplines such as international management, international marketing, marketing, information systems management, strategic management, sociology, finance, knowledge management, and economics (Autio, 2005; Jones et al., 2011; Keupp & Gassmann, 2009; McDougall & Oviatt, 2000; Reuber & Fischer, 2011).

The relevance of this area is confirmed by several special issues dedicated to international entrepreneurship in leading academic journals, across the fields of international business, entrepreneurship, marketing, and small business, namely, *Entrepreneurship: Theory and Practice* (1996 and 2002), *Journal of International Marketing* (1999), *Academy of Management Journal* (2000), *Journal of International Management* (2001), *Small Business Economics* (2003, 2005 and 2008), *Journal of International Business Studies* (2005), *Management International Review* (2005), *International Business Review* (2005), *International Marketing Review* (2006), *Canadian Journal of Administrative Studies* (2005), *Journal of Word Business* (2007), and *Strategic Entrepreneurship Journal* (2009). The Oviatt and McDougall (1994) article, "Toward a theory of international new ventures" was awarded the JIBS Decade Award in 2005. This article spurred worldwide attention to INVs, attracted many researchers, and captivated a worldwide audience to the field of IE research.

Beyond the several special issues in different major scholarly journals, this field generates many annual doctorial consortia, workshops, and conferences on international entrepreneurship; the publication of handbooks, edited volumes, and several book chapters; doctoral theses; and numerous sessions in academic meetings related to international business, entrepreneurship, SMEs, strategy, or general management. Regarding the conferences, the McGill International Entrepreneurship Conference Series, launched by Richard Wright and Hamid Etemad in 1998, must be highlighted.

In addition to the JIBS Decade Award in 2005, other articles in this field have received awards. For instance, Zahra et al. (2000) won the AMJ Best Paper of the Year, and several

papers related to the IE field published in the *Journal of International Marketing* have won the Hans B. Torelli Award, which distinguishes the most significant and durable contribution to international marketing theory and practice. Also relevant for the development of this field of research was the launch, in 2003, of a scholarly journal entitled the "*Journal of International Entrepreneurship"*, a journal dedicated to the 'international entrepreneurship' field rather than just an international journal of 'entrepreneurship' (Coviello, McDougall, & Oviatt, 2011; Zahra, 2005). Moreover, in 2009, a virtual community called *ie-scholars.net* was created with the purpose of supporting the field of international entrepreneurship worldwide, and was granted $1.95 million from Canada's Social Sciences and Humanities Research Council for this purpose (Coviello et al., 2011).

The field first began with phenomenological research in a study by McDougall (1989), where she distinguishes between domestic new ventures (DNVs) and INVs. In this study, McDougall presented an early definition of the term 'international entrepreneurship', which was defined as the "development of international new ventures or start-ups that, from their inception, engage in international business" (McDougall, 1989, p. 388). Several researchers subsequently wrote about new patterns in the early stages of small firms' internationalization (e.g. Jolly, Alahuhta, & Jeannet, 1992; Litvak, 1990; Rennie, 1993).

Even so, it is commonly accepted (Autio, 2005; Keupp & Gassmann, 2009) that the widespread starting point of the IE field was an article by Oviatt & McDougall (1994), where they defined an INV as "a business organization that, from inception, seeks to derive significant competitive advantage from the use of resources and the sale of outputs to multiple countries" (Oviatt & McDougall, 1994, p. 49). Therefore, the IE field initially only focused on small and young ventures that begin their internationalization during their early stages (Keupp & Gassmann, 2009). These firms acted as outliers of the traditional process theory of internationalization or the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). They do not display an incremental foreign expansion after several years of acting only in the domestic market; instead they start to internationalize early and rapidly near-after their foundation (Oviatt & McDougall, 1994).

According to a recent review (Keupp & Gassmann, 2009), this initial phenomenological definition of the IE field based on INVs, has led the majority of the empirical research to focus almost exclusively on four main issues:

- the propensity of small new ventures to internationalize;
- what small, young firms that have internationalized do in order to enter deeper into markets and/or to survive;

- how their international performance differs;

- entrepreneurs' characteristics, namely in terms of demographic and cognitive attributes, as well as their role in the internationalization process.

After this initial definition of international entrepreneurship, other authors (e.g. Giamartino, McDougall, & Bird, 1993; Zahra, 1993c) enlarged the definition in order to include international intrapreneurship. For instance Zahra (1993b) argues that INVs are only one category of international entrepreneurship, and proposed a new broad definition: "the study of the nature and consequences of a firm's risk-taking behaviors as it ventures into international markets" (Zahra, 1993c, p. 9).

Afterwards, McDougall and Oviatt (2000) also extended their 1994 definition, and presented this field as "... a combination of innovative, proactive and risk-seeking behavior that crosses national borders and is intended to create value in organizations" (McDougall & Oviatt, 2000, p. 903). In this article, they also included the international comparisons of entrepreneurial behaviors within the boundaries of this field. More recently, the same authors define this field as "the discovery, enactment, evaluation, and exploitation of opportunities – across national borders – to create future goods and services" (Oviatt & McDougall, 2005b, p. 540; 2005c, p. 7). They explain that international entrepreneurship research includes studies of both: i) entrepreneurial internationalization, i.e. the cross-national-border behaviors of entrepreneurial actors; and ii) international comparisons of entrepreneurship, i.e. cross-national-border comparisons of entrepreneurs (Oviatt & McDougall, 2005b). Nowadays this field "examines and compares – across national borders – how, by whom, and with what effects those opportunities are acted upon" (Oviatt & McDougall, 2005c, p. 7).

In a recent comprehensive review of international entrepreneurship developed by Jones, Coviello and Tang (2011), the domain of international entrepreneurship was divided into three major areas: entrepreneurial internationalization, international comparisons of entrepreneurship and international comparisons of entrepreneurial internationalization. Considering this global segmentation of the IE field, it is possible to integrate this particular study within the first theme – entrepreneurial internationalization, i.e. the theme that considers the "entrepreneurship that crosses the national borders" (Jones et al., 2011, p. 635). This theme, which accounts for more than 68% of the literature review carried out by these authors (Jones et al., 2011), was additionally subdivided into five main thematic areas: i) venture type; ii) internationalization; iii) networks and social capital; iv) organizational issues; and v) entrepreneurship. The research labeled with the first theme – venture type – focuses on the characteristics or antecedents of the organizations that compete internationally, and presents comparisons of venture types. The literature included in the

second theme – internationalization – analyzes the patterns and processes of internationalization. The third area of research – networks and social capital – analyzes social ties, relationships, and networks, and their relevance for the new ventures' internationalization. The fourth thematic area – organizational issues – includes literature about performance, orientation, knowledge, and capabilities. The final thematic area within the entrepreneurial internationalization research – entrepreneurship – focuses on the entrepreneur, on the main concepts of entrepreneurship, as well as on the entrepreneurial opportunity. According to the organization and categorization of the IE literature in those sub-themes developed by Jones et al. (2011), the classification of this particular dissertation is very intricate, since it is transverse to several of the sub-themes in the entrepreneurial internationalization global theme.

In recent years, several studies (e.g. Aspelund et al., 2007; Keupp & Gassmann, 2009) have identified a significant gap in the research on international entrepreneurship: studies typically analyze the direct relationships between the antecedents of international entrepreneurship and the outcomes of the internationalization process, such as the degree, scope, or speed of internationalization, as well as the performance. There is a limited stream of research related to the nature of managerial decisions associated with early processes in the internationalization of new ventures, as well as with the links between organizational behavior and entry strategies of early internationalizing firms (Keupp & Gassmann, 2009; Rialp et al., 2005a).

The purpose of this study is to answer several research claims (Aspelund et al., 2007; Jones, 2009; Keupp & Gassmann, 2009), which require the development of an integrated or holistic framework to analyze the IE process and give it a dynamic perspective; namely, to INVs' internationalization process (Coviello, 2006; Mathews & Zander, 2007). This framework will be developed using literature that was classified by Jones et al. (2011) within separate sub-themes, namely:

- studies integrated in the *organizational issues* sub-theme, namely related to the performance antecedents, capabilities and orientations of the firm, relevance of knowledge and absorptive capacity;
- literature related to the *internationalization* process such as factors that enable rapid internationalization. It will also use literature related to environmental and knowledge influences;
- topics included in the *network and social capital* sub-theme, where social networks are presented as a mechanism for internationalization;

- aspects related to *entrepreneurship* – literature which regards opportunity recognition, as well as entrepreneur characteristics.

There are no doubts that within these two decades the IE field has been extensively studied, with a large set of research that seeks to explain the existence, evolution, speed, and degree of the internationalization and performance of INVs, both from a theoretical or conceptual point of view, and from an empirical perspective (Acs, Dana, & Jones, 2003; Dimitratos & Jones, 2005; Keupp & Gassmann, 2009; Rialp et al., 2005a). Nevertheless, this field of research is still considered as an emergent field (Jones et al., 2011; Keupp & Gassmann, 2009; Rialp et al., 2005a). Although the number, the complexity and the quality of the literature in this area is increasing (Coombs, Sadrieh, & Annavarjula, 2009; Jones et al., 2011; Keupp & Gassmann, 2009; Rialp et al., 2005a), the IE field of research has been identified as one of the most critical areas requiring additional research within the international business and entrepreneurship disciplines (Dimitratos & Jones, 2005; Young et al., 2003; Zahra, 2005).

In fact, some recent literature reviews ask for an integrative approach research that attempts to acknowledge and examine a wide range of measures related to the relevant antecedents and outcomes of international entrepreneurship, (Coombs et al., 2009; Jones et al., 2011; Keupp & Gassmann, 2009). In addition, some of these authors (Coombs et al., 2009; Jones et al., 2011; Keupp & Gassmann, 2009) also recommend the examination of the 'black box' that justify the internationalization of INVs, and that is usually omitted in the research that focuses on the 'how' question, whereas others ask for more multidisciplinary research (Coviello & Jones, 2004; Coviello & McAuley, 1999; Jones et al., 2011; McDougall & Oviatt, 2000).

This is the context that fills the ground where the present research has been constructed, in order to answer to some of the recent claims, namely the ones that ask for more integrated models.

## 2.2 International New Ventures

As mentioned before, since the 1990s, intensified attention has been given to the increased number of new and young firms that decide to compete in foreign markets from or close to inception (McDougall, 1989; McDougall et al., 2003; Oviatt & McDougall, 1994, 1997; Rennie, 1993). This new category of companies challenged the traditional theory of incremental internationalization, according to which firms start to expand internationally several years after competing exclusively in their domestic market (Bilkey & Tesar, 1977; Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975; Young et al., 2003).

These firms were first described in a study by McKinsey & Co. (Rennie, 1993), and were entitled 'born globals'. However, the name of this type of company is undecided. They have been called 'international new ventures' (Coviello, 2006; McDougall et al., 1994b; Oviatt & McDougall, 1994, 2005a; Zahra, 2005), 'born globals' (Knight & Cavusgil, 1996, 2004; Madsen & Servais, 1997; Moen & Servais, 2002; Rennie, 1993; Rialp, Rialp, Urbano, & Vaillant, 2005b), 'global start-ups' (Oviatt & McDougall, 1994, 1995; Rialp et al., 2005a), 'international ventures' (Kuemmerle, 2002; McDougall & Oviatt, 1996), 'instant exporters' or 'instant internationals' (Jones & Dimitratos, 2003; McAuley, 1999; Preece, Miles, & Baetz, 1999), 'early internationalizing firms' (Rialp et al., 2005a; Zhou, 2007; Zucchella, Palamara, & Denicolai, 2007) or 'micro multinationals' (Dimitratos, Johnson, Ibeh, & Slow, 2009; Dimitratos, Johnson, Slow, & Young, 2003; Ibeh, Johnson, Dimitratos, & Slow, 2004).

Although the operational definition of each of those concepts could be marginally different, all of them refer to companies that from or soon after inception envisaged the world as their market place, and not as simple additions to the domestic market (Cavusgil, 1994; Rennie, 1993). Therefore, for simplicity sake in this dissertation, these firms will be called 'international new ventures', or simply 'INVs'. This decision was supported by the arguments that this expression, together with 'born globals', is the one that has been most accepted in the literature, and is also the widest concept proposed in the literature (Aspelund et al., 2007; Jones et al., 2011; Keupp & Gassmann, 2009). Although these two terms in the area of entrepreneurial internationalization are often used in an interchangeable way, the current decision in using the term 'international new ventures' is based on the fact that the expression 'born global', is too restrictive, since not every new venture that competes 'international' may be called 'global' (Moutinho, 2011). In the earliest of Oviatt and McDougall's (1994) articles on INVs, they identified several types of INVs, namely 'export/import start-ups', 'multinational traders', 'geographically focused start-ups' and 'global start-ups'. This last type – global start-ups – is similar to the born global concept, since these

firms coordinate resources dispersed around the world, and also sell products and services worldwide as this is where the firms exhibits greater value.

Despite the diversity of expressions regarding this phenomenon being the result of the attention granted to this research field, it has also generated several misunderstandings. The use of multiple terms by venture-type research is often inconsistent, since the operationalization of the definition turns INVs in different types of firms, which leads to confusion (Jones et al., 2011; Zucchella, 2002). For instance, several authors present arguments that suggest INVs are more customary in high technology industries (e.g. Burgel & Murray, 2000; Fontes & Coombs, 1997; Hughes, Martin, Morgan, & Robson, 2010; Johnson, 2004; Keeble, Lawson, Smith, Moore, & Wilkinson, 1998; Spence, 2003; Young, 2004). In these industries, where firms are technology intensive, they often need to internationalize from the beginning, since they operate in limited and global technological market niches, and work with small product life cycles. On the contrary, other authors argue that these firms are not restricted to any particular industry, but emerge in a variety of industries (e.g. McDougall et al., 1994b; Mudambi & Zahra, 2007; Oviatt & McDougall, 2005a; Rennie, 1993).

As mentioned above an INV was initially defined as organization that from the foundation "seeks to derive significant competitive advantage from the use of resources and the sale of outputs to multiple countries" (McDougall et al., 1994b, p. 470; Oviatt & McDougall, 1994, p.49). The emergence of INVs is justified by geographic dispersion of several elements relevant to the entrepreneurial process (namely individuals, experience, knowledge, and other resources controlled by individuals), as well as by entrepreneurial opportunities that are based upon new international combinations of resources and/or markets (Di Gregorio, Musteen, & Thomas, 2008). Therefore, in line with the previous definitions, a new venture may be classified as international in scope if it follows one of three paths: 1) if it experiences international sales from inception or soon after foundation; ii) if it combines tangible and intangible resources across borders; and iii) if it follows a cross-border combination of resources and also markets. Regarding the second path, a firm may combine different resources across borders, but still keep sales exclusively limited to domestic markets. Nevertheless, the traditional vision of INVs is the one presented in first path (Di Gregorio et al., 2008). The present research draws from the line of firms that do business in international markets from or soon after foundation. This decision has repercussions in the process of the sample selection. Yet, it is possible that some firms that follow the third pathway suggested have been integrated into the sample used in this research, i.e. present international sales early in their life, and which also use a cross-border mix of resources in their business.

This type of firm has been differentiated from traditional small and medium-sized enterprises (SMEs) both conceptually (Knight & Cavusgil, 1996; Madsen & Servais, 1997; Oviatt & McDougall, 1994) and empirically (McDougall et al., 2003). Several distinguishing features have been analyzed in the literature. One of the most relevant is, as mentioned above, the fact that from inception or near the foundation of the firm, these firms have an international focus and assign resources to international activities (Knight & Cavusgil, 1996; Oviatt & McDougall, 1995). A second distinguishing characteristic is that these firms present unique products and services, and are typically focused and niche-oriented (Andersson & Wictor, 2003; Dominguinhos, 2007; Jantunen, Nummela, Puumalainen, & Saarenketo, 2008; Oviatt & McDougall, 1995; Simões & Dominguinhos, 2005). Other features include the fact that INVs are usually integrated in networks, and use those networks to support their internationalization (Coviello, 2006; Coviello & Munro, 1995; Oviatt & McDougall, 1994).

INVs usually face three types of liabilities (Zahra, 2005). As with other traditional SMEs or firms that venture into foreign markets, INVs face disadvantages to domestic competitors in those new markets, and suffer from 'liability of foreignness' (Madsen & Servais, 1997; Oviatt & McDougall, 1994). This means that they must work harder in order to overcome barriers to enter into foreign markets, as well as identifying and accessing their potential clients and suppliers, and in getting approval from their customers. Second, since these firms are young, they also face disadvantages when competing with established firms related with inexperience, limitations relating to access to resources, and even their credibility and thus suffer from a 'liability of newness' (Madsen & Servais, 1997; Oviatt & McDougall, 1994). Finally, these firms traditionally are of a small size. Thus they also face the 'liability of smallness' which limits their stock of resources and their resistance to failure, namely when failure is connected to the implementation of a strategic decision such as internationalization. These three sets of liabilities challenge their survival (Zahra, 2005), and sustain the increasing curiosity about the explanations behind the success of these firms. By revealing an early and accelerated internationalization, INVs look for higher international performance and growth (Sapienza, Autio, George, & Zahra, 2006). Hence, there is a great interest among academics, managers, and also policy makers, in studying INVs in order to understand the way how these firms simultaneously overcome the problems of newness, smallness and foreignness, and achieve higher performance and growth.

The emergence of these firms, mostly in the last two decades, might suggest that several dimensions of the internationalization process have changed since the 1970s and 1980s, when the majority of the theories regarding internationalization process were developed (Autio, 2005; Rialp et al., 2005a). The boost in the development of INVs could be justified by

four main factors: i) globalization; ii) new market conditions, namely the relevance of niche markets; iii) environmental developments, related to liberalization of international trading and technology (in production, transportation and communication); and iv) more sophisticated capabilities of people, namely the founder/entrepreneur (as well as the entrepreneurial team or management team) that creates the INV (Jantunen et al., 2008; Madsen & Servais, 1997; Simões & Dominguinhos, 2001).

Concerning environmental conditions, developments in telecommunications and transport networks (and the reduction of their inherent costs), the increase of liberalized global trading regimes, as well as the increased openness of countries to international trade and investment, promoted the birth of a new class of start-ups that from or near after foundation, surpassed international borders (Fan & Phan, 2007; Zucchella et al., 2007). The development of the Internet and other communication technologies facilitated contact with potential customers worldwide with similar needs and behaviors. Additionally, international managerial experience became more accessible, allowing new firms to acquire this knowledge quickly and easily through several ways such as recruitment or as an initial entrepreneur's resource. New firms had become more experienced and skilled in adopting new governance mechanisms through the access and control of external resources across national borders so as to leveraging the exploitation of their valuable, rare, and unique resources (Autio, 2005).

New ventures not only have the chance to deal with new international opportunities, but also deal with international competition and, must therefore adapt to these economic evolutions (Etemad & Wright, 1999). In addition to this, other factors, such as better accessibility to knowledge, the enhanced opportunities to create and manage value within international value chains, and the augmented speed of value creation processes also promote globalization and have a positive impact on the emergence of INVs (Oviatt & McDougall, 2005a; Zucchella et al., 2007).

In today's globalized economy, INVs play a central role (Autio, 2005; Mudambi & Zahra, 2007; Shrader, Oviatt, & Phillips McDougall, 2000; Zahra, 2005), and these companies are seen as engines of economic growth (Oviatt & McDougall, 2005a). Actually, several empirical studies have validated that INVs constitute a significant and increasing part of the modern economy, namely as a significant share of international firms (Burgel & Murray, 2000; Knight, Madsen, & Servais, 2004; Knight & Cavusgil, 2004; McAuley, 1999; Moen & Servais, 2002; Rennie, 1993; Zucchella et al., 2007). From the managerial point of view, the study of INVs is appealing because of their increasing frequency and importance in international markets

(Bloodgood, Sapienza, & Almeida, 1996; Knight & Cavusgil, 1996; Mudambi & Zahra, 2007; Oviatt & McDougall, 2005a; Shrader et al., 2000; Zahra, 2005).

Although INVs have been broadly studied, the literature in the last two decades has focused mainly on the question of 'how' (Autio, 2005; Keupp & Gassmann, 2009; Zettinig & Benson-Rea, 2008). The majority of the research analyses *how* several types of antecedents (identified at the personal, firm, industry, or country level) influence several outcomes, such as the creation of INVs, the speed, degree or pattern of their internationalization, the entry mode, the survival, or the general or international performance (Keupp & Gassmann, 2009).

Therefore, the research that focuses on the 'why' question, namely the managerial decisions, firm capabilities, strategic decisions, opportunity seeking, and the knowledge acquirement and handling process – all factors that enable INVs to internationalize and improve performance (Keupp & Gassmann, 2009; Knight & Cavusgil, 2004; Rialp et al., 2005a) – still remain in an initial stage. On the other hand, numerous researchers in the IE field call for an integrated or holistic view of INVs' process of internationalization (Aspelund et al., 2007; Crick, Chaudhry, & Batstone, 2001; Jones, 2009; Jones & Coviello, 2005; Keupp & Gassmann, 2009; McAuley, 1999; Rialp et al., 2005a). Therefore, several authors have argued that the study of INVs is an important part of the growing IE literature (Acs et al., 2003; Jones et al., 2011; McDougall & Oviatt, 2000; McDougall et al., 2003; Rialp et al., 2005a; Young et al., 2003), and continues to be a stimulating puzzle. In line with these considerations, this research tries to provide an answer to those claims as regards the development of a holistic perspective on INV phenomenon, where the spotlight is directed to the role of several managerial decisions or actions, and which therefore aims to contribute to the development of the actual knowledge regarding the 'why' question.

## 2.3 Theoretical Foundations

Theories of the firm are abstractions of the real world, conceptualizations which are developed in order to predict their behaviors and evolutions. These theories are designed to address a particular set of characteristics and behaviors; nevertheless, there are several theories that present complementary or rival explanations for the same phenomena (Grant, 1996a).

Concerning the INV phenomenon, several authors (Crick & Spence, 2005; Mtigwe, 2006; Rialp et al., 2005a) argue that it cannot be fully explained by a single theory. Different studies suggest a more integrated view of the theoretical foundations that ground the development of conceptualized frameworks in order to advance IE research (Crick & Spence, 2005; Dimitratos & Jones, 2005; Keupp & Gassmann, 2009; Rialp et al., 2005a). Accordingly, the research model of the present study is grounded on three complementary theories: the resource-based theory; the knowledge-based view; and the network theory. Each one of these theories will be briefly introduced in the following sections.

### 2.3.1 Resource-Based Theory

The resource-based view, also called resource-based theory (Barney, Ketchen, & Wright, 2011; Peteraf & Barney, 2003), addresses the fundamental issue of how some firms can reach a higher performance than others in the same industry or strategic group (Barney, 1991). The resource-based view considers the firm as a bundle of resources (Penrose, 1959; Wernerfelt, 1984). Firm resources are "all assets, capabilities, organizational processes, firm attributes, information, knowledge, etc. controlled by a firm that enable the firm to conceive of and implement strategies" (Barney, 1991, p. 101). These resources and capabilities include both tangible and intangible assets, namely a "firm's management skills, its organizational processes and routines, and the information and knowledge it controls" (Barney, Wright, & Ketchen Jr, 2001, p. 625). According to the resource-based view, firms within an industry or group are heterogeneous with regard to the strategic resources that each one controls. It is the uniqueness of each firm's resources that supports its competitive position and sustained competitive advantage (Barney, 1991; Wernerfelt, 1984).

The origins of these ideas draw from earlier economic theories presented by Chamberlin (1933), Robinson (1933), or Kaldor (1934), who each identified the importance of firms' specific resources as factors influencing success. For these authors, the disequilibrium generated by different resources and capabilities could explain the heterogeneity of companies, and thus different performances (Kaldor, 1934). This thinking was afterward

developed by Penrose (1959), for whom the specific application of the firm's resources (both physical and human) helps to explain its competitive advantage. Later, this theory gained its popularity in strategy literature, with the works of Wernerfelt (1984) and Barney (1991).

Wernerfelt (1984) shifted the analysis from the final product to the resources necessary to produce them. This author suggests that "resources and products are two sides of the same coin" (Wernerfelt, 1984, p. 171), and stipulates the possibility of identifying the optimal product-market activities of a firm based on the specification of its profiles of resources. Instead of looking for the market characteristics to identify the resources a firm should have in order to succeed, it is more appropriate to analyze the resources that a firm possesses to decide in which industries they would be best deployed. This way, firms' strategies are based on their resources and their respective combinations (Barney, 1986; Wernerfelt, 1984).

Moreover, Barney (1991) presents the resource-based model as an alternative to the environmental models of competitive advantage. The research of Porter and colleagues is an example of these environmental models, since it attempts to describe the environmental conditions that favor high levels of firm performance (Caves & Porter, 1977; Porter, 1980, 1985). According to Barney (1986, 1991) these environmental models adopted two assumptions: i) firms, within an industry or strategic group, are identical in terms of the strategies they follow and strategic resources they manage; and ii) when resource heterogeneity has developed in an industry or strategic group, this heterogeneity will be short lived, since the resources that firms use to implement their strategies are highly mobile. Alternatively, the resource-based view advocates two different assumptions for analyzing the sources of competitive advantage (Barney, 1991). First, the firms within an industry are heterogeneous regarding the strategic resources each one controls. Second, strategic resources may not be perfectly mobile among firms, and therefore heterogeneity can be more durable.

According to Barney (1991), a firm has a competitive advantage when it implements a strategy that creates value based on a group of resources that are not simultaneously implemented by any other current or potential competitor. If the current and potential competitors are unable to duplicate the benefits of this strategy, the firm has a sustained competitive advantage.

For the resource-based view, four attributes define the potential of a firm's resources to maintain the sustained competitive advantage of the firm (Barney, 1991). The resources must be: i) *valuable*; ii) *rare*; iii) *imperfectly imitable*; and iv) *not substitutable*. The first condition considers that a firm's resources must be *valuable*, in the sense that they enable a

firm to conceive or implement strategies that improve its effectiveness and efficiency. Considering the traditional 'strengths-weaknesses-opportunities-threats' framework of firm's performance, a resource can be classified as valuable if it helps to exploit opportunities or neutralize threats, and thus improve performance (Barney, 1991).

The second attribute of a firm's resource that would make it a source of sustained competitive advantage is its *rareness* among the actual and potential competitors of the firm. Actually, if a valuable resource is owned by a large number of competitors, each one of these firms can implement a similar strategy based on the same resource; in this case, is more difficult to a firm obtain competitive advantage. According to the resource-based view, only if a value-creating strategy is not implemented by a large number of firms will it be a source of competitive advantage. This is true for a single valuable firm resource, and also for bundles of valuable resources such as physical capital, human capital, and organizational capital (Barney, 1991).

The third requirement considers that firm's resources must be imperfectly imitable. If organizational resources are rare and valuable, they could act as sources of competitive advantage, e.g. first-mover advantages. However, the sustainability of this competitive advantage is only guaranteed if firms that do not possess these resources cannot obtain them. For Barney (1991), firm resources can be imperfectly imitable for three reasons: i) the ability of a firm to obtain a resource results based upon *unique historical conditions;* ii) the link between the resources that the firm possess and its sustained competitive advantage is *causally ambiguous*; or *iii)* the resource that create a firm's advantage is *socially complex.*

Finally, the fourth condition for a firm's resource to be a source of sustained competitive advantage is the *non-substitutability* of this resource by other resources that are either not rare or imitable. Therefore, if there are other alternative resources that are themselves not rare or imitable, then several firms will be able to conceive and implement a similar strategy, and thus this strategy could not generate a sustainable competitive advantage (Barney, 1991).

The accumulated tangible or intangible stocks of a firm's resources are used to conceive and implement strategies that aimed at improving the effectiveness and efficiency of the firm, and to present competitive advantages over their competitors (Barney, 1991; Wernerfelt, 1984). Even so, in this so-called VRIO framework, Barney (1991) argues that it is not enough the firm's resources be valuable ('V'), rare ('R'), inimitable and not substitutable ('I'). The firm must also have the correct organization to take advantage of these resources ('O'), the superior ability to utilize and leverage these resources in a way that enables the firm to

achieve sustained competitive advantage, and a superior performance compared to their competitors (Barney, 1991; Penrose, 1959; Wernerfelt, 1984).

The resource-based view "is perhaps the most influential framework for understanding strategic management" (Barney et al., 2001, p. 625). This theory has made important contributions to such research fields as human resource management, economics, finance, marketing, entrepreneurship and international business (Barney et al., 2001). The resource-based view shares a fundamental condition with entrepreneurship as both explore heterogeneous resources (Alvarez & Busenitz, 2001). The entrepreneurial process of cognition, discovery, understanding market opportunities, and coordinating knowledge leads to heterogeneous outputs. This way, opportunity-seeking behavior (entrepreneurial alertness), entrepreneurial knowledge and the capacity to combine and organize resources can be viewed as resources that can lead to heterogeneous outputs, and thus could be key-resources to achieve sustained competitive advantage (Alvarez & Busenitz, 2001; Barney et al., 2001).

In the international business field, the resource-based view has been used to investigate three new areas of research: international entrepreneurship, strategic alliances and emerging market strategies (Peng, 2001). Ever since the initial works in the field of IE, the resource-based view of the firm has been identified as a valid framework, that can be used to illuminate the international activities of INVs (McDougall et al., 1994b). This theory had an essential role in the emergence of IE as a distinctive new subfield of research, since it helped respond to the question: "How can some SMEs succeed abroad rapidly without going through different stages suggested by the 'stage' model?" (Peng, 2001, p. 815). From the beginning, the entrepreneurs were identified as possessing an unusual collection of competencies (McDougall et al., 1994b). With these competencies, entrepreneurs are more able to combine several resources across national borders, and to create an INV.

The decision of competing internationally rather than just domestically is justified by the characteristics of the product or service or by the fact that international entrepreneurs try to avoid domestic path-dependence through the founding of ventures that manage multicultural workforces, coordinate resources in different countries and target customers in multiple geographic locations from inception (Autio, Sapienza, & Almeida, 2000; McDougall et al., 1994b). When firms that follow the 'stage' model (Johanson & Vahlne, 1977) decide to internationalize, they must overcome the inertia related to their initial domestic orientation. This is due to the fact that the organizational routines and capacities that support competitive advantage in the domestic arena may be different from the ones that create competitive advantage internationally. Firms that internationalize earlier need to overcome few inertia

barriers, and may outperform their competitors who wait longer to internationalize (Autio et al., 2000; McDougall et al., 1994b; Peng, 2001). Also, some resource types controlled by the INVs could substitute other resources that are gained when following the 'stage' model in order to outperform internationally.

The firms that have a stock of resources which are valuable, rare, inimitable, and not substitutable, and the appropriate organizational capabilities have an advantage over their competitors in both the domestic and foreign markets (Barney, 1991; Carter, Williams, & Reynolds, 1997; Chandler & Hanks, 1994b). New ventures become international competitors when the internationalization as a strategic action fits their unique resources (Baird, Lyles, & Orris, 1994). Actually, the new venture's capacity to enter into foreign markets is directly related to its stocks of tangible and intangible resources (Bloodgood et al., 1996). Resources such as innovativeness, proactiveness, risk taking, global vision, and foreign work experience from the top management or entrepreneurial team are examples of resources that could lead to a competitive advantage in international markets (Freeman & Cavusgil, 2007; Oviatt & McDougall, 2005b). The resource-based view also helps to explain how the knowledge and organizational capabilities of INVs are developed and leveraged by these firms when internationalizing (Knight & Cavusgil, 2004), and therefore, achieving superior levels of firm performance (Bloodgood et al., 1996).

On the other hand, several studies argue that firm performance is a function not only of the accessibility to physical resources, but also of an entrepreneur's managerial competences (Bloodgood et al., 1996; Chandler & Hanks, 1994a; Reuber & Fischer, 1997). Many researchers suggest that several characteristics possessed by entrepreneur – namely, in terms of international experience or industry experience – could provide competitive advantage in international markets (Bloodgood et al., 1996; McDougall et al., 2003; Reuber & Fischer, 1997). Vatne (1995) developed a conceptual model concerning the internationalization of SMEs with manufacturing activities, suggesting that environment could influence the firm's internal resources. Additionally, the entrepreneur's quality and his social networking could also influence the firm's capacity to identify and acquire external resources, and to use these resources in the development, production, and promotion of products.

Rialp et al. (2005a) summarize these arguments in an exploratory resource-based model of early internationalizing firms, in which the intangible resources of the firms (such as technological, organizational, relational, and human capital resources) have a critical importance on the development of complex international capabilities, which by turn contribute to the formation of distinctive strategic features in INVs (or early internationalizing firms). These international capabilities could be classified as second-order capabilities,

characterized by high levels of tacitness and causal ambiguity concerning the accumulation process. On the other hand, these complex capabilities could be related to specialized knowledge management and learning processes, the exploitation of core competencies, internationally-oriented routines, a lack of domestic path-dependence, or their absorptive capacity.

For these authors (Rialp et al., 2005a), the distinctive strategic features of INVs are related to their sustainable competitive advantage abroad, but also with its strategic behavior (i.e. the rapid pace and timing of internationalization, the non-gradual pattern of internationalization, the enhanced scope of their international strategy, etc.). In this model, the external environmental factors could also play a critical role, since they moderate the way in which firm primary intangible resources and firm complex international capabilities contribute to the development of the distinctive strategic features (Rialp et al., 2005a). The focus is not applied to the original firm's resources *per se*, but also on the exercise of those resources' organization, and in the actions related to resources leverage (complex capabilities). Only this way INVs can get sustained competitive advantage (Mascarenhas, 1997; Rialp et al., 2005a).

## 2.3.2 Knowledge-Based View

The knowledge-based view of the firm was built as an extension of the resource-based view, and focuses on knowledge as the most important strategic resource of the firm (Grant, 1996b, 1996a, 1997, 2002; Spender, 1994). The resource-based view considers both resources that are property-based and those that are knowledge-based (Miller & Shamsie, 1996). The former refers to tangible input resources, while the latter refer to the ways firms use, combine, and transform those tangible input resources into outputs (Galunic & Rodan, 1998; Wiklund & Shepherd, 2003).

Alternatively, the knowledge-based view argues that sustained competitive advantages involve resources that are idiosyncratic (and therefore scarce), yet also not easily transferable or replicable (Grant, 1991, 1996b). This underlines knowledge as the most strategically important resource owned by a firm. Knowledge-based resources may be particularly vital for providing sustainable competitive advantage due to their intrinsic difficulty regarding imitation, and thus in leveraging sustainable differentiation (McEvily & Chakravarthy, 2002). In this sense, knowledge could be defined as a distinctive and strategic production factor that presents a high impact on several of the firm's capabilities, such as productivity, innovation, and product development (Spender, 1996). Although the knowledge-based view includes much of the content of the resource-based view, it focuses more on the

coordination of resources (Spender, 1994), and on the process by which specific organizational capabilities develop over time (Saarenketo, Puumalain, Kuivalainen, & Kyläheiko, 2009).

The knowledge definition includes both 'explicit' and 'tacit' knowledge, although a distinction is usually made between these two types of knowledge. Explicit knowledge is highly codified, and is easy to formalize and transfer; whereas tacit knowledge is regarded to be more abstract, inlaid within individuals or organizations, profoundly embedded in action, and not easily formalized, articulated or transferable (Nelson & Winter, 1982; Nonaka & Takeuchi, 1995). Put simply, explicit knowledge can be written down, whereas tacit knowledge cannot (Grant, 1996b). The knowledge-based view emphasizes 'tacit' knowledge mostly, because it includes know-how, skills, and 'practical knowledge' of organizational members that are inherent to production tasks, and thus are more difficult to imitate and transfer within or between organizations (Grant, 1996b).

This emphasis in a single type of resource – knowledge – is justified by the two main assumptions of this approach: i) knowledge accounts for the larger part of the added value; and ii) high barriers to replication and transfer of knowledge provide it with strategic relevance (Grant, 1996b). It is precisely through this difficulty to imitate or replicate that the knowledge-based view supports the strategic importance of knowledge in generating a long-term sustainable competitive advantage and, therefore, superior performance (Alavi & Leidner, 2001; Teece, Pisano, & Shuen, 1997). While tangible resources have their origin outside the firm – and therefore there is some probability of it not being unique – the intangible firm-specific resources, such as knowledge, are more likely to be the foundation of a firm's competitive advantage (Spender, 1996).

Although the knowledge-based view originally emerged in strategic management literature, its extension goes outside the typical concerns of strategic management, namely strategic choice and competitive advantage. This approach actually deals with coordination within the firm, the organizational structure, the role of management, the distribution of decision-making rights, and innovation theory (Grant, 1996a).

However, the knowledge-based view is still not considered a theory of the firm: "There is insufficient consensus as to its precepts or purpose, let alone its analysis and predictions, for it to be recognized as a 'theory'" (Grant, 1996a, p. 110). More recently, the same author maintained this idea: "The emerging 'knowledge-based view of the firm' is not a theory of the firm in any formal sense. It is more a set of ideas about the existence and nature of the firm that emphasize the role of knowledge" (Grant, 2002, p. 133).

Tacit knowledge is interiorized and stored within individuals, but due to the cognitive limits of the human brain, each individual specializes in a specific set of knowledge; therefore, an increase in depth of knowledge will negatively impact on the knowledge range (Grant, 1996b). A firm needs a wide group of specific knowledge for its production process, which is usually organized through the combined specialized knowledge of several individuals. According to the knowledge-based view, the major role of a firm is the capacity to integrate this specific individual knowledge in order to form an organizational capability (Grant, 1996b). This same author defines organizational capability as a "firm's ability to perform repeatedly a productive task which relates either directly or indirectly to a firm's capacity for creating value through effecting the transformation of inputs into outputs" (Grant, 1996b, p. 377). Therefore, organizational capabilities are complex bundles of skills and accumulated knowledge, used by organizational processes to produce products and services (Day, 1994).

As a result, the vital foundation of competitive advantage is not the knowledge itself, but the way how knowledge is integrated; it is the firm's capability to effectively apply and organize this specialized individual knowledge rather than the existence of the specific set of knowledge *per se* that supports the basis for effecting competitive advantage (Alavi & Leidner, 2001). Each firm is unique, and similarly, each firm's stock of specialized knowledge and heritage is also unique. It is impossible to specify the organizational configuration inherent to knowledge integration that leads to a specific organizational capability; different firms can achieve similar organizational capabilities through differentiated knowledge integration arrangements (Grant, 1996b).

According to Grant (1996b), the characteristics of knowledge integration that contribute to the creation and sustenance of competitive advantage are: i) efficiency of integration; ii) scope of integration; and iii) flexibility of integration. The *efficiency of integration* is related to the efficiency of firms in accessing and using the specialist knowledge held by individual firm members. The *scope of integration* is related to the span of knowledge integrated within organizational capability. The higher the breadth of this knowledge the higher will be the potential for establishing and sustaining competitive advantages. Finally, the *flexibility of integration* focuses on the degree an organizational capability can access additional knowledge and reconfigure existing knowledge. While an efficient integration of a wide scope of specialist knowledge is important for defining a firm's organizational capability and, consequently, competitive advantage, the sustainability of competitive advantage depends on their continuous renewal through the development of new capabilities and innovation. A competitive environment corrodes the firm's competitive advantages through imitative and innovative competitors, and is the reason why it is necessary to continuously renew

competitive advantage, namely through the inclusion of supplementary types of knowledge – and hence extending existing organizational capabilities – and reconfiguring the actual variety of knowledge in new types of organizational capability (Grant, 1996b).

Grant (1996a) presents four mechanisms to enhance integrations of specialized knowledge and, create organizational capability: i) rules and directives; ii) sequencing; iii) organizational routines; and iv) group problem-solving and decision-making. *Rules and directives* refer to a set of procedures, plans, rules, standards, and instructions that regulate interactions between individuals by helping to convert tacit knowledge into explicit knowledge that is readily comprehensible and, therefore, helps facilitate communication within the firm. The second mechanism – *sequencing* – is possibly a straightforward way to integrate individuals' specialist knowledge while reducing communication. The production activities or tasks are organized in a time-patterned sequence, where each specialist knowledge input takes place independently in sequential time slots (Grant, 1997).

The third mechanism – *organizational routines* – are a set of simple sequences, or complex patterns of behaviors and interactions, coordinated between individuals when there is a lack of rules, directives, and even verbal communication, and which are activated by a small number of signals (Alavi & Leidner, 2001; Grant, 1997). This mechanism also enables individuals to combine their specialized knowledge without communicating what they know with others (Alavi & Leidner, 2001).

The last mechanism – *group problem-solving and decision-making* – is different from the other three mechanisms, since this one assumes that some tasks need more intensive forms of integration and communication, namely more complex tasks. Actually, this mechanism is more adequate for problem-solving situations, where task complexity and ambiguity restrict the prior specification of directives or routines (Alavi & Leidner, 2001; Grant, 1997).

The efficiency and intensity of using these mechanisms for integrating specialized knowledge characterize different knowledge bases and capabilities. According to the knowledge-based view, different knowledge bases and knowledge-based resources justify potential differences in firm performance (DeCarolis & Deeds, 1999; McGrath, Tsai, Venkataraman, & MacMillan, 1996; Wiklund & Shepherd, 2003). In fact, knowledge (as well as the capability to learn and assimilate new knowledge) has an impact on international sales, growth, and performance (Autio et al., 2000).

Since the earliest research into international entrepreneurship developed by Oviatt, McDougall and their colleagues (McDougall et al., 1994b; Oviatt & McDougall, 1994, 1997), knowledge (specially the tacit knowledge) has been highlighted as a unique resource that is

difficult to imitate and reproduce. If INVs limit the use of knowledge by outsiders, this knowledge may contribute to the creation of value in several countries (Oviatt & McDougall, 1994). Therefore, knowledge-based resources managed by SMEs – particularly INVs – may influence their internationalization, regarding sales and growth rates (Westhead, Wright, & Ucbasaran, 2001a). Even so, it was the resource-based view and not the knowledge-based view that theoretically supported these initial developments (e.g. McDougall et al., 1994b; Oviatt & McDougall, 1994, 1997). In recent years this has changed, and both approaches have been presented as complementary (Rialp et al., 2005a). Compared with the resource-based view, the knowledge-based view additionally considers that firm knowledge evolves over time and, therefore, organizational capabilities develop continuously. It is this very evolution that supports sustained competitive advantage and superior performance over time (McEvily & Chakravarthy, 2002; Teece et al., 1997). In line with this, some authors argue that the resource-based view can only partially explain the INV phenomenon (Crick & Spence, 2005; Gassmann & Keupp, 2007; Rialp et al., 2005a).

As mentioned above, INVs are firms that from or near-after their foundation pursue superior international performance through the use of knowledge-based resources, and the consequent sale of products or services in international markets (Gassmann & Keupp, 2007; Wiklund & Shepherd, 2003). The distinctive knowledge base of INVs enables those firms to leverage their organizational capabilities (Chetty & Wilson, 2003; Knight & Cavusgil, 2004). Actually, these firms accumulate and transfer knowledge more quickly than other firms (Knudsen, Madsen, Rasmussen, & Servais, 2002; Madsen & Servais, 1997).

Given the liabilities of newness and smallness, the most critical resources of INVs are related to knowledge (Chetty & Wilson, 2003). Therefore, several authors (e.g. Chetty & Wilson, 2003; Gassmann & Keupp, 2007; Prashantham, 2005) argue that the competitive advantages of INVs are justified by this particular resource – knowledge. Particularly relevant is the fact that, based on their previous experience, entrepreneurs have been explicitly identified as a vital source of a firm's knowledge resource in IE literature (McDougall et al., 1994b; Oviatt & McDougall, 1997; Reuber & Fischer, 1997; Yli-Renko, Autio, & Tontti, 2002).

The majority of the research in this area looks upon the competitive repercussions of the knowledge created by the firm, namely market knowledge and technological knowledge (McEvily & Chakravarthy, 2002; Wiklund & Shepherd, 2003), and international or foreign market knowledge (Autio et al., 2000; Fernhaber, McDougall-Covin, & Shepherd, 2009; Westhead et al., 2001a; Yli-Renko et al., 2002). For instance, Westhead et al. (2001a) conclude that SME managers' international experience is positively related to exporting, stressing the importance of prior knowledge in order to identify international business

opportunities. On the other hand, the 'experimental' knowledge that SMEs develop in their first foreign markets can be replicated across other foreign markets (Blomstermo, Eriksson, & Sharma, 2004).

In entrepreneurial firms knowledge-based resources play an essential role, since they can increase their ability to discover and exploit new opportunities (Galunic & Rodan, 1998; Wiklund & Shepherd, 2003) – namely, in international markets (Autio et al., 2000; Prashantham, 2005) – but also to achieve higher performances (Autio et al., 2000; McGrath et al., 1996; Wiklund & Shepherd, 2003). Similarly, INVs usually operate in environments where resources related to knowledge have more impact on a firm's performance than other resources such as the property-based ones (Miller & Shamsie, 1996).

In the previously mentioned study by Rialp et al. (2005a), who developed an exploratory resource-based model of early internationalizing firms, several intangible resources of the firm are highlighted as critical for the development of complex international capabilities such as specialized knowledge management and learning processes, exploitation of core-competencies, internationally-oriented routines, or their absorptive capacity. Therefore, although this is a resource-based model, the main focus is on intangible resources, namely knowledge-based resources.

Even so, several authors (Fletcher, 2008; Gassmann & Keupp, 2007; Rialp et al., 2005a) argue that the knowledge-based view alone cannot explain all the determinants, paths, and actions related to INVs' internationalization. Fletcher (2008), for instance, supports this shortage, arguing that the transfer of knowledge may justify some cases of international involvement, but it cannot explain all aspects or influences of the internationalization process. Similarly, Gassmann and Keupp (2007), in order to explain the early and rapid internationalization of SMEs in the biotechnology industry through the knowledge-based view, conclude that their study "show[s] that the knowledge-based view alone cannot explain the complete range of findings" (Gassmann & Keupp, 2007, p. 362).

The literature that empirically tests the relevance of knowledge-based resources on international involvement or the performance of INVs is still scarce. There are few studies that analyze the degree of importance of knowledge-based resources (such as market knowledge, technological knowledge, or international knowledge) on the internationalization of new ventures (Fernhaber et al., 2009) or the international performance of INVs (Gassmann & Keupp, 2007; Liesch & Knight, 1999; Wiklund & Shepherd, 2003).

## 2.3.3 Network Theory

A fundamental component of the process of internationalization is related to the networks of relationships between a firm and their counterparts in domestic or foreign markets such as distributors, foreign agents, customers, suppliers, joint venture partners, and governments. "In fact, much of what is involved in international operations could be characterized as networking activity" (Benito & Welch, 1994, p. 12). These international relationships should be established, maintained, and developed or intensified in order to promote the internationalization process (Welch & Welch, 1996).

In this research the term 'network' is a metaphor used to represent a set of connected actors (Coviello, 2006; Coviello & Cox, 2006). Some actors or counterparts, also called nodes, are connected by links (also called ties) with other actors (Borgatti & Foster, 2003). These actors may be both individuals and organizations, and the relationships that tie them may be associated with business or personal life (Câmara, 2006; Coviello & Cox, 2006; Ellis, 2011; Simões & Câmara, 2006). Regarding the level of analysis, these relationships may occur between individuals (social networks) or organizations (business networks), or between organizations and individuals (Coviello & Cox, 2006; Ellis, 2011), and may include both economic and non-economic relationships (Johanson & Mattsson, 1987). More specifically, networks can be defined as a set of two or more connected actors (business or social relationships), in which exchange relationships exist (Axelsson & Easton, 1992).

According to the network approach, markets are organized as a system of social and industrial relationships involving different players such as customers, suppliers, competitors, service providers, and private or public support agencies (Axelsson & Easton, 1992). Therefore, the strategic actions of a firm are seldom limited to that firm, and the nature of relationships established with other firms or individuals in the market will influence future decisions, namely strategic decisions (Axelsson & Easton, 1992).

The importance of networks for achieving success, and superior performance has been emphasized by literature in different research fields, namely entrepreneurship (e.g. Autio, Yli-Renko, & Salonen, 1997; Larson, 1991), strategy (e.g. Gulati, Nohria, & Zaheer, 2000; Jarillo, 1988; Lee, Lee, & Pennings, 2001) and international business (e.g. Axelsson & Easton, 1992; Chetty & Holm, 2000; Ghoshal & Bartlett, 1990; Johanson & Mattsson, 1988a; Welch & Welch, 1996; Yiu, Lau, & Bruton, 2007; Zhou, Barnes, & Yuan, 2010).

Based on several works into social exchange (Cook & Emerson, 1978; Emerson, 1972) and the works of the IMP Project Group regarding business networks (Ford, 1980; Håkansson &

Group, 1982; Hallén, Johanson, & Seyed-Mohamed, 1991), the network approach (or interaction approach) was integrated in the international business field by Turnbull (1987), Johanson and Mattsson (1987; 1988a), and Axelsson and Easton (1992). The network approach to internationalization emerged as an alternative or complement (Coviello & Martin, 1999; Johanson & Vahlne, 1990, 2003) to the 'process theory of internationalization' or Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975).

Being one of the most commonly cited theories regarding firm internationalization, the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), presents firms' internationalization process as a gradual process of commitment to foreign markets. Firms start international operations in psychically close countries, using less risky entry modes (export). With the increasing of international experiential knowledge, the commitment to those markets enhances, through the application of more resources and more demanding modes of operation. This will lead firms to a gradual pattern of internationalization, whereby they gradually enter into more psychically distant foreign markets (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975). Hence, according to the original Uppsala model, internationalization is related to the internal organic growth of the firm. For the network model the firm's internationalization is based on a set of relationships with external organizations (Madsen & Servais, 1997), which can drive, assist, or restrain its international development (Coviello & Munro, 1997). Therefore, the sometimes erratic or strange internationalization patterns of a specific firm (as judged through the lens of the incremental Uppsala model) is justified by the set of opportunities and threats relevant to internationalization that appear in a firm's external environment (Benito & Welch, 1994; Coviello & Munro, 1997), or by the networks themselves (Johanson & Vahlne, 2003, 2006, 2009).

In order to study the internationalization process of a firm, it is necessary to understand the context in which it operates, namely its environment and relationships (Madsen & Servais, 1997). The work of Johansson and Mattson (1988a) is one of the most important regarding the relevance of networks for internationalization, specifically in the international business field. They developed a framework which links a firm's degree of internationalization with the degree of internationalization of their industrial network (or market). The success of internationalization which is derived from entering in a particular foreign market depends more on its relationships related to the market (domestic and international) than on the specific market and their particular characteristics. Additionally, a firm's direct relationship with other players, as well as its position within the network, are both relevant to its relationships within the industrial network (Johanson & Mattsson, 1988a).

According to this framework, as the firm progresses in their internationalization process, the number and strength of relationships between the firm's network counterparts increases (Johanson & Mattsson, 1988a). With internationalization, the firm generates and maintains relationships with other actors in foreign countries, using three different methods: i) establishing relationships with new actors in foreign countries that are new to the firm (*international extension*); ii) increasing the commitment to previously established foreign networks (*penetration*); and iii) integrating their position in different networks in several countries (*international integration*).

Similarly, with respect to the relevance of networks in the internationalization process, three main issues are critical (Axelsson & Johanson, 1992): i) orientating; ii) positioning; and iii) timing. Regarding *network orientating*, each actor from a network tries to understand where other actors stand in relation to each other. Since the relationships are invisible, a firm can only 'see' their own relationships with other actors, and sometimes relationships of these actors with third parties, although these relationships are more blurred. Therefore, to access and use networks, a firm cannot be just an observer; it must be an insider and establish relationships with some actors. Secondly, *network positioning* is a process in which actors develop their positions in the network. Hence, it is necessary to invest resources in relationships with other actors. Thirdly, *network timing* is related to the emergence of opportunities at irregular intervals. It is not possible to carefully plan the discovery of opportunities; it is a matter of taking a chance when opportunities arise. Therefore, network membership is of vital importance.

The relevance of networks for the internationalization process was incorporated in the Uppsala model, with Johanson and Vahlne (1990, 2003, 2006, 2009) assuming that the internationalization process is both intra-organizational, and inter-organizational. According to these authors, this is particularly relevant for the internationalization process of small high-tech firms, since founders/entrepreneurs' personal networks may play a critical role in defining the internationalization process (Johanson & Vahlne, 1990, 2003, 2006, 2009). Following this, the authors assumed that "every firm is part of an unbounded business network" (Johanson & Vahlne, 2003, p. 92), and applied the experiential-learning commitment mechanism to the network relationships itself. For them, internationalization is an outcome of network development, since firms focus mainly on the development of relationships, whereby psychical distance loses importance (Johanson & Vahlne, 2003). Afterwards, Johanson and Vahlne (2006, 2009) further elaborated the integration of networks in the Uppsala model by stressing the relevance of relationship commitment instead of

market commitment. This commitment is related to the development of common languages and routines that, together with learning, are vital to construct and discover opportunities.

There are many studies that highlight the importance of networks enabling the internationalization of firms, since it is through networks that firms can access more resources, knowledge, and activities (Chen, 2003; Coviello & Munro, 1995). In fact, there is a connection between the network theory and the resource-based view of the firm: while the resource-based view focuses on internal resources, network theory emphasizes resources obtained or accessed through external relationships (Coviello & Cox, 2006; Lee et al., 2001). When analyzing a network through the lens of the resource-based view, it is possible to classify networks as a resource in itself (Zahra, Matherne, & Carleton, 2003). Networks can be a rare resource, since the value and benefits that a firm can gain from a network are unique for each firm. If two firms are in the same network, the advantages that each one can take from the network depend on their positions in the network (Coviello & Cox, 2006). The uniqueness of a network is related to the inherent difficulty into replicating the set of relationships that a firm establishes within the network, since networks which evolve over time are socially complex (Barney, 1991; Gulati et al., 2000), and ambiguous with regards to their effect on competitive advantage (Coviello & Cox, 2006).

Networks are also important for the discovery of business opportunities (Aldrich & Zimmer, 1986; Lee et al., 2001; Singh, Hills, Hybels, & Lumpkin, 1999), namely opportunities for internationalization (Zhou, Wu, & Luo, 2007). Initially, the arguments supporting this idea showed the advantages of SMEs and multinationals belonging to the same network: SMEs rely on multinationals in their network for 'scaling up' and leveraging their network resources in order to accelerate the timing, and diminish the costs and risk, of their internationalization (Acs, Morck, Shaver, & Yeung, 1997; Dana, 2001). When entrepreneurial firms are related to larger partners, this may enable the products or services of smaller firms to achieve global markets more rapidly, and/or to a lesser cost than through organic expansion (Acs et al., 1997). Multinationals may act as facilitators, and SMEs follow multinationals' international movements by identifying international business opportunities, which can be also presented by them (Chen & Chen, 1998; Dana, 2001).

In the field of IE, networking has been a relevant theoretical groundwork for supporting the development of INVs (Andersson & Wictor, 2003; Autio, 2005; Coviello, 2006; Coviello & Cox, 2006; Coviello & Munro, 1995, 1997; Oviatt & McDougall, 1994, 2005b; Sharma & Blomstermo, 2003). One of the common characteristics of INVs is their involvement in networks, which facilitates their rapid internationalization (Coviello & Munro, 1995; Oviatt & McDougall, 1994). Given the increasing importance of global networks and alliances in world

economy, the involvement of new ventures in these networks is referred to as one of the most common factors in justifying the growing number of INVs (Knight & Cavusgil, 1996; Madsen & Servais, 1997; Rialp et al., 2005a).

For instance, through the analysis of a set of entrepreneurial firms in software industry from Ireland, Finland, and Norway, Bell (1995) concludes that the network approach is a better explanation of the internationalization process of these firms than the Uppsala model. Therefore, the internationalization process of these firms is influenced more by a domestic and foreign client following than by the psychical proximity of foreign markets. This is in line with the conclusions of McDougall et al. (1994b) that networks help the founders of INVs to identify international business opportunities, and influence the country selection more than the psychical distance. In these studies, INVs' network relationships act as the major originators of the internationalization process, since these firms are following their networks to foreign markets. The same idea is voiced in the recent works by Johanson and Valhne (2003, 2006, 2009). This reflects one important contention of the network model (Johanson & Mattsson, 1988a) that network relationships act as bridges to foreign markets.

Since INVs, like SMEs, are usually resource-constrained, networks may play a relevant role in complementing their internal resources base, and therefore in facilitating rapid internationalization (Chetty & Wilson, 2003; Dominguinhos, 2007; Jolly et al., 1992; Knight & Cavusgil, 1996; McDougall et al., 1994b; Mort & Weerawardena, 2006; Oviatt & McDougall, 1994). Oviatt and McDougall argue that INVs typically use "alternative governance structures" (1994, p. 54) such as licensing, franchising, or networking, as a way to access resources without having the ownership rights over them. Using the resource-based view of the firm as a framework for analysis, networks can act as a source of new resources that may be accessed, acquired, or internalized by the firm, extending their resource base and, therefore, contributing to their competitive advantage (Alvarez & Busenitz, 2001; Barney, 1991; Oviatt & McDougall, 1994). Additionally, due to the liabilities of INVs' smallness and newness (Knight et al., 2004), and their difficulty to explore economies of scale, these firms may not have the means to acquire all necessary resources (Coviello & Cox, 2006). Even so, the network may be valuable for the facilitating of access to partner resources – resources that INVs do not necessarily need to own. According to the resource-based view, firms do not need to own a resource to gain access to it (Barney, 1991). Through networks, INVs gain access to assets, resources, or knowledge that they did not own, nor are able to develop themselves, from the partners (Oviatt & McDougall, 1994). Those assets allow INVs to compete above their means, and in this way they are able to obtain better results in comparison to the resources they own (Coviello & Cox, 2006; Jarillo, 1989).

The work of McDougall el al. (1994b) concludes that INVs do not usually choose cost reduction as their main objective, and thus they frequently rely on strategic alliances, as well as on business and social networks to enter into foreign markets. They specifically highlight the relevance of the entrepreneur, or entrepreneurial team, and their social networks for the facilitation of the internationalization process of new ventures, namely through market selection (McDougall et al., 1994b). So, the network approach should be applied to both the entrepreneurs/founders, but also to the new venture, in order to support with robustness the internationalization of INVs (Crick & Jones, 2000; Rialp et al., 2005a). Some of the ties of the entrepreneur, or entrepreneurial team, exist prior to new venture creation and internationalization (Coviello, 2006; Crick & Jones, 2000; Simões, 2012), and may be activated after foundation in order to aid foreign market selection and identify international business opportunities (Komulainen, Mainela, & Tahtinen, 2006; Simões, 2012). Therefore, when investigating new ventures' internationalization, the network theory could be used to focus on both social and business networks (Ellis, 2011; Greve & Salaff, 2003).

Furthermore, networks play a relevant role facilitating the internationalization of new ventures, since they enable these firms to identify new business opportunities in international markets, and help to build market knowledge (Birley, 1985; Chetty & Holm, 2000; Coviello & Munro, 1995; Johanson & Vahlne, 2003, 2006, 2009; Madsen & Servais, 1997; McDougall et al., 1994b; Zhou et al., 2007). The founders of INVs are more concerned with the opportunities regarding the combination of resources from different markets, and therefore international entrepreneurs usually avoid domestic path dependence. From their inception, INVs coordinate resources located in different markets, manage multicultural workforces and aim to sell to customers in different geographic places (McDougall et al., 1994b).

Other authors (e.g. Sharma & Blomstermo, 2003; Yli-Renko et al., 2002) also highlight the relevance of networks ties to facilitate access to foreign market knowledge. As Sharma and Blomstermo (2003) show, INVs initially use weak network ties with the objective of accessing new information about foreign markets. This happens because INVs are young, the relationships are new, and these firms do not have the resources to invest in the relationship. Additionally, networks have also been identified as supplying INVs with knowledge and mechanisms related to foreign market selection, entry and development (Coviello & Munro, 1995; Evangelista, 2005; Zain & Ng, 2006), personal recruitment (Evangelista, 2005), or the financial resources needed to support the development of new products (Coviello & Munro, 1997; Dominguinhos, 2007; Simões, 2012).

Some authors have emphasized the dynamic feature of networks: INVs will develop new relationships in existing networks through the internationalization process, and also build new

networks rather than only leveraging existing ones (Coviello & Munro, 1997; Dominguinhos, 2007; Loane & Bell, 2006; Welch & Welch, 1996). INVs may use initial relationships in domestic markets in order to access new counterparts in foreign markets, and therefore the activation and development of new networks may act as a strategy to support internationalization (Loane & Bell, 2006; Sharma & Blomstermo, 2003).

In conclusion, networks help INVs and their founders to access to resources and learn new skills (Chetty & Wilson, 2003; Jolly et al., 1992; Knight & Cavusgil, 1996; McDougall et al., 1994b; Mort & Weerawardena, 2006; Oviatt & McDougall, 1994), improve their strategic positions and gain credibility (Oviatt & McDougall, 2005b), identify business opportunities (Birley, 1985; Chetty & Holm, 2000; Coviello & Munro, 1995; Dominguinhos, 2007; Madsen & Servais, 1997; McDougall et al., 1994b; Zhou et al., 2007), access knowledge (Sharma & Blomstermo, 2003; Yli-Renko et al., 2002), gain legitimacy, or control transaction costs (Belso-Martínez, 2006; Butler & Hansen, 1991).

Nevertheless, Johanson and Vahlne (2003, 2006, 2009), when presenting their network model, explicitly call for IE researchers to combine network theory with the existing theories that support firm internationalization, as well as the internationalization of new ventures. Meanwhile, Zahra and George (2002a) call for research that explores the relationship between networks and international entrepreneurship, namely analyzing the influence of this link on the speed, scope and degree of internationalization. Several other researchers call for deeper research regarding the role of networks in the context of INVs (Andersson & Wictor, 2003; Autio, 2005; Bell, 1995; Coviello & Jones, 2004; Coviello & Munro, 1995, 1997; Oviatt & McDougall, 1994; Sharma & Blomstermo, 2003). More recently, there has been some claim for research that uses diverse theoretical frameworks, and that presents hypotheses grounded in the network model and other theories in particular (Keupp & Gassmann, 2009). Taking the relevance of the arguments presented above, it was decided to incorporate this theoretical foundation as part of the theoretical support for understanding the INVs' internationalization process.

## 2.4 The Phenomenon of Interest: INVs' Actions

The main focus of this study is the consideration of management decisions or actions in INV's internationalization process. Regarding the development of an integrative framework – including antecedents and outcomes of the internationalization process of INVs – this study follows the claims for deeper understanding of the role of managerial decisions or actions in this process (Keupp & Gassmann, 2009; Rialp et al., 2005a). Hence, as pointed out above, the main objective is to explore the 'why' question regarding the study of this phenomenon.

Taking into consideration the review of extant international business, entrepreneurship, and IE literature, as well as the theoretical foundations here considered, it was decided to analyze the four main managerial actions that have been as critical for the INVs' internationalization process: international social networks; entrepreneurial alertness; absorptive capacity; and competitive generic strategies. Each one of these actions will be briefly presented in the following sections.

### 2.4.1 International Social Networks

As already advocated above, whilst presenting the network theory, there is wide consensus in IE literature that networks play a role as facilitators of rapid internationalization, since networks may provide access to critical external resources, capabilities, information, knowledge and opportunities, and therefore contribute to an increased internationalization pace (e.g. Andersson & Wictor, 2003; Crick & Spence, 2005; Freeman, Edwards, & Schroder, 2006; Madsen & Servais, 1997; Oviatt & McDougall, 1994; Sharma & Blomstermo, 2003; Tang, 2009). Networks can also affect entry mode decision and market selection (Coviello, 2006; Coviello & Munro, 1997). The relevance of networks for SMEs' internationalization and their international growth achievements has been noted by several researchers (e.g. Coviello & Munro, 1997; Hadley & Wilson, 2003; Lu & Beamish, 2001).

Although network connections are usually used as an exploratory factor of early or accelerated internationalization processes (Belso-Martínez, 2006; Yiu et al., 2007; Zucchella et al., 2007), there is evidence that, at the organizational level, networks act both as a factor related to managerial decisions and competitive strategies, and as an antecedent of the new venture's internationalization process (Freeman et al., 2006; Zhou et al., 2010). Therefore, the use of networks can be envisaged as helping young companies to cross national borders and to explore its knowledge, capabilities, resources, or technology (Oviatt & McDougall, 2005b), in line with network theory (Axelsson & Johanson, 1992; Chen, 2003; Coviello & Munro, 1995).

Even so, the majority of research concerning network perspective has analyzed inter-firm business networks, and research into social networks in the IE field is still very recent (e.g. Crick & Spence, 2005; Ellis & Pecotich, 2001; Ellis, 2011; Komulainen et al., 2006; Kontinen & Ojala, 2011; Loane & Bell, 2006; Sharma & Blomstermo, 2003). It is relevant to make a distinction between social networks and business networks (Ellis, 2011). These two types of networks perform at different level of analysis: while a business network can be described as a set of relationships linking different firms (Chetty & Holm, 2000; Johanson & Mattsson, 1988a, 1988b), a social network is a set of relationships that connect different persons (Burt, 2000; Ellis, 2011).

Based on the social exchange theory, Björkman and Kock (1995) described the social network as a network of persons who are connected through interactions such as social, informational, and business exchanges. They argue that social networks are mainly related to 'social relationships' or social exchanges, but may also have an impact on formal business relationships. Therefore, the notion of the social network exceeds the private life relationships with friends, relatives, and former colleagues, since these networks may also include personal relationships with business professionals across the value chain and government or institutional officials (Björkman & Kock, 1995). In the international business and entrepreneurship milieus, many different terms have been used to describe the social networks: social ties (e.g. Ellis, 2000; Ellis, 2011); social relationships (e.g. Agndal & Chetty, 2007; Björkman & Kock, 1995); social networks (e.g. Câmara, 2006; Greve & Salaff, 2003; Kiss & Danis, 2010; Komulainen et al., 2006; Simões & Câmara, 2006) interpersonal relationships (e.g. Harris & Wheeler, 2005); personal contacts (e.g. Harris & Wheeler, 2005; Wiedersheim-Paul, Olson, & Welch, 1978); informal network relationships (e.g. Coviello & Munro, 1997); and relational networks (e.g. Chen & Chen, 1998). Similar to the concept of social networks, international social networks can be defined as personal relationships between persons from private, professional, or business life, which can act as facilitators of the internationalization process (Belso-Martínez, 2006; Ellis, 2011). These persons may be located both in foreign countries and in domestic market.

Recently, several researchers have identified how social networks form the basis for subsequent business networks in foreign markets (Chen & Chen, 1998; Chen, 2003). These social relationships may act as predecessor relationships that may latter lead to the formation of exporting relationships (Ellis, 2000; Ellis & Pecotich, 2001). In the case of INVs, social networks may make their internationalization easier and faster (Gassmann & Keupp, 2007; Holmlund & Kock, 1998; Kiss & Danis, 2008, 2010), since they may act as a substitute for resources which INVs and/or their founders cannot access otherwise (Chetty & Agndal,

2007; Chetty & Campbell-Hunt, 2003; Kogut, 2000). This is in line with Zahra's (2005) notion in his article dedicated to Oviatt and McDougall's (1994) JIBS article, which states that social and market learning are key sources of new and rich knowledge, and enable INVs to achieve success in international markets. Social networks play an important role as a privileged conduit to access information and knowledge regarding both foreign business opportunities and experiential learning about foreign business operations, as well as to identify specific foreign market opportunities and contacts (Ellis, 2011; Komulainen et al., 2006; Zhou et al., 2007). Therefore, access to these networks facilitates exchanges and future market transactions with partners (such as distributors, wholesalers, or retailers) or customers abroad (Ellis & Pecotich, 2001; Ellis, 2011; Harris & Wheeler, 2005; Zhou et al., 2007), and reduce the uncertainty and risk of international activities (Liesch, Welch, Welch, McGaughey, Petersen, & Lamb, 2002). Sometimes, INVs are founded by entrepreneurs who have prior international business experience, and therefore have an international social network of contacts, namely with potential new venture customers (Crick & Jones, 2000; McDougall et al., 1994b; Sasi & Arenius, 2008). The higher the number of founders, the higher the initial INVs' social capital, and therefore the larger the social networks they can access (Sasi & Arenius, 2008). However, Sasi and Arenius (2008) found that if founders share a common history (for instance, student or previous work colleagues), they tend to create and retain similar and overlapping social network ties.

Empirical findings have confirmed the importance of social networks in facilitating the identification of exchange partners abroad (Ellis, 2000; Komulainen et al., 2006; Simões & Câmara, 2006) and in identifying new foreign market opportunities (Ellis & Pecotich, 2001; Ellis, 2011; Komulainen et al., 2006; Simões & Câmara, 2006); to influence the export initiation (Ellis & Pecotich, 2001); to help develop international vision and managerial openness (Chen, 2003; Yeoh, 2004); to provide tacit knowledge regarding international business practices (Haahti, Madupu, Yavas, & Babakus, 2005; Sharma & Blomstermo, 2003); to better access market knowledge (Prashantham, 2005); to help mitigate the liability of foreignness through business relationship learning (Johanson & Vahlne, 2003; Yli-Renko et al., 2002); to reduce uncertainty and risk associated with foreign market entry (Sharma & Blomstermo, 2003; Zain & Ng, 2006). Loane and Bell (2006), in a multi-country study, analyzed the relevance of networks for the rapid internationalization of new ventures, concluding that social and personal networks are relevant to collect knowledge and resources, as well as to reaching some key decision-makers in target firms. They also conclude that INVs sometimes have to build these social networks. Therefore, social networks may act as a strategy to support internationalization (Loane & Bell, 2006).

Regarding the performance impact of social networks, there is a large amount of empirical literature that supports this link (Ellis, 2011; Johanson & Vahlne, 2003, 2006; Jones & Coviello, 2005; Peng & Luo, 2000; Yeoh, 2004; Zhou et al., 2007). For instance, Peng and Luo (2000) concluded that relationships between top managers with both top executives from other firms and government officials enhance business performance on market share and return on assets. Ellis (2011) found that the use of social ties in the identification of international opportunities lead to exchanges that account for higher sales volume than other international opportunities identified through other means (such as trade fairs or advertising). Yeoh (2004) also concluded that INVs' social learning, i.e. knowledge and skills learned with personal sources of information and social contacts, had a positive effect on export performance. Zhou, Wu and Luo (2007), in their study of Chinese born-globals, found that social networks mediate the relationship between inward and outward internationalization and firm performance. This mediation role is related to three information benefits of social networks: knowledge of foreign market opportunities; advice and experiential learning; and referral trust.

Nevertheless, in a recent work, Ellis (2011) found that social ties also present some constraints affecting firm internationalization. According to his empirical conclusions, the use of social ties as a mean for the identification of international opportunities is constrained by geographic, psychical, and linguistic distance, relative to opportunities identified through other means.

Several authors have identified the need for further research regarding the role of networks in new ventures' internationalization (e.g. Andersson & Wictor, 2003; Autio, 2005; Keupp & Gassmann, 2009; Rialp et al., 2005a; Sharma & Blomstermo, 2003), particularly the role of social networks (Ellis, 2011; Jones et al., 2011). Additionally, this subject is still understudied regarding the analysis of different types of social networks, the examination of social networks alongside other entrepreneurial actions in a holistic framework, and their impact in international performance. These aspects will be analyzed in this dissertation.

## 2.4.2 Entrepreneurial Alertness

The emergence of new ideas, and the related identification of opportunities, has been recognized as one of the most important issues in the entrepreneurship field (Baron, 2006; Shane, 2000; Shane & Venkataraman, 2000; Shepherd & DeTienne, 2005; Short, Ketchen, Shook, & Ireland, 2010). As Gaglio and Katz state: "… understanding the opportunity identification process represents one of the core intellectual questions for the domain of entrepreneurship" (2001, p. 95).

Several suggestions have been advanced regarding factors that explain opportunity recognition or identification: prior knowledge or experiences (Shane, 2000; Shepherd & DeTienne, 2005; Venkataraman, 1997); environmental changes (Gaglio & Katz, 2001); information analysis (Kirzner, 1973); personal awareness, skills, and insights (Kaish & Gilad, 1991; Kirzner, 1999); potential financial reward (Kuratko, Hornsby, & Naffziger, 1997; Shepherd & DeTienne, 2005; Venkataraman, 1997); social networks (Birley, 1985; Singh et al., 1999); and entrepreneurial alertness (Busenitz, 1996; Gaglio & Katz, 2001; Kirzner, 1973; Tang, Kacmar, & Busenitz, 2012).

The concept of 'entrepreneurial alertness' was developed by Kirzner (1973, 1979, 1982). According to this author, entrepreneurship involves the discovery of opportunities, and entrepreneurs have the capacity to spot underpriced products, or resources necessary to exploit disequilibrium profit opportunities, as the economy moves in the direction of equilibrium. Entrepreneurs are opportunity-identifiers, and are more alert to new opportunities and use this information differently from other people. Thus, entrepreneurial alertness is defined as "the ability to notice without search opportunities that have hitherto been overlooked" (Kirzner, 1979, p. 48). Individuals who are more alert are characterized as having an 'antenna' that allows the recognition of gaps in the market that others do not identify (Kirzner, 1973, 1979).

On the other hand, entrepreneurial alertness and opportunity identification might be understood as a unique resource of the entrepreneur, entrepreneurial team, top management team, or even the firm itself. As a result, this action may support the sustained competitive advantage of the firm as based in the resource-based view (Alvarez & Busenitz, 2001). Based in the knowledge-based view, entrepreneurial alertness may be classified as an intangible resource, or a knowledge-based resource, which is vital for providing sustained competitive advantage, since it is difficult to imitate and transfer (Grant, 1996a; McEvily & Chakravarthy, 2002). This capability of the INVs (or entrepreneurs/entrepreneurial teams) to recognize market opportunities results from the concrete application and organization of specialized knowledge (Alavi & Leidner, 2001).

Recent research developments present arguments in favor of analyzing alertness engagement as a proactive attitude based on several cognitive capacities and processes such as prior experiences and knowledge, pattern recognition, skills for processing information, and social interactions (Ardichvili, Cardozo, & Ray, 2003; Baron, 2006; Gaglio & Katz, 2001; Shane, 2000, 2003). McMullen and Sheperd (2006) argue that entrepreneurship involves action. According to these authors, the concept of entrepreneurial alertness originally developed by Kirzner (1973) "is what happens when the market presents a

profitable situation that is successfully exploited by an individual [or company] who 'fits' the necessary profile" (McMullen & Shepherd, 2006, p. 144). They do not agree with the later works of Kirzner (e.g. 1999; 1982), where entrepreneurial alertness is presented as a psychological characteristic that is common to all successful entrepreneurs. This could lead to misinterpretations, since entrepreneurial alertness seems only a judgmental concept separable from market context. Thus, alertness is not entrepreneurial unless it engages both judgment and a movement to action (McMullen & Shepherd, 2006).

Based on this idea of entrepreneurial alertness, Tang et al. (2012) argue that this concept has three complementary dimensions: i) *alert scanning and search* for new information, ii) *alert association and connection* of disparate information, and iii) *alert evaluation and judgment* of information in order to confirm whether new information represents a new opportunity.

The first dimension – *alert scanning and search* – is related to the constant scanning of the environment and the search for new ideas, information, changes, and shifts ignored by others. According to this dimension, "alertness will exhibit itself in a continuous 'search' for information, through broad and undirected scanning that will take place in unconventional times and places, as opposed to a directed, rational search, which takes place in appropriate times […] and expected places […] where managerial search is more likely to occur" (Kaish & Gilad, 1991, p. 49). The scanning and search dimension is the basis of the cognitive process, whereby entrepreneurs accumulate knowledge, information, and experiences about specific domains. This process supports the development of cognitive frameworks, schemas, or mental models to help entrepreneurs to 'connect the dots' when facing a problem or opportunity (Alvarez & Busenitz, 2001; Baron, 2006; Gaglio & Katz, 2001).

The second dimension – related to *alert association and connection* – refers to linking different pieces of information together, and assembling them into new logic alternatives. This dimension reflects the later works of Kirzner (1999), in which creativity takes a relevant role. Beyond the identification of new information the entrepreneur (or entrepreneurial team) must use hints at new information to identify new business opportunities (Baron, 2006). The alert association and connection dimension is based on cognitive schemas, in which entrepreneur uses the stored information and knowledge to make logic extensions, and find unique solutions or unprecedented connections (Baron, 2006; Gaglio & Katz, 2001). Tang et al. (2012) suggest that after connecting the dots, entrepreneurs may need to scan and search the environment again in a recursive manner in order to clarify the global picture, or to investigate the usefulness of the information generated by the recent connections.

Finally, the *alert evaluation and judgment* dimension is related to analyzing new information, changes, or shifts, and deciding if they would return in a business opportunity with profit potentials. According to this dimension, newly-generated information will be evaluated by entrepreneurs (or entrepreneurial firm) to assess whether it fits into the existing cognitive frameworks for business opportunities (Baron, 2006). Therefore, entrepreneurs evaluate the new information, and make an assessment as to whether it has any business opportunity potential. After an evaluation of this new information, entrepreneurs may require additional insights through the search for new, related alternatives, as stated by the procedure referred to in the second dimension(Tang et al., 2012).

The model of entrepreneurial alertness is represented in Figure 2.1. The three dimensions of entrepreneurial alertness are presented as sequential phases, but with feedback flows from the second and third dimension to the alert scanning and search dimension (as presented earlier). This figure also illustrates how the entrepreneurial alertness process is influenced by several potential antecedents (e.g. prior knowledge or experiences) and may have an impact on several potential outcomes (e.g. venture creation and performance).

## Figure 2.1: Entrepreneurial Alertness Process
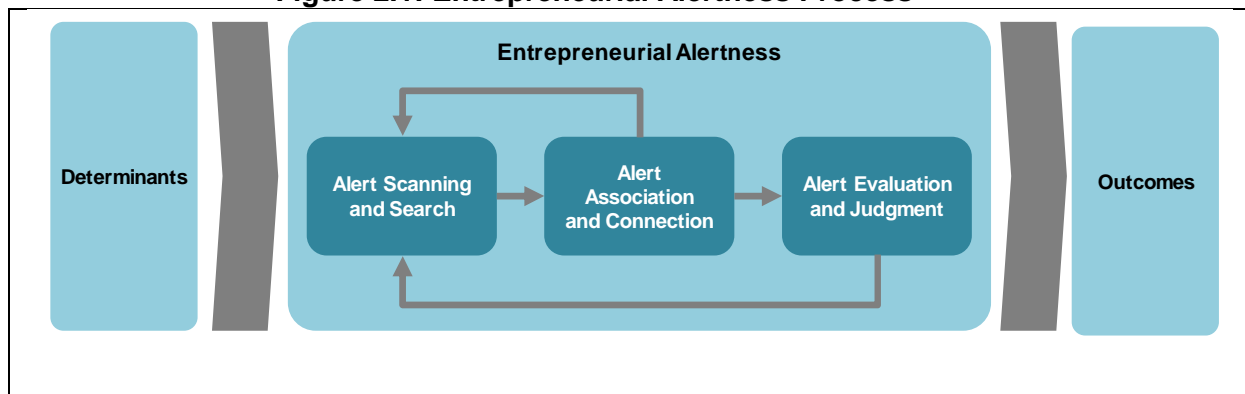


Source: Adapted from Tang et al., 2012.

The gap in the IE field concerning the study of opportunity recognition was already identified by several authors who performed systematic literature reviews of this field (Cumming, Sapienza, Siegel, & Wright, 2009; Jones et al., 2011; Keupp & Gassmann, 2009). These authors highlight how, with opportunity recognition being a process in itself, the analysis of its relationship with a firm's network, internationalization patterns, types of ventures, the development of knowledge, and capabilities for international entrepreneurship have a rich potential of study (Jones et al., 2011). Additionally, a recent article which develops and validates a new measure of entrepreneurial alertness identifies the necessity of applying the role of entrepreneurial alertness in IE field of research (Tang et al., 2012). Therefore, this concept will be analyzed in this dissertation, included in a holistic framework as a managerial

action that helps to understand why some antecedents impact on INVs' international performance.

## 2.4.3 Absorptive Capacity

Cohen and Levinthal define absorptive capacity as the firm's ability "to recognize the value of new, external information, assimilate it, and apply it to commercial ends" (1990, p. 128). The external information or knowledge is obtained from external sources, such as suppliers or customers in foreign markets, and the firm then converts it into innovative products and expands competitive advantage (Zahra & George, 2002b). Hence, absorptive capacity is known as an organizational mechanism for integrating external and internal sources of knowledge and information (Cohen & Levinthal, 1990; Zahra & George, 2002b). The purpose of this essential learning ability is to identify or distinguish knowledge or information from outside the organization that may be useful for the firm, and then internalize and adapt that information and knowledge in order to respond to their specific requirements and exploit it for commercial ends (Cohen & Levinthal, 1990; Zahra & George, 2002b). The importance of absorptive capacity to help firms to obtain sustained competitive advantage may be supported by both resource-based theory (Alvarez & Busenitz, 2001) and the knowledge-based view (Grant, 1996a; McEvily & Chakravarthy, 2002).

This ability is the function of the prior related knowledge possessed by the firm (Cohen & Levinthal, 1990; Lane, Koka, & Pathak, 2006; Zahra & George, 2002b), and is developed cumulatively through a long process of knowledge accumulation. In order to assimilate and use new knowledge, a firm needs prior related knowledge. This prior knowledge can include basic skills or shared language, or the most recent scientific and technological developments in a given field of research (Cohen & Levinthal, 1990). Firms that possess a good base of knowledge in a particular field typically have a high absorptive capacity, and will be capable to evaluate and act on new information, knowledge, or ideas that are implemented in this field of knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002b). As stated by Lichtenthaler, firms "need some knowledge overlap with an external knowledge source to successfully absorb new knowledge" (2009, p. 823). Nevertheless, this overlap must not be very strong, as the chance of gaining new insights will be lower.

Although Cohen and Levinthal (1989, 1990) introduced the absorptive capacity process with three steps (identification, assimilation, and exploitation), in the last few years this process has been reconceptualized by several scholars (Flatten, Engelen, Zahra, & Brettel, 2011a; Flatten, Greve, & Brettel, 2011b; Jiménez-Barrionuevo, García-Morales, & Molina, 2011; Lane et al., 2006; Zahra & George, 2002b), and which now include four dimensions or steps:

*acquisition*; *assimilation*; *transformation*; and *exploitation*. These dimensions were aggregated by Zahra and George (2002b) into two parts: potential absorptive capacity (which includes the acquisition and assimilation steps); and realized absorptive capacity (which includes the transformation and exploitation steps).

The first step of the absorptive capacity process – *acquisition* – relates to the firm's ability to identify and obtain new information from external sources, such as suppliers or customers, which are relevant to the firm's operations. *Assimilation* refers to a firm's ability to develop routines that are useful in analyzing, discussing, interpreting, and understanding this newly acquired information (Cohen & Levinthal, 1990). The third step – *transformation* – pertains to the combination of the existing knowledge with the newly acquired and assimilated knowledge, as well as the conversion and internalization of knowledge (Zahra & George, 2002b). The last step – *exploitation* – involves the application of knowledge for commercial ends. This capability is based on existing routines, competencies, and technologies that incorporate the new knowledge with the existing knowledge to create something original (Cohen & Levinthal, 1990).

Also relevant to the explanation of the absorptive capacity is the close relationship between the organizational and the individual levels of analysis: "An organization's absorptive capacity will depend on the absorptive capacities of its individual members" (Cohen & Levinthal, 1990, p. 131). Therefore, an organization's absorptive capacity will build on the individual absorptive capacities of its members. Even so, a firm's absorptive capacity is not simply the sum of the individual absorptive capacities of its employees. Since the absorptive capacity includes the acquisition and assimilation of information, as well as transformation and exploitation, it not only depends on direct interface with the external environment, but also on knowledge transfers across and within sub-units of the firm. It therefore depends on the structure of communication between the sub-units of the firm (Cohen & Levinthal, 1990).

With regards to the entrepreneurship field, a firm's absorptive capacity (or the absorptive capacity of the founders/entrepreneurs) may become a firm's competitive advantage. Entrepreneurial firms are often built around the entrepreneur or entrepreneurial team, who identify opportunities and move to exploit it commercially. Entrepreneurs usually possess managerial and technical knowledge that is used to structure the tangible and intangible assets of the firm, and this can determine its success (Alvarez & Busenitz, 2001). In small entrepreneurial firms, the absorptive capacity may also be a function of the development, motivations, and experience of their founders/managers and key staff members (Gray, 2006). There is empirical evidence suggesting that entrepreneurial SMEs with higher levels of absorptive capacity have a propensity to be more proactive, whereas the ones that

present lower levels have a propensity to be more reactive (Liao, Welsch, & Stoica, 2003). These authors also found that these modes of "behavior [proactive or reactive] should remain rather stable over time" (Liao et al., 2003, p. 69).

In the context of IE, Oviatt and McDougall (2005b) develop a conceptual model concerning the speed of internationalization, where knowledge moderates the speed at which perceived opportunities are exploited internationally. When the entrepreneurial or management teams of entrepreneurial firms have high international knowledge, these firms are more likely to exploit entrepreneurial opportunities earlier. They suggest that prior business experience and knowledge at the firm, as well as of the entrepreneurs, leads to higher absorptive capacity in the firm, and therefore facilitates the acquisition of new knowledge required for rapid internationalization (Oviatt & McDougall, 2005b). A higher absorptive capacity of entrepreneurial firms (or their founders) help to prepare these firms for the fast acquisition and accumulation of additional foreign market knowledge: this reduces the uncertainty of operating in foreign markets, while increasing the internationalization commitment and their probability of entering new countries (Autio et al., 2000). In the same vein, other authors argue that internationalization speed is positively related to firm's absorptive capacity, as well as to the degree of compatibility between firms' prior knowledge and newly absorbed knowledge (Casillas, Moreno, Acedo, Gallego, & Ramos, 2009).

More recently, Prashantham and Young (2011), in a study about the post entry speed of INVs, argue that absorptive capacity acts as an antecedent of internationalization (measured as country scope and international commitment) through knowledge accumulation about the markets and technologies.

Although the absorptive capacity variable has received considerable attention in the past 20 years (Lane et al., 2006; Lane, Salk, & Lyles, 2001), there are still some understudied areas (Flatten et al., 2011b). Examples of these areas include the entrepreneurship field (Flatten et al., 2011b; Gray, 2006; Liao et al., 2003; Zahra, Ucbasaran, & Newey, 2009) and the IE field (Fernhaber et al., 2009; Rhee, 2005; Zahra & Hayton, 2008). Accordingly, Jones et al. (2011) propose further exploration into the impact of absorptive capacity on the internationalization process of INVs, arguing that there is no consensus regarding the influence of learning and absorptive capacity on the degree and speed of internationalization. Absorptive capacity will be analyzed in this dissertation, included in a holistic framework as a managerial action that helps to understand why some antecedents impact on INVs' international performance.

## *2.4.4  Competitive Generic Strategies*

Strategy-making is a firm-level process that incorporates a range of activities undertaken by organizations wishing to formulate their strategic mission and goals. These activities include analysis, planning, decision-making, and management, and are imbued with the organization's culture and shared value system (Miller & Friesen, 1978, 1983; Porter, 1980). With regards to the resource-based theory, the competitive strategy pursued by a firm is framed according to its resources and capabilities, which by turn determines its performance (Grant, 1991; Mahoney & Pandian, 1992).

In strategic and general management literature, it is customary to identify several archetypes of strategies when characterizing firms' strategies. Although there is no consensus about which of the numerous typologies found in the literature is the most appropriate, the most dominant typology in strategy research (Campbell-Hunt, 2000) is probably the one developed by Porter (1980, 1985). This typology makes a distinction between three competitive generic strategies: differentiation; cost leadership; and focus.

The first strategy – *differentiation* – entails a firm creating a product or service that is recognized by their customers or the industry as being unique, thus allowing higher than average prices. The strategy of *cost leadership* requires firms to become the producers with the lowest cost in comparison with their competitors. This does not mean that quality, service and other areas may be neglected. Since these firms dedicate much effort to cost control, they may obtain above-average returns even with low prices. In the third strategy – *focus* – the firms concentrate on a circumscribed and specialized market segment (such as types of customers, geographic area, or specific lines of products). This strategy is based on the principle that a firm that serves a particular strategic target market can do it "… more effectively or efficiently than competitors who are competing more broadly. As a result, the firm achieves either differentiation from better meeting the needs of the particular target, lower cost in serving this target, or both" (Porter, 1980, p. 38). Firms oriented toward one of the three generic strategies should outperform the ones characterized by Porter (1980) as 'stuck in the middle'; firms that fail in developing one of the generic strategies, and thus would achieve lower profitability.

This typology was expanded by Miller (1986, 1988), who basically included variations in Porter's differentiation strategy. He identified two types of differentiation strategies: those based on intensive marketing, and those based on product innovation. The latter is aimed at producing the most attractive and advanced products based in quality, efficiency, style or design innovation. The differentiation based on marketing is geared to create a unique image

of the product through marketing practices (Miller, 1986). In the same line of thought, Beal (2000) identified two additional strategies related to differentiation: quality differentiation and service differentiation.

Porter's typology (including Miller's expansion) was already used in the entrepreneurship field, namely in empirical studies (Baum, Locke, & Smith, 2001; Beal, 2000; Dess, Lumpkin, & Covin, 1997), For example, Dess, Lumpkin and Covin (1997) analyzed the nature of entrepreneurial orientation and its relationship with strategy, environment, and performance. They found that both marketing and innovation strategies moderate (simultaneously with environmental characteristics) the relationship between entrepreneurial orientation and performance.

Other authors presented typologies specifically adapted to new ventures. For instance, McDougall and Robinson (1990) identified eight 'archetypes' for entry into both niche and broadly aggressive strategies. Through a factor and cluster analysis based on a sample of 247 new ventures from the information processing industry, and concerning 26 different competitive methods, they identify eight different 'archetypes': (1) aggressive growth via commodity-type products to numerous markets with small customer orders, (2) aggressive growth via competitively priced new products to large customers, (3) aggressive growth with narrow, special products priced competitively to a few larger buyers, (4) controlled growth with a broad product range to many markets and extensive backward integration, (5) controlled growth via premium priced products sold directly to customers, (6) limited growth in small niches offering a superior product and high customer service, (7) average growth via steady development of new channels, brand/name ID, and heavy promotion, and finally, (8) limited growth selling infrequently purchased products to numerous markets with some forward integration. According to these authors, the eight new venture strategies were consistent with the strategies discussed in the literature, mainly for the niche strategy (Van de Ven, Hudson, & Schroeder, 1984), and the aggressive growth strategy (Biggadike, 1979). Even so, the findings expand the richness of most of those strategies (McDougall & Robinson Jr, 1990), and make it possible to conclude that there are new ventures in the same industry that follow an aggressive growth strategy (Biggadike, 1979), while others follow the niche, incremental growth strategy (Van de Ven et al., 1984).

One of the most important features of INVs is that they are not a random group of firms. Their organizational form is a strategic choice made by their founders/managers in order to improve their value and performance. INVs are firms whose advantages relate to their organizational strategy usually over compensating for the liabilities of newness and foreignness (Mudambi & Zahra, 2007). In light of this argument, several studies in the field of

entrepreneurship consider entrepreneurial behavior as a strategy in itself (Covin & Slevin, 1989), while others have analyzed internationalization as a strategy also (Kyläheiko, Jantunen, Puumalainen, Saarenketo, & Tuppura, 2011; Lu & Beamish, 2006a; Lu & Beamish, 2001). In the IE field, some authors interpreted INVs as a strategy or a strategic choice (Mudambi & Zahra, 2007). Yet, these strategy conceptualizations do not distinguish the competitive advantages or capabilities which enable new ventures to internationalize or which enable their higher performance.

Overall, the strategic options of small new ventures that have internationalization objectives may be achieved by mixing two types of strategies, which can be placed in the extremes of a *continuum*: acting autonomously (i.e. based on competitive strategies); or acting in cooperation with other organizations (i.e. cooperative strategies). Concerning the first path, there is little research into the competitive strategies of INVs, even though Oviatt and McDougall (1994) proposed the first definition of INV (already presented above) as "a business organization that, from inception, seeks to derive significant *competitive advantage* from the use of resources and the sale of outputs to multiple countries" (1994, p. 49).

Actually, managers in entrepreneurial firms "may be more inclined than others to create and activate strategies and tactical maneuvers with a view to maintaining or improving performance" (Knight, 2001, p. 161). The relevance of analyzing strategy in the IE field was highlighted in some of the field's preliminary works (McDougall, 1989; McDougall et al., 2003). In these works, variables related to strategy were used with the purpose of distinguishing INVs from DNVs. In a longitudinal study, McDougall and Oviatt (1996) also found that changes in INVs' strategies had a positive effect on their performance.

There are a limited number of studies in IE field that analyze the antecedents of competitive strategies (e.g. Julien & Ramangalahy, 2003; Knight, 2001; Knight & Cavusgil, 2004), and the outcomes of different competitive orientations (Freeman & Cavusgil, 2007; Knight et al., 2004; Knight, 2001; Namiki, 1988). For instance, Freeman and Cavusgil (2007) found that different strategic orientations make a difference to internationalization patterns. While taking Porter's generic strategies into consideration, Namiki (1988) argued that exporting SMEs generally adopt four main strategies: marketing differentiation; segmentation differentiation; innovation differentiation; and products service. This author found that exporting SMEs adopting the segmentation differentiation and innovation differentiation strategies are more likely to achieve higher performances, measured through export growth and profitability (Namiki, 1988).

Several researchers (Rialp-Criado, Galván-Sánchez, & Suárez-Ortega, 2010; Rialp et al., 2005a) have argued that there is a need for a deeper analysis of the role played by the firm's strategy in INV internationalization processes. Similarly, reviews of the IE field of research performed by Keupp and Gassmann (2009) and Jones et al. (2011) correspond in showing that competitive strategy is an under-researched topic in IE literature. Additionally, though it is well accepted that the firm's strategy selection is determined by its set of resources and competencies (Mudambi & Zahra, 2007), there is little evidence of this relationship in the IE field. Only a small number of empirical studies have examined the relevance of the firm's resources and characteristics on competitive strategies (Knight, 2000, 2001; Knight & Cavusgil, 2004). This research follows the resources–strategy–performance idea founded in the resource-based view (Grant, 1991; Mahoney & Pandian, 1992), and will examine the relevance of Porter's (1980) competitive generic strategies as mediators between the resources or firm's characteristics and its performance. Therefore, the competitive generic strategies will be considered in this dissertation, included in a holistic framework as managerial actions that help to understand why some antecedents impact on INVs' international performance.

## 2.5  Antecedents of INVs' Actions

### 2.5.1  Firm Antecedents

#### 2.5.1.1  Firm´s Generic Resources

The stocks of resources that the INVs possess seem to have a major role in their strategic actions or decisions, as well as influencing its success (Oviatt & McDougall, 1994). This issue is particularly critical in the case of INVs, given that they need to generate advantage(s) over domestic and international rivals in order to achieve success (Mudambi & Zahra, 2007). In this dissertation, three different sets of firm resources are considered: generic resources; managerial capabilities; and foreign market knowledge. Generic resources will be dealt with in this subsection, while the other types of resources, which are more akin to capabilities and knowledge, will be addressed in the following subsections. Firm's generic resources may be defined as "both tangible and intangible assets and firm capabilities during the growth stage" (Wu, Wang, Chen, & Pan, 2008, p. 537).

According to the resource-based view, the design and implementation of a firm's strategy is based in its set of tangible and intangible assets (Barney, 1991; Wernerfelt, 1984). For example, the new venture's decision to follow an internationalization strategy happens when

this strategy fits their stocks of unique tangible and intangible resources (Baird et al., 1994; Bloodgood et al., 1996). Some authors argue that the implementation of entrepreneurial behavior needs to use a great amount of resources, and hence the access to resources may facilitate the implementation of strategies related to entrepreneurial behavior (Covin & Slevin, 1991; Wiklund & Shepherd, 2005). Contrastingly, other authors (e.g. Gassmann & Keupp, 2007; Mathews & Zander, 2007; Oviatt & McDougall, 1994) argue exactly the opposite: internationalization strategy can work well under conditions of resource scarcity. When firms experience a lack of resources in the domestic market, going abroad may be an answer in order to gain access to resources and opportunities in the international environment (Mathews & Zander, 2007).

Using the exploratory resource-based model of early internationalizing firms developed by Rialp et al. (2005a), the firm's resources have a decisive importance in the design and development of complex international capabilities, which in turn contribute to the formation of the INV's distinctive strategic features, and thus to sustainable competitive advantage and the inherent international performance. These second-order capabilities may be related to the strategic actions of the new venture (Rialp et al., 2005a). In line with these arguments, this concept will be analyzed in this dissertation, included in a holistic framework as a firm characteristic or antecedent.

### 2.5.1.2 Foreign Market Knowledge

Knowledge about foreign markets plays a critical role in the Uppsala model (Johanson & Vahlne, 1977; Johanson & Wiedersheim-Paul, 1975), which envisages the internationalization of a firm as an incremental process. This model postulates that the firm begins its international operations in psychically close markets, using less committed entry modes. With the increase of foreign market knowledge, it increases its internationalization commitment, and spreads its international activities to more psychologically distant markets (Johanson & Vahlne, 1977, 1990). According to the Uppsala model, the firm develops its domestic market first, and afterwards begins to perform occasional exports; it then uses some independent agents, and finally establishes commercial or productive subsidiaries (Johanson & Wiedersheim-Paul, 1975). It assumes that firms have an imperfect access to information, and thus internationalization is a process of increasing experiential knowledge (Johanson & Vahlne, 1977, 1990).

Only through operating in international markets may firms acquire in fact knowledge about the market, its clients, problems, and opportunities. This experiential knowledge not only reduces the risk of going abroad, but is also a means of acquiring knowledge of both internal

and external resources, and of the opportunities for combining them (Eriksson, Johanson, Majkgard, & Sharma, 1997; Johanson & Vahlne, 2003).

Eriksson et al. (1997) identified three types of foreign market knowledge: foreign institutional knowledge; foreign business knowledge; and internationalization knowledge. The first type – *foreign institutional knowledge* – is related to knowledge about foreign culture, government and institutional structure, as well as its norms and regulations. *Foreign business knowledge* concerns the knowledge about clients, competitors, and market conditions in specific foreign markets. Finally, *internationalization knowledge* refers to the firm's experiential knowledge concerning the adaptation of firms' resources and capabilities to engage in international operations. The same authors (Eriksson et al., 1997) concluded that a lack of foreign market knowledge is a decisive hindrance to a firm's internationalization.

Theoretical approaches aimed at explaining INVs' or born-globals' internationalization have also highlighted the relevance of foreign market knowledge in understanding the early internationalization of firms (Autio et al., 2000; Knight & Cavusgil, 2004; Oviatt & McDougall, 1994; Zhou, 2007). The theoretical support for this relationship is the organizational learning theory, as well as the resource-based view and the knowledge based view. Regarding the first theory, foreign market knowledge may be defined as "the process of assimilating new knowledge into the organization's knowledge base" (Autio et al., 2000, p. 911). According to this theory, the development of new knowledge produces better results if the firm is a 'blank piece' concerning the organizational routines (Autio et al., 2000; Cohen & Levinthal, 1990). Therefore, new firms may acquire knowledge about international business more easily if they do not need to unlearn routines designed to achieve competitive advantage in domestic markets (Autio et al., 2000). Knowledge development is related to the firm's absorptive capacity, since the latter is "a function of the firm's level or prior related knowledge" (Cohen & Levinthal, 1990, p. 128).

This approach differs from the Uppsala model, since in the INV model of internationalization, foreign market knowledge may be acquired early in the firm's life (Autio et al., 2000). The rapid internationalization of INVs, their high commitment to foreign markets, and high market diversification soon after their foundation could be related to knowledge acquisition efficiency, which reduces the risk of operating in international markets (Bell, Crick, & Young, 2004; Crick & Jones, 2000; Spence & Crick, 2006). While in the traditional models of internationalization the driving mechanism is the time-based increase of market knowledge, in the born-global or INV model the driving mechanism is opportunity identification and exploration (Oviatt & McDougall, 2005b; Zahra, 2005). Nevertheless, Oviatt and McDougall (2005b) developed a conceptual model to explain the speed of internationalization, in which

knowledge intensity and knowledge about foreign markets play a moderating effect between opportunity recognition and the speed of internationalization.

As mentioned above, the entrepreneurs or founding team possess "an unusual constellation of competencies" (McDougall et al., 1994b, p. 479), such as international experience and exposure to international markets which have been developed prior to the foundation of the new ventures (Dominguinhos, 2007; Kuemmerle, 2002; Madsen & Servais, 1997; McDougall et al., 1994b; Reuber & Fischer, 1997). The positive influence of this prior foreign experience and knowledge of the owners/founders/entrepreneurs on new ventures internationalization has been extensively demonstrated, both theoretically (e.g. Jones & Coviello, 2005; Madsen & Servais, 1997; McDougall et al., 1994b) and empirically (e.g. Belso-Martínez, 2006; Dominguinhos, 2007; Kuemmerle, 2002; Reuber & Fischer, 1997; Simões & Câmara, 2006; Simões & Dominguinhos, 2005; Zucchella et al., 2007). Some authors (Shrader et al., 2000) argued that relevant foreign market knowledge concerning INVs should be more related to the entrepreneur itself than with the firm's decision-making system.

This international experience and global vision that the entrepreneurs or managers of INVs tend to possess (Bloodgood et al., 1996; Madsen & Servais, 1997; McDougall et al., 1994b; Oviatt & McDougall, 1995, 1997) is translated in a corresponding business and institutional knowledge regarding several countries (Spence & Crick, 2009). Therefore, when compared with traditional firms, entrepreneurial firms are more likely to recognize, enact, and exploit international opportunities earlier, and demonstrate faster internationalization for multiple countries with higher levels of commitment (Autio et al., 2000; Oviatt & McDougall, 2005b; Spence & Crick, 2009).

Autio et al. (2000) also argue to the fact that entrepreneurial firms' knowledge about foreign markets and operations, and the efficiency in the acquisition of such knowledge, have a positive relationship on their internationalization pace or international performance. Based on the resource-based theory, INV's foreign market knowledge may act as a resource that supports the firm's competitive advantage in the international markets (Autio et al., 2000; Barney, 1991; Oviatt & McDougall, 2005b; Rialp et al., 2005a). Similarly, based on the knowledge-based view, foreign market knowledge may act as an intangible resource that justifies the competitive advantage of some new ventures in foreign markets (Alavi & Leidner, 2001; Grant, 1996a; McEvily & Chakravarthy, 2002; Teece et al., 1997).

There are few empirical studies that test the relationship between foreign market knowledge and performance. Zhou (2007) found that new ventures with international entrepreneurial proclivity or orientation have the dynamic capability to rapidly increase foreign market

knowledge, which in turn leads to their early internationalization. But this author did not find support for the hypothesized relationship between the pace of born-global' internationalization and the growth rate of international sales. Taking the relevance of these arguments, this concept will be examined in this dissertation and included in an integrated framework regarding the INVs' internationalization process, as a firm antecedent.

### 2.5.1.3  *Entrepreneurial Orientation*

Entrepreneurial orientation has become an essential concept in the entrepreneurship field, receiving substantial attention from both theoretical and empirical studies (Covin, Green, & Slevin, 2006; Rauch, Wiklund, Lumpkin, & Frese, 2009). It is relevant to distinguish entrepreneurial orientation from entrepreneurship itself. As Lumpkin and Dess (1996) noted, while the term 'entrepreneurship' refers to the *content* of entrepreneurial decisions addressing the *what* question, entrepreneurial orientation refers to the entrepreneurial *processes* that address the question about *how* new ventures are undertaken. Therefore, entrepreneurship is related to *new entry* – meaning the act of launching a new venture – while entrepreneurial orientation is a corollary concept that describes *how new entry* is implemented (Lumpkin & Dess, 1996).

Entrepreneurial orientation may be defined as the firm's strategic orientation, capturing particular entrepreneurial aspects of decision-making styles, practices, and methods (Lumpkin & Dess, 1996). A firm with high entrepreneurial orientation is a firm that "engages in product-market innovation, undertakes somewhat risky ventures, and is first to come up with 'proactive' innovations, beating competitors to the punch" (Miller, 1983, p. 771).

Despite some early academic studies conceptualize and operationalize entrepreneurial propensity as an unidimensional construct (e.g. Covin & Slevin, 1989), the majority of the literature envisages entrepreneurial orientation as a multidimensional construct (e.g. Covin & Slevin, 1991; Lumpkin & Dess, 1996, 2001; Miller, 1983; Miller & Friesen, 1978; Wang, 2008). Miller's entrepreneurial orientation definition (Miller, 1983) can be broken down into four dimensions: innovativeness; proactiveness; risk-taking; and competitive aggressiveness. The operationalization of entrepreneurial orientation with these four dimensions was already used in several studies (e.g. Lumpkin & Dess, 2001; Wang, 2008).

The first dimension – *innovativeness* – represents the "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. 142). Although innovations can differ concerning the 'radicalness', *innovativeness* is related to the

willingness to go further than the existing products, services, technologies or processes, and venture beyond the current 'state of the art'.

On the other hand – *proactiveness* – reflects the forward-looking perspective, anticipating the competitors moves regarding the launch of new products or services and anticipating future demands in order to change and shape the environment (Hansen, Deitz, Tokman, Marino, & Weaver, 2011; Lumpkin & Dess, 2001). This does not necessarily mean that proactive firms must be the quickest to innovate and the first to launch new products or services. In fact, "a firm can be novel, forward thinking, and fast without always being the first" (Lumpkin & Dess, 1996, p. 146). The most relevant aspect is that the proactive firm is a leader (instead of a follower) regarding the constant search for new opportunities, without necessarily always being the 'first to market'.

The *risk-taking* dimension refers to the propensity to take bold actions, for example "venturing into unknown markets, committing a large portion of resources to ventures with uncertain outcomes, and/or borrowing heavily" (Lumpkin & Dess, 2001, p. 431). The fourth dimension – *competitive aggressiveness* – is related to the firm's combative posture and vigorous response to competitors' actions. This dimension is related to the firm's efforts to outperform industry competitors, and its reactions to competitive trends and demands (Lumpkin & Dess, 2001). In some studies, *proactiveness* and *competitive aggressiveness* have been treated as similar dimensions (e.g. Covin & Covin, 1990). Nevertheless, Lumpkin and Dess (1996) clearly distinguish these two dimensions: while *proactiveness* deals with opportunities, competitive aggressiveness deals with the rivals' threats, and the firm's posture concerning the response to competitor's actions.

Lumpkin and Dess (1996) presented an additional dimension of the entrepreneurial orientation conceptualization: *autonomy*. This fifth dimension is related to independent will and an ability to be self-directed in the detection of opportunities. This means that *autonomy* refers to independent action of generating and implementing a vision or idea independent of organizational constraints (Lumpkin & Dess, 1996).

Traditionally, the majority of the research that uses the entrepreneurial orientation construct ignores the *competitive aggressiveness* and the *autonomy* dimensions, and present entrepreneurial orientation as a construct limited the other three dimensions (e.g. Covin & Slevin, 1991; Jantunen, Puumalainen, Saarenketo, & Kyläheiko, 2005; Miller, 1983; Miller & Friesen, 1978; Sapienza, De Clercq, & Sandberg, 2005; Wiklund & Shepherd, 2003). Following other works (e.g. Lumpkin & Dess, 2001; Wang, 2008), this research includes the four dimensions proposed by Miller (1983) in its entrepreneurial orientation concept. The

decision to exclude *autonomy* was based on the fact that this dimension is mainly relevant in corporate entrepreneurship (e.g. Chang, Lin, Chang, & Chen, 2007; Dess & Lumpkin, 2005), since autonomy is inherent to the entrepreneurial process in new ventures.

Therefore, entrepreneurial orientation is a fundamental posture that reflects the firm's propensity to develop innovative, proactive, risk-seeking, and competition-aggressive behaviors in order to accomplish strategic objectives (Covin & Slevin, 1991; Lumpkin & Dess, 1996, 2001; Miller & Friesen, 1978; Wang, 2008). This is one of the most relevant constructs analyzed in the entrepreneurship field (Keupp & Gassmann, 2009; Rauch et al., 2009), particularly in IE research (Hansen et al., 2011; Jantunen et al., 2005).

The relationship between the entrepreneurial orientation of the firm and its performance has been systematically analyzed, both theoretically (Covin & Slevin, 1991; Lumpkin & Dess, 1996) and empirically (Avlonitis & Salavou, 2007; Covin et al., 2006; Covin & Slevin, 1989; Dimitratos, Lioukas, & Carter, 2004; Jantunen et al., 2008; Lumpkin & Dess, 2001; Morris & Sexton, 1996; Mostafa, Wheeler, & Jones, 2005; Wang, 2008; Wiklund & Shepherd, 2003, 2005; Zahra, 1991; Zahra & Covin, 1995). A meta-analysis that explores the entrepreneurial orientation-performance relationship through analyzing 53 samples from 51 studies (Rauch et al., 2009) found a moderately large correlation between entrepreneurial orientation and performance. However, both this study and previous studies (Lumpkin & Dess, 1996; Wang, 2008; Wiklund & Shepherd, 2005) conclude that a simple examination of the direct relationship between entrepreneurial orientation and performance presents an imperfect scenario. Therefore, several studies perform an analysis of different factors as mediators or moderators of this relationship. Some examples of variables that affect entrepreneurial orientation-performance relationship are learning orientation (Wang, 2008); access to financial resources (Wiklund & Shepherd, 2005); network centrality and bridging ties (Stam & Elfring, 2008); environment aspects (Dimitratos et al., 2004; Lumpkin & Dess, 2001; Moreno & Casillas, 2008); and strategy or strategic processes (Covin et al., 2006; Knight, 2000, 2001; Knight & Cavusgil, 2004; Moreno & Casillas, 2008; Yu, 2012). However, each of these aspects is analyzed individually.

Entrepreneurial orientation could be envisaged as a firm characteristic that is related to the 'O' aspect of the VRIO framework of the resource-based view; therefore, it could be an important measure regarding the way a firm is organized (Barney, 1991; Wernerfelt, 1984; Wiklund & Shepherd, 2003). New ventures with high entrepreneurial orientation will take advantage of their resources to discover and exploit opportunities. This way they can implement and leverage their resources to achieve sustained competitive advantage, and therefore achieve a superior performance (Barney, 1991; Wiklund & Shepherd, 2003).

Complementarily, this characteristic may present the aspects of knowledge, since entrepreneurial posture is also an intangible resource, it accounts for a large part of the value of entrepreneurial firms, and is very difficult to transfer or imitate (Alavi & Leidner, 2001; Teece et al., 1997). Therefore, this characteristic may be supported in the knowledge-based view as a way for INVs to achieve sustained competitive advantage (Alavi & Leidner, 2001; Grant, 1996a; McEvily & Chakravarthy, 2002; Teece et al., 1997).

Given that entrepreneurial orientation is a strategic posture, and is therefore the foundation for a firm's actions and decisions for being at the forefront of competition (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003), there is the need to simultaneously analyze several firm actions as mediators of the entrepreneurial orientation-performance relationship. In fact, this is a longstanding demand of Lumpkin and Dess (1996), who call for research that examines how internal firm characteristics moderate and mediate the entrepreneurial orientation-performance relationship. Taking the relevance of this concept in entrepreneurship and international entrepreneurship fields, it will be analyzed in this dissertation and included in the holistic framework regarding the INVs' internationalization process, as a firm antecedent.

### 2.5.1.4 Management Capabilities

When analyzing new ventures, due to the newness and smallness of the firms, the resources that are more able to generate competitive advantages are usually intangible resources, namely entrepreneur or firm specific knowledge such as technological know-how, marketing knowledge, management expertise and human capital, and organizational climate (Barney, 1991). While traditional older firms usually depend on tangible resources to increase their performance in international markets, INVs use a set of intangible knowledge-based capabilities as a basis for early internationalization and international performance (Knight & Cavusgil, 2004). The access or ownership of such capabilities helps these firms to mitigate their liabilities of foreignness and newness (Oviatt & McDougall, 1994). Entrepreneurial and managerial knowledge may lead firms to achieve superior performance (Autio et al., 2000; Penrose, 1959). An intangible resource that has proven to be crucial for INVs is management capabilities (Yiu *et al.*, 2007).

Management capabilities were envisaged by Lado and Wilson  as " (a) the unique capabilities of the organization's strategic leaders to articulate a strategic vision, communicate the vision throughout the organization, and empower organizational members to realize that vision... and (b) the unique ability to enact a beneficial firm environment relationship" (1994, p. 703). Since management capabilities determine the acquisition, development, and exploitation of several firm resources, the transformation of these

resources into products and services, and the delivery of value to firm stakeholders, they can be relevant sources of managerial rents, and therefore also a source of sustained competitive advantage (Castanias & Helfat, 1991, 2001; Lado, Boyd, & Wright, 1992; Lado & Wilson, 1994; Teece et al., 1997). Managerial capabilities may facilitate this alignment between resources and strategy, which is related to the 'O' in the VRIO model of the resource-based view (Barney, 1991). In the words of Barney, "managers are important in this model, for it is managers that are able to understand and describe the economic performance potential of a firm's endowments. Without such managerial analyses, sustained competitive advantage is not likely" (1991, p. 117). The owner/founder/entrepreneur or the entrepreneurial/managerial team is a firm resource with the potential for generating sustained competitive advantages, even though the other resources controlled by the firm are not rare, imperfectly imitable, or non-substitutable (Barney, 1991). Furthermore, these capabilities are intangibles resources, and therefore their relevance for generating sustained competitive advantages is the core of the knowledge-based view (Alavi & Leidner, 2001; Grant, 1996a; McEvily & Chakravarthy, 2002; Teece et al., 1997). In the work by Molina, Pino and Rodriguez (2004) they conclude that management capabilities have a critical role in explaining a firm's competitiveness.

Management capabilities are related to the managerial skills which refer to innate and learned abilities, expertise, and knowledge that managers acquire and improve upon throughout their working career (Castanias & Helfat, 2001). Although these skills may be developed with the help of books and other sources of information, the best ways to increase management capabilities are through effective management experience and practice by learning-by-doing (Mintzberg, 1973). Therefore, in new ventures, the firm's management capabilities should be related to the entrepreneur's prior experience, both in management and in that same industry. Firms with higher management capabilities may introduce better human resources practices, select more appropriate competitive strategies, and identify better opportunities in foreign markets (Westhead et al., 2001a). In the international business field, the quality of management know-how determined in terms of skills and capabilities is well known as a justification for the beginning and the intensity of internationalization through exports (Bilkey & Tesar, 1977; Wiedersheim-Paul et al., 1978).

Managerial capabilities included in this research are related to the management of human resources, since the management of human resources in small ventures is particularly challenging, and it is increasingly recognized in the literature as a fundamental contributor to firms' performance (Jack, Hyman, & Osborne, 2006). Thus, the way human resources are managed is expected to be particularly relevant when firms face conditions of newness,

smallness, growth and risk (Marlow, 2006). Extant literature has also suggested that a firm's capability in managing human resources is a key factor for a superior firm performance (Huselid, Jackson, & Schuler, 1997).

As the emergence of the IE field is relatively recent, there is scarce empirical work that analyzes the role of management capabilities in the new ventures' internationalization process, or that tests the relationship between these capabilities and performance (Knight & Cavusgil, 2004; Yiu et al., 2007). The lack of research into overall firm capabilities in the IE field was already identified in several studies where IE literature reviews were performed (Cumming et al., 2009; Jones et al., 2011; Keupp & Gassmann, 2009). Therefore, this concept will be analyzed in this dissertation, included in a holistic framework as a firm antecedent.

### 2.5.2 Entrepreneurs' Antecedents

It is well accepted that organizations are a reflection of their top managers because they act on the basis of their individual understandings about the situations they face (Hambrick, 2007; Hambrick & Mason, 1984; McDougall et al., 2003). On the other hand, the decisions that managers take are influenced by their experiences, values and personalities (Hambrick, 2007). If this is true for all the organizations, the relevance of the entrepreneurs or entrepreneurial teams in the case of new ventures is even stronger, since they 'shape' new businesses according to their experiences, values, and beliefs (McDougall et al., 1994b).

In the IE field, as well as in entrepreneurship research, the entrepreneur is the 'match' that fires the entrepreneurial process (Gartner, 1988). Nevertheless, the 'entrepreneur' is often not a single individual, though the literature usually follows an individualistic approach. In fact, founding new ventures is frequently a group effort, involving teams with complementary characteristics and responsibilities. Therefore, the references below apply to both individual entrepreneurs and entrepreneurial teams.

The new venture's foundation process is usually the result of new business opportunities being identified by the entrepreneur, in a process by which they identify unobserved or latent combinations of resources and customer demand (Schumpeter & Opie, 1934). Entrepreneurs are people who are more 'alert' than others to information concerning combinations of resources that are potentially profitable (Barreto, 1989; McDougall et al., 1994b). The discovery of new business opportunities, namely in the international arena, connects previous experience and knowledge of the entrepreneur with observations of the external environment and events. The involvement in the 'field' is necessary in order to

assess whether the opportunity has profit potential (Mathews & Zander, 2007). Research has shown that alertness to new business opportunities is influenced by entrepreneurs' previous experience, since this experience provides a framework to process information (Casson, 1982). McDougall et al. suggests that "entrepreneurs possess an unusual constellation of competencies. Only the entrepreneur possessing these competencies is able to combine a particular set of resources across national borders and form a given INV" (1994b, p. 479). The expectation is that the more internationally experienced and travelled the entrepreneur, the higher the probability of starting an INV, combining skills, resources, and knowledge that are geographically dispersed. Theoretically, the relevance of these competencies, knowledge, and experiences may be interpreted as resources (Alvarez & Busenitz, 2001; Barney et al., 2001) or knowledge (Alavi & Leidner, 2001; Grant, 1996a; McEvily & Chakravarthy, 2002; Teece et al., 1997), and therefore vital for firms achieving sustained competitive advantage.

As seen in the first works in the IE field, entrepreneurs' characteristics are relevant to the founding process of early internationalizing firms (e.g. Andersson & Wictor, 2003; Knight & Cavusgil, 1996; Madsen & Servais, 1997; McAuley, 1999; McDougall et al., 1994b; Oviatt & McDougall, 1994; Rennie, 1993; Sharma & Blomstermo, 2003). In the early works of McDougall, Oviatt and colleagues (e.g. McDougall et al., 1994b; Oviatt & McDougall, 1994), INVs are presented as developing upon the entrepreneurial team's previous experience and knowledge. Madsen and Servais (1997) also argue that the founders of born globals usually have a strong international experience, and "do not perceive their native country as the nucleus of their lives" (Madsen & Servais, 1997, p. 574). The work developed by McDougall, Oviatt and Shrader (2003) tests the relevance of the entrepreneur's characteristics, alongside the strategic aspects of the firm and industry factors, in order to distinguish between INVs and DNVs. They found that the entrepreneurial team's international, industry, and technical experience contribute to distinguishing between those two types of new ventures. The experience, knowledge, or linkages of the entrepreneur (or the entrepreneurial team) may compensate for the lack of organizational experience and knowledge developed internally by the company, which is needed to compete successfully on international grounds (Cooper & Dunkelberg, 1986; McDougall et al., 2003; Simões, 2012).

Researchers have identified both theoretically and empirically relevant relationships between the international development of the firm and personal characteristics or life experiences of the management or entrepreneurial team. Some examples are: knowledge of foreign languages (Acedo & Jones, 2007; Zucchella et al., 2007); foreign education or work experience abroad (Acedo & Jones, 2007; Belso-Martínez, 2006; Birley & Norburn, 1987;

Bloodgood et al., 1996; Gleason & Wiggenhorn, 2007; Harveston, Kedia, & Davis, 2000; Kuemmerle, 2002; Madsen & Servais, 1997; McDougall et al., 2003; Oviatt & McDougall, 1997; Reuber & Fischer, 1997; Sapienza et al., 2006; Zucchella et al., 2007); prior experience in the same industry (Ibeh & Young, 2001; Westhead et al., 2001a); birth in a foreign country (McDougall et al., 1994b); family, friends, or personal contacts in foreign markets (Ibeh & Young, 2001; McDougall et al., 1994b); educational level (Acedo & Jones, 2007; Birley & Norburn, 1987; Kuemmerle, 2002; McDougall et al., 1994b; Thai & Chong, 2008); and interest in traveling (Acedo & Jones, 2007; McDougall et al., 1994b). Similar conclusions have been reached in studies that explain SMEs' or new ventures' export intensity (Cavusgil, 1984; Ibeh, 2003; Ibeh & Young, 2001). The entrepreneurs' previous experience in the same industry, as well as their parental background and if they had a business-owner parent, are also important for explaining new ventures' performance (Westhead et al., 2001a).

The international experience of top management is also related to firms' higher performance (Daily, Certo, & Dalton, 2000) and specifically to the performance of new ventures (Gleason & Wiggenhorn, 2007; Reuber & Fischer, 1999).

Complementarily, managerial attitudes regarding the attractiveness of foreign markets is one of the three major aspects that McDougall et al. (1994b) refer to as explaining the formation of INV (along with the identification of opportunities to create ventures that operate across national borders, and the preference to use hybrid structures for international activities). This line of thought is aligned with literature on international business that identifies the relevance of managerial attitudes concerning internationalization to explain international intensity (Cavusgil, Bilkey, & Tesar, 1979) or international success (Calof & Beamish, 1994). The relevance of motivations and attitudes is particularly high for newly formed small firms, where a single entrepreneur or manager usually has an enormous impact on overall firm decisions and activities (McDougall et al., 1994b; Oviatt & McDougall, 1997). Taking into consideration all the difficulties related to entry into foreign markets, the cumulative liabilities of newness and foreignness, the initial attitudes of management or the entrepreneurial team toward the appeal and importance of international business opportunities will delineate the international path of the firm (Preece et al., 1999). IE literature dealing with mindset and cognition also suggests that the cognitive systems of the individuals (i.e. entrepreneurs) are likely to "influence entrepreneurs' decision rules, decision horizons, and risk preferences. These variables significantly influence born globals' strategic choices as they expand internationally" (Zahra, Korri, & Yu, 2005, p. 137).

Hence, several entrepreneurs' features related to motivations and attitudes seem to influence the international focus or the early internationalization of the firm (Zahra et al., 2005). Examples of these aspects are: international attitude (Carrier, 1999; Madsen & Servais, 1997; Preece et al., 1999); international orientation (Acedo & Jones, 2007; Ibeh & Young, 2001; Reuber & Fischer, 1997); global mindset (Harveston et al., 2000; Madsen & Servais, 1997); networking (Ellis, 2000; Ellis, 2011); and risk tolerance (Harveston et al., 2000; Westhead et al., 2001a).

One of the most common categories concerning empirical literature in the IE field analyzes "the demographic and cognitive characteristics of individual or groups of entrepreneurs and their actions in the course of internationalization" (Keupp & Gassmann, 2009, p. 601). Nevertheless, the majority of the literature explains the direct relationship between the entrepreneurs' characteristics, motivations and attitudes, and several new ventures' outcomes such as the degree of internationalization, speed of internationalization, and performance (Keupp & Gassmann, 2009). These links could be explained through several mediators related to both the firm's antecedents and managerial actions (or decisions) that later influence international performance. As Covin and Slevin argue, the "individual-level behavior on the part of the entrepreneur may affect an organization's actions, and in many cases the two will be synonymous" (1991, p. 8). Therefore, in the present research, the entrepreneur's characteristics, motivations, and attitudes will impact on firms' characteristics or antecedents, since the new venture is to some extent developed as a reflection of the entrepreneurs' experiences or values (McDougall et al., 1994b).

## 2.5.3 Industry Antecedents

Despite being based on different theories, several researchers have demonstrated the connection between the external environment and the entrepreneurial process (Covin & Slevin, 1991). Thus, when designing the conceptual model concerning the INVs' process of internationalization, two industry factors were considered as dimensions of the external environment. These factors act as antecedents of the strategic decisions or actions of INV. The external environment may be defined as the "forces and elements external to the organization's boundaries that affect and are affected by an organization's actions as well as more general economic, socio-cultural, political-legal, and technological forces which provide the broader context for the organization's operations" (Covin & Slevin, 1991, p. 11). The environmental factors considered for our research were competitive intensity and technological turbulence.

## 2.5.3.1 Competitive Intensity

A firm's entrepreneurial process is embedded in its environmental context (Dimitratos et al., 2009; McDougall, 1989; McDougall et al., 2003; Mudambi & Zahra, 2007). Competitive intensity is an environmental factor that translates the behavior, resources, and ability of competitors to differentiate (Jaworski & Kohli, 1993). Hence, competitive intensity assesses the level of competition that a firm faces in a given market (Jaworski & Kohli, 1993; Kohli & Jaworski, 1990; Porter, 1985).

Research suggests that environmental or contextual factors can influence a firm's entrepreneurial activities and performance (Covin & Slevin, 1991; Zahra, 1991, 1993a). According to the environment–strategy–performance framework, the environmental factors, like competitive intensity, are very relevant in shaping decisions about firm strategy (Luo & Park, 2001). Managers or entrepreneurs react to the environmental conditions by selecting a specific strategy, which influences the firm's performance (Cui, Griffith, & Cavusgil, 2005; Fernhaber, McDougall, & Oviatt, 2007; Luo & Park, 2001). Although this rationale was developed in the field of international business to deal with multinational corporations, it could be also employed by INVs. In the absence of competition, or with low competitive intensity, new ventures will present different characteristics and strategies from the ventures that face higher competitive intensity.

There are several studies in the IE field that consider industry factors as antecedents of variables related to the INVs' process of internationalization. For instance, some of the first works in IE research analyzed the influence of industry factors (e.g. global integration, technological change, and competitive intensity) to distinguish DNVs from INVs (McDougall, 1989; McDougall et al., 2003). Mudambi and Zahra (2007) empirically tested the relationship between industry factors (such as industry growth, foreign penetration, seller concentration, and industry knowledge intensity) and the INVs' survival. It was also found that industry competition or competitive intensity positively influences the probability of firms to export (Mittelstaedt, Ward, & Nowlin, 2006), and negatively influences foreign revenue exposure and entry mode commitment (Shrader et al., 2000).

More recently, Oviatt and McDougall (2005b) hypothesized that industry competition has a high relevance to the acceleration of the internationalization process. In their model of internationalization speed, competition is a motivating force, based mainly on technology. Several entrepreneurs have been motivated to take a proactive advantage in foreign markets regarding some technological opportunities, as anticipating possible moves of competitors, for instance, through a quicker response to a new product introduction in domestic market

(McDougall et al., 1994b; Oviatt & McDougall, 1995). Industry competition acts as an antecedent of internationalization speed through the mediation of the perceptions and decisions of entrepreneurial actors (Oviatt & McDougall, 2005b).

However, some authors dedicate a modest amount of research to analyzing the impact and the role of industry structure factors such as the competitive intensity on the INVs' process of internationalization (Fernhaber et al., 2007; Zahra & George, 2002a). Consequently, it was noted that competitive intensity has an influence on some firm antecedents of the INVs' internationalization process. Reason why this concept will be analyzed in this dissertation and included in the holistic framework.

## 2.5.3.2  Technological Turbulence

This factor can be simply described as the rate of technological change within an industry (Jaworski & Kohli, 1993; Lichtenthaler, 2009). A turbulent or uncertain environment can provide new opportunities to firms; on the other hand, it can also generate high risk for the firms.

Technological change is the basis for the creation of new products and services, new processes, new markets, and new forms of organizing. Entrepreneurship is vital for this process (Schumpeter & Opie, 1934). When firms that are undertaking rapid change use recent technologies, entrepreneurship may be an avenue to achieve a competitive advantage. By contrast, if firms work with mature or stable technologies, entrepreneurship usually is not so relevant in obtaining competitive advantages.

In fact, in the context of general entrepreneurship research, it has been argued that several industry characteristics, such as technological turbulence, are positively related to new venture performance (McDougall, Robinson, & DeNisi, 1992; Robinson & McDougall, 1998; Su, Xie, Wang, & Li, 2011). Research on entrepreneurship also suggests that contextual factors can affect the success of the firm's entrepreneurial activities (Covin & Slevin, 1991; Zahra, 1991, 1993a).

Although some theoretical arguments in the IE field justify the increase of the INV phenomenon based on rapid technological change (Etemad & Lee, 2003; Etemad & Wright, 1999), there is still little empirical research that explores this topic. Even so, an empirical study concludes that technological turbulence in the industry presents a negative relationship with foreign revenue exposure and entry mode commitment (Shrader et al., 2000). Additionally, early works in the IE field, technological turbulence was analyzed as relevant for distinguishing between DNVs and INVs (McDougall, 1989; McDougall et al., 2003).

Since there is a modest set of research that considers the role of industry factors like technological turbulence on the process of INVs' internationalization (Fernhaber et al., 2007; Zahra & George, 2002a), this concept will be analyzed in this dissertation and included in the holistic framework, as an industry antecedent that will shape some firm antecedents.

## 2.6 Results of INVs' Actions

### 2.6.1 International Performance

It is unquestionable that performance is the firm's "raison d'être and healthy performance provides an incoming stream of resources that management can channel back into the organization's ongoing activities" (Knight, 2001, p. 162). International performance is related to the traditional measures of performance, though specifically regarding the foreign markets where the firms operate. As shown by recent extensive literature reviews (Jones et al., 2011; Keupp & Gassmann, 2009), the largest area of research into IE is 'outcome driven', i.e. there are a large number of studies that attempt to identify the antecedents of the scope, extent, patterns, and performance of internationalization.

According to the resource-based theory, firm's actions related to competitive generic strategy, entrepreneurial alertness and absorptive capacity act as valuable resources that can lead to sustained competitive advantage, and therefore to a higher performance (Alvarez & Busenitz, 2001; Barney et al., 2001). Similarly, according to the knowledge-based view, entrepreneurial alertness and absorptive capacity are managerial actions that are based on knowledge, and which are therefore key to achieving sustained competitive advantage (Alavi & Leidner, 2001; Grant, 1996a; McEvily & Chakravarthy, 2002; Teece et al., 1997). Finally, international social networks are supported by network theory, according to which networks may act as sources for new resources form partners; again this may help to achieve and maintain competitive advantage (Alvarez & Busenitz, 2001; Axelsson & Johanson, 1992; Oviatt & McDougall, 1994). There is some empirical evidence concerning the relationships between strategic actions and performance, but research that specifically considers international performance is scarce. For instance, several studies identified a positive relationship between several types of strategy followed by new ventures or SMEs and firm performance (Ebben & Johnson, 2005; Julien & Ramangalahy, 2003; McDougall, Covin, Robinson Jr., & Herron, 1994a; McDougall et al., 1992). There is also some evidence of this relationship in INV analysis (Lu & Beamish, 2006a; McDougall & Oviatt, 1996). However, there are still a small number of studies that specifically analyze international performance (e.g. Bloodgood et al., 1996; Knight, 2001; Knight & Cavusgil, 2004).

In accordance to Lu and Beamish (2001), managers want to know why these entrepreneurial strategies lead to higher performance, and why their firms can achieve higher competitive advantages when internationalizing. Additionally, as far as it is known, there is no study that considers simultaneously this group of strategic actions as antecedents of international performance. Little consideration has been given to the shared impact of these several strategic actions on international performance, particularly in the case of INVs.

# 3   Conceptual Model and Research Hypotheses

## 3.1   Development of the Model

Several researchers in the IE field call for a holistic view of the INVs' internationalization process (Aspelund et al., 2007; Crick et al., 2001; Crick & Spence, 2005; Jones, 2009; Jones & Coviello, 2005; Keupp & Gassmann, 2009; McAuley, 1999; Rialp et al., 2005a). They reject the idea that the internationalization of these firms can be explained through a simple linear model that includes a small amount of variables (Aspelund et al., 2007).

Therefore, the conceptual framework developed in this research aims to represent an integrative or holistic perspective of the IE process (Aspelund et al., 2007; Jones, 2009; Keupp & Gassmann, 2009), and highlights the relevance of several managerial decisions or actions in the context of the IE process (Keupp & Gassmann, 2009; Rialp et al., 2005a). This framework responds to the authors that state that there is still scant research about the nature of managerial decision-making, organizational behavior, firm capabilities, strategic decisions, opportunity identification, and the role of knowledge regarding INVs' internationalization process (Keupp & Gassmann, 2009; Rialp et al., 2005a).

There is an effort to unlock the 'black box' that still exists around the IE process, namely in the INVs' internationalization process. Instead of just identifying a set of direct relationships between several antecedents (related to the entrepreneurs, the industry and the firm) and the outcomes (in our case, the international performance), a framework that tries to better understand the INVs' internationalization process is developed and tested, giving special focus to a set of managerial decisions or actions. Jones and Coviello (2005) argue that the key elements of the entrepreneurial internationalization process are the firm, the entrepreneur, the environment, and the performance. For these authors, the performance indicators are related to both the firm's overall performance and its internationalization performance (Jones & Coviello, 2005). The formation of the general picture of the framework developed in this research is built upon Jones and Coviello's (2005) main aggregated blocks. It intends, however, to go a little further, insofar as it provides a closer look at specific managerial actions, which Jones and Coviello (2005) include within the 'internationalization behavior' category. In line with the suggestions of Aspelund et al. (2007), this holistic perspective must incorporate internal factors (related to the firm and the entrepreneur), external factors and, of particular relevance, strategic or organizational factors (here called 'firm's actions'). Hence, the main blocks of variables included in this framework are:

entrepreneurs' characteristics; industry antecedents; firm antecedents; firm´s actions; and firm´s results (see Figure 3.1).

**Figure 3.1: INVs' Internationalization Process: General Framework**
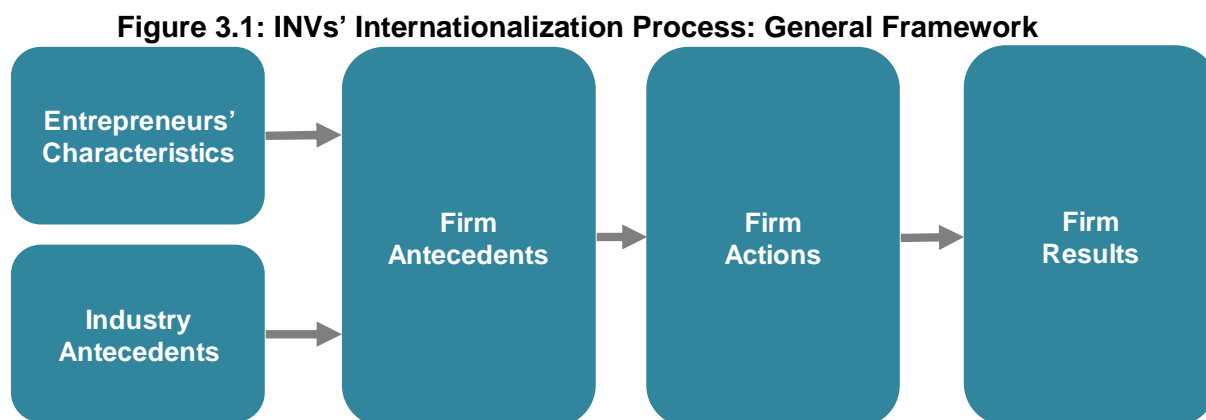


It is rare to find research that addresses the *why* question of IE; in other words understanding the INVs' internationalization process: the elements or 'actions' that justify the internationalization of INVs and their international performance. These actions may be interpreted as dynamic activities, processes, or decisions that help the INV find a route to international performance or success through internationalization. Thus, the central focus of this framework is a set of constructs, called 'elements' by Keupp and Gassmann (2009) and 'internationalization behavior' by Jones and Coviello (2005). This central aspect of the conceptual framework includes managerial decisions, capabilities, and actions, which are envisaged as keys that enable the 'conversion' of personal and organizational antecedents into performance outcomes. Based on the general literature on management and organization science, as well as on specific literature on international business, entrepreneurship, and IE, four types of managerial issues were selected: entrepreneurial alertness; absorptive capacity; international social networks; and competitive generic strategies (see Figure 3.2). The rationale for the inclusion of these variables in the framework has already been presented in the previous chapter.

The strategic actions or decisions are expected to have an impact on the outcomes of IE process (namely, international performance), and are expected to be influenced by several antecedents. The antecedents are grouped into three main blocks: entrepreneurs' characteristics; industry antecedents; and firm antecedents.

Within this framework, there are several variables related to the entrepreneurs' characteristics: educational level; interest in travelling; professional experience abroad;

foreign educational experience; number of foreign languages spoken; professional experience in the same industry; professional experience in management; and risk propensity. The industry features included in the framework are competitive intensity and technological turbulence. The firm antecedents considered in the framework include: firm resources; foreign market knowledge; entrepreneurial orientation; and management capabilities. The measure related to firm performance is international performance.

**Figure 3.2: INVs' Internationalization Process: Full Theoretical Framework**
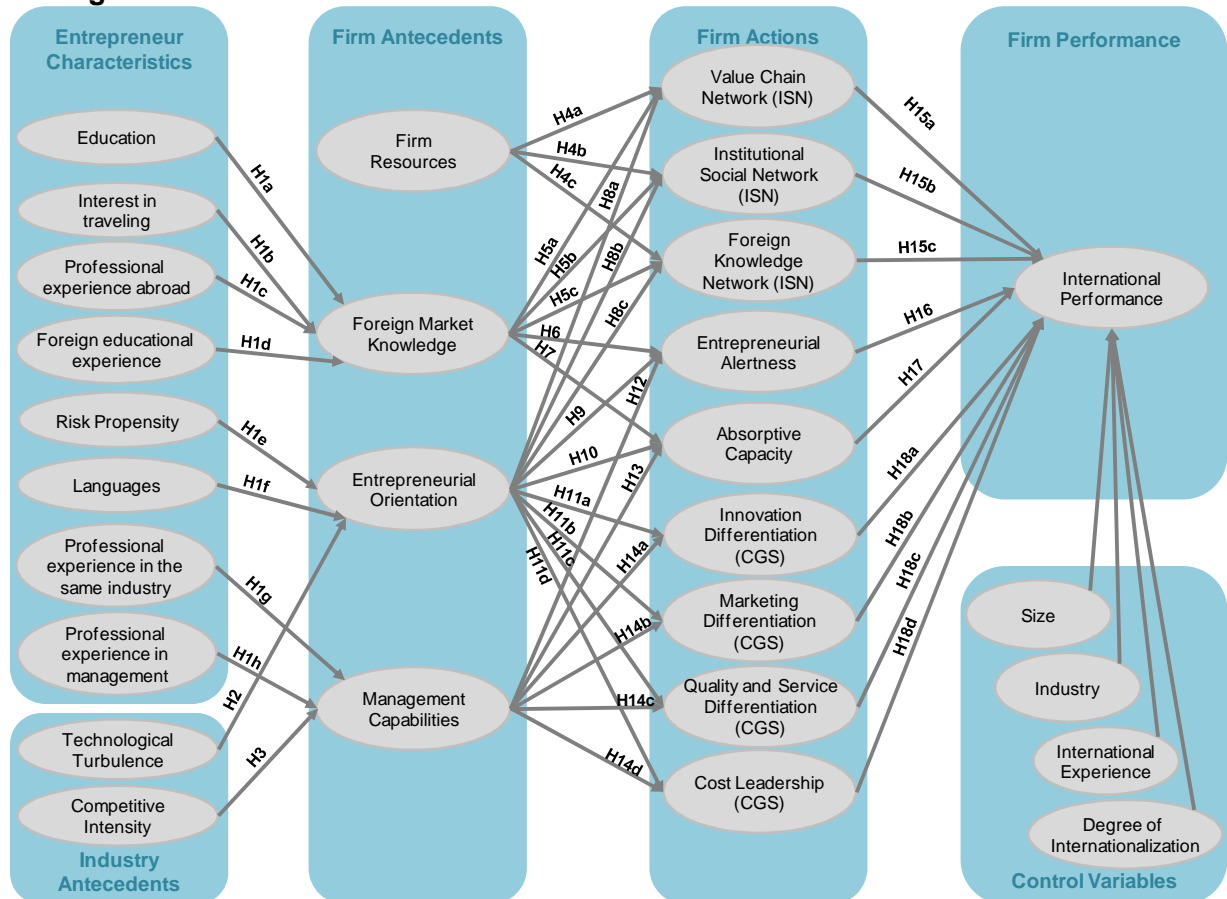


Therefore, the research model presented in Figure 3.2 encompasses a total of 18 hypotheses, which can be organized into the following groups:

- One hypothesis (with eight sub-hypotheses) that relates each entrepreneur's characteristics to the firm antecedents;
- Two hypotheses that relate the two industry antecedents to firm antecedents;
- Eleven hypotheses (with sub-hypotheses) that relate firm antecedents to firm actions;
- Four hypotheses (with sub-hypotheses) that relate firm actions to firm performance.

Since internationalization of SME is a complex process, as Jones and Coviello (2005) emphasize, it is difficult to develop a framework that explains it completely, namely with all the factors that could be related to this process. However, as they also suggest, all independent but articulated models may help to understand the internationalization process of new ventures. That is what this framework tries to do: improving the understanding about the complex phenomenon of INVs' internationalization.

## 3.2 Research Hypotheses

The rationale behind the hypotheses presented in Figure 3.2 will be now discussed. In order to facilitate the presentation, the hypotheses will be organized according to the main blocks previously presented, namely entrepreneurs' characteristics, industry antecedents, firm antecedents, and firm actions.

### 3.2.1 Entrepreneurs' Characteristics

Under the specific block of entrepreneurs' characteristics, this research includes aspects related to previous experience and personal characteristics, as well as the entrepreneurs' managerial attitudes. Usually, when the focus is on SMEs or new ventures, organizational decisions are usually in the hands of only one person or a small group of persons, and the entrepreneur or entrepreneurial team have a distinctive and vital role in the organization (Bloodgood et al., 1996; Simões & Dominguinhos, 2006; Westhead et al., 2001a; Zucchella et al., 2007). Since entrepreneurs create and organize new ventures according to their own experiences, values, and personalities, the characteristics of the new ventures are to some extent an expression of the characteristics of the entrepreneurs, and therefore the latter will be linked with the former (Hambrick, 2007; Hambrick & Mason, 1984; McDougall et al., 1994b).

Regarding the relationship between the entrepreneur's characteristics and the foreign market knowledge of the firm, Shrader et al. argue that when the focus is on INVs, the "locus of relevant foreign market knowledge may be more the entrepreneur or entrepreneurial team than the organizational decision-making system" (2000, p. 1244). In new ventures, the systems, politics, and routines are still in an embryonic phase, and for that reason the most important experience supporting decisions is a team's personal experience (Oviatt & McDougall, 1997). The relevance of the entrepreneurial/management team's foreign experience and knowledge needed for the early internationalization of new ventures have been extensively analyzed in the literature, both theoretically (e.g. Jones & Coviello, 2005;

Madsen & Servais, 1997; McDougall et al., 1994b; Oviatt & McDougall, 1997), and empirically (e.g. Belso-Martínez, 2006; Bloodgood et al., 1996; Kuemmerle, 2002; Reuber & Fischer, 1997; Zucchella et al., 2007).

Foreign market knowledge deals mostly with previous international exposure, which results, namely from prior professional experience abroad, foreign educational experience, and traveling experience (Kuemmerle, 2002). The educational level is also relevant, since several entrepreneurs with MBA or master degrees had been exposed to international business issues (Kuemmerle, 2002). The entrepreneur's international experience or exposure will directly affect a firm's business and institutional knowledge about several countries (Spence & Crick, 2009).

Based on the above arguments it can be argued:

$H_{1a}$: *An entrepreneur's educational level is positively related to a firm's foreign market knowledge.*

$H_{1b}$: *An entrepreneur's interest in traveling is positively related to a firm's foreign market knowledge.*

$H_{1c}$: *An entrepreneur's professional experience abroad is positively related to a firm's foreign market knowledge.*

$H_{1d}$: *An entrepreneur's foreign educational level is positively related to a firm's foreign market knowledge.*

Turning to entrepreneurial orientation, so far little is known about the features of the entrepreneur that account for the entrepreneurial orientation of the firm (Entrialgo, Fernández, & Vázquez, 2000). Although it is uncontroversial to accept several entrepreneurs' characteristics as relevant to the founding process of early internationalizing firms (e.g. Andersson & Wictor, 2003; Knight & Cavusgil, 1996; Madsen & Servais, 1997; McAuley, 1999; McDougall et al., 1994b; Oviatt & McDougall, 1994; Rennie, 1993; Sharma & Blomstermo, 2003), their internationalization (e.g. Acedo & Jones, 2007; Belso-Martínez, 2006; Bloodgood et al., 1996; Ibeh, 2003; Ibeh & Young, 2001; Madsen & Servais, 1997; McDougall et al., 1994b; Reuber & Fischer, 1997; Zucchella et al., 2007), and their performance (e.g. Gleason & Wiggenhorn, 2007; Reuber & Fischer, 1999), any analysis of the firm's determinants of entrepreneurial orientation is still scarce.

However, some empirical studies conclude that firms with high entrepreneurial orientation are managed by individuals with a greater tolerance to ambiguity (Entrialgo et al., 2000), and managers of born globals have a higher risk propensity than managers of gradual globalizing firms (Harveston et al., 2000; Knight & Cavusgil, 1996). The risk posture of the firms'

management team is related to the identification and pursuit of opportunities in international markets (Dimitratos, Plakoyiannaki, Pitsoulaki, & Tüselmann, 2010; Dimitratos, Voudouris, Plakoyiannaki, & Nakos, 2012). If the entrepreneur presents high levels of risk propensity, this attitude will most probably be blueprinted in the new venture. So, the INV is likely to present a high propensity to develop innovative, proactive, risk-seeking, and competition-aggressive behaviors.

Regarding foreign languages knowledge, there is some evidence that this competency is a relevant determinant of the early internationalization of INV (Acedo & Jones, 2007; Zucchella et al., 2007). Still, in the present research model, knowledge of foreign language is related with the entrepreneurial orientation of the firm, since this aspect may act as a facilitator of proactive, innovative or risk-taking behaviors taken by the INV, namely when targeting international markets.

Thus, it can be argued that:

**H$_{1e}$:** *An entrepreneur's risk propensity is positively associated with a firm's entrepreneurial orientation.*

**H$_{1f}$:** *An entrepreneur's knowledge of foreign languages is positively associated with a firm's entrepreneurial orientation.*

On the other hand, entrepreneurs' previous experience should influence firms' management capabilities. During their career, the INV founders/owners/managers develop a set of managerial skills, expertise, and knowledge that will be used in the management of the new firm (Castanias & Helfat, 2001). These skills may be developed through education and reading books; however the best method of augmenting management capabilities is effective management experience and the practice of learning-by-doing (Mintzberg, 1973). Thus, it can be expected that the entrepreneur's prior experience, both in management and within the same industry, may positively affect the INV's management capabilities. This is particularly relevant for new ventures' internationalization, since entrepreneurs that have held managerial or professional positions prior to foundation may be more aware of the options and possibilities related to exporting and controlling activities abroad (Westhead, 1995; Westhead et al., 2001a; Wiedersheim-Paul et al., 1978). Following this reasoning, it can be hypothesized:

**H$_{1g}$:** *An entrepreneur's previous professional experience in the same industry is positively associated with a firm's management capabilities.*

**H$_{1h}$:** *An entrepreneur's previous professional experience in management is positively associated with a firm's management capabilities.*

### *3.2.2 Industry Antecedents*

Several of the first IE research studies analyzed the influence of industry factors in order to distinguish INVs from DNVs (McDougall, 1989; McDougall et al., 2003), to explain higher performance (McDougall et al., 1992; Robinson & McDougall, 1998), and to justify higher survival levels of INVs (Mudambi & Zahra, 2007).

More recently, Oviatt and McDougall conceptualized the relevance of some industry characteristics (specifically industry competition and technology development) in accelerating the internationalization process (Oviatt & McDougall, 2005b). Likewise, some authors found that industry competition positively influences the probability that firms will export (Mittelstaedt et al., 2006). There are also several studies where industry structure is implicit in the construction of the sample of knowledge intensive sectors (e.g. Preece, Miles, & Baetz, 1998; Preece et al., 1999) or high-tech businesses, since it is usually considered that these businesses deal more critically with globalization effects (Autio et al., 2000; Burgel & Murray, 2000; Coviello & Munro, 1995; Fontes & Coombs, 1997; Gleason & Wiggenhorn, 2007; Jones, 2001; Presutti, Boari, & Fratocchi, 2007; Shrader, 2001; Spence & Crick, 2006; Zahra et al., 2000).

Fernhaber et al. (2007) developed a study, based on the literature of industrial economics, international business, and entrepreneurship, where they identified a group of seven industry structure variables that influenced the probability of new venture internationalization: industry evolution; industry concentration; knowledge-intensity of the industry; local industry internationalization; global integration of the industry; industry venture capital; and regime of appropriability in the industry.

Nevertheless, some authors dedicate a modest sum of research to analyzing the impact and role of industry structure factors on new ventures' internationalization processes (Fernhaber et al., 2007; Zahra & George, 2002a). It can be expected that industry structural variables affect firm characteristics in the early internationalization process of new ventures.

Concerning technological turbulence, Covin and Slevin (1991) postulate that entrepreneurial posture or orientation is positively related to environmental technological sophistication. Oviatt and McDougall (2005b) also conceptualize technology as an enabling force of entrepreneurial actor perceptions that lead to the acceleration of the internationalization process. Firms often respond to demanding and difficult environmental conditions, such as those present in high-tech environments, by adopting entrepreneurial postures (Khandwalla, 1987). Hence, it can be argued that in industries characterized by technological turbulence,

INVs must present high levels of entrepreneurial orientation (innovativeness, proactiveness, risk-taking, and competitive aggressiveness) in order to react to the variability of technologies used. More formally, it can be argued:

**H$_2$:** *Technological turbulence is positively associated with a firm's entrepreneurial orientation.*

With reference to competitive intensity, researchers have recognized that this environmental market condition is directly related to the firm's strategic management of resources (Jaworski & Kohli, 1993). With the globalization of markets and increases in technological development, the intensity of competition in the industry becomes a key characteristic of market competition. Hence, INVs have to compete with several domestic and international competitors, and also react rapidly to market or industry changes. When the competition in a market is strong, customers have many alternatives (Kohli & Jaworski, 1990). In this context, management capabilities are an essential resource for understanding customers' needs, and adapting their competitive advantages so as to give customers unique and valuable advantages (Cui et al., 2005). Therefore, it can be argued:

**H$_3$:** *Competitive intensity is positively associated with a firm's management capabilities.*

### 3.2.3 Firm Antecedents

### 3.2.3.1 Firm's Generic Resources

There are conflicting views regarding the role of generic resources for early and rapid internationalization (Keupp & Gassmann, 2009; Sapienza et al., 2006). Some studies, theoretically grounded in the resource-based view of the firm (Barney, 1991; Wernerfelt, 1984), argue that an abundance of specialized resources is needed to execute entrepreneurial activities (Covin & Slevin, 1991; Wiklund & Shepherd, 2005). For instance, when a new venture decides to follow an internationalization strategy, this is the approach that perfectly fits its stocks of unique tangible and intangible resources (Baird et al., 1994; Bloodgood et al., 1996). Following this rationale, enterprises with abundant resources can achieve higher success, survival, and growth, since these resources can support their competitive advantages longer, and enable them to better adapt to environmental changes (Wu et al., 2008).

Other authors (e.g. Gassmann & Keupp, 2007; Mathews & Zander, 2007) support the opposite view: they maintain that an internationalization strategy can work well under conditions of resource scarcity. One of the first works in the IE field presents INVs as firms

with resource scarcity and liabilities of newness and foreignness, and suggest this is why these firms could use some "alternative governance structures" (Oviatt & McDougall, 1994, p. 54) such as licensing, franchising or networks to access critical resources without controlling them through ownership. When firms experience a shortage of resources in the domestic market, going abroad may be a solution to problems with resource access and opportunities in the international environment (Mathews & Zander, 2007). In this context, the networks, particularly social networks, may act as a substitute for owning physical resources, enabling the firm to access other critical resources.

Business networks may provide access to external resources, capabilities, information, knowledge, and opportunities that are critical to internationalization (Andersson & Wictor, 2003; Crick & Spence, 2005; Freeman et al., 2006; Madsen & Servais, 1997; Oviatt & McDougall, 1994; Sharma & Blomstermo, 2003; Tang, 2009). Similarly, social networks could also perform as a substitute for resources that INVs and/or their founders cannot access otherwise (Chetty & Agndal, 2007; Chetty & Campbell-Hunt, 2003; Kogut, 2000; Zhou et al., 2007), and which may therefore accelerate and facilitate new venture internationalization (Gassmann & Keupp, 2007; Holmlund & Kock, 1998; Kiss & Danis, 2008, 2010). Some of the most critical resources that may be accessed using social networks are information and knowledge regarding foreign markets, foreign business opportunities, and experiential learning about foreign business operations (Ellis, 2011; Komulainen et al., 2006; Zhou et al., 2007). In this research, three types of social networks were identified: value chain social networks; institutional social networks; and foreign knowledge social networks.

Consequently, it can be argued that INVs use social networks mainly when they have a shortage of resources. Conversely, when firms have a surplus of resources they do not tend to use social networks to identify foreign market opportunities. Based on the previous discussion, it is possible to develop the following hypotheses:

**H$_{4a}$:**  *A firm's resources are negatively associated with their value chain social network.*

**H$_{4b}$:**  *A firm's resources are negatively associated with their institutional social network.*

**H$_{4c}$:**  *A firm's resources are negatively associated with their foreign knowledge social network.*

### 3.2.3.2  Foreign Market Knowledge

A firm's knowledge allows it to anticipate changes in the environment, and the appropriateness of strategic and tactical actions (Cohen & Levinthal, 1990). Nevertheless, in

the conceptual model developed by Oviatt and McDougall (2005b) regarding speed of internationalization, knowledge intensity and knowledge about foreign markets assume a moderating effect between entrepreneurial actors' perceptions and the speed of internationalization. In the present research, foreign market knowledge will be related to several strategic actions, namely international social networking, entrepreneurial alertness, and its absorptive capacity.

Much of the literature that explores the relationship between foreign market knowledge and networks, both in international business and IE fields, claims that collaborations with strategic partners and their participation in business networks could be a way to overcome liabilities of newness and foreignness, as well as, environmental uncertainty problems, since it permits them to obtain efficiently and rapidly several resources such as foreign market knowledge (Coviello & Munro, 1997; McDougall et al., 1994b; Spence & Crick, 2009). Therefore, networks have been instrumental in INVs' internationalization, as they provide market knowledge that compensates several weaknesses related to their age, dimension, and experience in international markets (McDougall et al., 1994b; Spence & Crick, 2009). Several empirical studies support the view that a firm is able to obtain foreign market knowledge or international knowledge through its networks of relationships (Chetty & Eriksson, 2002; Hadley & Wilson, 2003; Holm, Eriksson, & Johanson, 1999). In the present research framework, this perspective was considered through the hypotheses connecting firm resources and international social networks.

Here, however, the rationale is quite different, given that foreign market knowledge could influence the participation in new networks, hence influencing the network building decisions associated with the internationalization process of INVs. This is grounded in the conclusions of several studies that argue that INVs build new networks rather than only leveraging existing ones (Coviello & Munro, 1997; Loane & Bell, 2006; Welch & Welch, 1996). Indeed, the activation and development of social networks may act as a strategy to support internationalization (Loane & Bell, 2006).

During the internationalization process, firms will develop both social and business networks, and therefore will expand their resources, namely skills, experience, or knowledge. Networks, and the related learning from networks, influence and are influenced by the continuing process of firms' internationalization (Welch & Welch, 1996). At this level, the development of new social relationships is related to the strategic foundation of the firm, and this network development could include both intended and unintended relationships (Welch & Welch, 1996). During this constant cycle, the foreign market knowledge originally possessed by the entrepreneurs, or developed during the internationalization process (namely, obtained

from networks), will be relevant to build social networks in new markets, namely intended social relationships with persons in potential foreign agents, distributors, and clients, or with institutions somehow related to the new markets where the firm wants to explore a business opportunity (Welch & Welch, 1996). It is possible to use the existing social relationships, and the inherent foreign market knowledge, to enlarge the social network to other persons, pursuing a strategic intention to expand the actual social network so as to enter into new markets (Harris & Wheeler, 2005). Reuber and Fisher (1997) argue that managers with more international experience, and thus with more foreign market experience and knowledge, are more likely to form the network linkages required for internationalization. The managers/founders with more international market experience, often gained from previous firms where they were employed, develop a network of contacts – namely, with potential customers – that they can use after the start of this new venture (Crick & Jones, 2000). Sharma and Blomstermo (2003) also conclude that the internationalization process is built upon INVs possessing some international market knowledge prior to internationalization. This knowledge will be afterwards complemented with the knowledge accessed by their network ties (first domestic and later international).

In a qualitative study developed by Ojala (2009) in the same vein, the author concludes that when knowledge-intensive SMEs enter distant markets, they select the target country without any help of their network partners. Subsequently, these firms start to build a new set of relationships in the targeted market, or start to activate the existing relationships, so as to extend the network to those new markets.

This reasoning is associated with works by Johanson and Vahlne (2003, 2009), where they argue that the knowledge and learning that firms obtain from existing relationships aid their entry into new foreign markets allowing them to build new relationships that will again give them a basis for other country markets. In their more recent work, regarding a new conceptualization of the Uppsala internationalization process model (Johanson & Vahlne, 2009), the business environment is analyzed as a network. As in the 1977 version model (Johanson & Vahlne, 1977) that involved both state and change variables, their reconceptualization of the internationalization process model suggests that stocks of 'knowledge' (namely, foreign market knowledge) will have an impact on 'relationship commitment decisions', which could be related to the development of new relationships, or the development of bridges to new networks.

Thus, the following hypotheses are proposed:

**H$_{5a}$:**  *A firm's foreign market knowledge is positively associated with its value chain social network.*

$H_{5b}$**:** *A firm's foreign market knowledge is positively associated with its institutional social network.*

$H_{5c}$**:** *A firm's foreign market knowledge is positively associated with its foreign knowledge social network.*

Prior knowledge or experience was suggested by several authors as an important determinant of opportunity identification (e.g. Evers & O'Gorman, 2011; Shane, 2000; Shepherd & DeTienne, 2005; Venkataraman, 1997). The recognition or identification of any opportunity by an entrepreneur or entrepreneurial firm must be preceded by a state of alertness (Ardichvili et al., 2003; Ray & Cardozo, 1996). As argued by Venkataraman (1997), some persons identify entrepreneurial opportunities instead of others, because those persons (entrepreneurs) recognize opportunities related to the information they already possess. Since entrepreneurs, and also entrepreneurial firms, have different stocks of information and knowledge generated through their distinct life experiences, they will be able to identify some entrepreneurial opportunities instead of others.

Therefore, entrepreneurs will identify opportunities based on prior knowledge (Shane, 2000). Shane (2000) identifies three dimensions of prior knowledge as relevant for the process of entrepreneurial opportunity discovery: prior knowledge about markets; prior knowledge about ways of serving markets; and prior knowledge about customers' problems. Prior knowledge will enhance their alertness for opportunities that are connected with the new related information. A more recent study by Ardichvili et al. (2003) proposed that the higher the amount of prior knowledge both in an area of special interest for an entrepreneur and on those three dimensions, the higher the alertness, and the stronger the likelihood of successful entrepreneurial opportunity recognition as a consequence.

Although the empirical research in this area is still very scarce, a recent empirical study developed by Tang et al. (2012) concludes that prior knowledge, using the three dimensions purposed by Shane (2000), is positively associated to entrepreneurial alertness. Siegel and Renko (2012), using a longitudinal sample of 42 new biotechnology ventures, also provide evidence that market knowledge enhances the future recognition of entrepreneurial opportunities by firms.

Although these research developments do not analyze specifically the international dimension, it is possible to anticipate that when the focus is on the identification of opportunities across international borders, the rationale will be similar. In line with this, Eriksson et al. (1997) suggest that prior organizational experience and knowledge influences the internationalization process through its relationship with search process or alertness. Accordingly, it is expected that firms with higher foreign market knowledge will present higher

entrepreneurial alertness, namely in the international markets, and therefore will be able to identify international opportunities. As such, it is possible to formally present the following hypothesis:

**H$_6$:**     *A firm's foreign market knowledge is positively associated with its entrepreneurial alertness.*

A firm's absorptive capacity depends on the previous knowledge possessed by the firm (Cohen & Levinthal, 1990; Lane et al., 2006; Zahra & George, 2002b). Therefore, in order to assimilate and use new knowledge concerning the  internationalization process, a firm needs prior related knowledge. Typically, firms that have a good knowledge base of in a specific field are likely to have a higher absorptive capacity, and will be capable to evaluate and act on the new information, knowledge, or ideas that are implemented in the same field of knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002b). The extent and depth of the knowledge exposure will positively influence the firm's propensity to explore new and related knowledge (Zahra & George, 2002b). In line with this, the depth and diversity of prior experience will also positively influence the absorptive capacity (Eriksson & Chetty, 2003). Although the analysis is focused on firms already internationalized in the study developed by Eriksson & Chetty (2003), the same rationale can be used for INVs. Sharma and Blomstermo (2003) also conclude that INVs possess international market knowledge before their first entry into foreign markets.

Complementarily, due to their newness, a firm's lack of organizational experience and knowledge could be compensated by the experience or knowledge of the entrepreneurial or managerial team (Cooper & Dunkelberg, 1986; McDougall et al., 2003). As already presented in the framework developed for this dissertation, a firm's foreign market knowledge is affected by an entrepreneur's set of characteristics. Therefore, the relationship of these characteristics with the firm's absorptive capacity could be mediated by the firm's foreign market knowledge.

Hence, it can be expected that new ventures that present an initial base of foreign market knowledge will be more prone to present higher absorptive capacity related to foreign markets and internationalization. This leads to the assertion of the next hypothesis:

**H$_7$:**     *A firm's foreign market knowledge is positively associated with its absorptive capacity.*

### 3.2.3.3 Entrepreneurial Orientation

As already discussed, entrepreneurial orientation is one of the most relevant constructs analyzed in the entrepreneurship field (Covin et al., 2006; Keupp & Gassmann, 2009; Rauch et al., 2009), particularly in IE research (Hansen et al., 2011; Jantunen et al., 2005; Jones et al., 2011; Keupp & Gassmann, 2009). A collection of research has found a direct positive relationship between entrepreneurial orientation and firm performance (Avlonitis & Salavou, 2007; Covin et al., 2006; Covin & Slevin, 1989; Dimitratos et al., 2004; Jantunen et al., 2008; Lumpkin & Dess, 2001; Morris & Sexton, 1996; Mostafa et al., 2005; Wang, 2008; Wiklund & Shepherd, 2003, 2005; Zahra, 1991; Zahra & Covin, 1995). Entrepreneurial orientation may contribute to increased performance by supporting the firm's capacity to identify innovative opportunities with potentially high returns, obtaining first mover advantages, and targeting premium market segments (Hitt, Ireland, Camp, & Sexton, 2001; Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005). Rauch et al. (2009) corroborates this relationship, as they found a moderately large correlation between entrepreneurial orientation and performance. Nevertheless, the same authors maintain the argument that the simple analysis of this relationship is insufficient; as a result they suggest the analysis of different factors as mediators or moderators of this relationship (Rauch et al., 2009).

Taking entrepreneurial orientation as a firm's strategic posture, it could be expected that entrepreneurial orientation influences several of the firm's actions or decisions for gaining competitive advantage over its competitors, and thus, obtaining superior performance (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003). Hence, this research simultaneously tested the relationship between entrepreneurial orientation and several firm actions, that act as mediators of the entrepreneurial orientation-performance relationship, namely international social networks, entrepreneurial alertness, absorptive capacity, and competitive generic strategies.

The specific relationship between entrepreneurial orientation and social networks has been analyzed in a few studies (Awang, Ahmad, Asghar, Subari, & Kassim, 2011; Manev, Gyoshev, & Manolova, 2005; Martins, 2012; Mort & Weerawardena, 2006; Ripollés & Blesa, 2005). Nevertheless, there is evidence regarding the relevance of social networks for the INVs' degree and speed of internationalization (Gassmann & Keupp, 2007; Holmlund & Kock, 1998; Kiss & Danis, 2008, 2010; Loane & Bell, 2006; Manolova, Manev, & Gyoshev, 2010). The reasoning is based on access to resources, capabilities, information, knowledge, and opportunities that networks provide to INVs (Chetty & Agndal, 2007; Chetty & Campbell-Hunt, 2003; Ellis, 2011; Komulainen et al., 2006; Zhou et al., 2007). Zhang, Ma and Wang (2012) found that both entrepreneurial orientation and ties in social networks are relevant for

the internationalization of Chinese SMEs. Complementarily, Ripollés and Blesa (2005) conclude that there is a positive relationship between the personal networks and the entrepreneurial orientation of new ventures.

The conversion of entrepreneurial orientation into higher performance demands strategic resources in order to create and exploit new entrepreneurial opportunities (Hitt et al., 2001), and the use of international social networks may be the strategic action that enables INVs to internationalize and obtain higher performance (Ireland, Hitt, & Sirmon, 2003; Stam & Elfring, 2008). International social networks can be activated or built for the strategic implementation of the internationalization objective (Coviello & Munro, 1997; Loane & Bell, 2006; Welch & Welch, 1996). Access to these networks may help entrepreneurial firms to identify foreign exchange partners (Ellis, 2000; Komulainen et al., 2006); to identify new foreign market opportunities (Ellis & Pecotich, 2001; Ellis, 2011; Komulainen et al., 2006); to diminish ambiguity and risk related to foreign market entry (Sharma & Blomstermo, 2003; Zain & Ng, 2006); and to enhance competitive advantage (Greve, 2006).

Following these arguments, it is possible to develop the following hypotheses:

$H_{8a}$: *A firm's entrepreneurial orientation is positively associated with its value chain social network.*

$H_{8b}$: *A firm's entrepreneurial orientation is positively associated its firm's institutional social network.*

$H_{8c}$: *A firm's entrepreneurial orientation is positively associated its firm's foreign knowledge social network.*

A central issue when analyzing entrepreneurial orientation as a posture of the firm's aim of achieving sustained competitive advantage (Barney, 1991; Wiklund & Shepherd, 2003) is the discovery and exploitation of new opportunities (Wernerfelt, 1984). Based on the resource-based view (Wernerfelt, 1984), new ventures that present high entrepreneurial orientation will use their resources more effectively to discover and exploit opportunities. In order to discover opportunities, an entrepreneur or entrepreneurial firm must be in a constant state of alertness (Ardichvili et al., 2003; Ray & Cardozo, 1996). Actually, Kirzner (1973, 1979, 1982) refers to how entrepreneurship involves the discovery of opportunities because entrepreneurs live in a state of alertness, and have the ability to spot opportunities that others do not have. Entrepreneurs have an 'antenna' for identifying gaps in the market that others do not identify (Kirzner, 1973, 1979).

According to Kirzner (1997) an entrepreneurial attitude involves a constant alertness to the discovery of new opportunities, being "always ready to be surprised, [and] always ready to

take the steps needed to profit by such surprises" (Kirzner, 1997, p. 72). Entrepreneurial teams, and therefore firms with high levels of entrepreneurial orientation, proactively search for potential changes in their environments in order to take calculated risks to seize new innovative opportunities related to new technologies, new markets, or new ways of operating (Lumpkin & Dess, 1996). When comparing entrepreneurial firms to traditional ones, it is logical that the first are better able to recognize international opportunities, and afterwards exploit those opportunities earlier, and present a faster internationalization pace for countries with higher levels of commitment (Autio et al., 2000; Oviatt & McDougall, 2005b; Spence & Crick, 2009). Zahra and Garvis (2000) also conclude that entrepreneurial activities play a critical role for success in general, and regarding international markets specifically, since entrepreneurial orientation supports opportunity recognition and exploitation within the expansion to foreign markets.

With these arguments in mind, it can be expected that firms with higher entrepreneurial orientation will present higher entrepreneurial alertness in order to better identify new opportunities. Therefore, it can be proposed that:

**H$_9$:** *A firm's entrepreneurial orientation is positively associated with its entrepreneurial alertness.*

Entrepreneurial orientation is a firm posture that reflects their propensity to develop innovative, proactive, risk-seeking, and competition-aggressive behavior in order to pursue their strategic objectives (Covin & Slevin, 1991; Lumpkin & Dess, 1996, 2001; Miller & Friesen, 1978; Wang, 2008). Taking this definition, the capability to rapidly identify, understand, and exploit new knowledge about foreign markets, foreign operations, international opportunities, and potential foreign customers may be intrinsic to firms, such as INVs, with higher entrepreneurial orientation (Knight & Cavusgil, 1996; Oviatt & McDougall, 1997, 2005b; Zahra & George, 2002b).

Knowledge located outside the firm can contribute to the development of innovation (Cohen & Levinthal, 1990). Therefore, in order to have show an entrepreneurial posture, and discover and exploit new international opportunities, INVs must present their capacity to absorb external knowledge, and the skill to use such knowledge for commercial purposes (Ireland et al., 2003; Tsai, 2001). Firms with higher entrepreneurial orientation support their efforts to leverage the absorbed knowledge in order to discover and exploit new opportunities (Wiklund & Shepherd, 2003). To be successful in foreign markets, new ventures must be able to identify, understand, absorb, and exploit the specificities of each market (Eriksson et al., 1997). There is some empirical support for this relationship between entrepreneurial orientation and absorptive capacity. From an early stage, Cohen and Levinthal (1990)

supported the idea that firms with "higher levels of absorptive capacity will tend to be more proactive [and innovative], exploiting opportunities present in the environment, independent of current performance" (Cohen & Levinthal, 1990, p. 137). Similarly, Liao, Welsch and Stoica (2003) conclude that entrepreneurial SMEs with higher levels of absorptive capacity have a propensity to be more proactive, whereas the ones that present lower levels have a propensity to be more reactive. In another study (Zahra & Hayton, 2008), absorptive capacity moderates the relationship between international venturing and financial performance.

Following this reasoning, it can be proposed that:

$H_{10}$:     *A firm's entrepreneurial orientation is positively associated with its absorptive capacity.*

The main reason why firms have an entrepreneurial posture is to gain competitive advantage over competitors, or in Miller's words, "beating competitors to the punch" (Miller, 1983, p. 771). Therefore, in order to develop a proactive, innovative, risk-seeking, and competition-aggressive behavior, firms must follow a strategy which allows them to achieve a superior performance (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003). Concerning this relationship between entrepreneurial orientation and strategy, Knight  argues that management teams in entrepreneurial firms may be more willing than others to "create and activate strategies and tactical maneuvers with a view to maintaining or improving performance" (2001, p. 161). Several studies in the entrepreneurship or IE fields identify strategy or strategic processes as moderators or mediators of the relationship between entrepreneurial orientation and performance (Covin et al., 2006; Knight, 2000, 2001; Knight & Cavusgil, 2004; Moreno & Casillas, 2008; Yu, 2012). For instance, using a sample of SMEs, Knight (2000) found a positive relationship between entrepreneurial orientation and several strategies: marketing leadership; quality leadership; and product specialization. In a subsequent study using the same data, Knight (2001) also found a causal link between international entrepreneurial orientation, strategy competence, and international performance. In this second study, strategic competence indicates the ability of management to perform key strategic functions such as R&D, quality product development, marketing, and distribution. Knight and Cavusgil (2004) also found that international entrepreneurship orientation positively influences global technological competence, the development of unique products, and the quality focus in order to achieve higher performance in international markets.

Concerning the generic strategies suggested by Porter (1980), there is some agreement that entrepreneurial activities present more proximity with differentiation strategies than with cost leadership strategies. This rationale supports the hypothesis of some researchers (e.g. Dess

et al., 1997) that entrepreneurial firms that follow cost leadership strategies will have lower performance than entrepreneurial firms that follow differentiation strategy. The results, however, contradict the expectations: firms that implement a cost leadership strategy obtain higher performances than firms that implement differentiation strategy. In another study Zahra and Covin (1993) hypothesized that cost leadership strategies would not be related to new product development, since this activity tends to be the domain of differentiation strategies, while improvements to existing products tend to be the domain of cost leadership strategies (Dess & Davis, 1984; Porter, 1980). The results were contrary to expectations: cost leadership was positively associated with new product development (Zahra & Covin, 1993).

Therefore, several strategies have been identified as being critical for the successful and rapid internationalization of new ventures or SMEs. A recent literature review identified the flexibility to adapt to rapidly changing external decisions, product differentiation, technological innovativeness, quality leadership, and niche focus as facilitators of an early internationalization phenomenon (Rialp et al., 2005a). So, entrepreneurial firms will tend to select strategies oriented to differentiation (Cavusgil & Zou, 1994; Julien & Ramangalahy, 2003; Knight, 2000, 2001; Knight & Cavusgil, 2004; Moreno & Casillas, 2008; Namiki, 1988) or to cost leadership (Cavusgil & Zou, 1994; Dess et al., 1997; Julien & Ramangalahy, 2003). Since there is no agreement regarding which competitive generic strategies is more suitable for entrepreneurial firms, it was decided to include the relationship between entrepreneurial orientation and all the competitive generic strategies included in the framework.

Following these arguments, it is possible to develop the following hypotheses:

$H_{11a}$: *A firm's entrepreneurial orientation is positively associated with its innovation differentiation strategy.*

$H_{11b}$: *A firm's entrepreneurial orientation is positively associated with its marketing differentiation strategy.*

$H_{11c}$: *A firm's entrepreneurial orientation is positively associated with its quality and service differentiation strategy.*

$H_{11d}$: *A firm's entrepreneurial orientation is positively associated with its cost leadership strategy.*

### 3.2.3.4 Management Capabilities

An important intangible capability of the firm that has proven to be critical to international venturing is management capabilities (Yiu et al., 2007). This is an essential firm-specific asset, especially when managing human resources. The management capabilities included

in this research are related to the management of human resources, since the management of human resources in small ventures challenges outsized difficulties, and is increasingly recognized in the literature as a fundamental contributor to the performance of the firm (Jack et al., 2006). It can be expected that when firms function under conditions of newness, smallness, growth, and risk, this influences the way in which labor is managed (Marlow, 2006). In this context, it is proposed that when firms present high management capabilities, they will exhibit high levels of entrepreneurial alertness (since they are constantly looking for new opportunities), high levels of absorptive capacity (since they know how to manage learning), and will decide to follow a specific competitive strategy.

In order to present entrepreneurial alertness that enables the firm to discover and exploit new opportunities, firms must have high management capabilities. These capabilities allow the firms to complete several activities prior to the exploitation of a new opportunity, namely market research, prototype testing, manufacturing of products or services at a higher volume, efficient management of in and out logistics, development of customer service, and preparation for competition (Choi & Shepherd, 2004).

According to the resource-based theory, management capabilities may facilitate the alignment of the firms' resources with the processes by which those resources will be used and renewed, and therefore are critical to the management of firms' resources (Barney, 1991; Penrose, 1959). Likewise, according to the knowledge-based view, these capabilities may contribute to support competitive advantages (Alavi & Leidner, 2001; Grant, 1996a; McEvily & Chakravarthy, 2002; Teece et al., 1997).

Although INVs usually lack general resources, the existence of intangible capabilities, such as management capabilities, will be the basis for identifying and exploiting new opportunities towards new products and/or new markets, and therefore in maintaining and developing sustainable competitive advantages (Molina et al., 2004; Wernerfelt, 1984). In the same vein, Ucbasaran, Westhead and Wright (2008) suggest that entrepreneurs with superior human capital profiles, namely with superior managerial capabilities, may have a higher cognitive capacity to "be alert to opportunities, knowledge of where to look for an opportunity, and/or knowledge of what an opportunity 'looks like'" (Ucbasaran et al., 2008, p. 157). This is valid when opportunities are considered both from an inductive viewpoint (opportunities are moving in the environment waiting to be discovered), and also from a deductive viewpoint (opportunities are imagined and created by entrepreneurs). In the second case, higher managerial capabilities from the entrepreneurs, and thus also from entrepreneurial firms, will facilitate the creation and imagining of new opportunities. These authors found empirical support for the positive relationship between managerial capabilities and the identification of

opportunities (Ucbasaran et al., 2008). Park (2005) also argues that management skills, in accumulation with technical skills, are necessary to identify the best opportunities in high-tech new start-ups. In the same vein, Sambasiven, Abdul and Yusop (2009) conclude that alertness mediates the relationship between personal skills and venture performance, and alertness with prior knowledge likewise mediates the relationship between management skills and venture performance.

Therefore, it can be proposed that:

**H$_{12}$:** *A firm's management capabilities are positively associated with their entrepreneurial alertness.*

Concerning the relationship between management capabilities and absorptive capacity, the primary work of Cohen and Levinthal (1990) on absorptive capacity only regard to the question of technological capabilities. Yet similar conclusions appear to be possible with management capabilities (Alvarez & Busenitz, 2001).

A firm's management capabilities are the reflection of the management team's management capabilities, which can be innate or learned along their working career. Since this collection of skills, abilities, expertise, and knowledge are improved upon during the career of the management team (or entrepreneurial team), and tend to be firm specific (Castanias & Helfat, 2001; Lane et al., 2001), the level of firm's absorptive capacity will be related to the scope of their management capabilities (Alvarez & Busenitz, 2001).

The rationale for this relationship is similar to the one that supports the relationship between foreign market knowledge and the absorptive capacity (Bosch, Wijk, & Volberda, 2006; Cohen & Levinthal, 1990; Lane et al., 2006; Zahra & George, 2002b). Since firms that have a good initial stock of knowledge in a specific field will present a high absorptive capacity, firms with a good base of management capabilities, and the inherent specific knowledge, will also exhibit a high absorptive capacity (Bosch et al., 2006; Cohen & Levinthal, 1990; Zahra & George, 2002b). Complementarily, given that the extent and depth of knowledge positively influences the firm's propensity to explore new and related knowledge (Zahra & George, 2002b), the higher the management capabilities of new ventures and their entrepreneurial team, the larger will be their absorptive capacity (Castanias & Helfat, 2001).

Following these arguments, it can be proposed that:

**H$_{13}$:** *A firm's management capabilities are positively associated with their absorptive capacity.*

The upper echelon perspective (Hambrick, 2007; Hambrick & Mason, 1984) suggests that managers' characteristics influence several organizational outcomes, particularly strategic perspectives. Several researchers have empirically explored this perspective (e.g. Beal & Yasai-Ardekani, 2000; Entrialgo, 2002), and found that different characteristics of firm leaders, are related to different strategies for obtaining higher performance or levels of success. For example, Beal and Yasai-Ardekani (2000) conclude that the alignment of particular managerial functional experiences with competitive generic strategies (low-cost leadership, as well as several differentiation-based strategies) result in superior performance. Analyzing a group of small manufacturing firms, they conclude that CEOs with higher R&D expertise may be involved in the successful implementation of an innovation differentiation strategy, while CEOs with higher engineering capabilities may be involved in the successful implementation of quality differentiation, and service differentiation strategies. Similarly, CEOs with greater engineering or accounting expertise may be required to follow a low-cost leadership advantage. Complementarily, acknowledging that the competitive generic strategies presented by Porter (1980) may not be mutually exclusive, they also conclude that CEOs that follow several combinations of expertise or management capabilities in different areas, may be required to follow several hybrid strategies relating to low-cost leadership and differentiation-based strategies.

In the same vein, Parnell (2011), using samples of retailing business in Argentina, Peru, and the USA, also found support for positive relationships between specific strategic capabilities and competitive strategies. Parnell found that focus strategy is related to marketing and linking capabilities; differentiation strategy is related to technology capabilities; and cost leadership strategy is associated with management capabilities.

However, the objective in this research is to emphasize the relevance of firms presenting high management capabilities so as to pursue a specific competitive generic strategy. Following the arguments of the resource-based view, this is valid for all the competitive generic strategies since management capabilities may facilitate the alignment between a firm's resources and its strategy (Barney, 1991). These capabilities may help to support the sustainable competitive advantage through their relevance to the 'O' dimension of the VRIO framework of the resource-based view, assisting the firm to exploit and leverage their resources in a manner that allows them to achieve sustained competitive advantage (Barney, 1991; Penrose, 1959; Wernerfelt, 1984). This is validated in a recent study by Acar and Zehir (2010), who conclude that management capabilities are positively related to both cost leadership and differentiation strategies.

On the other hand, as already mentioned, the management capabilities of a firm can be defined as the unique capabilities of their management team (entrepreneurs or entrepreneurial teams) to delineate a strategic vision, communicate the vision all over the firm, and empower the firm members to realize that strategic vision (Lado & Wilson, 1994). Hence, the very definition intrinsically presents the connection between management capabilities and strategy.

Following this reasoning, it can be proposed that:

**H$_{14a}$:** *A firm's management capabilities are positively associated with their innovation differentiation strategy.*

**H$_{14b}$:** *A firm's management capabilities are positively associated with their marketing differentiation strategy.*

**H$_{14c}$:** *A firm's management capabilities are positively associated with their quality and service differentiation strategy.*

**H$_{14d}$:** *A firm's management capabilities are positively associated with their cost leadership strategy.*

## 3.2.4 Firm Actions

### 3.2.4.1 International Social Networks

Social networks play a critical role in the internationalization process of firms, since social ties facilitate the identification of foreign market opportunities (Ellis & Pecotich, 2001; Ellis, 2011; Komulainen et al., 2006), or foreign exchange partners (Ellis, 2000; Komulainen et al., 2006) and export initiation (Ellis & Pecotich, 2001). On the other hand, by using social networks, entrepreneurs may develop their international vision (Chen, 2003; Yeoh, 2004), and get better access to knowledge about international business practices (Haahti et al., 2005; Sharma & Blomstermo, 2003) and foreign markets (Prashantham, 2005).

The use of social ties can help to counter the liability of foreignness (Johanson & Vahlne, 2003; Yli-Renko et al., 2002), reduce uncertainty and risk associated with foreign market entry (Sharma & Blomstermo, 2003; Zain & Ng, 2006), and enhance the competitive advantage (Greve, 2006). These advantages should impact positively on firm performance, since the decision to enter into specific foreign markets is not a 'blind shot'. In a recent study by Ellis (2011), the author found that the use of social ties in the identification of international opportunities led to exchanges that account for higher sales volume than other international opportunities identified through other means (such as trade fairs or advertising).

Other studies also support the link between social networks and firm performance (Johanson & Vahlne, 2003, 2006; Jones & Coviello, 2005; Peng & Luo, 2000; Yeoh, 2004; Zhou et al., 2007). For example, Peng and Luo (2000) analyzed Chinese *guanxi* networks, and concluded that the micro interpersonal ties of top managers with top executives from other firms and government officials improve macro business performance (measured as market share and return on assets). Yeoh (2004), in a study of INVs from the United States, also conclude that knowledge and skills learned with personal sources of information and social contacts had a positive effect on INVs' export performance. Zhou et al. (2007), in their study of Chinese born-global SMEs, found that social networks mediate the relationship between inward and outward internationalization and firm performance. Therefore, with the purpose of investigating the impact of INVs' social networks in its international performance, it is proposed that:

**H<sub>15a</sub>**: *A firm's value chain social network is positively associated with its international performance.*

**H<sub>15b</sub>**: *A firm's institutional social network is positively associated with its international performance.*

**H<sub>15c</sub>**: *A firm's foreign knowledge social network is positively associated with its international performance.*

### 3.2.4.2 Entrepreneurial Alertness

One of the most important aspects of entrepreneurship is the recognition of new opportunities (e.g. Ardichvili et al., 2003; Di Gregorio et al., 2008; Eckhardt & Shane, 2003; Gaglio & Katz, 2001; Shane, 2000; Shane & Venkataraman, 2000; Tang et al., 2012). In fact, several authors present opportunity identification as the most essential and distinctive entrepreneurial behavior (e.g. Ardichvili et al., 2003; Gaglio & Katz, 2001; Stevenson & Jarillo, 1990). An entrepreneur or entrepreneurial firm must be in a constant state of alertness if they have plan to discover new opportunities (Ardichvili et al., 2003; Ray & Cardozo, 1996). The entrepreneurs or the entrepreneurial teams that present higher levels of alertness are characterized as having a radar that allows the recognition of gaps in the market ignored by others (Kirzner, 1973, 1979); if they identify the best market opportunities, they will achieve success and present higher performance. According to Ardichvili et al. (2003), prior knowledge through entrepreneurial alertness helps entrepreneurs to identify new business opportunities. These opportunities are related to the discovery of new and innovative ways to satisfy customers' needs through new products, services, or processes, which eventually leads ventures to success.

There is still little research that tests the relationship between entrepreneurial alertness and firm performance in general, and specifically regarding internationalization. Nevertheless, a recent study by Sambasivan et al. (2009) concludes that opportunity recognition skills positively influence the venture's performance. They also attain that alertness specifically mediates the relationship between personal skills and venture performance, and alertness with prior knowledge likewise mediates the relationship between management skills and venture performance. Zahra and Garvis (2000), also suggest that entrepreneurial-oriented firms actively seek new opportunities in international markets, namely through new operating modes that improve their performance, and also simplify the achievement of new resource arrangements. Using a case study approach, Park (2005) concludes that opportunity recognition and product innovation guide high-tech start-ups to market success. Focusing on the differences between inexperienced novice entrepreneurs and experienced serial and portfolio entrepreneurs, Westhead, Ucbasaran and Wright (2005) found that portfolio entrepreneurs present higher entrepreneurial alertness, identify a higher number of opportunities, and achieve higher performance than novice entrepreneurs. On the contrary, Baum, Locke and Smith (2001) have found a fragile relationship between opportunity recognition and venture growth.

Following this reasoning, it can be argued that:

$H_{16}$: *A firm's entrepreneurial alertness is positively associated with its international performance.*

### 3.2.4.3 Absorptive Capacity

The literature on technological development and organizational learning shows that learning has path-dependent and evolutionary features: i.e. capabilities developed in the past shape future learning patterns and decisions. Cohen and Levinthal's (1990) concept of absorptive capacity is one of the most established expressions of this evolutionary thinking. From this perspective, firms' success is likely to be strongly influenced by their initial options, focus, and effort (Autio et al., 2000); however, evolutionary processes take time. As the standard internationalization literature on long-established firms suggests (Johanson & Vahlne, 1977; Welch, Benito, & Petersen, 2007), INVs do not have the time to learn about foreign markets through a long, time-consuming process. Learning occurs more rapidly, particularly in the context of aggressive and hyperactive strategies (Chetty & Campbell-Hunt, 2004).

Likewise, it may be argued that the ability to learn by actively seeking knowledge about foreign markets, international opportunities, potential customers, and questions about operations in foreign markets is inherent to the entrepreneurial nature of INVs (Knight &

Cavusgil, 1996; Oviatt & McDougall, 1997, 2005b). To achieve success in international markets, firms must be able to identify and understand different characteristics of countries and requirements (e.g. cultures, product specifications, industry norms, customer specific needs, commercial rules, etc.) and the capabilities of local players (Eriksson et al., 1997).

The literature has demonstrated how learning behavior is a critical factor for the survival and growth of firms that operate internationally (Johanson & Vahlne, 1990; Zahra et al., 2000). In the same vein of thought, absorptive capacity, conceptualized as a "set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce dynamic organizational capability" (Zahra & George, 2002b, p. 186), may act as a critical resource that sustains the firm's competitive advantage (Barney, 1991; Lane et al., 2006; Zahra & George, 2002b). Actually, following arguments based on the knowledge-based view, absorptive capacity could develop a set of knowledge-based capabilities that create, manage, and exploit knowledge, and that could be vital for the early internationalization of new ventures and also yield superior firm performance (Grant, 1991, 1996a; Zahra & George, 2002b). Although the IE field is one of the research fields where absorptive capacity is less studied (Fernhaber et al., 2009; Rhee, 2005; Zahra & Hayton, 2008), there are several examples of studies in international business and entrepreneurship where this relationship was empirically supported (Flatten et al., 2011b; Lichtenthaler, 2009; Zahra & Hayton, 2008; Zahra et al., 2000). For instance, Flatten, Greve and Brettel (2011b) found that absorptive capacity is positively and directly related to firm performance, and the relationship between these two variables is mediated by successful strategic alliances. Additionally, it was found that absorptive capacity acted as a positive moderating effect in the relationship between international venturing and financial performance (Zahra & Hayton, 2008). Lichtenthaler (2009) also found support for a positive relationship between absorptive capacity and performance. Following the same line, Zahra et al. (2000) identify a direct positive relationship between international expansion and performance, but this link is strengthened by the organizational capability of absorbing new knowledge from international activities.

Absorptive capacity was also identified as an antecedent of SMEs' internationalization, namely through the knowledge accumulation – specifically knowledge about market and technology (Eriksson & Chetty, 2003; Prashantham & Young, 2011).

Therefore, it is possible to argue that:

**H₁₇:** *A firm's absorptive capacity is positively associated with its international performance.*

### 3.2.4.4 Competitive Generic Strategies

Entrepreneurial firms are more suited than others to implement and create strategies and tactical maneuvers with the purpose of improving or maintaining high performances (Knight, 2001). Strategy was one of the initial aspects analyzed in the IE field, with some strategies used to make a distinction between INVs and DNVs (McDougall, 1989; McDougall et al., 2003). For instance, McDougall (1989) concludes that INVs pursue more aggressive entry strategies than DNVs based on marketing and distribution, while DNVs emphasize strategies related to product expansion and customer specialization. In a similar study, McDougall et al. (2003) finds that INVs compete on the basis of differentiation strategies, giving a greater emphasis to product innovation, quality, strategy, and marketing differentiation strategies.

Strategic decisions could have an impact on the level of internationalization, namely the degree or speed of internationalization (Bloodgood et al., 1996; Freeman & Cavusgil, 2007; McDougall et al., 2003). Freeman and Cavusgil (2007), for example, found that different strategic orientations make a difference in internationalization patterns.

There are some studies in the IE field where strategic decisions have a positive significant influence on SME performance (Bloodgood et al., 1996; Julien & Ramangalahy, 2003; Knight, 2000, 2001), as well as on the survival of INV (Mudambi & Zahra, 2007). In a longitudinal study, McDougall and Oviatt (1996) also report that the new ventures which have increased their internationalization during a two-year period present significant positive relationships between strategy change and venture performance. Julien and Ramangalahy (2003) found that exporting SMEs which follow Porter's (1980) competitive strategies present better performances. Also using Porter's (1980) generic strategies, Namiki (1988) suggests that exporting SMEs generally adopt four main strategies: marketing differentiation; segmentation differentiation; innovation differentiation; and product-oriented service (customer service and high quality products). He found that exporting SMEs that achieve higher performances (measured through export growth and profitability) are those which follow the segmentation differentiation and innovation differentiation strategies (Namiki, 1988).

In a literature review study developed by Rialp, Rialp and Knight (2005a), several strategic factors were identified as facilitators of the early internationalization phenomenon, namely: flexibility to adapt to rapidly changing external decisions; product differentiation; technological innovativeness; quality leadership and niche focus. In the case of firms' innovativeness, there is some evidence confirming the relationship between this strategy and the performance of the firm (Cillo, De Luca, & Troilo, 2010; Hult, Hurley, & Knight, 2004; Kropp, Lindsay, &

Shoham, 2006; Salomo, Talke, & Strecker, 2008). Similarly, innovative firms can internationalize more actively or present higher export intensity (Podmetina, Smirnova, Väätänen, & Torkkeli, 2009). Knight and Cavusgil (2004) also found that international performance of born-global was a function of product development, quality focus, global technological competence, and leveraging foreign distributor competences. In another study, Knight (2000) concluded that marketing leadership is positively related to firm performance through the mediation of globalization response.

Other studies that analyze SMEs (Beal & Yasai-Ardekani, 2000; Hughes et al., 2010), or specifically INVs, conclude that both cost leadership and differentiation-based strategies can be positively related to superior performance. Hughes et al. (2010), for instance, found that when high-technology INVs follow a marketing differentiation strategy or cost leadership strategy, they positively influence the achievement of marketing and cost leadership positional advantages respectively, which by turn have a positive effect on export venture performance.

Based on the previous discussion, is clear that there is no agreement regarding the best competitive generic strategies for INVs to follow in order to obtain higher performances. Hence, it was decided to test the relationship of all the strategies with international performance, and so it is possible to develop the following hypotheses:

$H_{18a}$: *A firm's innovation differentiation strategy is positively associated with its international performance.*

$H_{18b}$: *A firm's marketing differentiation strategy is positively associated with its international performance.*

$H_{18c}$: *A firm's quality and service differentiation strategy is positively associated with its international performance.*

$H_{18d}$: *A firm's cost leadership strategy is positively associated with its international performance.*

### 3.2.5  Summary of Hypotheses

The following Table 3.1 systematizes the 42 research hypotheses (18 main hypotheses) included in the conceptual framework.

## Table 3.1: Hypotheses Statement

| # | Hypotheses | Expected Signal |
|---|---|---|
| $H_{1a}$ | An entrepreneur's educational level is positively related to a firm's foreign market knowledge. | + |
| $H_{1b}$ | An entrepreneur's interest in traveling is positively related to a firm's foreign market knowledge. | + |
| $H_{1c}$ | An entrepreneur's professional experience abroad is positively related to a firm's foreign market knowledge. | + |
| $H_{1d}$ | An entrepreneur's foreign educational level is positively related to a firm's foreign market knowledge. | + |
| $H_{1e}$ | An entrepreneur's risk propensity is positively associated with a firm's entrepreneurial orientation. | + |
| $H_{1f}$ | An entrepreneur's knowledge of foreign languages is positively associated with a firm's entrepreneurial orientation. | + |
| $H_{1g}$ | An entrepreneur's previous professional experience in the same industry is positively associated with a firm's management capabilities. | + |
| $H_{1h}$ | An entrepreneur's previous professional experience in management is positively associated with a firm's management capabilities. | + |
| $H_2$ | Technological turbulence is positively associated with a firm's entrepreneurial orientation. | + |
| $H_3$ | Competitive Intensity is positively associated with a firm's management capabilities. | + |
| $H_{4a}$ | A firm's resources are negatively associated with their value chain social network. | - |
| $H_{4b}$ | A firm's resources are negatively associated with their institutional social network. | - |
| $H_{4c}$ | A firm's resources are negatively associated with their foreign knowledge social network. | - |
| $H_{5a}$ | A firm's foreign market knowledge is positively associated with its value chain social network. | + |
| $H_{5b}$ | A firm's foreign market knowledge is positively associated with its institutional social network. | + |
| $H_{5c}$ | A firm's foreign market knowledge is positively associated with its foreign knowledge social network. | + |
| $H_6$ | A firm's foreign market knowledge is positively associated with its entrepreneurial alertness. | + |
| $H_7$ | A firm's foreign market knowledge is positively associated with its absorptive capacity. | + |
| $H_{8a}$ | A firm's entrepreneurial orientation is positively associated with its value chain social network. | + |
| $H_{8b}$ | A firm's entrepreneurial orientation is positively associated with its institutional social network. | + |
| $H_{8c}$ | A firm's entrepreneurial orientation is positively associated with its foreign knowledge social network. | + |
| $H_9$ | A firm's entrepreneurial orientation is positively associated with its entrepreneurial alertness. | + |

| H$_{10}$ | A firm's entrepreneurial orientation is positively associated with its absorptive capacity. | **+** |
|---|---|---|
| H$_{11a}$ | A firm's entrepreneurial orientation is positively associated with its innovation differentiation strategy. | **+** |
| H$_{11b}$ | A firm's entrepreneurial orientation is positively associated with its marketing differentiation strategy. | **+** |
| H$_{11c}$ | A firm's entrepreneurial orientation is positively associated with its quality and service differentiation strategy. | **+** |
| H$_{11d}$ | A firm's entrepreneurial orientation is positively associated with its cost leadership strategy. | **+** |
| H$_{12}$ | A firm's management capabilities are positively associated with their entrepreneurial alertness. | **+** |
| H$_{13}$ | A firm's management capabilities are positively associated with their absorptive capacity. | **+** |
| H$_{14a}$ | A firm's management capabilities are positively associated with their innovation differentiation strategy. | **+** |
| H$_{14b}$ | A firm's management capabilities are positively associated with their marketing differentiation strategy. | **+** |
| H$_{14c}$ | A firm's management capabilities are positively associated with their quality and service differentiation strategy. | **+** |
| H$_{14d}$ | A firm's management capabilities are positively associated with their cost leadership strategy. | **+** |
| H$_{15a}$ | A firm's value chain social network is positively associated with its international performance. | **+** |
| H$_{15b}$ | A firm's institutional social network is positively associated with its international performance. | **+** |
| H$_{15c}$ | A firm's foreign knowledge social network is positively associated with its international performance. | **+** |
| H$_{16}$ | A firm's entrepreneurial alertness is positively associated with its international performance. | **+** |
| H$_{17}$ | A firm's absorptive capacity is positively associated with its international performance. | **+** |
| H$_{18a}$ | A firm's innovation differentiation strategy is positively associated with its international performance. | **+** |
| H$_{18b}$ | A firm's marketing differentiation strategy is positively associated with its international performance. | **+** |
| H$_{18c}$ | A firm's quality and service differentiation strategy is positively associated with its international performance. | **+** |
| H$_{18d}$ | A firm's cost leadership strategy is positively associated with its international performance. | **+** |

# 4 Research Methodology

## 4.1 Introduction

This chapter will explain the methodology used with the main purpose of answering to the research problem while also addressing the research objectives. As already mentioned, the main aim of this research is to gain an understanding of the process that enables INVs to improve their international performance. Based on the literature review, a conceptual theoretical model was developed, with the associated hypotheses concerning the complex process that explains INVs' international performance.

In order to identify the antecedents, as well as the actions that support the international performance of INVs, the founders, owners or general managers of recent INVs were asked to answer to a set of questions using the survey methodology. These questions measure all the constructs included in the proposed theoretical model, already presented (see Section 3.2). This chapter outlines various decisions made regarding data collection and statistical analysis used in this research project.

This research employed a quantitative data collection method, using the survey approach to collect data related with the process that explains the international performance of INVs. The questionnaire applied to this research was designed mainly using previously validated scales in the literature or, when necessary, scales slightly adapted in order to fit the specific context of this study. Additionally the data analysis method used to examine the conceptual model employs Structural Equation Modeling (SEM), using the LISREL software. The main advantage of this statistical method for data analysis is that it allows the modeling and prediction of connections between several latent variables[1] simultaneously, fitting the data to the hypothesized model (Diamantopoulos & Siguaw, 2008).

This chapter is organized in nine sections: Section 4.2 explains the research paradigm; Section 4.3 presents the study design; Section 4.4 presents the data collection procedures; Section 4.5 explains the sampling procedure; Section 4.6 deals with questionnaire development; Section 4.7 describes the survey pretesting process; Section 4.8 describes the final questionnaire administration process; and Section 4.9 presents the methods for data analysis, namely the specificities of the structural equation modeling method.

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[1] In this work "latent variable" or "construct" are used interchangeably.

## 4.2 Research Paradigm

The research paradigm defines a frame for the researcher's work, constituting basic belief systems which guide researchers (Guba & Lincoln, 1994). In general terms, a research paradigm may be characterized as a worldview that defines the nature of the world, and therefore delineates a set of limits or boundaries inside which researchers are expected to carry out their works (Guba & Lincoln, 1994).

These paradigms are based on ontological, epistemological and methodological assumptions, since all social researchers approach a specific phenomenon through implicit or explicit assumptions regarding both the nature of the social world, and the methods that may be used in order to investigate that phenomenon (Burrell & Morgan, 1979; Guba & Lincoln, 1994). Ontology is related to the form and the nature of reality or of a particular phenomenon under investigation (Caldeira, 2000; Guba & Lincoln, 1994), whereas epistemology is related with the nature of the relationship between external reality and the researcher (Guba & Lincoln, 1994). Therefore, epistemology also deals with the ways in which the knowledge of the external reality is acquired (Caldeira, 2000; Sekaran, 2003). Complementarily, methodology is related to the methods that the researcher can use in order to find what he believes can be known (Guba & Lincoln, 1994).

In terms of ontology, there are two main positions: objectivism and constructionism. According to the first position – objectivism – reality exists beyond our reach or influence. In this case, a firm or an organization can be treated as a tangible object, with rules and regulations (Bryman, 2001). Regarding the second position – constructionism – there are multiple realities, since reality is a social construction that is developed based on one's different perceptions and actions (Bryman, 2001).

Regarding epistemological approaches, there are two main research approaches, namely positivism and interpretivism. These two approaches can be considered as polar opposites in a continuum of research paradigms. This dichotomy between the two main approaches is regularly labeled with other designations, such as positivist vs. phenomenological (Collis & Hussey, 2003); objectivist vs. subjectivist (Hassard, 1993); quantitative vs. qualitative (Creswell, 2009); or scientific vs. humanistic (Collis & Hussey, 2003).

According to the positivist approach, reality exists and is possible to be explained through universal laws, being possible its generalization. This research philosophy aims to explain the social phenomena and the social reality in terms of causality relationships between the elements that compose that reality (Burrell & Morgan, 1979). Positivists follow the ontological

perspective of objectivism, since there is only one objective reality that is independent of human perception (Sale, Lohfeld, & Brazil, 2002). Hence, the social world exists, and can be measured through objective methods instead of depending on mental constructions of subjective appreciations of each researcher (Caldeira, 2000). For positivists, science attempts to explain and predict the social world, particularly the phenomenon of study, and so attempts to identify regularities (Burrell & Morgan, 1979). Therefore, reality is the same independent of the researcher that analyzes it. The researcher and the investigated phenomenon are independent entities, and the researcher is capable of analyzing the phenomenon without influencing it, or being influenced by it (Guba & Lincoln, 1994). Hence in the positivist perspective, if different researchers make the same study, it will be expected that they achieve the same results.

In contrast, for the interpretivist or phenomenological approach, the world cannot be seen as an objective reality; instead the world is only understood based on subjective explanations of human behavior and experiences (Bryman, 2001). The reality is socially constructed and therefore continually transforming (Berger & Luckmann, 1966). The social world is fundamentally relativistic and "can only be understood by interpreting the activities which are to be studied" (Caldeira, 2000, p. 3). Interpretivists follow the ontological perspective of constructionism, since there are multiple realities or truths depending on one's construction of reality (Sale et al., 2002). The researcher and the investigated phenomenon are interactively linked, and the reason why findings are created within the context that shapes the inquiry (Guba & Lincoln, 1994). Therefore, contrary to the positivist approach, if different researchers make the same study, they will reach different results, since the knowledge of reality is the result of a social construction made by researches or other human actors, and is thus subjective. For interpretivists, there are multiple-constructed realities, and for that reason generalizations are not acceptable (Guba & Lincoln, 1994).

This dissertation was conducted in order to identify the INVs' managerial decisions, or actions that enable the connection between the antecedents (related to the entrepreneur/ entrepreneurial team, the firm, and the industry), and INVs' international performance. The existence of a diverse and fragmented literature that analyzes the direct relationship between the antecedents, and the outcomes related to the INVs' internationalization process with several types of concepts, claims to contribute to the development of a holistic framework, developed through a rigorous methodological process, in order to contribute to scientific evolution in this particular field of knowledge.

The research paradigm adopted in this study follows an ontological perspective of objectivism, and a post-positivist epistemological approach. Post-positivism may be

considered as a derivation of positivism that recognizes some of the criticisms of positivism, but maintains the same ontological view, and utilizes the same scientific method of testing as positivism. As in positivism, post-positivists still assume that objective reality exists, but it can be only imperfectly and probabilistically apprehended (Guba & Lincoln, 1994). This epistemological approach has been gaining supporters over the past two decades (Clark, 1998; Trochim & Donnelly, 2006), and presents some characteristics that are convergent with the positivism perspective and other divergent aspects.

For post-positivists (as with other positivists), science is still required to present precision, logical reasoning, and attention to evidence, yet it is not confined to what could be directly perceived since researchers cannot fully understand reality (Clark, 1998; Guba & Lincoln, 1994). Two other interrelated divergences between post-positivist and positivist approaches are the role of the researcher, and the researcher's perceptions and generalization. In post-positivism, the researcher is not fully independent from the inquiry. Even though the reality is objective and science is not seen as a personal opinion, the particular involvement of each researcher, as well as their "cognitive processes of perception and their experiential, cultural and knowledge related biases" (Clark, 1998, p. 1246) embrace an interpretative element in the research inquiry. Therefore, since research findings are contextually bounded, knowledge cannot be universally generalizable to all cases and situations (Clark, 1998). This is different from the positivist approach, where reality was explained through universal laws, and where generalization is possible.

According to positivism, science permits us to understand the world, and researchers can precisely know reality and discover universal truths. Conversely, it is impossible to identify universal truths through post-positivism; knowledge is tentative and remains provisionally 'known' until some evidence of its falseness occurs (Brand, 2009). Hence, post-positivism recognizes that researchers' inquiries are fallible, and that there is no error-free research. Researchers cannot completely achieve objectivity, since they are embedded in each particular context, and consequently they only can come close to objectivity through triangulation across multiple perspectives (Trochim & Donnelly, 2006).

Like positivism, post-positivism develops hypotheses from theory, supports a quantitative methodology, and frequently applies the hypothetical-deductive method. This method uses theory about a specific phenomenon to define research hypotheses, which will afterwards be tested empirically with the observed data, enabling the hypotheses to be confirmed or not confirmed (Riley, Wood, Clark, Wilkie, & Szivas, 2000).

As stated, the present research project is based on the post-positivism epistemology, and uses the hypothetical-deductive method to define theory-driven hypotheses. The ontological and epistemological decisions of the researcher of the present study influence the research designs, as well as all decisions taken throughout the development of the tasks inherent to this work. Derived from the resource-based theory, the knowledge-based view, and network theory, as well as from the IE, international business and entrepreneurship literatures, this dissertation specifies eighteen main hypotheses (42 sub-hypotheses). To test the hypotheses, empirical data was gathered. Although the study mainly used quantitative methods (in accordance with the post-positivist approach), it also uses qualitative methods, yet in a very limited way. The qualitative research methods, namely in-depth interviews, were used in the early stages of research, with the purpose of collecting information to help to develop the questionnaire and some particular scales of the constructs. This combination of quantitative and qualitative techniques is suggested in the literature for improving research accuracy and researcher objectivity (Miles & Huberman, 1994; Trochim & Donnelly, 2006).

It is very common in the IE or entrepreneurship field for researchers to ignore the research paradigm contextualization (Seymour, 2006), and pass over directly to the discussion of methodology or method (Davidsson, 2004). Even so, literature reviews in the IE field indicate that the majority of studies in this field have been conducted from the positivistic or post-positivistic position using the related methods to capture data, and emphasizing inferential statistics and hypothesis testing (Coviello & Jones, 2004; Giamartino et al., 1993). Entrepreneurship and the IE fields of research are based on complex systems regarding the pathway that creates order from disorder (Anderson, Dodd, & Jack, 2012; Giamartino et al., 1993; Jones & Coviello, 2005). Based on this argument, complexity is a post-positivist concept, since this situation discards the idea that universal laws rule all the actions and outcomes in the world (Anderson et al., 2012; Giamartino et al., 1993). Giamartino et al. highlight this post-positivistic position when they argue "that the models of entrepreneurship are generally U.S. models (or more expansively models derived from industrial countries) and may not apply the same way, with the same results, elsewhere" (1993, p. 39). Therefore, some authors call for some integration between positivist and interpretivist methodologies in this field (Coviello & Jones, 2004) as a way to improve research rigor (Miles & Huberman, 1994).

## 4.3 Research Design

Before proceeding with the data collection and consequent analysis processes, it is necessary to delineate the boundaries, the structure and the plan of the research project.

The research design can be described as a plan, or a 'blueprint', of the research project allowing an exploration of and response to the research questions (Cooper & Schindler, 2008; Philliber, Schwab, & Sloss, 1980). The design of this research project is presented in Figure 4.1.

**Figure 4.1: Research Design of this Study**
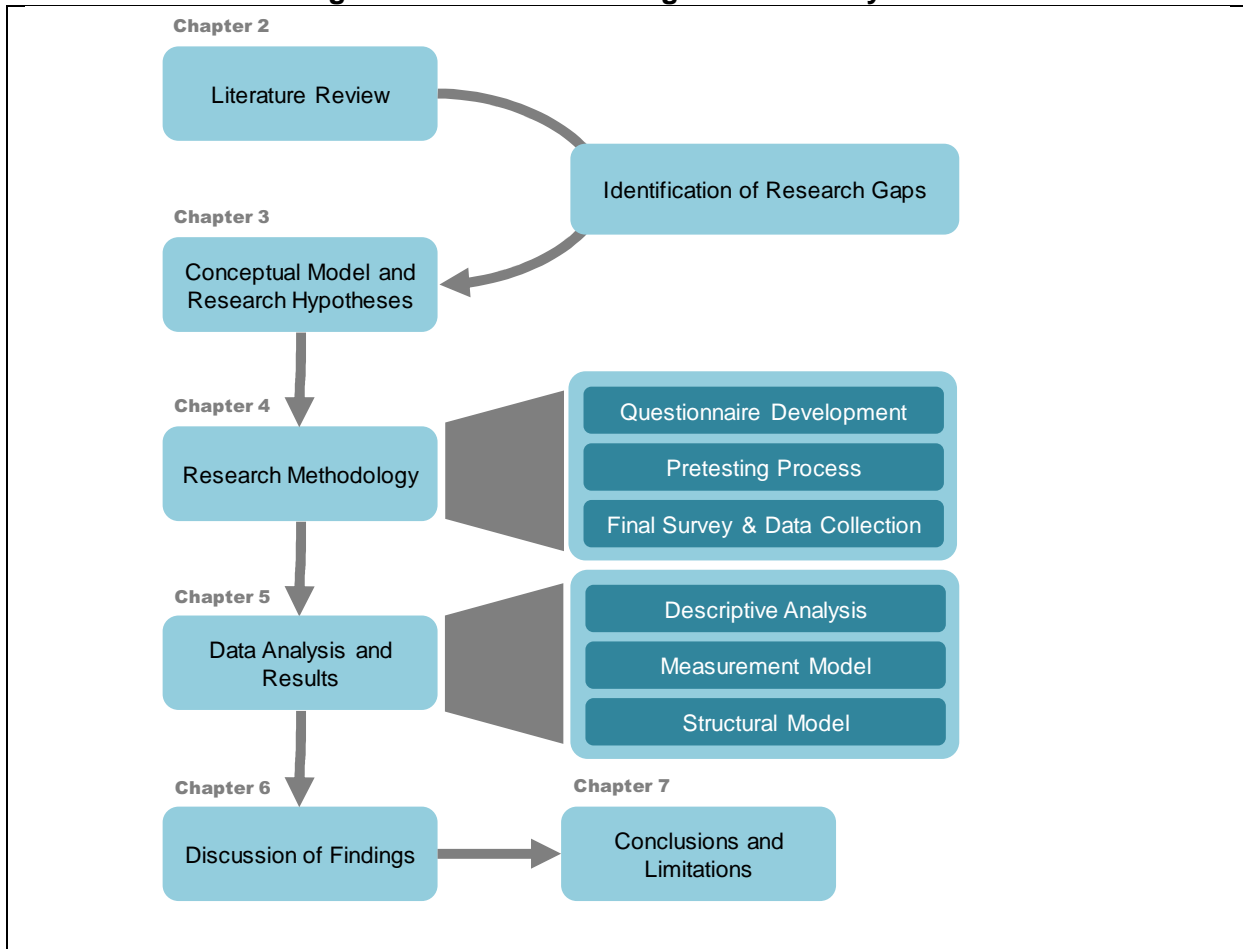


Source: Developed by the Author.

There are three types of research designs: i) exploratory, ii) confirmatory-descriptive and iii) confirmatory-causal or explanatory (Cooper & Schindler, 2008; Malhotra, 2007).

The exploratory studies are particularly useful when the knowledge about the research problem is particularly vague. This type of research design can help to establish priorities and to clarify concepts. On the other hand, the confirmatory-descriptive studies are particularly appropriate when the purpose of the research is to gain an understanding of the characteristics of the unit of analysis. Finally, the confirmatory-causal studies have as their main purpose the identification and complementary explanation of the relationships between a set of variables (Cooper & Schindler, 2008; Malhotra, 2007; Zikmund, 2000). This study

could be classified as a confirmatory-causal study, since the main purpose is to test the relationship between several latent variables, as presented in Section 3.1.

A quantitative method of data collection was employed in this cross-sectional study. Consequently, the survey approach was the main instrument used in obtaining data of the process by which INVs achieve international performance. The survey method chosen was most effective at dealing directly with the respondents' opinions or judgments, especially when collecting information regarding attitudes and beliefs (Yin, 2009; Zikmund, 2000). The cross-sectional survey method is the most common method of data collection in international entrepreneurship research (Coviello & Jones, 2004; Keupp & Gassmann, 2009).

The main advantages of using a survey method concern the accuracy with which the sample information is evaluated and the possibility of generalization of the findings from the sample to the global population (Creswell, 2009; Hair, Black, Babin, & Anderson, 2009). At the same time, the survey method is presented as rapid, economical, efficient and easy to administer to a large sample (Churchill, 1991; Sekaran, 2003; Zikmund, 2000).

Moreover, as will be subsequently be seen in section 4.9 in more detail, this research project will use a two-step approach in the structural equation modeling (SEM) analysis (Anderson & Gerbing, 1988). In the first step, measurement models will be applied for each latent variable measured through multiple-items, with the purpose of analyzing the unidimensionality, validity (convergent and discriminant), and reliability using confirmatory factor analysis (CFA). In the second step, the structural model will be analyzed in order to examine the hypothesized associations between the latent variables presented in the conceptual research model (Chapter 3).

## 4.4  Data Collection Method

The process of data collection is related to the gathering of opinions and information from target respondents concerning a specific research problem or research questions (Churchill, 1991). The main data-collection method used in this research is based on a questionnaire. A questionnaire is defined as a pre-formulated set of written questions, to which respondents register their answers, usually selecting between multiple alternatives in order to stimulate responses (Sekaran, 2003). "Questionnaires are an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest" (Sekaran, 2003, p.236).

Several reasons justify the choice of this method. First, this is considered to be the best method when collecting data from a large sample (Churchill, 1991; Sekaran, 2003; Zikmund, 2000). When the objective is to obtain a large final sample (i.e. more than 200 respondents), this method is the most adequate (Hair et al., 2009). Second, this method for data collection is fast, economical and efficient (Sekaran, 2003; Zikmund, 2000). Third, it is considered particularly adequate when the data deals with opinions, feelings, motives or attitudes (Sekaran, 2003; Yin, 2009; Zikmund, 2000). Fourth, this method is more suitable for research focusing on the exploration of causal relationships (Hair et al., 2009), as is the case here. Fifth, it is a method that enables the capture of precise information on the final sample of respondents (though this might deal with some bias problems), and enables a high level of generalization of the findings from the sample to the population (Creswell, 2009; Hair et al., 2009).

There are several methods used to collect questionnaire data, namely: i) telephone, ii) personal administration, iii) postal services, and iv) electronic means (Sekaran, 2003; Zikmund, 2000). An important difference between these four types of administration is that in the first two the researcher is present, or interacts with the respondents, whereas in the last two the questionnaire is self-administered.

After considering the advantages and disadvantages of these types of questionnaire administration, a decision was made to use self-administered electronic surveys or web surveys. The reasons that supported the use of the 'web' were related to the ease of managing the overall process, the high coverage in terms of geographical dispersion, the marginal costs and the quick delivery process (Sekaran, 2003). Complementarily, the motives that supported the preference for 'self-administrated' surveys were: i) the questionnaire could be started, paused and completed depending on the availability of the respondents ii) the possibility of reaching a large set of the population, quickly and economically when compared with other methods; and iii) the researcher does not influence the respondent (Zikmund, 2000).

In a recent study comparing the reliability of telephone surveys with web surveys (Braunsberger, Wybenga, & Gates, 2007), the authors indicate that in the recent years the focus of surveys has shifted from telephonic surveys to web surveys. The main advantages of web surveys relate to the ability to access a high number of potential respondents, but with lower costs and time expenditure when compared with the telephone (Braunsberger et al., 2007). Currently, the self-administered web survey is increasingly common in this field of research (e.g. Jantunen et al., 2008; Kyläheiko et al., 2011; Zahra & Hayton, 2008; Zucchella et al., 2007).

## 4.5  Sampling Procedure

In this section, the sample selection process is presented. It addresses issues related with the optimal dimension of a final sample, the identification of key-informants, and the unit of analysis of this research.

### 4.5.1  Sample Selection

The empirical research on IE and INVs in particular, uses several types of samples. A comprehensive literature review of 179 articles in the international entrepreneurship field (Keupp & Gassmann, 2009) concluded that all studies except two out of 149 quantitative studies included in the analysis use samples of small and young firms. Consequently, the analysis of small and medium enterprises (SME) is commonplace in this area since the focus is on new businesses.

Industry selection in different studies is often specific, such as the software industry (e.g. Andersson, 2004; Coviello & Munro, 1997; Ojala & Tyrväinen, 2006; Reuber & Fischer, 1997; Terjesen, O'Gorman, & Acs, 2008; Zahra et al., 2003), high-technology industries or industries with R&D (e.g. Burgel & Murray, 2000; Fernhaber et al., 2009; Jantunen et al., 2008; Zou, Liu, & Ghauri, 2010), or even the natural stone industry (Santos & García, 2011). Several other studies use multi-industry samples (e.g. Kyläheiko et al., 2011; McDougall et al., 1994b; Mudambi & Zahra, 2007; Sapienza et al., 2005).

When analyzing the studies in the field of international entrepreneurship the INVs concept differs markedly when defined by the age of companies in the sample. Some studies take new ventures to mean companies aged up to three years (e.g. Knight et al., 2004; Zucchella et al., 2007), while others use a limit of six years (e.g. Coviello, 2006; Coviello & Cox, 2006; McDougall et al., 2003; Shrader et al., 2000; Zahra et al., 2000), eight years (e.g. McDougall, 1989), or even ten years (e.g. Burgel & Murray, 2000; Khavul, Pérez-Nordtvedt, & Wood, 2010).

In contrast, how international should an INV be? This was also an issue of disagreement. Some authors consider that at least 5 percent of an INV´s sales result from foreign markets (e.g. Zahra et al., 2000), others 10 percent (e.g. Zhou et al., 2007), while some authors defend that these companies should export at least 25 percent of total production (e.g. Knight et al., 2004; Kuivalainen, Sundqvist, & Servais, 2007).

Considering this heterogeneity, the sample selected for this study includes INVs from different industries aged up to 10 years old. The decision of a multi-industry sample was

based on the suggestion of Zahra and George (2002a), which emphasized that the concentration of research in high-technology industries could limit the generalization of the results to other industries. With a multi-industry sample the observed variance increases, thus augmenting the likelihood of generalization of research findings (Autio et al., 2000; Knight & Cavusgil, 2004; Moen & Servais, 2002; Morgan, Kaleka, & Katsikeas, 2004; Zahra et al., 2000).

The INVs comprising the sample were selected from a list of Portuguese new ventures that cumulatively meet three conditions:

- Be established between 2000-2009 and remained active in 2009 (did not 'died' between these dates);
- Had a degree of internationalization (measured as the ratio of exports to turnover) equal to or higher than 10%, using data from 2009;
- Had more than 5 employees.

The database, called eInforma, was obtained from Dun and Bradstreet and consisted of 3.166 firms. Since only about 25% of the firms in the eInforma database had an e-mail address, it was necessary to contact the remaining firms by telephone to explain the purpose of the study, identify the key-respondent (owner, partner, founder, general manager, CEO or managing director), call their participation, and ask for their direct e-mail for correspondence. Along this process 1.173 firms (37.0%) were excluded from the initial database due to the following reasons:

- it was not possible to contact a total of 480 firms despite several attempts;
- 309 firms were from transport or travel related industries where internationalization concepts could be misleading and incomparable with other sectors;
- a total of 263 firms faced insolvency or had been voluntarily closed down between 2009 and 2011;
- 75 firms were founded by multinational companies (MNC);
- 35 no longer carried out any international activity, namely no longer exporting or became indirect exporters through another national company;
- 6 firms were not interested in collaborating with the study;
- and 5 firms were founded before 2000.

As a result, the final sample includes a total of 1.993 firms.

## 4.5.2  Sample Size

The expectations concerning the final sample size should take into account both the extant literature of similar studies, and also the requirements of the statistical method that will be used for data analysis. With regard to the first issue, studies using a survey methodology in the field of international entrepreneurship present much diversified sample sizes. According to some literature reviews of this field, sample sizes usually range from 30 to 3600, but half received less than 200 responses (Coviello & Jones, 2004), or from 44 to 2.000 with an average sample size of 253 (Aspelund et al., 2007).

A literature review of the studies related to entrepreneurship and small business during 2001-2008 in three important Journals (*Journal of Small Business Management*, *Journal of Business Venturing* and *Entrepreneurship Theory and Practice*) carried out by Mullen, Budeva and Doney (2009), concludes that the average sample size of studies that use primary data was around 314.

The second aspect of analysis, concerning the requirements of the statistical method to be used, rests on the critical question of the necessary sample size. As SEM will be used here, recourse is made to the extensive range of guidelines on offer to researchers for this statistical analysis technique.

For example, some researchers present a rule of thumb of 5 responses for each construct included in the structural model, with a minimum of 100 responses (Gorsuch, 1983). Alternatively, a more widely accepted suggestion (Bentler & Chou, 1987) is that this rule of 5:1 relates to the number of responses to free parameters (not variables). When the data is normally distributed, there are many indicators of latent variables, and the associated factor loadings are large; the 5:1 rule should be considered capable of providing trustworthy parameter estimates. The same authors suggest that this ratio should be higher (10:1) to obtain appropriate significance tests when the data presents arbitrary distributions (Bentler & Chou, 1987).

Following the suggestion of 5 responses per construct would require a sample size of 140 responses, a value obtained by multiplying the 28 variables (including the control variables) by 5. On the other hand, if the suggestion of 5:1 relating responses with free parameters is followed, the sample size needed would be over 1000, considering that each variable is measured by several items, and each item corresponds to 2 free parameters (the loading and the measurement error).

In order to establish some bounds to these exercises, other authors suggest absolute values for sample sizes. For instance, some authors defend that when each factor (or latent variable) is measured with three or more items, "a sample size of 100 will usually be sufficient for convergence", and a sample of 150 "will usually be sufficient for a convergent and proper solution" for CFA (Anderson & Gerbing, 1984, pp. 170-171). Nevertheless, the majority of the authors agree that the more usual rule for a sample size when using SEM is a minimum of 200, in order to guarantee robust structural equation modeling (Gerbing & Anderson, 1992; Hair et al., 2009; Harris & Schaubroeck, 1990; Kline, 2005). This number is particularly relevant when, as with this research, the purpose is to analyze complex path models (Kline, 2005).

A sample size that exceeds 400 to 500 responses as an upper limit could become 'too sensitive', since almost any difference is detected, making all goodness-of-fit measures indicate poor fit (Hair et al., 2009). Other authors conclude that the sample size should not exceed the 800 responses (Chin & Newsted, 1999).

Following the suggestions presented above, a minimum of 200 responses was considered necessary to undertake further analysis (Gerbing & Anderson, 1992; Hair et al., 2009; Iacobucci, 2010; Kline, 2005). However, since the conceptual model is very complex, while also presenting a holistic vision of the process that leads to the outperformance of INVs, a higher sample size could be considered preferable, closer to the upper limit of 400-500.

### 4.5.3 Informant Identification

In IE the most common key-informant in firm level studies is the president/vice-president/managing director or the founder/owner/manager (Coviello & Jones, 2004). As referred by Coviello and Jones (2004), these individuals can be the same person, but they are specified differently across the studies of international entrepreneurship. The most important aspect is to access to an informant "who retains institutional history and influence as regards IE" (Coviello & Jones, 2004, p. 494). Considering this aspect, respondents were asked to indicate their degree of knowledge on the issues covered in the questionnaire. This approach provides a quality assessment, and follows a procedure executed by Atuahene-Gima (2005).

Thus, following previous studies, when contacting the companies by phone to identify the key-informants, the name and e-mail address of the president, administrator, founder, owner or managing director of the firm was requested.

### *4.5.4 Unit of Analysis*

This study adopted a firm-level approach, and the majority of the questions are orientated towards the firm's perspective, in line with the majority of the research based on the traditional internationalization of SMEs and IE theories, where the most common unit of analysis is the firm (Wright, Westhead, & Ucbasaran, 2007). The selection of the firm as the unit of analysis is aligned with the research question, related to the relevance of differing managerial actions as mediators of the relationship between the antecedents and international performance of an INV's internationalization process.

Nonetheless, since there is also some evidence that entrepreneurs or entrepreneurial teams could be a key resource in leveraging international entrepreneurship activity (Kuemmerle, 2002), the degree of internationalization (Reuber & Fischer, 1997) and the speed of internationalization (Belso-Martínez, 2006; Zucchella et al., 2007), several questions relating to the entrepreneur were also included in this study. The objective of these questions is to see how an entrepreneur's characteristics relate to foreign market knowledge, managerial capabilities and the entrepreneurial orientation of the firm.

## 4.6  Questionnaire Development

This section addresses several issues relating to the development of the questionnaire. These include the design of the questionnaire, the response format, the translation of the questionnaire, and the incorporation of incentives.

### *4.6.1 Questionnaire Design*

The design of a questionnaire should promote the collection of complete and precise data in order to address the research problem (Malhotra, 2007). With this in mind, the development of the questionnaire was shaped to collect data relevant to the research problem and the objectives of the study. The questionnaire design used in this research project was based on an extensive review of the previous literature on strategy, entrepreneurship and international entrepreneurship, and specifically on the antecedents related to the firm, the entrepreneur and the industry and the actions of the INV that could explain a firm's international performance. The comprehensive review of previous literature, on those themes, helped to identify measures with the potential to capture the variables of interest. Building on the literature review process, the questionnaire was drafted and the constructs adapted.

According to market research literature (Churchill, 1991; Dillman, 2007; Malhotra, 2007) if the questionnaire is perceived as interesting, professional, easy to read, and easy to complete, this will positively affect the motivation to respond and complete the survey. Thus, an effort was made to present the questions with an organization, wording, sequence and visual design that appear to be, simultaneously, simple and professional. This approach was employed in both the web survey (see Appendix 7: Online Survey Print Outs) and the email inviting participation of potential respondents (see Appendix 2: Email Letter of Invitation to Participate in the Survey).

The sequence of the questions was also considered: the more difficult questions were placed later in the questionnaire, while the simpler, easier and more interesting questions (from the respondents' point of view) were placed at the beginning (Churchill, 1979; Malhotra, 2007). Nevertheless, the questions are organized by related topics (Fowler, 2002; Malhotra, 2007; Sekaran, 2003).

The language and wording used in the questionnaire were kept as simple as possible, with clear, unbiased, answerable questions, where necessary adapted to the characteristics of the sample of the study (Fowler, 2002; Malhotra, 2007; Sekaran, 2003). For instance, since the questionnaire was distributed to firms operating both in manufacturing and service industries, some questions needed to be adapted, since originally the scales were developed only to be implemented in manufacturing firms.

Additionally, the email inviting participation in the study (which corresponds to the cover letter in postal surveys) presents the theme of this study without revealing the conceptual model, and emphasizes the importance of the participation of respondents, as suggested by the literature (Churchill, 1991; Malhotra, 2007; Sekaran, 2003). In this email, it was also stressed that almost all the questions have multiple-items, and therefore the questionnaire would not take more than 20 minutes to be fully completed. The email also refers to the fact that the questionnaire should be preferably answered by an administrator, managing director, partner, owner, or founder and that the answers are confidential and will only be analyzed for statistical purposes.

The invitation email also presents the researcher's affiliation, as well as the affiliations of the supervisors, since this is often referred to as providing credibility to the survey and increasing the participation willingness of potential respondents (Churchill, 1979; Fang, Wen, & Pavur, 2012; Malhotra, 2007; Sekaran, 2003).

Finally, the email of invitation also included links to two letters of support for this study, one from the Dean of School of Economics and Management – Technical University of Lisbon

(see Appendix 6: Letter of Support from ISEG), and another from a VP of the Governing Board of the Institute of Support to Small and Medium Enterprises and Innovation (see Appendix 5: Letter of Support from IAPMEI). The inclusion of these letters of support had a similar objective of increasing the credibility and the response rate of the survey.

## 4.6.2 Questionnaire Translation

The entire questionnaire was initially developed in English, since it was the original language of the measures used in this research. Then, the suggestions of Sekaran and Bougie (2010) concerning the translation of the instrument were followed, and after completing the questionnaire in English, the questions were translated into Portuguese. The Portuguese version was then back-translated into English by a bilingual person (fluent in English and Portuguese). Subsequently, the original version and the back translated version were compared by another person, who identified differences in 9 questions (from a total of 39 questions), but only in a marginal number of items (17 items from a total of 245 items). To ensure the best translation, the differences between the original and the back translated versions were analyzed in order to achieve the best wording or terminology for translation, trying to ensure both vocabulary and content equivalence to the Portuguese version of the questionnaire (Sekaran & Bougie, 2010).

## 4.6.3 Incentives

Also relevant, are the respondent incentives, since they could increase the response rate to surveys. However respondent incentives with online surveys may be more complicated than those for postal surveys, since a postal letter is not forwarded to possible respondents (Van Selm & Jankowski, 2006). In online surveys the alternative seems to be 'immaterial' incentives.

Two incentives of that type were offered, namely the opportunity to receive two tickets for the conference where the results of this study will be presented and also the opportunity to receive a final report with the main findings of this research. These incentives were referred to both in the email letter inviting participation in the survey and in the final survey itself. At the end of the survey the participants were asked if they were interested in these incentives and if so, a contact email was requested in order to send the report with the main findings and the tickets for the conference.

## 4.6.4 Response Format

All the latent variables used in this study were measured by multi-item Likert scales. The multi-item measures were applied to fully represent the theoretical concept of each latent variable, because a single item cannot capture all the aspects of a complex theoretical concept (Churchill, 1979, 1991). Also, the implementation of multi-item measures increases the scale sensitivity (Churchill, 1979).

The Likert-type scale was kept throughout the entire questionnaire (except in the characterization questions – related to the company, the entrepreneur and international activity) since this form of response is characterized by simplicity, regularity, and symmetry, helping respondents to focus on the core subject of the investigation (Dillman, 2007). In fact, the use of Likert scales had the purpose of minimizing the answer time and effort of respondents (Fowler, 2002), given that this format of question reduces the cognitive effort required when answering the questionnaire (Hair et al., 2009).

The Likert-type scale allows respondents to select the intensity of their perceptions relating to a specific phenomenon, or their level of agreement with the ideas presented in a set of different statements (Churchill, 1991). This type of scale is one of the most accepted and used attitude-scale techniques (Barnett, 1991; DeVellis, 2003; Malhotra, 2006, 2007).

A seven-point scale was adopted after considering the different number of response options. This choice was influenced by the sophistication of the method used in data analysis, where it is necessary to use continuous data or data classified in as many categories as possible. Scales with higher number of response options make it easier to discriminate responses from each other, thus contributing to enlarged variances and improved reliabilities (DeVellis, 2003; Malhotra, 2007).

Some authors refer to the fact that respondents present some cognitive restrictions in answering nine-point scales (Cox, 1980; Malhotra, 2007). Cox (1980) recommends the use of between five and nine options in Likert-scales. The use of an odd number of options was supported by the argument, presented by several authors, that respondents should have the opportunity to give neutral responses (DeVellis, 2003; Malhotra, 2007).

Finally, as already referred too, the majority of the scales used in this research have already been used in previous studies, and several of them were originally measured through seven-point scales. The latent variables that were originally measured using a different number of options (usually five-point scales), were adapted to also be measured using the seven-point scales in this research, and thus maintain the homogeneity between questions.

## 4.7 Survey Pretest

Up to this point, the questionnaire design process was centered on developing an appropriate response format for collecting data about the phenomena of interest. In order to minimize response errors, the next step was to pretest the questionnaire prior to its publication, a fundamental phase in the questionnaire development process (Hunt, Sparkman Jr, & Wilcox, 1982) (Bolton, 1991). This step occurs after the completion of the initial version of the questionnaire, and before publishing it for the main survey (Churchill, 1991; Reynolds & Diamantopoulos, 1998).

The pretesting phase is a preliminary evaluation of the questionnaire with a group of respondents, with the purpose of identifying possible problems with the questionnaire contents, namely: clarity, layout, language, or whether there are any biased or ambiguous questions (Gershowitz, 1995; Malhotra, 2007; Reynolds & Diamantopoulos, 1998; Sekaran, 2003). The importance of a pretesting phase has been highlighted by the literature in research methods (e.g. Malhotra, 2007; Sekaran, 2003; Tull & Hawkins, 1993).

Following the recommendation of Zikmund (2000), the pretesting phase of the questionnaire was implemented using two sequential procedures: first, the questionnaire was screened by other researchers; and second the questionnaire was administrated to a group of respondents with similar characteristics to the final sample of respondents, followed by a semi-structured in-depth interview with the pretest respondents.

### 4.7.1 Experts Pretest

The initial version of the questionnaire was revised by three research-experienced university academics with the main purpose of addressing early pretest issues related to: global structure of the questionnaire, wording and comprehension problems in each question, inadequate response categories and a possible need to adapt the measures to the characteristics of the final respondents. The main advantage of using this first type of pretest was related to the fact that well-educated respondents are more likely to make substantive suggestions and identify significant problems, as concluded by Foddy (1998).

The main suggestions of the experts on how to improve the questionnaire were:

- A change to some very similar items for the measure of entrepreneurial alertness, in order to reduce the perception of duplication ;
- The inclusion of new items in the question related to the international social network;

- The elimination of some questions related to industry structure, the uncertainty surrounding the domestic and foreign market, international entrepreneurial orientation, and international growth orientation. This was justified by the necessity to reduce the total length of the questionnaire;

- Introduction of the expression 'services' in some questions, since the final survey targeted multiple industries (including services).

## 4.7.2 Pretest Interviews

The questionnaire was pretested with respondents using semi-structured in-depth field interviews, since this method allows the researcher to capture reactions, indecisions, and other signals from the respondent that could not be achieved using other methods, such as telephone, mail or online. Despite the lack of consensus on this issue (Reynolds & Diamantopoulos, 1998), several researchers suggest that the questionnaire pretesting phase should be performed using a personal interview, even if the final survey will be administrated by a different method (e.g. Aaker, Kumar, & Day, 2004; Hunt et al., 1982; Peterson, 1988; Silverman, 2010).

The personal interview pretests were carried out using the *debriefing method*, where the respondent is requested to fully answer the questionnaire while the researcher observes the reactions (Czaja, 1998; Hunt et al., 1982). After the questionnaire is completed, the researcher analyzes along with the respondent the existence of possible difficulties relating to the format, language and structure of the questionnaire, as well as the content of each question (Czaja, 1998; Hunt et al., 1982).

On the other hand, the pretests were completed by respondents with similar characteristics to the target respondents, as recommended by Tull & Hawkins (1993). In fact, all the companies which participated in the pretesting phase were selected from the original sample used in this study. Therefore, the personal interviews were scheduled with the general manager/CEO or owner/founder of the company. In order to pretest the questionnaire, a sample of twelve companies from different industries were selected. This can be considered an appropriate number for a pretest (Converse & Presser, 1986; Ferber & Verdoorn, 1962; Sheatsley, 1983); as concluded by Zukerberg, Von Thurn & Moore (1995), the knowledge gained from larger samples (n=30 to 50) is trivial when compared with small pretest sample sizes (n= 10 to 15).

Actually, some authors argue that it is unnecessary to have a large sample for the pretesting process, but instead it is more relevant to have a heterogeneous sample (Converse &

Presser, 1986; Galtung, 1969). For that reason, the companies selected for the pretest process, belonged to different industries (e.g. manufacturing, services, and construction) and had different sizes (number of employees) with the purpose of assuring the heterogeneity of the respondents' characteristics. The companies that participated in the pretest process were excluded from the final sample.

**Table 4.1: Characteristics of the Semi-Structured Field Interviews**

| Company Code | Date | Duration | Respondent Function | Industry | Size (Number workers) |
|---|---|---|---|---|---|
| A | 01/07/2011 | 120 minutes | Founder / Owner | Manufacturing (Metallurgical) | 25 |
| B | 04/07/2011 | 95 minutes | Administrator | Manufacturing (Moulds) | 14 |
| C | 04/07/2011 | 80 minutes | Founder / Owner | Services (Design/Construction) | 13 |
| D | 08/07/2011 | 80 minutes | Founder / CEO | Services (Information Technologies) | 103 |
| E | 12/07/2011 | 75 minutes | Owner / Administrator | Manufacturing (Metallurgical) | 54 |
| F | 13/07/2011 | 75 minutes | Administrator | Services (Engineering) | 13 |
| G | 14/07/2011 | 90 minutes | Owner / General Manager | Manufacturing (Moulds) | 44 |
| H | 20/07/2011 | 100 minutes | General Manager | Construction | 14 |
| I | 22/07/2011 | 80 minutes | Founder / Owner | Manufacturing (Furniture) | 10 |
| J | 22/07/2011 | 70 minutes | Founder / CEO | Services (Consultancy) | 8 |
| K | 29/07/2011 | 85 minutes | Owner / General Manager | Manufacturing (Textile) | 40 |
| L | 29/07/2011 | 70 minutes | Internationalization Manager | Manufacturing (Textile) | 40 |

All the semi-structured field interviews included in the pretesting process took place in the enterprise location during July 2011. In Table 4.1 some characteristics of the companies included in the pretesting are summarized. Each in-depth semi-structured interview lasted between 70 and 120 minutes. Since the correct duration of a semi-structured in-depth interview should be between 60 and 150 minutes (Gerson & Horowitz, 2002), the durations were within the recommended range. An interview guide was provided so as to facilitate and homogenize the development of the in-depth field interviews (presented in Appendix 1: Interview Guide).

Overall, the questionnaire was considered to be clear, complete and relevant to the topic under investigation. Several respondents suggested modifications that were introduced into

the final version of the questionnaire. The main suggestions referred to the structure and wording of the questionnaire. In terms of wording some of the questions were rephrased, while others were simplified, clarified or completed with further information.

The main problems found concern the following aspects:

- In the question where the respondents were asked to identify the level of emphasis their firm placed on 23 competitive methods (ranging from "1 = No importance" to "7 = Major and constant importance"), four respondents presented some difficulties in identifying the meaning of two of those methods where the word *benchmarking* was used. Since benchmarking refers to a management tool, it was decided to maintain that specific word;

- In the question relating to the measurement of the international social network, the pretest sessions were also used in order to identify the adequacy of the measure initially developed by the author of this study with two other specialists in international business, entrepreneurship and networks. As result of this process, three new items were suggested and two initial items were modified;

- Finally, the major problem identified related to the length of the questionnaire. In response to this problem, it was decided to exclude three questions from the final survey. The selection of the questions was based both on the comparative relevance of each question to the research problem, and also on the feeling of duplication identified by the respondents. For example, initially the questionnaire included three performance measures (international performance, new venture performance and firm performance). The last measure was subsequently dropped because it was a seen to be a more general measure of performance, and consequently less adequate for evaluating INVs.

## 4.8  Administration of Final Questionnaire

This section presents the final measures as well as the steps related to the questionnaire administration process and some procedures for preventing common method bias.

### 4.8.1  Development of Measures

In the previous chapter, the inclusion of the various constructs in the proposed model was already justified, and the accompanying definitions presented. The purpose of this section is to present the operationalization of all the constructs.

Generally speaking, whenever possible scales adapted from earlier studies were used. Only minor adjustments were made during the pre-testing process mainly with the purpose of attaining additional clarity, simplicity and ease of understanding for the respondents. Only the measures related to networking were developed by the author.

In this section the variables are aggregated by blocks. First, antecedents (related with the entrepreneur, the firm and the industry) are analyzed, followed by actions related to the firm, and finally the results variable (international performance). The final section presents the operationalization of the several control variables considered in this study.

### 4.8.1.1  Entrepreneur's Antecedent Measures

The antecedents related to the entrepreneur include a group of demographic characteristics and a variable related to risk perception.

**Entrepreneur's Demographic Characteristics**

There is no agreement concerning the demographic, psychological or managerial characteristics that are more relevant to the internationalization and international performance of the firm. Following previous studies (e.g. Acedo & Jones, 2007; Belso-Martínez, 2006; Reuber & Fischer, 1997; Zucchella et al., 2007), several measures were considered in order to capture an entrepreneur's international experience, orientation and attitude.

First, respondents were asked about their *educational level*, which was measured through an 8-item scale, ranging from: "1 = elementary school or less"; "2 = middle school"; "3 = high school"; "4 = bachelor or professional degree"; "5 = full university degree"; "6 = post-graduate or specialization course"; "7 = Master's degree"; "8 = PhD".

Second, to measure the *foreign languages spoken* by the founder/entrepreneur/manager, they were asked about the number of foreign languages that they speak fluently.

Third, the respondents were asked about a number of aspects relating to the experience of the founders, prior the foundation of the firm, measured through a 7-point Likert-type scale (ranging from "1 = Very low" to "7 = Very high"). The features analyzed were: *interest in traveling*; *professional experience abroad*; *professional experience in the same industry of the firm*; *professional experience in management*; and *foreign educational experience*.

Since the purpose is to use each of the previous measures individually, seven constructs were created, each one measured through the single items previously presented.

**Risk Perception**

The risk perception latent variable was measured through a 4-item scale developed by Acedo and Jones (2007). The respondents were asked about their level of agreement, measured using a 7-point Likert-type scale (ranging from "1 = Strongly disagree" to "7 = Strongly agree"), with a number of sentences where international business was analyzed through riskiness lenses.

**Table 4.2: Items for measuring Risk Perception**

| Items | Description |
|---|---|
| RP_it1R | Selling products or services in foreign markets implies high risk. |
| RP_it2 | Exports are an important opportunity for my firm. |
| RP_it3 | International activity is a positive thing in my business. |
| RP_it4 | My firm has a high probability of success in foreign markets. |

Note: R - reverse coded.

### 4.8.1.2 Firm Antecedents Measures

This section presents the operationalization of several constructs classified as firm antecedents.

**Management Capabilities**

Management capabilities were measured using a 6-item scale adapted from Yiu, Lau, and Bruton (2007). The items were related with the management of human resources, since the management of human resources in small ventures is particularly challenging, and it is increasingly recognized in the literature as a fundamental contributor to a firms performance (Jack et al., 2006). Thus, the way in which labor is managed is expected to be particularly relevant when firms face conditions of newness, smallness, growth and risk (Marlow, 2006), and may be used as a *proxy* for broad management capabilities of the firm. Each item was measured using a 7-point Likert-scale ranging from "1 = Strongly disagree" to "7 = Strongly agree".

**Table 4.3: Items for measuring Management Capabilities**

| Items | Description |
|---|---|
| MC_it1 | Employees' skills and knowledge can be fully and effectively utilized. |
| MC_it2 | Employees have a strong organizational commitment and sense of belonging. |
| MC_it3 | Employees are able to discuss operational issues in an open, sincere and constructive manner. |
| MC_it4 | Employees are encouraged and supported to innovate. |
| MC_it5 | Managers will seek for, and accept, ideas relating to organizational transformation. |
| MC_it6 | Achievement of high performance goals and standards is sought by employees at all levels. |

## Entrepreneurial Orientation

In this research, the construct of entrepreneurial orientation was measured using an 11-item scale used by Lumpkin and Dess (2001), which was previously developed and tested for reliability by several authors (Covin & Covin, 1990; Covin & Slevin, 1989; Khandwalla, 1977, 1987; Miller, 1983). The items were organized in four dimensions: i) proactiveness; ii) innovativeness; iii) risk taking; and iv) competitive aggressiveness (see Table 4.4).

**Table 4.4: Items for measuring Entrepreneurial Orientation**

| Items | Description |
|---|---|
| **Proactiveness** | |
| EO_it1 | In dealing with competitors, my firm typically initiates actions which competitors then respond to. |
| EO_it2 | In dealing with competitors, my firm is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc. |
| EO_it3 | In general, the top managers of my firm have a strong tendency to be ahead of others in introducing novel ideas or products. |
| **Innovativeness** | |
| EO_it4 | In general, the top managers of my firm favor a strong emphasis on R&D, technological leadership, and innovations. |
| EO_it5 | Very new lines of products/services marketed in the past 5 years. |
| EO_it6 | Changes in product or service lines have usually been quite dramatic. |
| **Risk Taking** | |
| EO_it7 | A strong proclivity for high risk projects (with chances of very high returns). |
| EO_it8 | Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives. |
| EO_it9 | When confronted with decisions involving uncertainty, my firm typically adopts a bold posture in order to maximize the probability of exploiting opportunities. |
| **Competitive Aggressiveness** | |
| EO_it10 | My firm typically adopts a very competitive "undo-the-competitors" posture. |
| EO_it11 | My firm is very aggressive and intensely competitive. |

Commonly this construct is gauged through the application of the semantic differentials method (e.g. Lumpkin & Dess, 2001; Moreno & Casillas, 2008; Pérez-Luño, Wiklund, & Cabrera, 2011; Stam & Elfring, 2008). Instead of using this method, and seeking to maintain coherence along the questionnaire, a set of sentences were presented to the respondents where they were asked to indicate their level of agreement with several expressions, using a 7-point Likert-scale ranging from "1 = Strongly disagree" to "7 = Strongly agree". This procedure was already used by several authors (e.g. Bhuian, Menguc, & Bell, 2005; Covin et al., 2006; Jantunen et al., 2005; Wang, 2008).

**Foreign Market Knowledge**

Based on the construct developed by Eriksson, Johanson, Majkgard, & Sharma (1997), foreign market knowledge was considered to be organized in three dimensions: foreign institutional knowledge, foreign business knowledge, and internationalization knowledge. These dimensions were measured through a group of 11 items adapted from Zhou (2007) which result from preceding works (Autio et al., 2000; Eriksson et al., 1997; Hadley & Wilson, 2003).

Each of the 11 items was measured through a 7-point Likert-type scale, where the respondents were asked to rate the firm comparatively with main competitors in a scale ranging from "1 = Much worse than main competitors" to "7 = Much better than main competitors". The items are presented in Table 4.5, aggregated in the different dimensions.

**Table 4.5: Items for measuring Foreign Market Knowledge**

| Items | Description |
|---|---|
| | **Foreign Institutional Knowledge** |
| FMK_it1 | Our top managers' knowledge about foreign language and norms. |
| FMK_it2 | Our top managers' knowledge about foreign business laws and regulations. |
| FMK_it3 | Our top managers' knowledge about host government agencies. |
| | **Foreign Business Knowledge** |
| FMK_it4 | Our top managers' knowledge about foreign competitors. |
| FMK_it5 | Our top managers' knowledge about the needs of foreign clients/customers. |
| FMK_it6 | Our top managers' knowledge about foreign distribution channels. |
| FMK_it7 | Our top managers' knowledge about effective marketing in foreign markets. |
| | **Internationalization Knowledge** |
| FMK_it8 | Our top managers' international business experience. |
| FMK_it9 | Our top managers' ability in determining foreign business opportunities. |
| FMK_it10 | Our top managers' experience in dealing with foreign business contacts. |
| FMK_it11 | Our top managers' capability for managing international operations. |

**Firm Resources**

Firm resources were measured using a 5-item scale adapted from Wu, Wang, Chen & Pan (2008). The items were organized in order to describe both tangible and intangible assets, as well as the capabilities of the firm compared with the average of their industry (Wu et al., 2008), namely in terms of: specialized know-how, financial capital, managerial capability, reputation and past-alliance-experience. The respondents were asked about their level of agreement, measured through a 7-point Likert-type scale (ranging from "1 = Strongly disagree" to "7 = Strongly agree"), with a number of sentences where those aspects are compared with the average of the industry. The items are presented in Table 4.6.

### Table 4.6: Items for measuring Firm Resources

| Items | Description |
| --- | --- |
| FR_it1 | The specialized expertise of the firm was above the industry average. |
| FR_it2 | Firm capital was above the industry average. |
| FR_it3 | The operational management capability of the company was above the industry average. |
| FR_it4 | The reputation of the company was above the industry average. |
| FR_it5 | The cooperative alliance experience of the company was above the industry average. |

## 4.8.1.3 Industry Antecedents Measures

In this section, the operationalization of the two constructs classified as industry antecedents (competitive intensity, technological turbulence) is explained.

### Competitive Intensity

Competitive intensity was measured through a 5-item scale adapted from Jaworski and Kohli (1993). The respondents were asked to indicate, using a 7-point Likert-scale ranging from "1 = Strongly disagree" to "7 = Strongly agree", their level of agreement with several expressions (as presented in Table 4.7).

### Table 4.7: Items for measuring Competitive Intensity

| Items | Description |
| --- | --- |
| CI_it1 | Competition in our industry is cutthroat. |
| CI_it2 | There are many "promotion wars" in our industry. |
| CI_it3 | Anything that one competitor can offer others can match readily. |
| CI_it4 | Price competition is a hallmark of our industry. |
| CI_it5 | One hears of a new competitive move almost every day. |
| CI_it6R | Our competitors are relatively weak. |

Note: Items with "R" are reverse coded.

### Technological Turbulence

The technological turbulence measure is a 4-item scale also adapted from Jaworski and Kohli (1993). The respondents were asked to indicate, using a 7-point Likert-scale ranging from "1 = Strongly disagree" to "7 = Strongly agree" their level of agreement with particular expressions (see Table 4.8).

### Table 4.8: Items for measuring Technological Turbulence

| Items | Description |
| --- | --- |
| TT_it1 | The technology in our industry is changing rapidly. |
| TT_it2 | Technological changes provide big opportunities in our industry. |
| TT_it3 | A large number of new product ideas have been made possible through technological breakthroughs in our industry. |
| TT_it4R | Technological developments in our industry are rather minor. |

Note: Items with "R" are reverse coded.

### *4.8.1.4 Strategic Actions or Decisions Measures*

This section presents the operationalization of four variables related to the firm's actions: competitive generic strategies, entrepreneurial alertness, absorptive capacity, and international social networking.

**International Social Networking**

The development of the international social networking measures followed a procedure suggested by Churchill (1979). In a first step, the domain of the construct was specified through a search of the relevant literature (e.g. Belso-Martínez, 2006; Freeman et al., 2006; Greve & Salaff, 2003; Johannisson & Monsted, 1997; Mort & Weerawardena, 2006). Subsequently, information was collected through several discussions with three specialists in international business, entrepreneurship and analysis of networks in order to better specify and confirm a set of items that fully capture the domain of the construct. Finally, a set of interviews was developed with 12 entrepreneurs and owners of firms (during the pretest phase), with the purpose of confirming and selecting the final items.

The result of this procedure was a set of 15 items corresponding to 15 key informants which belong to the social network of the entrepreneurial/managerial team, as presented in Table 4.9.

**Table 4.9: Items for measuring International Social Networking**

| Items | Description |
|---|---|
| ISN_it1 | Key-informants in international costumers; |
| ISN_it2 | Key-informants in suppliers; |
| ISN_it3 | Key-informants in the management team of other companies (e.g.: complementors, competitors); |
| ISN_it4 | Key-informants in national government institutions that support internationalization; |
| ISN_it5 | Key-informants in international institutions that support internationalization (e.g.: UNCTAD, EU, WTO); |
| ISN_it6 | Key-informants in national companies with access to international distribution networks; |
| ISN_it7 | Key-informants in companies with distribution networks in the international market of destination; |
| ISN_it8 | Key-informants in industry or business associations; |
| ISN_it9 | Scientists, researchers and academics; |
| ISN_it10 | Key-informants in banks and other financial institutions; |
| ISN_it11 | Key-informants with knowledge of international markets, in general; |
| ISN_it12 | key-informants from personal relations with knowledge about destination countries; |
| ISN_it13 | Key-informants with market knowledge of the destination countries; |
| ISN_it14 | Key-informants from personal relations, living in destination countries; |
| ISN_it15 | Key-informants from previous business relationships, living in destination countries. |

The respondents were asked to indicate the level of importance of each of the 15 key informants for the internationalization process of the firm, on a scale that ranges from "1 = No importance" to "7 = Major and stable importance".

**Entrepreneurial Alertness**

The entrepreneurial alertness construct was adapted from a scale recently developed and validated by Tang, Kacmar and Busenitz (2012), representing an individual's ability to recognize opportunities that are ignored by others. As such, the original scale was developed in order to evaluate the entrepreneurial alertness of the entrepreneurs.

Since the purpose of including this variable was to capture the actions of the firm in order to identify new business opportunities, it was necessary to introduce several adjustments to the initial scale and therefore obtain the entrepreneurial alertness of the firm instead of the individual.

The original scale (Tang et al., 2012) had a total of 13 items, organized in three dimensions: i) Scanning and Search; ii) Association and Connection; and iii) Evaluation and Judgment. During the pre-test process it was decided to delete some items so as to reduce the feeling of duplication, and thus six items were dropped or aggregated. Additionally, two new items were included: "It is usual for our management team to relate day-to-day private situations with the business decisions" (EA_it7) and "Our management team implements practices or solutions from other companies in our own business decisions" (EA_it8). The final 11-item measure is shown in Table 4.10. The respondents were asked to indicate their level of agreement with these items, using a 7-point Likert-scale ranging from "1 = Strongly disagree" to "7 = Strongly agree". The scanning and search dimension, originally with six items, was now operationalized using only five items; the association and connection dimension was operationalized with the same number of items as in the original scale but with two new items; finally, the evaluation and judgment dimension was operationalized with three items, two less than in the original scale.

**Table 4.10: Items for measuring Entrepreneurial Alertness**

| Items | Description |
|---|---|
| **Scanning and Search** | |
| EA_it1 | My company has frequent interactions with other entities to acquire new information. |
| EA_it2 | Our management team looks systematically new business ideas. |
| EA_it3 | Our management team is always actively looking for new information. |
| EA_it4 | Our management team search regularly new information through the reading of economic and business publications. |
| EA_it5 | Our management team search regularly new information through the Internet. |

| | Association and Connection |
|---|---|
| EA_it6 | Our management team sees links between seemingly unrelated pieces of information. |
| EA_it7 | It is usual to our management team to relate day-to-day private situations with the business decisions. |
| EA_it8 | Management team implements practices or solutions from other companies in our own business decisions. |
| | **Evaluation and Judgment** |
| EA_it9 | Our management team can distinguish between profitable opportunities and not-so-profitable opportunities. |
| EA_it10 | When facing multiple opportunities, management team is able to select the good ones. |
| EA_it11 | The evaluation of new business opportunities is something ordinary for the company. |

## Absorptive Capacity

Absorptive capacity was measured using the 14-item scale developed and validated by Flatten, Engelen, Zahra, & Brettel (2011a). These items were organized into four dimensions related to acquisition, assimilation, transformation and exploitation of knowledge. Acquisition and exploitation were operationalized using three items for each dimension; while assimilation and transformation were operationalized through four items each (see Table 4.11).

**Table 4.11: Items for measuring Absorptive Capacity**

| Items | Description |
|---|---|
| | **Acquisition** |
| AC_it1 | The search for relevant information concerning our industry is every-day business in our company. |
| AC_it2 | Our management motivates the employees to use information sources within our industry. |
| AC_it3 | Our management expects that the employees deal with information beyond our industry. |
| | **Assimilation** |
| AC_it4 | In our company ideas and concepts are communicated cross-departmental. |
| AC_it5 | Our management emphasizes cross-departmental support to solve problems. |
| AC_it6 | In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments. |
| AC_it7 | Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements. |
| | **Transformation** |
| AC_it8 | Our employees have the ability to structure and to use collected knowledge. |
| AC_it9 | Our employees are used to absorb new knowledge as well as to prepare it for further purposes and to make it available. |
| AC_it10 | Our employees successfully link existing knowledge with new insights. |
| AC_it11 | Our employees are able to apply new knowledge in their practical work. |
| | **Exploitation** |
| AC_it12 | Our management supports the development of prototypes. |
| AC_it13 | Our company regularly reconsiders technologies and adapts them accordant to new knowledge. |
| AC_it14 | Our company has the ability to work more effective by adopting new technologies. |

Each of the 14 items was measured using a 7-point Likert-scale ranging from "1 = Strongly disagree" to "7 = Strongly agree".

## Competitive Strategies

The measurement of competitive strategies was performed using a group of 23 items adapted from Beal (2000). This set results from a combination of two groups of items: i) a collection of twelve items which have been used by several authors (e.g. Dess & Davis, 1984; Miller, 1988) in order to operationalize Porter's competitive generic strategies (Porter, 1980); and ii) a collection of eleven items designed to represent the multiple orientations of differentiation-based strategies, as suggested by Miller (1988) and Mintzberg (1988). This procedure results in a set of 23 items, as presented in Table 4.12.

**Table 4.12: Items for measuring Competitive Generic Strategies**

| Items | Description |
|---|---|
| Gst_it1 | R&D of new products; |
| Gst_it2 | Marketing of new products; |
| Gst_it3 | Selling high-priced products; |
| Gst_it4 | Obtaining patents or copyrights; |
| Gst_it5 | Innovative marketing techniques; |
| Gst_it6 | Building brand/company identification; |
| Gst_it7 | Advertising/promotional programs; |
| Gst_it8 | Securing reliable distribution channels; |
| Gst_it9 | Improving existing products; |
| Gst_it10 | Producing broad range of products; |
| Gst_it11 | Improving efficiency and productivity; |
| Gst_it12 | Developing new manufacturing processes; |
| Gst_it13 | Improving existing manufacturing processes; |
| Gst_it14 | Reducing overall costs; |
| Gst_it15 | Reducing manufacturing costs; |
| Gst_it16 | Strict product quality control; |
| Gst_it17 | Benchmarking best manufacturing processes in the industry; |
| Gst_it18 | Benchmarking best manufacturing processes anywhere; |
| Gst_it19 | Immediate resolution of customer problems; |
| Gst_it20 | Product improvements based on gaps in meeting customer expectations; |
| Gst_it21 | New customer services; |
| Gst_it22 | Improvement of existing customer services; |
| Gst_it23 | Improvement of sales force performance. |

The respondents were asked to indicate the level of importance for the firm, in the previous three years, of each of 23 competitive methods, in a scale that ranges from "1 = No importance" to "7 = Major and constant importance". Beal (2000) undertook an exploratory

factor analysis (EFA) on the study results and was able to identify five competitive strategic dimensions: cost leadership, marketing differentiation, innovation differentiation, quality differentiation and service differentiation. In the next chapter, when presenting the measurement models of individual constructs, the procedure followed by Beal will be reproduced with the aim of identifying the competitive generic strategies used in this study.

### *4.8.1.5 Results*

**International Performance**

Measuring the performance of any firm is not an easy task (Covin & Slevin, 1989). In this study a self-reported measure for international performance was used. International performance was measured using a 6-item scale adapted from Jantunen, Nummela, Puumalainen, and Saarenketo (2008). The respondents were asked to indicate their degree of satisfaction (using a 7-point Likert-scale ranging from "1 = Very unsatisfied" to "7 = Very satisfied") relating to six aspects of the international activities of their companies during the preceding 3 years (see Table 4.13).

The decision for a subjective measure was supported by the fact that the collection of objective data is particularly difficult in the context of SMEs, and even more difficult in the case of recent new ventures (Brush & Vanderwerf, 1992; Shoham, 1998). There are several reasons for this difficulty. First, since INVs are in the initial stage of their life cycles, they face high uncertainty and focuses mainly in developing their businesses and defining their market positions. Therefore, performance measures related with profitability, may not evaluate properly the effective performance of firms (Baum et al., 2001; Mudambi & Zahra, 2007). Second, managers and entrepreneurs have historically been extremely averse to revealing objective financial or performance data to outsiders (Francis & Collins-Dodd, 2000). Third, the literature suggests that a manager's evaluation of the performance of the firm in international markets appears to be more guided by their subjective perception and future expectations than by financial and objective measurement (Madsen, 1989).

**Table 4.13: Items for measuring International Performance**

| Items | Description |
| --- | --- |
| IP_it1 | Sales Volume; |
| IP_it2 | Market share; |
| IP_it3 | Profitability; |
| IP_it4 | Market entry; |
| IP_it5 | Image development; |
| IP_it6 | Knowledge development. |

Finally, there are several studies that show that the objective and subjective measures of performance are highly and positively correlated (e.g. Dess & Robinson, 1984; Shoham, 1998; Stam & Elfring, 2008). In fact subjective measures have as such been commonly used with the purpose of evaluating performance (e.g. Dess & Robinson, 1984; Dimitratos et al., 2004; Jantunen et al., 2005; Lu & Beamish, 2006a; Stam & Elfring, 2008; Wang, 2008; Zahra, Neubaum, & Huse, 1997).

### 4.8.1.6 Control Variable Measures

Four variables will be used as control variables in this study, namely: size, industry, international experience, and degree of internationalization. The operationalization of these variables is presented below.

**Firm Size**

Following several other studies in international entrepreneurship (e.g. Mudambi & Zahra, 2007; Reuber & Fischer, 1997; Zahra & Hayton, 2008) and internationalization of SMEs (e.g. Lu & Beamish, 2001), the size of the companies is controlled, using the natural logarithm of the number of employees. This data was obtained from the original Dun & Bradstreet database.

**Firm Industry**

The industry type can affect the performance of the firm abroad (e.g. Dimitratos et al., 2004; Erramilli, 1990, 1991). Therefore, one dummy variable was included to control for the industry effect. Service firms (that include industries providing services to families and firms, as well as construction and commerce) were dummy coded as '1' with firms from other industries (mainly manufacturing) dummy coded as '0'.

**International Experience**

International experience was added as a control variable, since previous experience at this level (from firm and management team) can influence the degree of internationalization and international performance (Bilkey & Tesar, 1977; Daily et al., 2000; Fischer & Reuber, 2003; Johanson & Vahlne, 1977; Reuber & Fischer, 1997). This variable is measured by counting the number of years between the first year of internationalization and 2011 (when the questionnaire was published). Similarly, this variable was present in previous studies (Dimitratos et al., 2004; Mudambi & Zahra, 2007; Sapienza et al., 2005).

**Degree of Internationalization**

There are several examples of studies regarding the internationalization of new ventures that suggest a link between the level of internationalization of new ventures and increased performance of these firms (e.g. Bloodgood et al., 1996; Lu & Beamish, 2006a; Lu & Beamish, 2001; McDougall & Oviatt, 1996; Qian & Lee, 2003; Zahra & Hayton, 2008; Zahra et al., 2000). Therefore, the degree of internationalization of the firm was also included as a control variable, operationalized through the percentage of exports in the total sales of the firm.

### 4.8.1.7  Summary of Measures

The table presented in the next pages (Table 4.14), systematizes the variables used in this study, as well as the anchor question, number of items for measure each construct, type of scale, and source of each construct.

**Table 4.14: Summary of Measures**

| ENTREPRENEUR ANTECEDENTS | | | | |
|---|---|---|---|---|
| **Construct** | **Question** | **Items** | **Type of Scale** | **Source** |
| Interest in traveling | How can you describe the experience of the founders in terms of: | 1 item | Likert Scale 1~7 (1= Very low; 7= Very high) | (Acedo & Jones, 2007; Zucchella et al., 2007) |
| Professional experience abroad | | 1 item | | |
| Professional experience in the same industry of the firm | | 1 item | | |
| Professional experience in management | | 1 item | | |
| Foreign educational experience | | 1 item | | |
| Educational level | Please indicate your highest educational level: | 1 item | 1= elementary school or less"; "2=middle school"; "3=high school"; "4=bachelor or professional degree"; "5=licenciate's degree"; "6=post-graduate or specialization course"; "7=Master degree"; "8=Phd". | (Acedo & Jones, 2007; Zucchella et al., 2007) |
| Foreign Languages | How many foreign languages do you speak fluently? | 1 item | # | (Acedo & Jones, 2007; Zucchella et al., 2007) |

| Risk Perception | Please indicate how much do you agree or disagree with the following statements: | | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Acedo & Jones, 2007) |
|---|---|---|---|---|

| **FIRM ANTECEDENTS** | | | | |
|---|---|---|---|---|
| **Construct** | **Question** | **Items** | **Type of Scale** | **Source** |
| Entrepreneurial Orientation | Please indicate how much do you agree or disagree with the following statements: | 11 items | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Lumpkin & Dess, 2001) |
| Management Capabilities | Please indicate how much do you agree or disagree with the following statements: | 6 items | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Yiu et al., 2007) |
| Foreign Market Knowledge | Compared to your major competitors, how is your own firm rating in the following aspects: | 11 items | Likert Scale 1~7 (1 = Much worse than main competitors; 7 = Much better than main competitors) | (Eriksson et al., 1997) |
| Firm Resources | Please indicate how much do you agree or disagree with the following statements: | 5 items | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Wu et al., 2008) |

| **INDUSTRY ANTECEDENTS** | | | | |
|---|---|---|---|---|
| **Construct** | **Question** | **Items** | **Type of Scale** | **Source** |
| Competitive Intensity | Please indicate how much do you agree or disagree with the following statements, related with your industry: | 6 items | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Jaworski & Kohli, 1993) |
| Technological Turbulence | Please indicate how much do you agree or disagree with the following statements, related with your industry: | 4 items | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Jaworski & Kohli, 1993) |

| **FIRM ACTIONS** | | | | |
|---|---|---|---|---|
| **Construct** | **Question** | **Items** | **Type of Scale** | **Source** |
| Competitive Generic Strategies | Indicate de level of importance that your company gave, in the previous 3 years, to the competitive methods presented below: | 23 items | Likert Scale 1~7 (1= No importance; 7= Major and constant importance) | (Beal, 2000) |
| Entrepreneurial Alertness | Please indicate how much do you agree or disagree with the following statements: | 11 items | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Tang et al., 2012) |
| Absorptive Capacity | Please indicate how much do you agree or disagree with the following statements: | 14 items | Likert Scale 1~7 (1= Strongly disagree; 7= Strongly agree) | (Flatten et al., 2011a) |
| International Social Networks | What is the importance of the relationships of management team with the groups of persons presented below, during the internationalization process of the firm? | 15 items | Likert Scale 1~7 (1= No importance; 7= Major and constant importance) | New |

| FIRM PERFORMANCE | | | | |
|---|---|---|---|---|
| **Construct** | **Question** | **Items** | **Type of Scale** | **Source** |
| International Performance | Indicate your level of satisfaction with your international activities during the previous 3 years on the following dimensions: | 6 items | Likert Scale 1~7 (1= Very Unsatisfied; 7= Very satisfied) | (Jantunen et al., 2008) |
| **CONTROL VARIABLES** | | | | |
| **Construct** | **Question** | **Items** | **Type of Scale** | **Source** |
| Firm size | Secondary data | 1 item | Log (number of workers) | - |
| Firm Industry | Secondary data | 1 item | Dummy variable: (1=services; 0=other industries) | Mudambi & Zahra, 2007)- |
| International Experience | In which year did the company generate revenues from its international activities, for the first time (with the selling of products or services, revenues from other contractual forms, etc.)? | 1 item | Number of Years | - |
| Degree of Internationalization | Secondary data | 1 item | Average (% of exports in total turnover 2007-2010) | - |

## 4.8.2 Survey Launching Process

The final version of the questionnaire is presented in Appendix 7, being organized in five sections, specifically:

- Section A – Characterization of the Firm and the Industry (9 questions);
- Section B – Internal Factors (9 questions);
- Section C – Internationalization (14 questions);
- Section D – Strategic Decisions (3 questions);
- Section E – Results (4 questions).

Taking into account the intention to publish the questionnaire online, the final questionnaire was introduced in the LimeSurvey software which was then made available using the survey service-platform of LimeService. A link for this particular study was sent by e-mail to the entrepreneur/founder, owner, general manager, administrator or CEO of all the 1.993 Portuguese INVs originally included in the sample. As already mentioned, the sample of these Portuguese INVs was obtained from Dun & Bradstreet.

The first email invitation participation in the survey was sent in November 2011. This email was personalized, since it included the name of the key informant, and also the name of the

company (see Appendix 2: Email Letter of Invitation to Participate in the Survey). With a view to increasing the number of responses, a first follow-up email was sent three weeks after the first invitation for all the non-respondents (see Appendix 3: Email First Reminder Letter). After two more weeks, a second follow-up email was sent and two weeks later a final email followed, the second one having been affected by the proximity to the Christmas – New Year Holidays. This administrative process for the questionnaire was completed by the middle of February 2012.

### 4.8.3  Procedures for Common Method Bias Prevention

One of the most widely recognized problems of self-reported data in cross-sectional studies is common method variance, where variance is related mainly to the measurement method rather than the constructs represented by the measures (Podsakoff, MacKenzie, Jeong-Yeon, & Podsakoff, 2003). This is one of the main sources of measurement error (Podsakoff & Organ, 1986).

As suggested by several authors (Podsakoff et al., 2003; Podsakoff & Organ, 1986), one of the most successful actions in order to avoid common method bias is to diversify the sources of the data collected for measuring the variables included in the research. Consequently, objective data was collected from eInforma D&B, namely company size (number of workers), foreign sales as a percentage of overall sales, and industry.

Several procedures were also followed during the design of the survey in order to control for the effects of common method variance (Podsakoff et al., 2003; Podsakoff & Organ, 1986). First, the invitation mail and the presentation page of the survey both guaranteed anonymity to all the respondents. The presentation page also pointed out that there were no right or wrong answers, and that for each question the respondent should select the alternative that best expressed the case for his/her company.

Second, the respondents were not aware of the conceptual model that was behind the survey, which prevented them from answering based on their beliefs of how variables should be related or how they thought the researcher wanted them to respond.

Third, the survey was designed in such a way as to intercalate the order of the questions. While there is a rationale to the survey design an assurance was also made that the question order mixed dependent and independent variables.

Fourth, a verbal label was provided not only for the extremes of the scales (1 and 7) but also for the midpoint (4), which can also reduce common method bias (Spector, 1987). Finally,

the majority of the measures used were previously validated, and originated from different sources (Spector, 1987).

## 4.9  Methods for Data Analysis

### 4.9.1  Structural Equation Modeling (SEM)

Structural equation modeling (SEM) is a multivariate method for data analysis, where researchers can analyze interrelated relationships between several variables (dependent and independent) simultaneously (Hair et al., 2009). These variables can be discrete or continuous, and be measured by one or more observed variables or items. SEM is synonymous with the use of "statistical procedures for testing measurement, functional, predictive, and causal hypotheses" (Bagozzi & Yi, 2012, p. 8). This technique combines characteristics of a multiple regression, since it examines relationships of dependence, with factor analysis, since the variables included could be latent variables or constructs measured through multiple items or indicators (Hair et al., 2009).

SEM is an important tool for data analysis that has been used in many fields of research and has become a well-recognized method for data analysis in academic research (Anderson & Gerbing, 1982, 1988; Bagozzi & Yi, 1988, 2012; Bentler & Bonnet, 1980; Hair et al., 2009; Hooper, Coughlan, & Mullen, 2008; Iacobucci, 2009, 2010; Kline, 2005). SEM is part of an existing family of multivariate statistical methods. It is common to distinguish between the first-generation statistical methods (i.e., multiple regression, correlation analysis, ANOVA, EFA, canonical correlation analysis) and the second-generation methods (i.e., CFA and structural equation modeling). The first methods can be regarded as special cases of the latter, and SEM programs can provide most traditional analyses (Bagozzi & Yi, 2012).

Nevertheless, there are some advantages associated with SEM when compared to the first-generation methods (Bagozzi & Yi, 2012). One of the most relevant is the ability to account for some types of errors that confuse the first-generation techniques, thus purging the parameters of the hypothesis from particular bias related with these errors. For example, measurement error in indicators or latent variables, could be modeled and estimated in SEM (Bagozzi & Yi, 2012). Other main advantages are: the inclusion of more simple tests for mediation; the incorporation of methods to evaluate construct validity in deeper and wider ways; the help provided to researchers in specifying precise hypotheses and construct operationalization; the capacity to take into consideration the reliability of multi-item

measures in hypothesis testing; or the suggestion of new hypotheses not initially considered (Bagozzi & Yi, 2012).

In the particular case of this research, the main reasons that led to the selection of SEM for data analysis were (Anderson & Gerbing, 1988; Bagozzi & Yi, 2012; Hair et al., 2009; Kline, 2005):

- First, SEM has the capacity to assess the unidimensionality, reliability, and validity of each individual latent variable;
- Second, this method offers a systematic mechanism to validate relationships among constructs and items, and also to test relationships between latent variables (namely, measured through multiple-items) in a single model. When using SEM it is possible to estimate several separate, but interdependent, multiple regression equations simultaneously;
- Third, it offers powerful and rigorous statistical techniques to deal with complex models, like the model considered in this research;
- Fourth, it provides an overall test of model fit.

In conclusion, it seems appropriate to adopt SEM techniques in this research since the conceptual model incorporates multiple independent-dependent relationships, as described in Chapter 3.

### 4.9.2  Two-Step Approach in SEM

To perform SEM, there are two possible procedural methods: a one-stage approach or a two-stage approach. In the first case, the analysis process tests simultaneously the estimation of both structural and measurement sub-models (herein after also referred to as models, for simplification purposes), which is in fact one of the most relevant advantages of using SEM (Anderson & Gerbing, 1988; Hair et al., 2009). In the second case, the two-step approach is used with the measurement model assessed first, and then in a second stage, after fixing the final measurement model, the structural model is estimated. In this research, the two–stage approach recommended by Anderson and Gerbing (1982, 1988) was followed.

Several reasons justify the selection of a two-step approach in this research. First, the evaluation of the structural model is useless if the original measurement models are inadequate. In fact, the "good measurement of the latent variables is a prerequisite to the analysis of the causal relations among the latent variables" (Anderson & Gerbing, 1982, p. 453). Thus, before latent variables are included in the structural model they need to be

evaluated in measurement models (Anderson & Gerbing, 1982, 1988; Bentler & Bonnet, 1980; Fornell & Larcker, 1981; Hair et al., 2009). This way, the interpretability of measurement and structural models is maximized (Anderson & Gerbing, 1988; Hair et al., 2009).

Second, the complexity of the conceptual model analyzed in this research could potentially necessitate a revision of the model, with the associated intrinsic problems of interpretability (Anderson & Gerbing, 1982, 1988). This revision may be related either to the measurement of constructs or to the causal relationships between those constructs. If those problems are related to the proper specification of the measurement model, they arise in the first step. After being resolved, those issues do not contaminate the structural model, and allow the achievement of better initial results (Anderson & Gerbing, 1982; Vieira, 2011). In fact, the reliability of the items used to measure each construct is better achieved with a two-stage approach, in order to surpass any interaction between the measurement and structural models (Hair et al., 2009).

Third, it can be expected that the model will present some difficulty in achieving convergence or in obtaining reliable parameter estimates when taking into account the relationship between the number of observable variables included in the model, also called items or indicators (above 120), and the related number of free parameters (approximately the double) along with the number of responses to the final questionnaire (416), (Bentler & Chou, 1987). Thus, it is necessary to assess the measurement models of the latent variables, as a first stage, in order to purify the measures of latent variables, and thus reduce the free parameters required to be included in the model (Bagozzi & Yi, 2012).

As presented in Figure 4.2, in the first phase of the two-step process of this research separate measurement models will be estimated in order to test the unidimensionality, validity and reliability of the constructs. Whenever necessary, the re-specification of these measurement models could be carried out in order to improve the measurement of latent variables (Anderson & Gerbing, 1982, 1988; Bagozzi & Yi, 2012; Hair et al., 2009). In addition, if it is advantageous and/or necessary to aggregate some items by creating composite measures (based, for instance, on the large number of items to measure a specific construct, or on the requirement in terms of sample size), it should occur during this phase, allowing an assessment of the overall measurement model fit with the composites instead of the observable variables (Bagozzi & Yi, 2012).

**Figure 4.2: Two-Step Approach of this Research**
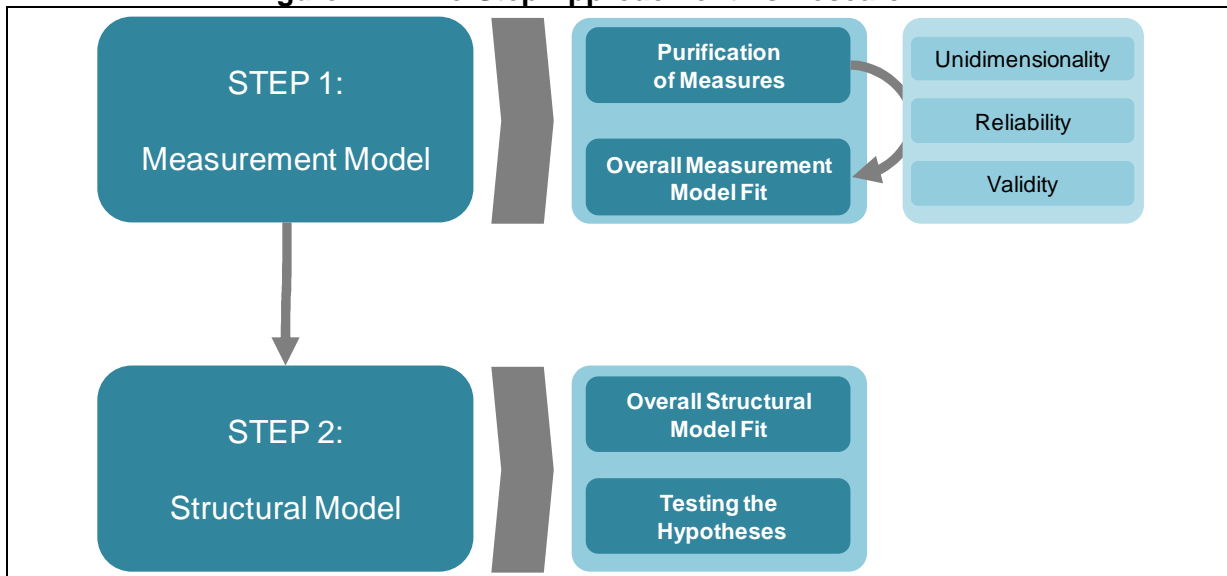


Source: Developed by the Author.

In the second phase, the causal relations between the latent variables included in the conceptual model are tested (Anderson & Gerbing, 1982, 1988). In fact, in the second phase both models, measurement and structural, are analyzed, since the causal relations between the observed items and the underlying latent variables are considered when computing the structural relations between the latent variables (Anderson & Gerbing, 1988).

The overall fit of the model will be assessed twice, first via the overall measurement model after purifying all the latent variables measures, and subsequently through the overall structural model with the causal relations between the latent variables (Hair et al., 2009). A more detailed explanation of the measurement and structural models is presented in the following sections.

### 4.9.3 Measurement Model

As already stated, the measurement model assesses the relationship between the latent variables and the corresponding observable variables or items (Anderson & Gerbing, 1988; Diamantopoulos & Siguaw, 2008).

The majority of the measures of the latent variables included in the analysis were adapted from earlier studies. In these cases, confirmatory factor analyses (CFA) using maximum likelihood estimates were implemented to assess the unidimensionality, validity and reliability of each latent variable (Bagozzi & Yi, 2012; Ping, 2004). However, in some particular

constructs, when the scales are new or need refinement – as is the case of international social networks and competitive generic strategies – exploratory factor analyses (EFA) were previously executed, as suggested by some authors (Anderson & Gerbing, 1988; Baumgartner & Homburg, 1996; Hair et al., 2009).

### 4.9.3.1 Unidimensionality

It is possible to explain unidimensionality as the existence of a single construct or latent variable subjacent to a group of items (Gerbing & Anderson, 1988). A unidimensional item has only one underlying latent variable, and a unidimensional measure is assessed only by unidimensional items (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988; Ping, 2004). This aspect is a crucial undertaking when the purpose is theory testing and development (Anderson & Gerbing, 1982, 1988). Sometimes the unidimensionality concept has been confused with reliability, and the coefficient alpha used as an index that assesses unidimensionality (Gerbing & Anderson, 1988). The distinction between these concepts may be expressed as "… the dimensionality of a scale can be evaluated by examining the patterning of its component indicator correlations, whereas the reliability of a scale is determined by the number of items that define the scale and the reliabilities of those items" (Gerbing & Anderson, 1988, p. 190). Thus the unidimensionality is an assumption subjacent to the evaluation of the reliability of a measure (Gerbing & Anderson, 1988).

On the other hand, the unidimensionality of a scale could help in achieving better tests of convergent and discriminant validity in a measurement model of a latent variable (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988). Therefore, the assessment of unidimensionality should be performed before testing the reliability and validity of each latent variable (Anderson & Gerbing, 1982, 1988; Gerbing & Anderson, 1988; Hair et al., 2009).

When analyzing new constructs, the EFA cannot assess the unidimensionality directly, giving reason as to why in these cases the CFA is also executed (Anderson & Gerbing, 1988). In fact, CFA is considered to be a more powerful technique than EFA for assessing unidimensionality (Anderson & Gerbing, 1988; Hair et al., 2009; Kline, 2005).

In terms of practical procedures, all the items that measure a latent variable should present significant loadings on that specific latent variable (Hair et al., 2009). The cutoffs recommended by the literature are fixed at 0.60 or 0.70 (Bagozzi & Yi, 1988, 2012). When items load weakly, they should be removed from the scale (Hair et al., 2009). On the other hand, the examination of the matrix of standardized residuals should not reveal any values

above |2.58| or modification indices above 5.0 (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988; Hair et al., 2009). These procedures will be followed in this study.

Additionally, unidimensionality can also be demonstrated when the items of a construct present an acceptable fit to a latent-variable or factor, as can be assessed by using goodness-of-fit measures (Hair et al., 2009; Ping, 2004). Since there is no agreement about the appropriate index of fit, the reporting of multiple indices is common practice, namely, the $\chi^2$ statistic, GFI, AGFI, CFI and RMSEA (Ping, 2004). This procedure will be considered in this study, considering the thresholds of the specific goodness-of-fit indices.

### 4.9.3.2  Reliability

Reliability is related to the stability and reproducibility of measurement results over time (Bagozzi & Yi, 2012; Ping, 2004; Sekaran, 2003). This is an important determinant of measurement quality and usefulness (Gerbing & Anderson, 1988). After assessing the unidimensionality, it is commonplace to present Cronbach's alpha coefficient (Cronbach, 1951) in order to determine the internal consistency of the items and the reliability of the latent variables. The use of SEMs makes such a practice, although widely held, redundant, since the CFA and the information provided by the factor loadings and error variances incorporate reliability deduction (Bagozzi & Yi, 2012). Even so, this reliability measure was calculated for each of the latent variables included in the model. The most relevant cutoff for this measure of reliability was suggested by Nunnaly (1978): reliability coefficients ≥0.7 show adequate reliability.

Additionally, based on the results for the CFA executed for each latent variable, and using the information from LISREL's completely standardized solution, it is possible to calculate the composite reliability ($\rho_c$), which is given by (Bagozzi & Yi, 2012):

$$\rho_c = \frac{\left(\sum \lambda_{ij}\right)^2}{\left(\sum \lambda_{ij}\right)^2 + \sum \theta_{ii}}$$

Where:

      $\lambda ij$ = item loading *i* on factor or latent variable *j*;

      $\theta_{ii}$ = is the variance of the error term corresponding to item i; and

      $\sum$ = summation over the items of the latent variable.

In order to support the reliability of the latent variable, the threshold values for composite reliability were fixed at 0.60 (Bagozzi & Yi, 1988) or 0.70 (Hair et al., 2009).

### *4.9.3.3  Validity*

The validity of a construct is related to the extent to which the items of a construct measure what they are supposed to (Bagozzi & Yi, 2012; Zikmund, 2000). Hence, the validity is related to the precision or accuracy of the measures (Sekaran, 2003). Whereas reliability is related to the level of agreement between a set of items as measures of a specific construct, the construct validity is related with both the level of agreement of items hypothesized to measure a construct, and the distinction between those items and items of other constructs (Bagozzi & Yi, 2012; Ping, 2004).

The validity of the constructs can be accessed through the convergent validity, the discriminant validity, and nomological validity, as presented below.

**Convergent Validity**

The convergent validity is the extent to which the observable variables used to measure a particular latent variable have a high proportion of variance in common (Hair et al., 2009). The assessment of convergent validity is evaluated through the analysis of factor loadings and construct reliability (Hair et al., 2009).

The standardized loading estimates should be higher than the cutoffs of 0.60 or 0.70 recommended by the literature (Bagozzi & Yi, 1988, 2012; Hair et al., 2009). Anderson and Gerbing (1988), refer that the coefficients should be greater than twice their standard errors in order to support convergent validity. Additionally, the fact that all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70, also support convergent validity (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991)

On the other hand the reliability statistics should be also analyzed, as already referred.

**Discriminant validity**

The discriminant validity is related to the level to which a latent variable is really divergent from the other latent variables (Hair et al., 2009). Discriminant validity was assessed through the analysis of average variance extracted (AVE), and through the comparison of the square root of AVE with the correlations between the latent variables (Hair et al., 2009; Ping, 2004).

Based on the information from the CFA, it is also possible to calculate the average variance extracted ($\rho_v$), which is given by (Diamantopoulos & Siguaw, 2008; Fornell & Larcker, 1981):

$$\rho_v = \frac{\sum \lambda_{ij}^2}{\sum \lambda_{ij}^2 + \sum \theta_{ii}}$$

Where:

$\lambda_{ij}$ = item loading i on factor or latent variable j;

$\theta_{ii}$ = is the variance of the error term corresponding to item i; and

$\sum$ = summation over the items of the latent variable.

For the AVE the threshold is 0.50, meaning that the variance of the latent variable captured by the items is larger than the variance supported by the measurement error (Fornell & Larcker, 1981). Additionally, the square root of AVE from any construct should be higher than the values of the correlation estimates ($r^2$) between this construct and the other constructs included in the model (Fornell & Larcker, 1981).

**Nomological Validity**

One other criterion of construct validity is nomological validity, referring to the hypothesized relationships between constructs (Churchill, 1979; Hair et al., 2009; Ping, 2004). The assessment of this type of validity is executed by analyzing the relationships between one specific construct and the other constructs, in a way that supports the theoretical framework.

Therefore, the analysis of nomological validity will be assessed when examining the complete structural model (Gerbing & Anderson, 1988; Hair et al., 2009).

## *4.9.4 Structural Model*

The main purpose of assessing the structural model is to analyze the anticipated hypotheses, which reflect the relationships between the latent variables in the proposed model (Hair et al., 2009; Kline, 2005). In other words, the intention is to identify which latent variables influence, directly or indirectly, the values of other latent variables in the model (Hair et al., 2009).

As a first step, the evaluation of the structural model should analyze the goodness-of-fit indexes, in order to assess if the hypothesized structural model fits the data (Anderson & Gerbing, 1988; Bagozzi & Yi, 2012; Diamantopoulos & Siguaw, 2008; Hair et al., 2009; Kline, 2005). If the results do not sufficiently fit to the model, the task then becomes one of identifying model improvements that can be made, always considering that the modifications

should also be theoretically supported (Anderson & Gerbing, 1988; Diamantopoulos & Siguaw, 2008; Hair et al., 2009; Kline, 2005).

The assessment of the structural model focuses on the proposed hypotheses that specify the relationships between the latent variables (Vieira, 2009, 2011). The rationale of this analysis is to assess if the data validates the previously specified relationships between the latent variables included in the model. When assessing the relationships previously proposed, the analysis should focus on three issues (Diamantopoulos & Siguaw, 2008). First, whether or not the relationship between the constructs follows the direction hypothesized (i.e., positive or negative), which can be examined by looking at the sign of the respective parameters. Second, the magnitude of estimated parameters is analyzed in order to judge the strength of hypothesized relationships between constructs, and specifically the significance level quantified using t-values compared against the reference level of |1.96|. Third, the sum of the variance of the endogenous variables that is explained by the proposed determinants can be estimated by looking at the squared multiple correlations ($R^2$) for the structural equations (Diamantopoulos & Siguaw, 2008).

In this research, the procedures presented above will be followed when analyzing the complete structural model.

## 4.9.5  Level of Aggregation

One of the decisions when modeling latent variables is related to the level of abstraction of the analysis. Bagozzi and Heatherton (1994) suggested a methodology for representing constructs related with personality, and subsequently Bagozzi and Edwards (1998) applied the same methodology for representing constructs in organizational research (Baumgartner & Homburg, 1996). They identified four different levels of abstraction when modeling constructs (Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994): total aggregation models, partial disaggregation models, partial aggregation models, and total disaggregation models. The distinction between the four levels of aggregation is:

- **Total aggregation models**: When a single composite is created from the combination of all the measures of a given construct (Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994). These models are formally similar to the ones in which only a single item is available to measure a construct, but this indicator is more reliable (Baumgartner & Homburg, 1996). The main advantage of this method is its simplicity, and the inherent requirement in terms of sample size, since it reduces the

number of parameters to the minimum (Bagozzi & Yi, 2012; Bagozzi & Edwards, 1998; Baumgartner & Homburg, 1996).

- **Partial disaggregation models:** These models, involve the formation of two or more composite variables for each latent variable. These composites can be created from identified sub-dimensions of a latent variable, or items may be aggregated randomly (Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994).

- **Partial aggregation models:** In these models the aggregation of the items is produced according to a particular distinction between dimensions of the overall construct. Thus, each separate underlying factor is retained (Bagozzi & Heatherton, 1994). In this case a composite variable is created from the items of each singular dimension, and becomes a single indicator of a single factor construct (Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994). These composites should be created after assessing the unidimensionality and the reliability of the items that will be aggregated (Baumgartner & Homburg, 1996). Partial aggregation provides the additional advantages of being able to assess complex second-order models with simplicity, while reducing the level of random error, and improving the approximation of normality distributions (Bagozzi & Edwards, 1998; Bagozzi & Heatherton, 1994). Both partial aggregation and partial disaggregation combine the minimization of model complexity, the reduction of the number of parameters, and take into account the reliability more explicitly than in the total aggregation (Baumgartner & Homburg, 1996).

- **Total disaggregation models**: In these models, all the items of a specific construct are treated as part of the multiple measures of a latent variable. It is possible to report the psychometric properties for each individual item. The major advantage of this method is related to the fact that it provides the most detailed degree of analysis of all levels, and the performance of each item in a scale is evaluated (Bagozzi & Edwards, 1998; Landis, Beal, & Tesluk, 2000). However, this analysis could be heavy if more than five indicators per construct (or factor) are used, and a moderate or high number of constructs are analyzed in the model (Baumgartner & Homburg, 1996).

Taking into consideration the complexity of the conceptual model employed here, opting for the total disaggregation approach, with the inherent advantage of evaluating the properties of each particular item (Bagozzi & Edwards, 1998), seems very difficult to implement. Thus, the partial aggregation approach was considered as the most appropriate. However, the decision was made to only calculate composite variables for second-order latent variables (i.e., entrepreneurial orientation, foreign market knowledge, absorptive capacity and

entrepreneurial alertness). This option was based on the fact that all the other latent variables included in the conceptual model were measured using a number of items equal to, or below, five (after assessing the measurement model). This is the number of indicators per factor that ensures the analysis is feasible (Baumgartner & Homburg, 1996).

## 4.9.6 Software

All statistical procedures were undertaken using IBM SPSS Statistics 19.0 and LISREL 8.80.

### 4.9.6.1 SPSS

The SPSS (Statistical Package for the Social Sciences) is a widely established program for data analysis (Malhotra, 2007; Sharma, 1996; Zikmund, 2000). This statistical program was used mainly at the beginning of the data analysis process, namely for the data cleaning step, to assess respondent characteristics, and to check for any entry errors. It was also used to calculate some statistics that are not available in the structural equation program used (LISREL), namely chi-square difference tests, EFA, and Cronbach alpha coefficients.

### 4.9.6.2 LISREL

There are several statistical programs suitable for performing SEM (Baumgartner & Homburg, 1996). The LISREL software (Jöreskog & Sörbom, 1996) is the most frequently used software for assessing structural equation models (Baumgartner & Homburg, 1996; Diamantopoulos & Siguaw, 2008; Hayduk, Pazderka-Robinson, Cummings, Boadu, Verbeek, & Perks, 2007). Other important SEM programs that also receive attention in the empirical literature are AMOS, EQS, SAS CALIS, COSAN, LISCOMP, LINCS, MILS, Mx, and SEPATH (Diamantopoulos & Siguaw, 2008; Hair et al., 2009; Kline, 2005). In point of fact, Hair et al. (2009) note that LISREL, AMOS and EQS have very similar characteristics, namely in terms of presentation and outputs. For instance, these three software packages are available with a graphical user interface.

In a comparison of features of these three programs (LISREL, AMOS and EQS), Hox (1995) concludes that LISREL is the program that present more goodness-of-fit indices. After considering the alternatives, LISREL was selected to perform the structural equation models, since this software is the most accepted and "preferred software for covariance structure analysis" (Diamantopoulos & Siguaw, 2008, p.4).

## 4.9.7 Goodness-of-Fit Indexes

After develop a proposed model, it is necessary to validate if the data fits that specific model. When using SEM, there are several goodness-of-fit indices which respond to this. The output section of LISREL provides a total of 38 indices, each one of them enabling to analyze different levels of optimization, and thus different objectives. "The indices vary whether they are related to sample size or not, whether they assess absolute fit or fit relative to a benchmark model or whether they value parsimony or not" (Iacobucci, 2010, p. 90).

### Table 4.15: Synthesis of Overall Goodness-of-Fit Indices

| Fit Index | Description | Cutoffs |
|---|---|---|
| **Absolute Fit Indices** | | |
| $\chi^2$ (Chi-square Statistic) | Evaluates the overall model fit; Tests the null hypothesis that the estimated variance-covariance matrix deviates from the sample variance-covariance matrix only due to sampling error. | p>0.05: good fit. |
| **RMSEA** (Root Mean Square Error of Approximation) | Returns the average amount of fit of the model to the population covariance matrix, per degree of freedom. | ≤0.06: good fit; 0.06-0.08: reasonable fit; 0.08-0.1: mediocre fit; >0.1: poor fit. |
| **SRMR** (Standardized Root Mean Squared Residual) | Residuals are the differences between the data and the model predictions. This index is a square root of the average residuals. | ≤0.05: good fit; 0.05-0.08: reasonable fit. |
| **GFI** (Goodness-of-Fit Index) | Relative quantity of variance and covariance that could be explained by the model | >0.90: good fit. |
| **AGFI** (Adjusted Goodness-of-Fit Index) | GFI adjusted by degrees of freedom of the model. | >0.90: good fit. |
| **Incremental Fit Indices** | | |
| **NFI** (Normed Fit Index) | Hypothesized model is contrasted with general null model where all variances of measures are free. | >0.90: adequate fit. |
| **NNFI** (Nonnormed Fit Index) | Similar to the NFI, NNFI prefers simpler models and penalizes complex models. | >0.90: good fit. |
| **CFI** (Comparative Fit Index) | Relative goodness-of-fit measure that compares the sample covariance matrix with a null model with no correlation between latent variables. | >0.90: good fit. |
| **IFI** (Incremental Fit Index) | Similar to NFI, is relatively insensitive to sample size. Compensates for the effect of model complexity. | >0.90: good fit. |
| **RFI** (Relative Fit Index) | Similar to CFI: also compares the sample covariance matrix with a null model with no correlation between latent variables, but not so affected by sample size. | >0.90: good fit. |
| **Parsimonious Fit Indices** | | |
| $\chi^2$/df (Normed Chi-square) | Chi-square statistic value divided by the number of degrees of freedom. | ≤3.0: reasonable fit. |
| **PGFI** (Parsimony Goodness-of-fit Index) | GFI that takes into account the model complexity. | >0.50: reasonable fit. |

Source: Based on Bagozzi & Yi, 2012; Iacobucci, 2010, Vieira, 2010; Diamantopoulos & Siguaw, 2008; Hooper el al, 2008; Hu & Bentler, 1999; Byrne, 1998.

Nevertheless, there is no agreement among researchers regarding which fit indices should be reported. Anderson & Gerbing (1988), for instance, suggest that researchers can evaluate how well a specified model fits the data using one or more overall goodness-of-fit indices. Other authors argue that the goodness-of-fit should be assessed using complementary indices, namely absolute and relative fit indices (Bagozzi & Yi, 2012; Iacobucci, 2010). Still others (Bollen & Long, 1993; Hair et al., 2009; Jaccard & Wan, 1996) advocate that at least three fit indices should be presented, one for each of the three categories of model fit: absolute; incremental; and parsimonious. In this dissertation this last suggestion is adopted, since the overall goodness-of-fit of each model (measurement models and structural model) is assessed using a group of indices reflecting these three categories. Nevertheless, it was decided to present more than one index of each category (see Table 4.15).

**Absolute Fit Indices**

The chi-square statistic ($\chi^2$) is the most frequently employed, which is also considered the most fundamental measure of overall fit (Bagozzi & Yi, 1988; Baumgartner & Homburg, 1996; Bollen & Long, 1992). This statistic tests the null hypothesis that the observed difference between the estimated variance-covariance matrix and the sample variance-covariance matrix is due only to sampling error (Baumgartner & Homburg, 1996). If the p-values are above the cutoff, this shows that the difference between the matrices is small, meaning that the sample and estimated input matrices are not statistically different. The rule-of-thumb for the p-value is fixed at either 0.05 or 0.10 (Bagozzi & Yi, 1988).

However this statistical index has been criticized by several authors because the chi-square statistic is too sensitive to sample size (Bagozzi & Yi, 1988, 2012; Fornell & Larcker, 1981; Jöreskog & Sörbom, 1996; Marsh, Balla, & McDonald, 1988). As the sample size increases, the probability of $\chi^2$ being significant (below the cutoff value) is higher, and consequently the chance of rejecting a model increases (Bagozzi & Yi, 1988, 2012; Fornell & Larcker, 1981; Iacobucci, 2010; Jöreskog & Sörbom, 1996; Marsh et al., 1988). Specifically, when the sample size is larger than 200 (Bagozzi & Yi, 1988; Hair et al., 2009), there is an increased possibility of $\chi^2$ being significant (indicating poor fit). This is particularly relevant considering the fact that a large sample augments the precision of parameter estimation, and that 200 is the reference number for the minimum sample size (Bagozzi & Yi, 1988; Baumgartner & Homburg, 1996; Iacobucci, 2010). Therefore, researchers use this statistic complemented with other indices of practical fit (Bagozzi & Yi, 2012), as discussed below.

The second measure of absolute fit used in this research is the Root Mean Square Error of Approximation (RMSEA). This measure "gives the average amount of misfit for model per

degree of freedom" (Bagozzi & Yi, 2012, p. 28). Considering the thresholds, if a model presents a RMSEA in the less than or equal to 0.05 or 0.06 it has good fit, if $0.06 < RMSEA \leq 0.08$ the fit is reasonable, if $0.08 < RMSEA \leq 0.1$ the fit is mediocre and above 0.1 the fit is poor (Bagozzi & Yi, 2012; Baumgartner & Homburg, 1996; Hair et al., 2009; Hu & Bentler, 1999; Vieira, 2009, 2011).

The third measure of absolute fit is the Goodness-of-Fit Index (GFI), which indicates the relative quantity of variance and covariance that could be explained by the model and, therefore presents "how closely the model comes to perfectly reproducing the observed covariance matrix" (Diamantopoulos & Siguaw, 2008, p. 87). Related to the GFI, the Adjusted Goodness-of-Fit Index (AGFI) is the fourth absolute measure considered, which is simply the GFI corrected for the degrees of freedom of the model. These indices range from 0.0 (indicating a poor fit) to 1.0 (which indicates a perfect fit), and values > 0.90 are considered as returning acceptable fits (Bagozzi & Yi, 1988; Diamantopoulos & Siguaw, 2008; Hair et al., 2009). Yet, the AGFI is more conservative than the GFI and penalizes complex models (Hooper et al., 2008). In fact, Anderson and Gerbing (1984) refer that both GFI and AGFI decrease with the increase in model complexity, and could be inappropriate for more complex models.

Finally, the Standardized Root Mean Square Residual (SRMR) is the square root of the difference between the residual of the two covariance matrices, produced by the sample and the hypothesized model (Hooper et al., 2008; Iacobucci, 2010). The values of this measure range between 0.0 and 1.0, and the cutoff criteria for a good fit can be fixed at SRMR < 0.05 (Diamantopoulos & Siguaw, 2008) with $0.05 < SRMR \leq 0.08$ indicating a reasonable fit (Hu & Bentler, 1999).

**Incremental Fit Indices**

The second category of indices to assess the overall fit of a model is called incremental fit indices, also known as relative fit indices (McDonald & Ho, 2002) or comparative fit indices (Miles & Shevlin, 2007). The measures included in this category do not use the absolute chi-square value, but provide a comparison between the proposed model and a baseline model (Baumgartner & Homburg, 1996).

The Normed Fit Index (NFI) is one of the most accepted incremental measures, and is assessed through the comparison between the $\chi^2$ value of the hypothesized model and the $\chi^2$ value of the null model (Bentler & Bonnet, 1980; Hair et al., 2009). The null model is the worst scenario since it stipulates that all measured variables are uncorrelated (Bentler &

Bonnet, 1980; Hooper et al., 2008). These indices range from 0.0 to 1.0, and values > 0.90 indicate a good fit (Bagozzi & Yi, 1988; Bentler & Bonnet, 1980; Diamantopoulos & Siguaw, 2008; Hair et al., 2009).

A weakness of this measure is related to its sensibility to sample size, underestimating fit for samples under 200 (Kline, 2005; Mulaik, James, Van Alstine, Bennett, Lind, & Stilwell, 1989). The Non-Normed Fit Index (NNFI, also known as Tucker-Lewis Index) overcomes this problem, since this index prefers simpler models and penalizes model complexity. However, with small samples the NNFI could present poor fit even when other statistics present good fit, and since it has a non-normed nature, values could also be higher than 1.0 (Bagozzi & Yi, 2012; Diamantopoulos & Siguaw, 2008). A cutoff value of > 0.80 was already suggested (Hooper et al., 2008), but the most commonly recommended threshold is > 0.90 (Hair et al., 2009).

The Comparative Fit Index (CFI) compares the fit of two models to the same data, namely the hypothesized model and a simple version of the model (i.e. one where paths are not estimated), thus CFI is a relative goodness-of-fit measure (Iacobucci, 2010). This index ranges from 0.0 to 1.0, and the usual cutoff criterion is $\geq 0.90$ (Hair et al., 2009; Hooper et al., 2008). Similarly, Relative Fit Index (RFI), which is a similar to CFI but not so affected by large sample sizes, ranges from 0.0 to 1.0, and the usual cutoff criterion is $\geq 0.90$ (Byrne, 1998).

Incremental Fit Index (IFI) also compares the fit of two models to the same data, namely the hypothesized model and an independence model (in which variables are uncorrelated). Although this index is nonnormed and may range between slightly below 0 and little larger than 1, the cutoff usually used is $\geq 0.90$ and if present a score above 0.90 can be classified as a good fit (Byrne, 1998).

**Parsimonious Fit Indices**

In the third category of fit indices, the parsimonious fit indices, the parsimony of the model is assessed, i.e. the degree to which a model achieves overall fit for each estimated coefficient (Hair et al., 2009).

In this category, the most popular fit index is the normed chi-square ($\chi^2/df$), which is the $\chi^2$ statistic adjusted by its degrees of freedom (Hair et al., 2009; Iacobucci, 2010). The range of acceptable values for this index ranges from less than 2.0 (Hair et al., 2009; Vieira, 2009, 2011), to less than 3.0 (Iacobucci, 2010; Kline, 2005; Netemeyer et al., 2001; Vieira, 2009, 2011), or even to less than 5.0 (Bollen & Long, 1992; Wheaton, Muthen, Alwin, & Summers,

1977). In this study a cutoff at 3.0 was adopted, since it is the most widely used (Iacobucci, 2010).

Additionally, the Parsimony Goodness-of-Fit Index (PGFI) was developed by Mulaik, James, Alstine, Bennet, Lid and Stilwell (1989) with the purpose of assessing the fit of the model, considering its complexity. Thus, this measure seeks to compensate for the forced improvement of fit that results from estimating more parameters (Mulaik et al., 1989). The PGFI is based upon the GFI adjusting for loss of degrees of freedom (Diamantopoulos & Siguaw, 2008; Hooper et al., 2008). In terms of thresholds, this statistic typically presents lower values than GFI, AGFI or the incremental indices. Values above 0.50 are acceptable (Diamantopoulos & Siguaw, 2008; Hooper et al., 2008; Mulaik et al., 1989).

## 4.9.8  Input Matrix

LISREL provides the option of using a covariance matrix or a correlation matrix as input (Diamantopoulos & Siguaw, 2008). Generally since maximum likelihood fitting functions are scale invariant and the resulting estimates are scale free, the selection between these two options has no effect on the parameter estimates (Baumgartner & Homburg, 1996).

This conclusion is different when considering the standard errors, since standard errors may be inaccurate when using correlation matrices (Cudeck, 1989). Bagozzi also states that "theory behind the maximum likelihood method is based on the covariance matrix, and, strictly speaking, the chi-square test and standard errors (SEs) of parameter estimates are not correct when the correlation matrix is used" (Bentler, Bagozzi, & Cudeck, 2001, p. 86). Additionally, when the objective of the research is to test a specific theoretical framework, as is the case of this particular study, the covariance matrix is more adequate (Hair et al., 2009).

In favor of correlation matrix, some researchers defend that, for practical reasons, in the early stages of analysis it could be useful to work with a correlation matrix, because the parameters are bounded nicely and it is easier to identify problems examining the output produced by correlation matrices (Bentler et al., 2001). Nevertheless, it is also true that when a covariance matrix is used in SEM, standardized solutions are presented as well. Thus even if a covariance matrix is used, several correlation metrics are available (Bentler et al., 2001).

With the previous arguments in mind, and considering that several authors recommended the use of covariance matrices rather than correlation matrices (Baumgartner & Homburg, 1996; Bentler & Chou, 1987; Diamantopoulos & Siguaw, 2008), this study will use the covariance matrix as the input matrix in all analyses.

# 5 Data Analysis and Results

## 5.1 Introduction

As stated before, the data will be analyzed using the structural equation modeling (SEM) technique, and a two-step approach will be followed (Anderson & Gerbing, 1988). This chapter starts with the characterization of the final sample, where the response rates, the respondents' quality, and the sample profile are assessed. Following this, the procedures related to the data screening will be examined in order to ensure the conditions for the applicability of the SEM technique. After these initial sections, the measurement models will be presented in section 5.5 (first step). Initially, the individual measurement models of each multi-item latent variable included in the conceptual model will be presented, and afterwards the overall measurement model. This chapter will conclude with an assessment of the structural model in section 5.6 (second step), where the overall fit and the hypotheses will be analyzed.

## 5.2 Final Sample

In order to analyze the final sample, the response rate, the informant quality of the respondents, and the sample profile will be analyzed in the following sections.

### 5.2.1 Response Rate

From the total of 1.993 firms invited by email to participate in the study, a total of 477 responses were received. This represents an initial response rate of 23.93%. However, several responses had to be discarded: 33 responses were received totally or partially incomplete (with more than 10% of the survey left blank); 12 respondents mentioned that their company was founded before 2000; and 16 respondents stated that the company was founded by, or was a spin-off from an international company.

The remaining 416 questionnaires were used for data analysis in order to test the hypothesis related to the conceptual framework. Consequently, the final response rate in this study is 20.87%, which is better or in line with the response rate of other studies of this research field (e.g. Burgel & Murray, 2000; De Clercq, Sapienza, & Crijns, 2005; Knight & Cavusgil, 2004; McDougall, 1989; Sapienza et al., 2005; Zahra & Hayton, 2008; Zucchella et al., 2007).

## *5.2.2  Informant Quality*

With the purpose of assessing the informants' quality, we followed a procedure also executed by Atuahene-Gima (2005), where respondents were asked to indicate on a seven-point scale (1 = "very limited"; 7 = "very substantial") their degree of knowledge about the issues addressed in the questionnaire. The mean for the degree of knowledge was 5.56 (standard deviation = 1.04). This result indicates that the informants were considered to have high knowledge about the issues under study, namely firm and industry characterization aspects, firm's strategic options, or decisions and internationalization process.

## *5.2.3  Sample Profile*

The average firm size, measured by the number of full-time employees, is 24 employees. Since the sample is composed of new ventures (Figure 5.1), the majority of the firms have less than 20 employees (72% or 303 firms). Only 5% of the sample has more than 100 employees.

**Figure 5.1: Dimension of the Respondent Firms**
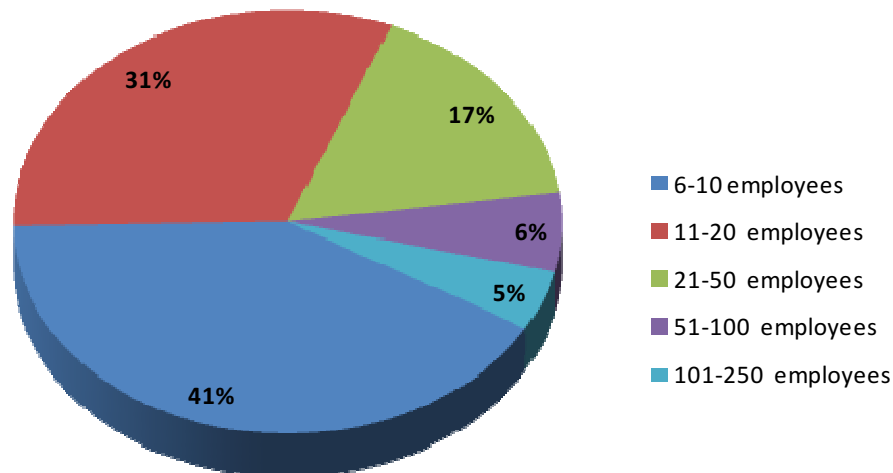


Analyzing the sample in terms of location (Figure 5.2), it is possible to conclude that about 25% are located in the district of Lisbon and 23% in Porto; thus these two districts account for almost half of the sample. At the other extreme, the firms located in Faro, Castelo Branco, Guarda, Évora and Beja only account for 1% of the sample each, and districts like Vila Real and Funchal only have one firm included in our sample.

**Figure 5.2: Regions of the Respondent Firms**
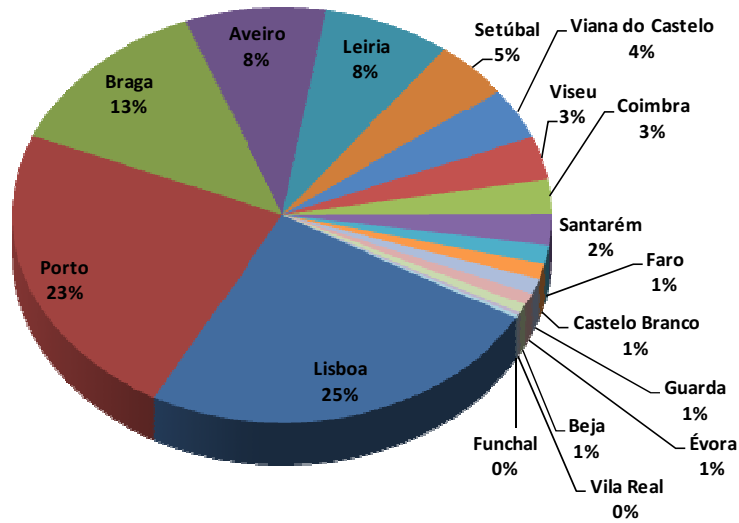


As mentioned above, this is a multi-industry sample. In terms of industry distribution (Figure 5.3), the most represented industries are the manufacturing industry with about 41% (169 firms) of the sample; services with 27% (113 firms); followed by commerce[2] with 16% (68 firms); and construction with 11% (48 firms).

**Figure 5.3: Industries of Respondent Firms**
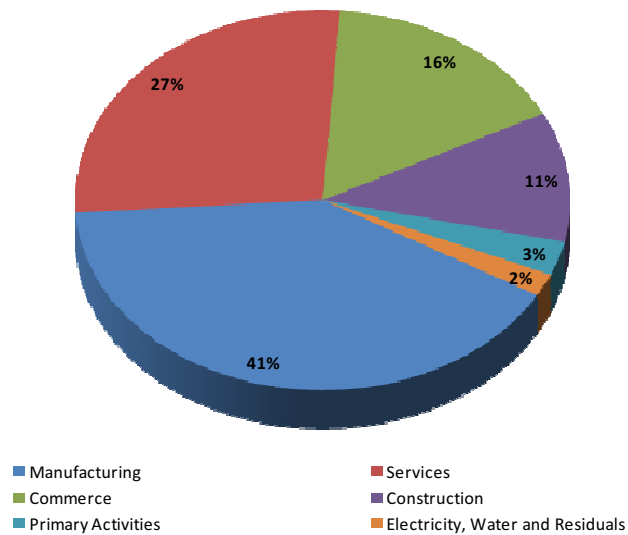


The average firm age was 6.8 years in 2011 (Figure 5.4). Concerning firm age, the most represented ages are: ten years (14% of the sample); five 5 years (13%); nine years (12%); and both two and four years (each with 11% of the sample).

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[2] It was decided to consider commerce autonomously to the services industry because it accounts for a high number of responses

**Figure 5.4: Age of the Respondent Firms**
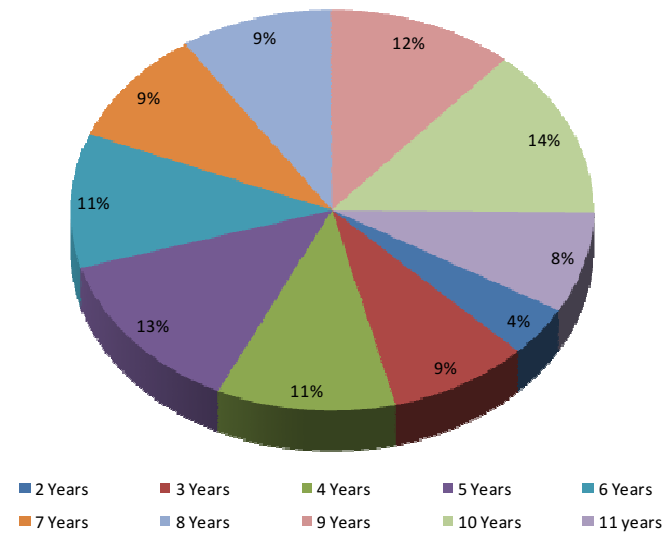


The average number of years that the sample firms took to initiate the internationalization process is 1.6 years (Figure 5.5). The majority of the firms had started the internationalization process from or soon after inception: in the year of foundation (43%); one year after the foundation (23%); or two years after the foundation (12%).

**Figure 5.5: Speed of Internationalization of the Respondent Firms**
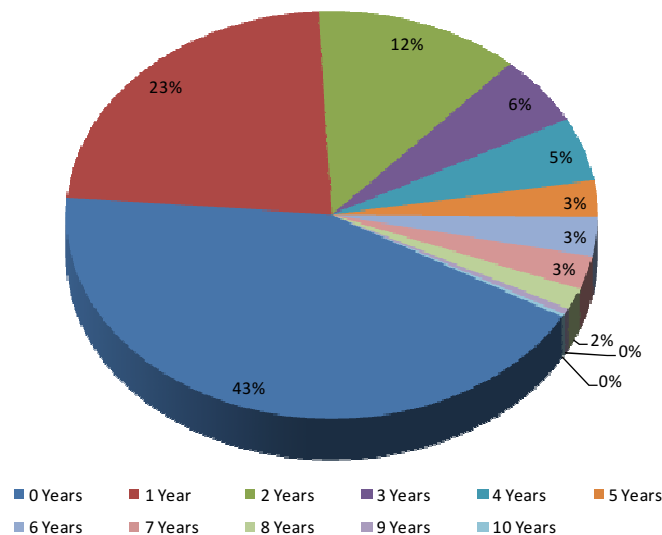


Still regarding internationalization characteristics, the average degree of the sample firms' internationalization, measured by the percentage of exports on total sales (Figure 5.6), was 47.88%. It is worth mentioning that the selection of firms in the original database took into consideration only firms with more than 10% of total sales from exports.

In fact, about 45% of the firms included in the final sample export more than 50% of their total sales. At the other extreme, only 13% of the sample export less than 15%.

**Figure 5.6: Degree of Internationalization of the Respondent Firms**
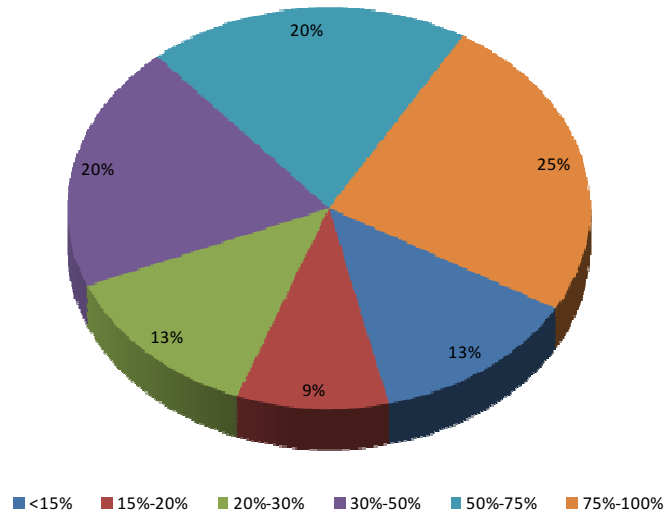


## 5.3  Initial Data Screening

Prior to the model estimation and test, raw data were analyzed in order to identify potential problems that could be masked in the computation of the correlation matrix (Bagozzi & Yi, 1988, 2012; Baumgartner & Homburg, 1996). Using SPSS IBM Statistics 19.0, and prior importation of data to LISREL Software, several procedures were executed.

First, the raw data matrix was checked for coding errors, and when some errors were identified, the original matrix of responses to the questionnaire was used to correct those errors (Baumgartner & Homburg, 1996). The correct recodification of the reverse coded items was verified and no coding errors were found.

Next, the data was checked for missing values, outliers, and normality. These issues will be presented in the following sections.

### 5.3.1  Missing Values

A characteristic of SEM is that this method of analysis is designed to work with complete data sets, because the calculation of the sample covariance matrix becomes difficult in the presence of missing data (Baumgartner & Homburg, 1996; Kline, 2005; Malhotra, 2007;

Savalei & Bentler, 2009). The missing values in the raw data are frequent in many areas of research, and may occur for several reasons that go beyond the control of the researcher (Kline, 2005).

The analysis of the missing values enables their quantification. The number of responses with missing values is 62 (14.9% of the final sample), but when analyzed individually only 17 cases (4.1% of the final sample) have more than two missing values. Taking all the cell ranges in the database, the missing values only represent 0.43% of the data (considering all the variables included in the model). Values are also the result of a previous action that excluded all the responses with more than 10% of the questionnaire with missing values from the final sample, following the practice of other researchers (Noorderhaven & Harzing, 2009).

Even though the weight of missing values is very low, it is also relevant to test for the randomness of missing values. For this purpose, the missing completely at random (MCAR) test, developed by Little (1988), was calculated. This test returns a chi-squared statistic (see Table 5.1), that for this study is $\chi^2=4770.77$ (df = 4763; p=0.466). In Little's MCAR test, the null hypothesis is that the data are missing completely at random. Since the p-value is higher than 0.05 in this study, the null hypothesis is not rejected. Thus, it can be concluded that the data is missing randomly; or in other words, there is not a pattern in the missing data (Little, 1988).

**Table 5.1: Little's MCAR Test Results**

| Chi-Squared ($\chi^2$) | Df | P value |
|---|---|---|
| 4770,77 | 4763 | 0.466 |

Therefore, it can be concluded that the amount of missing data is acceptably low and is missing completely at random. With the purpose of solving the missing values, the mean imputation technique was applied (Hair et al., 2009; Kline, 2005). This technique consists of replacing each missing value by the overall sample average of each particular observable item.

## 5.3.2 Outliers

The raw data was also checked for possible outliers (Baumgartner & Homburg, 1996). First, the data was checked for univariate outliers through the analysis of box-plot graphs (Kline, 2005). Since the majority of the variables were measured using a seven-point Likert scale ranging from "1=strongly disagree" to "7=strongly agree", in some variables the extreme values "1" or "7" were classified as outliers. In these cases no action was taken, since these values were in the range of response. For the other continuous variables, like number of

languages spoken by the entrepreneur, educational level of the entrepreneur, size of the firm, degree of internationalization, and international experience of the firm, the results did not show any outlier.

In a second phase, the data were also checked for the multivariate outliers using the Mahalanobis distance ($D_2$), which is a measure of statistical distance between each observation compared with the mean of all observations, taking into account the covariance or correlation among the variables (Hair et al., 2009; Kline, 2005; Sharma, 1996). The $D_2$ is calculated for each response, considering a group of variables; when the values are large, the cases could be classified as extreme values. When using this measure, the $D_2$ values should be compared with a critical $\chi^2$ value for a specific level of significance. As recommended by several authors (Hair et al., 2009; Kline, 2005), the significance test should be very conservative; for instance, $p < 0.001$. Using this level of significance, and using SPSS, the Mahalanobis distance was calculated for each observation, considering all the variables (observable items) included in the model. The results were compared with the critical $\chi^2$ value of 171.22 (df=118). The degrees of freedom are equal to the number of independent variables included in the calculation of $D_2$ (Tabachnick & Fidell, 2001). The results of this procedure (see Table 5.2) enable the identification of some responses with values above the critical $\chi^2$.

**Table 5.2: Results of Mahalanobis Distance – Multivariate Outliers**

| Response ID | Mahalanobis $D^2$ |
|---|---|
| 324 | 187.67 |
| 36 | 179.29 |
| 325 | 178.93 |
| 81 | 175.47 |
| 145 | 173.77 |
| 255 | 171.39 |

Although the results reveal six observations that can be classified as outliers, these cases only represent 1.44% percent of the final sample. On the other hand, while the deletion of outliers might improve the results of the multivariate analysis, it might also make it more difficult to generalize the results (Hair et al., 2009). Thus, it was decided to keep these responses.

### 5.3.3 Normality

The data was also investigated in order to identify the approximate normality, since the estimation method that will be used – maximum likelihood – is only consistently efficient under the assumption of multivariate normality (Baumgartner & Homburg, 1996;

Diamantopoulos & Siguaw, 2008; Hair et al., 2009; Kline, 2005; Tabachnick & Fidell, 2001). The lack of normality also affects the goodness-of-fit indices and standard errors (Baumgartner & Homburg, 1996).

The normality was checked even though some authors argue that "variables rarely are normally distributed […]. Probably in strict terms the question is a nonissue from the beginning: virtually no variable follows the normal distribution" (Stewart, Barnes, Cudeck, Cote, & Malthouse, 2001, p. 80). They also argue that "data that come from 7-point scales are not normally distributed. In fact, the distributions of variables measured on such scales are often skewed toward one end of the scale, uniform, or even bimodal. This does not mean that maximum likelihood factor analysis […] cannot be useful for understanding the correlation structure" (Stewart et al., 2001, p. 81).

A common technique for assessing the univariate normality is the analysis of the skewness and kurtosis of the individual items used to measure the latent variables (Kline, 2005; Tabachnick & Fidell, 2001). It is possible to determine Z scores for skewness and kurtosis statistics, computing the ratio between skewness and kurtosis indexes and its standard errors. When analyzing large samples (like the sample of this research) these tests are not useful, since minor differences from normality could achieve significance (Bagozzi & Yi, 2012; Hair et al., 2009; Kline, 2005). In these cases it is more adequate to evaluate the absolute values of skewness and kurtosis. According to Kline (2005), if the skewness index is higher than |3.0| and the kurtosis index is larger than |10.0|, the data presents normality problems.

The values for skewness and kurtosis indexes are presented in the section of descriptive statistics (from Table 5.5 to Table 5.10). Since the skewness indexes range from -1.714 to 1.167, and kurtosis indexes range from -1.976 to 3.179, it is possible to conclude that data does not exhibit univariate normality problems. Still, these results could not support the multivariate normality: the conclusion does not indicate possible problems of multivariate normality. This is relevant, since the majority of the signs of multivariate non-normality could be identified by the examination of univariate distributions (Kline, 2005).

Next, in order to assess the multivariate normality, the Mardia's PK test and the relative multivariate kurtosis test were performed using PRELIS 2[3] (Diamantopoulos & Siguaw, 2008). The first test is evaluated in a similar way to Z scores for univariate skewness and kurtosis, with the null hypothesis being that there is no population skewness or kurtosis. The results of Mardia's PK test (Table 5.3) show that the null hypothesis should be rejected, thus

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[3] PRELIS 2 is a program used for screening raw data, and preparing data for input into LISREL.

suggesting multivariate non-normality. Nevertheless, is important to know that this test has a similar limitation of z scores of skewness and kurtosis for univariate normality analysis; a slight departure from normality can obtain significance, when using large samples (Kline, 2005).

**Table 5.3: Mardia's PK Test Results**

| Skewness | | | Kurtosis | | |
|---|---|---|---|---|---|
| Value | Z-Score | P-value | Value | Z-Score | P-value |
| 2076.599 | 81.784 | 0.000 | 8019.957 | 28.068 | 0.000 |
| **Relative Multivariate Kurtosis** = 1.110 | | | | | |

The result of the relative multivariate kurtosis test is the opposite of the Mardia's PK test result. The value near the unit (1.110) may suggest that the multivariate distribution is reasonably normal (Jöreskog & Sörbom, 2002).

After performing the different tests above, it was decided to use this data for analysis. This decision was based: i) on the conclusions concerning univariate normality; ii) on the results of the relative multivariate kurtosis; and iii) on some normality recommendations regarding large samples.

Regarding the latter justification, several authors suggest that when using large samples (higher than 200), small departures from normality (in skewness and kurtosis) can be significant, yet not substantive enough to influence the analysis (Bagozzi & Yi, 2012; Hair et al., 2009; Tabachnick & Fidell, 2001). If there were normality problems, the effects of possible violations of the normality should be moderate, since this study uses a large sample (Hair et al., 2009).

## 5.3.4 Non-Response Bias

With the purpose of testing non-response bias, the responses of early and late respondents (defined, correspondingly, as the first 75% and the last 25% of returned questionnaires) were compared with all the constructs included in the theoretical model, as well as within several firm characteristics, namely number of employees, industry, age of the company, degree of internationalization, age of internationalization, and number of international markets to which the firm exports (Armstrong & Overton, 1977). Additionally, responding and non-responding firms were also compared using secondary information such as number of employees, industry, age of the company, and degree of internationalization.

In both procedures, no significant differences were found between the groups in comparison (early vs. late respondents; respondents vs. non-respondents), and thus it can be concluded that non-response bias was not a problem in the data (Armstrong & Overton, 1977).

## 5.3.5 *Common-Method Bias*

When developing the questionnaire, several procedures (already presented in section 4.8.2) were followed in order to prevent common method bias. Additionally, in order to statistically control for the common method biases, Harman's one-factor test was performed, including all the study variables into an EFA. Problems with common-method variance exist if this procedure results either in a single factor, or a group of factors, with one single factor explaining the majority of the variance.

The results suggest that common-method variance is not a problem (Table 5.4), since this procedure results into 18 factors with eigenvalues greater than 1 (accounting for a total variance of 70.3%) and with the first factor accounting for only 24.3% of the total variance. This indicates that the common-method variance of the current sample did not justify the relationships established between the variables introduced in this research's analyzed model (Podsakoff & Organ, 1986).

**Table 5.4: Results of Harman's One Factor Test**

| Factor | Eigenvalues | % of Variance | Cumulative % |
|--------|-------------|---------------|--------------|
| 1 | 20.44 | 24.334 | 24.334 |
| 2 | 6.452 | 7.680 | 32.014 |
| 3 | 4.429 | 5.273 | 37.287 |
| 4 | 3.425 | 4.078 | 41.365 |
| 5 | 3.038 | 3.616 | 44.981 |
| 6 | 2.431 | 2.894 | 47.875 |
| 7 | 2.325 | 2.768 | 50.644 |
| 8 | 2.194 | 1.612 | 53.255 |
| 9 | 2.037 | 2.425 | 55.680 |
| 10 | 1.918 | 2.283 | 57.964 |
| 11 | 1.680 | 2.001 | 59.964 |
| 12 | 1.455 | 1.732 | 61.696 |
| 13 | 1.391 | 1.656 | 63.352 |
| 14 | 1.265 | 1.505 | 64.857 |
| 15 | 1.248 | 1.486 | 66.344 |
| 16 | 1.128 | 1.410 | 67.753 |
| 17 | 1.104 | 1.314 | 69.067 |
| 18 | 1.051 | 1.251 | 70.318 |

All the procedures implemented in the questionnaire development, as well as the results of the statistical test, enable the conclusion that common-method variance is not a problem of this data set.

## 5.4 Descriptive Analysis of the Measures

In order to understand each construct and its items, several statistics for descriptive analysis were organized in the next tables (from Table 5.5 to Table 5.10). The statistics are organized by blocks of measures in order to facilitate the analysis, and the mean, standard deviation, skewness, and kurtosis is presented for each item.

**Table 5.5: Descriptive Statistics for Entrepreneur's Characteristics Measures**

| Construct | Items | Mean | Standard Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Risk Perception | RP_it2 | 6.160 | 1.196 | -1.714 | 3.179 |
| | RP_it3 | 6.317 | 0.966 | -1.672 | 3.029 |
| | RP_it4 | 5.966 | 1.073 | -0.979 | 0.543 |
| Number of Foreign Languages Spoken | - | 2.108 | 1.117 | 0.254 | 0.070 |
| Educational Level | - | 4.283 | 1.549 | -0.101 | -0.478 |
| Interest in Traveling | - | 5.595 | 1.339 | -1.074 | 1.337 |
| Professional experience abroad | - | 4.444 | 2.113 | -0.394 | -1.167 |
| Professional experience in the same industry | - | 5.425 | 1.804 | -1.141 | 0.355 |
| Professional experience in management | - | 4.884 | 1.842 | -0.737 | -0.374 |
| Foreign educational experience | - | 2.464 | 2.080 | 1.143 | -0.151 |

**Table 5.6: Descriptive Statistics for Industry Antecedents**

| Construct | Items | Mean | Standard Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Competitive Intensity | CI_it1 | 4.851 | 1.27 | -0.402 | -0.479 |
| | CI_it2 | 6.005 | 1.50 | -1.209 | 1.155 |
| | CI_it4 | 5.421 | 1.47 | -0.758 | 0.056 |
| | CI_it5 | 5.863 | 1.23 | -1.156 | 1.343 |
| Technological Turbulence | TT_it1 | 4.839 | 1.662 | -0.521 | -0.366 |
| | TT_it2 | 4.566 | 1.543 | -0.178 | -0.555 |
| | TT_it3 | 4.870 | 1.512 | -0.383 | -0.419 |

### Table 5.7: Descriptive Statistics for Firm Antecedents

| Construct | Items | Mean | Standard Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Firm Resources | FR_it1 | 5.248 | 1.253 | -0.477 | -0.043 |
| | FR_it3 | 4.880 | 1.170 | -0.336 | 0.327 |
| | FR_it4 | 5.274 | 1.207 | -0.465 | -0.094 |
| Management Capabilities | MC_it1 | 5.519 | 1.121 | -0.548 | -0.179 |
| | MC_it2 | 5.353 | 1.307 | -0.747 | 0.383 |
| | MC_it3 | 5.353 | 1.401 | -1.027 | 1.179 |
| | MC_it4 | 5.618 | 1.232 | -0.855 | 0.395 |
| | MC_it5 | 5.711 | 1.138 | -0.933 | 1.078 |
| | MC_it6 | 5.272 | 1.269 | -0.658 | 0.267 |
| Foreign Market Knowledge | FMK_it1 | 5.085 | 1.337 | -0.562 | 0.191 |
| | FMK_it2 | 4.688 | 1.368 | -0.445 | 0.103 |
| | FMK_it3 | 4.294 | 1.446 | -0.336 | -0.127 |
| | FMK_it4 | 4.741 | 1.302 | -0.517 | 0.221 |
| | FMK_it5 | 5.070 | 1.201 | -0.537 | 0.324 |
| | FMK_it6 | 4.725 | 1.331 | -0.473 | 0.140 |
| | FMK_it7 | 4.447 | 1.394 | -0.405 | 0.006 |
| | FMK_it8 | 4.942 | 1.380 | -0.531 | -0.059 |
| | FMK_it9 | 4.969 | 1.341 | -0.707 | 0.418 |
| | FMK_it10 | 5.121 | 1.355 | -0.753 | 0.430 |
| | FMK_it11 | 5.058 | 1.338 | -0.580 | 0.110 |
| Entrepreneurial Orientation | EO_it1 | 4.940 | 1.378 | -0.491 | 0.299 |
| | EO_it2 | 5.000 | 1.428 | -0.499 | 0.074 |
| | EO_it3 | 5.190 | 1.350 | -0.640 | 0.380 |
| | EO_it4 | 5.082 | 1.460 | -0.638 | 0.134 |
| | EO_it5 | 4.916 | 1.495 | -0.585 | 0.073 |
| | EO_it6 | 4.893 | 1.461 | 0.621 | 0.200 |
| | EO_it7 | 4.263 | 1.676 | -0.230 | -0.681 |
| | EO_it8 | 5.072 | 1.346 | -0.680 | 0.512 |
| | EO_it9 | 4.810 | 1.402 | -0.511 | 0.086 |
| | EO_it10 | 4.622 | 1.378 | -0.447 | 0.119 |
| | EO_it11 | 4.836 | 1.352 | -0.516 | 0.296 |

### Table 5.8: Descriptive Statistics for Firm Actions

| Construct | Items | Mean | Standard Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Entrepreneurial Alertness | EA_it1 | 5.187 | 1.216 | -0.541 | 0.398 |
| | EA_it2 | 5.375 | 1.214 | -0.847 | 0.983 |
| | EA_it3 | 5.279 | 1.170 | -0.657 | 0.664 |
| | EA_it4 | 5.175 | 1.316 | -0.780 | 0.659 |
| | EA_it5 | 5.490 | 1.246 | -1.000 | 1.390 |
| | EA_it6 | 5.046 | 1.188 | -0.461 | 0.510 |
| | EA_it7 | 4.882 | 1.223 | -0.185 | -0.110 |
| | EA_it8 | 4.841 | 1.174 | -0.371 | 0.445 |
| | EA_it9 | 5.528 | 1.112 | -0.668 | 0.452 |
| | EA_it10 | 5.403 | 1.013 | -0.357 | -0.145 |
| | EA_it11 | 5.540 | 1.112 | -0.518 | -0.161 |

| | | | | | |
|---|---|---|---|---|---|
| Absorptive Capacity | AC_it1 | 5.495 | 1.236 | -0.740 | 0.625 |
| | AC_it2 | 5.302 | 1.324 | -0.794 | 0.598 |
| | AC_it3 | 5.075 | 1.318 | -0.647 | 0.592 |
| | AC_it4 | 5.414 | 1.205 | -0.715 | 0.959 |
| | AC_it5 | 5.565 | 1.257 | -0.920 | 1.051 |
| | AC_it6 | 5.488 | 1.285 | -0.811 | 0.618 |
| | AC_it7 | 5.280 | 1.335 | -0.793 | 0.654 |
| | AC_it8 | 5.251 | 1.276 | -0.822 | 1.083 |
| | AC_it9 | 5.260 | 1.198 | -0.775 | 1.167 |
| | AC_it10 | 5.213 | 1.210 | -0.669 | 0.760 |
| | AC_it11 | 5.378 | 1.155 | -0.701 | 0.885 |
| | AC_it12 | 5.205 | 1.451 | -0.633 | 0.166 |
| | AC_it13 | 5.114 | 1.331 | -0.523 | 0.407 |
| | AC_it14 | 5.402 | 1.153 | -0.404 | -0.074 |
| International Social Network: Value Chain Social Network | ISN_it1 | 5.561 | 1.321 | -1.189 | 1.560 |
| | ISN_it2 | 4.959 | 1.534 | -0.454 | -0.449 |
| | ISN_it3 | 4.693 | 1.396 | -0.515 | 0.167 |
| | ISN_it6 | 4.292 | 1.598 | -0.197 | -0.524 |
| | ISN_it7 | 4.566 | 1.580 | -0.316 | -0.443 |
| International Social Network: Institutional Social Network | ISN_it4 | 3.400 | 1.914 | 0.183 | -1.114 |
| | ISN_it5 | 3.208 | 1.872 | 0.325 | -0.976 |
| | ISN_it8 | 3.754 | 1.946 | -0.037 | -1.122 |
| | ISN_it9 | 2.901 | 1.781 | 0.502 | -0.821 |
| | ISN_it10 | 3.478 | 1.984 | 0.153 | -1.233 |
| International Social Network: Foreign Knowledge Social Network | ISN_it11 | 4.682 | 1.697 | -0.590 | -0.292 |
| | ISN_it12 | 4.881 | 1.739 | -0.754 | -0.138 |
| | ISN_it13 | 5.165 | 1.623 | -1.029 | 0.641 |
| | ISN_it14 | 4.322 | 1.964 | -0.404 | -0.911 |
| | ISN_it15 | 4.354 | 1.885 | -0.391 | -0.767 |
| Generic Strategy: Innovation Differentiation | Gst_it1 | 4.809 | 1.696 | -0.485 | -0.382 |
| | Gst_it2 | 4.599 | 1.549 | -0.425 | -0.230 |
| | Gst_it3 | 4.406 | 1.631 | -0.387 | -0.448 |
| Generic Strategy: Marketing Differentiation | Gst_it4 | 3.143 | 1.919 | 0.355 | -1.116 |
| | Gst_it5 | 3.838 | 1.814 | -0.110 | -0.977 |
| | Gst_it6 | 4.855 | 1.798 | -0.709 | -0.345 |
| | Gst_it7 | 3.850 | 1.866 | -0.078 | -1.024 |
| | Gst_it8 | 4.469 | 1.862 | -0.486 | -0.738 |
| Generic Strategy: Cost Leadership | Gst_it11 | 5.809 | 1.222 | -1.230 | 1.916 |
| | Gst_it12 | 5.044 | 1.619 | -0.818 | 0.152 |
| | Gst_it13 | 5.500 | 1.397 | -1.176 | 1.537 |
| | Gst_it14 | 5.800 | 1.275 | -1.204 | 1.502 |
| | Gst_it15 | 5.676 | 1.423 | -1.234 | 1.452 |
| Generic Strategy: Quality and Service Differentiation | Gst_it9 | 5.705 | 1.194 | -1.026 | 1.049 |
| | Gst_it16 | 5.707 | 1.204 | -0.860 | 0.517 |
| | Gst_it19 | 6.140 | 1.053 | -1.404 | 2.331 |
| | Gst_it20 | 5.801 | 1.132 | -1.105 | 1.827 |
| | Gst_it21 | 5.374 | 1.336 | -0.941 | 1.024 |
| | Gst_it22 | 5.802 | 1.132 | -1.267 | 2.572 |

**Table 5.9: Descriptive Statistics for Firm Results**

| Construct | Items | Mean | Standard Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| | IPer_it1 | 5.228 | 1.222 | -0.524 | 0.182 |
| | IPer_it2 | 4.817 | 1.261 | -0.340 | -0.135 |
| International Performance | IPer_it3 | 4.921 | 1.242 | -0.319 | -0.177 |
| | IPer_it4 | 4.829 | 1.258 | -0.229 | -0.148 |
| | IPer_it5 | 5.070 | 1.209 | -0.430 | 0.168 |
| | IPer_it6 | 5.339 | 1.134 | -0.415 | 0.097 |

**Table 5.10: Descriptive Statistics for Control Variables**

| Construct | Items | Mean | Standard Deviation | Skewness | Kurtosis |
|---|---|---|---|---|---|
| Dimension | - | 2.732 | 0.834 | 1.167 | 0.856 |
| International Experience | - | 5.125 | 2.566 | 0.508 | -0.722 |
| Industry | - | 0.546 | 0.499 | -0.184 | -1.976 |
| Degree of Internationalization | - | 0.444 | 0.299 | 0.456 | -1.085 |

## 5.5  Assessment of Measurement Model

### 5.5.1  Assessing Individual Measurement Models

As mentioned above, the empirical research follows the two-step approach (Anderson & Gerbing, 1988), where the evaluation of the measurement model was carried out first, and the structural model afterwards. Considering the first step, before evaluating the overall measurement model, in which all the variables will be tested simultaneously, the specification of the measurement model was assessed. The reason to select this strategy of analysis is related to the complexity of the conceptual model. When facing complex models, the literature suggests that a preliminary analysis should be undertaken by analyzing each model construct (Bagozzi & Yi, 2012; Baumgartner & Homburg, 1996; Hair et al., 2009; Ping, 2004). At this point, it was decided which manifest or observable variables (also called items or indicators) define each latent variable or construct (Bollen & Long, 1992). This was made through individual measurement models for all the multi-item latent variables included in the research model. Here, a synthesis of the conducted procedures is presented, yet an assessment of measurement models for each latent variable is described in Appendix 8.

In order to analyze each construct, the first procedure was the preliminary computation of the Cronbach's alpha ($\alpha$) reliability coefficients using SPSS. This method led to the removal of five items in several constructs, namely in *risk perception* (one item), *competitive intensity* (one item), *technological turbulence* (one item) and *firm resources* (two items).

After this initial process and with the main aim of assessing the psychometric properties of each of the constructs included in the framework developed in this study, several CFAs were performed in LISREL 8.8 for each construct. All the results of the CFA models organized with the correspondent items or dimensions (regarding the second-order constructs) confirm that all the parameter estimates present the correct signs and sizes with low levels of standard errors (Bagozzi & Yi, 1988; Hair et al., 2009). These results are presented in detail in Appendix 8. Through this process, separate measurement models were estimated in order to test the unidimensionality, validity, and reliability of the constructs. The main results of this method are presented in Table 5.11.

**Table 5.11: Individual Measurement Model Summary**

| Measure | Number of Items | | Loadings | Cronbach's Alpha | Composite Reliability | Average Variance Extracted |
|---|---|---|---|---|---|---|
| | Initial | Final | min~max | | | |
| Risk Perception | 4 | 3 | 0.74~0.90 | 0.84 | 0.90 | 0.75 |
| Competitive Intensity | 6 | 4 | 0.68~0.87 | 0.83 | 0.89 | 0.66 |
| Technological Turbulence | 4 | 3 | 0.72~0.92 | 0.88 | 0.88 | 0.72 |
| Firm Resources | 5 | 3 | 0.71~0.79 | 0.79 | 0.82 | 0.56 |
| Management Capabilities | 6 | 4 | 0.68~0.84 | 0.87 | 0.86 | 0.62 |
| **Foreign Market Knowledge** | | | | | | |
| Foreign Institutional Knowledge | 3 | 3 | 0.78~0.91 | 0.85 | 0.87 | 0.69 |
| Foreign Business Knowledge | 4 | 3 | 0.83~0.87 | 0.87 | 0.88 | 0.72 |
| Internationalization Knowledge | 4 | 3 | 0.88~0.93 | 0.93 | 0.93 | 0.81 |
| **Entrepreneurial Orientation** | | | | | | |
| Innovativeness | 3 | 3 | 0.75~0.88 | 0.86 | 0.87 | 0.69 |
| Proactiveness | 3 | 2 | 0.84~0.93 | 0.85 | 0.86 | 0.67 |
| Risk-taking | 3 | 3 | 0.75~0.83 | 0.82 | 0.83 | 0.61 |
| Competitive Aggressiveness | 2 | 2 | 0.88~0.90 | 0.88 | 0.88 | 0.78 |
| **Competitive Generic Strategies:** | | | | | | |
| Innovation Differentiation | 4 | 4 | 0.60~0.94 | 0.82 | 0.89 | 0.65 |
| Marketing Differentiation | 6 | 4 | 0.70~0.92 | 0.83 | 0.87 | 0.65 |
| Cost Leadership | 5 | 5 | 0.63~0.93 | 0.86 | 0.87 | 0.62 |
| Quality and Service Differentiation | 6 | 5 | 0.66~0.84 | 0.87 | 0.87 | 0.58 |
| **International Social Networking:** | | | | | | |
| Value Chain Social Network | 5 | 4 | 0.63~0.82 | 0.84 | 0.85 | 0.59 |
| Institutional Social Network | 5 | 5 | 0.71~0.93 | 0.91 | 0.91 | 0.67 |
| Foreign Knowledge Social Network | 5 | 4 | 0.66~0.92 | 0.87 | 0.88 | 0.65 |
| **Entrepreneurial Alertness** | | | | | | |
| Scanning and Search | 5 | 4 | 0.73~0.90 | 0.89 | 0.89 | 0.68 |
| Association and Connection | 3 | 3 | 0.61~0.88 | 0.79 | 0.66 | 0.56 |
| Evaluation and Judgment | 3 | 2 | 0.87~0.87 | 0.79 | 0.86 | 0.76 |
| **Absorptive Capacity** | | | | | | |
| Acquisition | 3 | 3 | 0.81~0.94 | 0.86 | 0.90 | 0.74 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Assimilation | 4 | 2 | 0.83~0.91 | 0.83 | 0.86 | 0.76 |
| Transformation | 4 | 3 | 0.94~0.98 | 0.95 | 0.97 | 0.91 |
| Exploitation | 3 | 3 | 0.81~0.92 | 0.87 | 0.90 | 0.75 |
| International Performance | 6 | 4 | 0.64~0.89 | 0.88 | 0.89 | 0.66 |

In the next paragraphs, after the presentation of some preliminary tasks for two variables, issues related to the dimensionality, convergent validity, reliability, and discriminant validity of the multi-item constructs included in the framework tested in this research are analyzed.

### 5.5.1.1 Initial Proceedings

Before analyzing the unidimensionality, validity and reliability of competitive generic strategies and international social networks variables, it was necessary to develop the constructs. Regarding competitive generic strategy, the justification is that some of the items included are contradictory, and consequently cannot be included in a single multi-item construct. In order to understand the complexity of international social networks, it must be analyzed using EFA before CFA, since it is a new scale.

**Competitive Generic Strategy**

Following the procedure of Beal (2000), an EFA was carried out with varimax rotation on the 23 items initially used to specify the competitive generic strategies, in order to identify the competitive strategies' dimensions. The first interaction resulted in a five-factor solution, which accounted for 70.1% of the variance (see Table 5.12). However, factor 5 only loaded with two items: "Benchmarking best manufacturing processes in the industry" (Gst_it17) and "Benchmarking best manufacturing processes anywhere" (Gst_it17). These items, which were related to the quality differentiation dimension in Beal's results, were exactly the two items that presented some reservations in the pre-testing process, as already mentioned in an earlier section. Since no strategy specifically related with benchmarking practices could be identified, it was decided to drop these two items.

A new principal CFA using varimax rotation was performed with the remaining 21 items. This analysis resulted in a four-factor solution accounting for 67.2% of the variance (see Table 5.13). This value is higher than the reference value of 60.0% (Hair et al., 2009). The results of the Bartlett's test of sphericity (p=0.000) and Keiser-Meyer-Olkin measure of sampling adequacy (KMO=0.89) are strong and significant, thus suggesting that factor analysis is adequate for this data.

**Table 5.12: Item Factor Loadings for Competitive Strategies Measure - Initial Solution**

| Item | Description | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 |
|------|-------------|----------|----------|----------|----------|----------|
| Gst_it1 | R&D of new products | | | | 0.80 | |
| Gst_it2 | Marketing of new products | | | | 0.70 | |
| Gst_it3 | Selling high-priced products | | | | 0.63 | |
| Gst_it4 | Obtaining patents or copyrights | | 0.68 | | | |
| Gst_it5 | Innovative marketing techniques | | 0.81 | | | |
| Gst_it6 | Building brand/company identification | | 0.69 | | | |
| Gst_it7 | Advertising/promotional programs | | 0.83 | | | |
| Gst_it8 | Securing reliable distribution channels | | 0.68 | | | |
| Gst_it9 | Improving existing products | 0.57 | | | | |
| Gst_it10 | Producing broad range of products | | | | 0.51 | |
| Gst_it11 | Improving efficiency and productivity | | | 0.62 | | |
| Gst_it12 | Developing new manufacturing processes | | | 0.70 | | |
| Gst_it13 | Improving existing manufacturing processes | | | 0.77 | | |
| Gst_it14 | Reducing overall costs | | | 0.85 | | |
| Gst_it15 | Reducing manufacturing costs | | | 0.90 | | |
| Gst_it16 | Strict product quality control | 0.59 | | | | |
| Gst_it17 | Benchmarking best manufacturing processes in the industry | | | | | 0.81 |
| Gst_it18 | Benchmarking best manufacturing processes anywhere | | | | | 0.82 |
| Gst_it19 | Immediate resolution of customer problems | 0.82 | | | | |
| Gst_it20 | Product improvements based on gaps in meeting customer expectations | 0.80 | | | | |
| Gst_it21 | New customer services | 0.68 | | | | |
| Gst_it22 | Improvement of existing customer services | 0.83 | | | | |
| Gst_it23 | Improvement of sales force performance | | 0.56 | | | |
| **Explained Variance** | | **17.9%** | **16.8%** | **15.8%** | **11.6%** | **8.0%** |
| **Cronbach's Alpha** | | **0.88** | **0.86** | **0.89** | **0.82** | **0.91** |

Note: only loadings > 0.5 are shown.

Bearing in mind both the original study of this scale (Beal, 2000), and the meaning of the items included in each factor, a name was assigned to each factor. Factor 3 was labeled as 'cost leadership', and was the only factor that presented the same five items as Beal's (2000) original study. The other three factors were named with three distinct differentiation strategies: factor 1 was named "quality and service differentiation", since it includes items that were originally allocated to two distinct dimensions, quality differentiation, and service differentiation (Beal, 2000); factor 2 was labeled "marketing differentiation"; and factor 4 "innovation differentiation". Even though differentiation through quality and service does not result in different factors, as in the analysis developed by Beal (2000), the items are related and there is a relationship between service and quality.

**Table 5.13: Item Factor Loadings for Competitive Strategies Measure- Final Solution**

| Item | Description | Factor 1 Quality and Service Differentiation | Factor 2 Marketing Differentiation | Factor 3 Cost Leadership | Factor 4 Innovation Differentiation |
|------|-------------|------|------|------|------|
| Gst_it1 | R&D of new products | | | | **0.81** |
| Gst_it2 | Marketing of new products | | | | **0.70** |
| Gst_it3 | Selling high-priced products | | | | **0.63** |
| Gst_it4 | Obtaining patents or copyrights | | **0.74** | | |
| Gst_it5 | Innovative marketing techniques | | **0.84** | | |
| Gst_it6 | Building brand/company identification | | **0.64** | | |
| Gst_it7 | Advertising/promotional programs | | **0.85** | | |
| Gst_it8 | Securing reliable distribution channels | | **0.65** | | |
| Gst_it9 | Improving existing products | **0.56** | | | |
| Gst_it10 | Producing broad range of products | | | | **0.52** |
| Gst_it11 | Improving efficiency and productivity | | | **0.63** | |
| Gst_it12 | Developing new manufacturing processes | | | **0.71** | |
| Gst_it13 | Improving existing manufacturing processes | | | **0.78** | |
| Gst_it14 | Reducing overall costs | | | **0.86** | |
| Gst_it15 | Reducing manufacturing costs | | | **0.90** | |
| Gst_it16 | Strict product quality control | **0.61** | | | |
| Gst_it19 | Immediate resolution of customer problems | **0.83** | | | |
| Gst_it20 | Product improvements based on gaps in meeting customer expectations | **0.81** | | | |
| Gst_it21 | New customer services | **0.70** | | | |
| Gst_it22 | Improvement of existing customer services | **0.84** | | | |
| Gst_it23 | Improvement of sales force performance | | **0.50** | | |
| **Explained Variance** | | **17.4%** | **18.1%** | **17.1%** | **12.7%** |
| **Cronbach's Alpha** | | **0.88** | **0.86** | **0.89** | **0.82** |

Note: only loadings > 0.5 are shown.

As already mentioned, the **cost leadership** dimension was the only one that maintained the original five competitive methods (items), namely: (1) improving efficiency and productivity; (2) developing new manufacturing processes; (3) improving existing manufacturing processes; (4) reducing overall costs; and (5) reducing manufacturing costs. The aim of this strategy is to guarantee a low-cost position within their markets (Beal, 2000).

The **innovation differentiation** dimension is related to the production and marketing of new products, and there are three competitive methods that load on this factor: (1) R&D of new products; (2) marketing of new products; (3) selling high-priced products; and (4) producing broad range of products.

The **marketing differentiation** dimension is related to the "creation of the perception in the minds of the targeted customers that the firm's products are distinctively different from those of their competitors" (Beal, 2000, p. 32). This analysis identified six items that account for this dimension: (1) obtaining patents or copyrights; (2) innovative marketing techniques; (3) building brand/company identification; (4) advertising/promotional programs; (5) securing reliable distribution channels; and (6) improvement of sales force performance.

The **quality and service differentiation** dimension emphasizes reliability, durability, and customer services (Beal, 2000). The following six competitive items load highly on this factor: (1) improving existing products; (2) strict product quality control; (3) immediate resolution of customer problems; (4) product improvements based on gaps in meeting customer expectations; (5) new customer services; and (6) improvement of existing customer services.

### International Social Networks

Since this measure was not based on a previously tested scale, it was more appropriate to follow a similar procedure to the competitive generic strategies. First, it was executed an EFA with varimax rotation on the fifteen items initially used to specify the international social networks, in order to identify specific dimensions. This procedure resulted in a three-factor solution, each with five items and accounting for 69.9% of the variance (see Table 9.9). This value is above the threshold of 60.0% (Hair et al., 2009). The results of the Bartlett's test of sphericity (p=0.000) and Keiser-Meyer-Olkin measure of sampling adequacy (KMO=0.88) are high and significant, suggesting the adequacy of factor analysis.

Analyzing the meaning of the specific items that loaded in each factor, the factors were labeled as: factor 1 – "institutional social network"; factor 2 – "foreign knowledge social network"; and factor 3 – "value chain social network". The items that load higher in factor 1 (**institutional social network**) are: (1) key-informants in national government institutions that support internationalization; (2) key-informants in international institutions that support internationalization; (3) key-informants in industry or business associations; (4) scientists, researchers, and academics; and (5) key-informants in banks and other financial institutions. The items that present high loadings in factor 2 (**foreign knowledge social network**) are: (1) key-informants with knowledge of international markets, in general; (2) key-informants from personal relations with knowledge about destination countries; (3) key-informants with market knowledge of the destination countries; (4) key-informants from personal relations, living in destination countries; and (5) key-informants from previous business relationships, living in countries of destination. Finally, in factor 3 (**value chain social network**), the items included were: i) Key-informants in international costumers; ii) Key-informants in suppliers; iii)

Key-informants in the management team of other companies; iv) Key-informants in national companies with access to international distribution networks; and v) Key-informants in companies with distribution networks in the international market of destination.

The Cronbach's alpha reliability coefficient suggested that all the items should be preserved in their specific factors related to forms of international social networks (institutional social network = 0.81; foreign knowledge social network = 0.91; and value chain social network = 0.89), since all the values are above the cutoff of 0.70 recommended by Nunnally (1978), and the exclusion of each item did not increase the respective coefficient of Cronbach's alpha.

As in the procedure performed for the competitive strategies, it was decided to consider each of the international social network factors as a different construct, since the sign, the antecedents, and the results of these diverse forms of networking could also be distinct.

**Table 5.14: Item Factor Loadings for International Social Networking Measure**

| Items | Items | Factor 1 | Factor 2 | Factor 3 |
|-------|-------|----------|----------|----------|
| ISN_it1 | Key-informants in international costumers | | | 0.84 |
| ISN_it2 | Key-informants in suppliers | | | 0.81 |
| ISN_it3 | Key-informants in the management team of other companies (e.g. complementors, competitors) | | | 0.81 |
| ISN_it4 | Key-informants in national government institutions that support internationalization | 0.86 | | |
| ISN_it5 | Key-informants in international institutions that support internationalization (e.g. UNCTAD, EU, WTO) | 0.87 | | |
| ISN_it6 | Key-informants in national companies with access to international distribution networks | | | 0.63 |
| ISN_it7 | Key-informants in companies with distribution network in the international market of destination | | | 0.66 |
| ISN_it8 | Key-informants in industry or business associations | 0.70 | | |
| ISN_it9 | Scientists, researchers and academics | 0.81 | | |
| ISN_it10 | Key-informants in banks and other financial institutions | 0.76 | | |
| ISN_it11 | Key-informants with knowledge of international markets, in general | | 0.74 | |
| ISN_it12 | Key-informants from the personal relations with knowledge about the destination countries | | 0.89 | |
| ISN_it13 | Key-informants with market knowledge in the destination countries | | 0.84 | |
| ISN_it14 | Key-informants from personal relations, living in destination countries | | 0.76 | |
| ISN_it15 | Key-informants from previous business relationships, living in destination countries | | 0.73 | |
| | **Explained Variance** | **25.6%** | **23.3%** | **20.9%** |
| | **Cronbach's Alpha** | **0.81** | **0.91** | **0.89** |

Note: only loadings > 0.5 are shown.

### 5.5.1.2 Unidimensionality

Regarding the unidimensionality analysis of each construct, the items should demonstrate significant loadings on the specific latent variable, with the usual cutoffs recommended by the literature being fixed at 0.60 or 0.70 (Bagozzi & Yi, 1988, 2012). If items load weakly, they should be removed from the scale (Hair et al., 2009). The individual analysis of our constructs shows that all the items load highly (see minimum and maximum item loadings in Table 5.11). A limited number of items present loadings slightly above 0.60, and this occurs in nine constructs, namely *competitive intensity* (one item); *management capabilities* (one item); *innovation differentiation strategy* (two items); *marketing differentiation strategy* (one item); *cost leadership strategy* (two items); *value chain social network* (one item); *foreign knowledge social network* (one item); *entrepreneurial alertness* (one item); and *international performance* (one item). Yet all items pass the minimum 0.60 cutoff suggested by Bagozzi and Yi (1988, 2012).

Complementarily, the standardized residuals matrixes and modification indices were controlled so as to identify values above |2.58| (Gerbing & Anderson, 1988; Hair et al., 2009) and 5.0 (Anderson & Gerbing, 1988), respectively. Through this procedure, several values that exceed the suggested limits were detected, and it was decided to drop the items that seem to be more dangerous to the unidimensionality of each construct analyzed (or dimensions in the case of the second-order constructs). Following this action, a total of 17 items were dropped, which affects almost every construct, except *risk taking*, *competitive intensity*, *technological turbulence*, and *firm resources*. Therefore, two items were dropped in the *management capabilities* construct; two items in *foreign marketing knowledge*; one item in *entrepreneurial orientation*; one item in *innovation differentiation strategy*; one item in *marketing differentiation strategy*; one item in *quality and service differentiation strategy*; one item in *value chain social network*; one item in *foreign knowledge social network*; two items in *entrepreneurial alertness*; three items in *absorptive capacity*; and, finally two items in *international performance*. This procedure, in addition to the previous procedure concerning the preliminary computation of the Cronbach's alpha ($\alpha$), explains the reduction of the total number of items included in the multi-item construct from 114 to 91 (see Table 5.11). Subsequent to the exclusion of these items, the measurement models of each construct were re-run, and a new inspection of the matrixes of standardized residuals and modification indices did not reveal any major threats to the unidimensionality of the constructs.

To conclude the evaluation of unidimensionality, the goodness-of-fit measures of each construct should present an acceptable fit on a latent variable (Hair et al., 2009; Ping, 2004). The goodness-of-fit indexes for each construct are summarized in Table 5.15. When a

construct is measured using a three-item scale, its measurement model is just-identified, and its fit could not be evaluated. That is the reason behind the omission of *risk perception*, *technological turbulence*, and *firm resources* from Table 5.15.

**Table 5.15: Goodness-of-fit of Measures**

| Measures | $\chi^2$ | p-value | $\chi^2$/df | RMSEA | SRMR | NFI | NNFI | CFI | IFI | RFI | GFI | AGFI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Competitive Intensity | 28.37 | 0.000 | 14.18 | 0.178 | 0.038 | 0.96 | 0.90 | 0.97 | 0.97 | 0.87 | 0.97 | 0.83 |
| Management Capabilities | 1.43 | 0.489 | 0.72 | 0.00 | 0.007 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Foreign Market Knowledge | 69.82 | 0.000 | 2.91 | 0.07 | 0.025 | 0.99 | 0.99 | 0.99 | 0.99 | 0.98 | 0.97 | 0.94 |
| Entrepreneurial Orientation | 123.23 | 0.000 | 3.97 | 0.085 | 0.047 | 0.97 | 0.97 | 0.98 | 0.98 | 0.96 | 0.94 | 0.90 |
| **Competitive Generic Strategies:** | | | | | | | | | | | | |
| Innovation Differentiation | 8.51 | 0.014 | 4.3 | 0.089 | 0.023 | 0.99 | 0.98 | 0.99 | 0.99 | 0.97 | 0.99 | 0.95 |
| Marketing Differentiation | 7.57 | 0.023 | 3.8 | 0.082 | 0.017 | 0.99 | 0.98 | 0.99 | 0.99 | 0.98 | 0.99 | 0.95 |
| Cost Leadership | 18.40 | 0.000 | 9.2 | 0.141 | 0.033 | 0.98 | 0.95 | 0.98 | 0.98 | 0.94 | 0.98 | 0.89 |
| Quality and Service Differentiation | 7.67 | 0.175 | 1.5 | 0.036 | 0.015 | 0.99 | 1.00 | 1.00 | 1.00 | 0.99 | 0.99 | 0.98 |
| **International Social Networking:** | | | | | | | | | | | | |
| Value Chain Social Network | 64.47 | 0.000 | 32.23 | 0.27 | 0.055 | 0.93 | 0.79 | 0.93 | 0.93 | 0.79 | 0.93 | 0.64 |
| Institutional Social Network | 30.59 | 0.000 | 6.1 | 0.11 | 0.03 | 0.98 | 0.97 | 0.99 | 0.97 | 0.97 | 0.97 | 0.91 |
| Foreign Knowledge Social Network | 17.80 | 0.000 | 8.9 | 0.14 | 0.024 | 0.98 | 0.96 | 0.99 | 0.99 | 0.95 | 0.98 | 0.90 |
| Entrepreneurial Alertness | 76.85 | 0.000 | 3.2 | 0.073 | 0.03 | 0.98 | 0.98 | 0.99 | 0.99 | 0.97 | 0.96 | 0.93 |
| Absorptive Capacity | 151.31 | 0.000 | 3.78 | 0.082 | 0.027 | 0.98 | 0.98 | 0.99 | 0.99 | 0.98 | 0.94 | 0.90 |
| International Performance | 6.24 | 0.044 | 3.1 | 0.071 | 0.015 | 0.99 | 0.99 | 1.00 | 1.00 | 0.98 | 0.99 | 0.96 |

The most used absolute index – the chi-square statistic ($\chi^2$) – presents significant values (p-values below the 0.05 cutoff) for the majority of the constructs analyzed, which translates as a poor fit. The reasons for these results are related to the methodology of the two-step approach, where each construct is analyzed separately from the others. In accordance with the large sample used in this research, this returns a high probability of $\chi^2$ being significant, and thus of obtaining a poor fit. Actually, when the sample size is larger than 200 (the sample of this research is 416), this is very common (Bagozzi & Yi, 1988; Hair et al., 2009). This contradicts the 'rule of 200' presented by the majority of the authors regarding the minimum sample size when using SEM for guaranteeing a robust structural equation model (Gerbing & Anderson, 1992; Hair et al., 2009; Harris & Schaubroeck, 1990; Kline, 2005).

The RMSEA presents better results, since about half of the constructs present good (RMSEA≤0.06) or reasonable fit (0.06<RMSEA≤0.08). In line with this results, GFI and AGFI for all constructs analyzed present values above the 0.90 threshold recommended by several

authors (Bagozzi & Yi, 2012; Diamantopoulos & Siguaw, 2008; Hair et al., 2009). The SRMR results showed by almost all the constructs also indicate a good fit (SRMR<0.05), and only one construct (the *value chain social network*) presents a measure with reasonable fit (0.05<SRMR≦0.08).

Concerning the incremental fit indices (NFI, NNFI, and CFI), all the constructs range way above the cutoff point of 0.90 (Bagozzi & Yi, 1988; Bentler & Bonnet, 1980; Diamantopoulos & Siguaw, 2008; Hair et al., 2009; Hooper et al., 2008; Vieira, 2011).

The goodness-of-fit results, as well as the loadings of all the constructs and the matrixes of standardized residuals and modification indices, support the unidimensionality of the multi-item constructs included in the framework tested in this study.

### 5.5.1.3 Convergent Validity

In order to assess to the convergent validity of all the multi-item constructs used in the conceptual framework, the standardized loadings of items should load above the thresholds of 0.60–0.70 suggested by the literature (Bagozzi & Yi, 1988, 2012; Garver & Mentzer, 1999). As already presented, all the items load strongly in their latent variables (see Table 5.11), which suggest convergent validity of the constructs.

Despite this, an additional condition is required in second-order constructs in order to achieve convergent validity: the coefficients of the relationship between the first-order dimensions and the second-order constructs must be significant (Bagozzi & Yi, 2012; Benson & Bandalos, 1992). In this research, four variables are measured through second-order constructs, namely *foreign market knowledge*; *entrepreneurial orientation*; *entrepreneurial alertness*; and *absorptive capacity*. All the dimensions of these constructs present a significant relationship with the specific second-order constructs.

In the case of the *foreign market knowledge* in particular, the dimensions *foreign institutional knowledge* ($\Upsilon_{FIK}=0.89$, s.d.$_{FIK}=0.04$, t-value$_{FIK}=16.14$), *foreign business knowledge* ($\Upsilon_{FBK}=0.98$, s.d.$_{FBK}=0.05$, t-value$_{FBK}=19.26$) and *internationalization knowledge* ($\Upsilon_{IK}=0.84$, s.d.$_{IK}=0.05$, t-value$_{IK}=18.26$) present high and significant coefficients. Regarding entrepreneurial orientation, the four dimensions included also present significant coefficients: *innovativeness* ($\Upsilon_{Innov}=0.84$, s.d.$_{Innov}=0.06$, t-value$_{Innov}=13.98$); *proactiveness* ($\Upsilon_{Proac}=0.78$, s.d.$_{Proac}=0.05$, t-value$_{Proac}=15.56$); *risk-taking* ($\Upsilon_{RT}=0.82$, s.d.$_{RT}=0.06$, t-value$_{RT}=13.41$); and *competitive aggressiveness* ($\Upsilon_{CA}=0.70$, s.d.$_{CA}=0.06$, t-value$_{CA}=12.77$). In *entrepreneurial alertness* the relationship between the first-order dimensions and the second-order construct

are also significant: *scanning and search* ($\Upsilon_{SS}$=0.94, s.d.$_{SS}$=0.06, t-value$_{SS}$=14.67); *association and connection* ($\Upsilon_{AC}$=0.93, s.d.$_{AC}$=0.05, t-value$_{AC}$=17.88); and *evaluation and judgment* ($\Upsilon_{EJ}$=0.66, s.d.$_{EJ}$=0.06, t-value$_{EJ}$=10.09). Finally, in the fourth second-order construct included in this research – *absorptive capacity* – the four dimensions analyzed present also high and significant loadings onto the second-order construct: *acquisition* ($\Upsilon_{ACQ}$=0.86, s.d.$_{ACQ}$=0.05, t-value$_{ACQ}$=16.76); *assimilation* ($\Upsilon_{ASS}$=0.88, s.d.$_{ASS}$=0.05, t-value$_{ASS}$=16.49); *transformation* ($\Upsilon_{TRF}$=0.89, s.d.$_{TRF}$=0.04, t-value$_{TRF}$=20.36); and *exploitation* ($\Upsilon_{EXP}$=0.83, s.d.$_{EXP}$=0.05, t-value$_{EXP}$=15.74).

Therefore, it is possible to conclude that there is sufficient evidence for the convergent validity of all the constructs included in this research.

### 5.5.1.4  Reliability Tests

Regarding the analysis of the reliability, the Cronbach's alpha coefficients and the composite reliability were computed for all the constructs. As presented in Table 5.11, Cronbach's alpha of all constructs lie above the 0.70 cutoff suggested by Nunnally (1978). Actually, the lowest values of Cronbach's alpha ($\alpha$=0.79) are presented by two dimensions of the *entrepreneurial alertness* construct: *association and connection;* and *evaluation and judgment.* Likewise, the results of the composite reliability for all the constructs are also above the most demanding threshold of 0.70 (Hair et al., 2009). The lowest composite reliability (0.82) is presented by the *firm resources* construct.

These results suggest adequate reliability of all the multi-item constructs included in this research.

### 5.5.1.5  Discriminant Validity

To assess the discriminant validity, the average variance extracted (AVE) was computed for all constructs, and the AVE of each pair of constructs was compared with the square of the correlation estimate ($r^2$) between those two constructs (Fornell & Larcker, 1981). Concerning the absolute value of AVE, the constructs range between 0.56 and 0.91, and thus all the values are higher than the 0.50 minimum proposed by Fornell and Larcker (1981).

One of the most demanding tests to support the discriminant validity of a measure is through the comparison of the AVE with the square of the correlation estimates ($r^2$) between this construct and the other constructs in the model (Fornell & Larcker, 1981; Hair et al., 2009).

Alternatively, this comparison could be made between the square root of AVE and the correlations between the constructs.

To pass the discriminant validity test, AVE estimates (or the square root of AVE) should be higher than the squared correlation estimates (or the absolute value of correlations). The logic behind this comparison is that a latent variable should explain its own items better than explaining the other latent variables (Hair et al., 2009; Ping, 2004). In the following pages, the tables with a correlation matrix with all the constructs included in the structural model and the square root of AVE for all the constructs measured through multiple items are presented (see Table 5.16, Table 5.17, Table 5.18, Table 5.19, and Table 5.20). It is essential to be aware that the matrix includes all the variables of the structural model, namely the single item measures (related to the characteristics of entrepreneurs) and the control variables.

The results presented in the following tables corroborate the discriminant validity for all the constructs, since the squared root of each construct's AVE is higher than all the correlations between this construct and the other constructs included in the model (Hair et al., 2009; Ping, 2004).

In the case of second-order constructs (*foreign market knowledge*, *entrepreneurial orientation*, *entrepreneurial alertness* and *absorptive capacity*), the specific dimensions must be distinct in order to access discriminant validity. Thus several CFA models were computed for each pair of dimensions, with the objective of analyzing the $\chi^2$ differences between the standard model and the model with the correlations between the factors constrained to 1.0 (called the 'non-discriminant' model). The null hypothesis is that the dimensions are indistinct. Discriminant validity is supported in case the null hypothesis is rejected. As presented in Appendix 8, all the differences of $\chi^2$ are significant for all the pairs of dimensions of the four constructs (*foreign market knowledge*, *entrepreneurial orientation*, *entrepreneurial alertness* and *absorptive capacity*), which supports discriminant validity.

## Table 5.16: Correlation Matrix and Discriminant Validity – Part A

| | 1. | 2. | 3. | 4. | 5. | 6. | 7. |
|---|---|---|---|---|---|---|---|
| 1. Interest in Traveling | **n.a.** | | | | | | |
| 2. Professional Experience Abroad | 0.27*** | **n.a.** | | | | | |
| 3. Professional Exp. Same Industry | 0.12* | 0.24*** | **n.a.** | | | | |
| 4. Professional Exp. in Management | 0.21*** | 0.42*** | 0.40*** | **n.a.** | | | |
| 5. Foreign Educational Experience | 0.21*** | 0.39** | 0.01 | 0.20*** | **n.a.** | | |
| 6. Risk Perception | 0.18*** | 0.11* | 0.08 | 0.06 | 0.13** | **0.87** | |
| 7. Competitive Intensity | 0.15** | 0.02 | 0.14** | 0.10* | 0.00 | 0.09 | **0.81** |
| 8. Technological Turbulence | 0.17*** | 0.07 | 0.13** | 0.10 | 0.03 | 0.09 | 0.64 |
| 9. Firm Resources | 0.29*** | 0.12* | 0.10* | 0.19*** | 0.16** | 0.31** | 0.20** |
| 10. Management Capabilities | 0.29*** | 0.15** | 0.15** | 0.20*** | 0.14** | 0.29** | 0.24** |
| 11A. EO - Innovativeness | 0.23*** | 0.09 | 0.07 | 0.16*** | 0.11* | 0.29** | 0.25** |
| 11B. EO - Proactiveness | 0.28*** | 0.10* | 0.07 | 0.09 | 0.19** | 0.37** | 0.15** |
| 11C. EO – Risk-taking | 0.29*** | 0.16*** | -0.01 | 0.10 | 0.16** | 0.31** | 0.19** |
| 11D. EO - Comp. Aggressiveness | 0.19*** | 0.07 | -0.01 | 0.18*** | 0.09 | 0.26** | 0.27** |
| 12A. FMK - F. I. Knowledge | 0.31*** | 0.27*** | 0.15** | 0.32*** | 0.22** | 0.31** | 0.19** |
| 12B. FMK - F. B. Knowledge | 0.35*** | 0.26*** | 0.15** | 0.32*** | 0.22** | 0.36** | 0.17** |
| 12C. FMK - Intern. Knowledge | 0.41*** | 0.31*** | 0.11* | 0.32*** | 0.26** | 0.33** | 0.19** |
| 13A. EA - Scanning and Search | 0.36*** | 0.13** | 0.10* | 0.18*** | 0.21** | 0.37** | 0.24** |
| 13B. EA - Association and Connection | 0.29*** | 0.14** | 0.12* | 0.16*** | 0.18** | 0.29** | 0.27** |
| 13C. EA - Evaluation and Judgment | 0.18*** | 0.03 | 0.08 | 0.13** | 0.08 | 0.34** | 0.22** |
| 14A. AC – Acquisition | 0.32*** | 0.11* | 0.09 | 0.14** | 0.15** | 0.36** | 0.25** |
| 14B. AC - Assimilation | 0.24*** | 0.14** | 0.13* | 0.20*** | 0.11* | 0.33** | 0.21** |
| 14C. AC - Transformation | 0.27*** | 0.15** | 0.12* | 0.12* | 0.11* | 0.30** | 0.22** |
| 14D. AC - Exploitation | 0.18*** | 0.12* | 0.13** | 0.09 | 0.12* | 0.35** | 0.18** |
| 15. Gst - Innovation Differentiation | 0.27*** | 0.08 | 0.07 | 0.16*** | 0.11* | 0.32** | 0.12* |
| 16. Gst - Marketing Differentiation | 0.24*** | 0.06 | 0.03 | 0.19*** | 0.12* | 0.15** | 0.20** |
| 17. Gst - Cost Leadership | 0.13*** | -0.06 | 0.13** | 0.07 | -0.01 | 0.38** | 0.19** |
| 18. Gst – Qual. Service Differentiation | 0.27*** | 0.06 | 0.11* | 0.14** | 0.06 | 0.48** | 0.26** |
| 19. ISN - Value Chain Social Network | 0.17*** | 0.11* | 0.07 | 0.04 | 0.08 | 0.30** | 0.16** |
| 20. ISN - Institutional Social Network | 0.05 | 0.06 | 0.00 | 0.04 | 0.10* | -0.04 | 0.16** |
| 21. ISN - Foreign Knowledge Social Network | 0.14** | 0.04 | 0.12* | 0.15** | 0.05 | 0.15** | 0.22** |
| 22. International Performance | 0.28*** | 0.09 | 0.10* | 0.10* | 0.15** | 0.37** | 0.08 |
| 23. Firm Size | -0.09 | 0.03 | 0.05 | 0.05 | 0.03 | 0.04 | -0.07 |
| 24. Industry | 0.14** | 0.17*** | -0.02 | -0.01 | 0.11* | 0.08 | 0.03 |
| 25. Degree of Internationalization | 0.10* | 0.25*** | 0.06 | 0.10* | 0.09 | 0.16*** | -0.07 |
| 26. International Experience | 0.00 | 0.00 | -0.03 | -0.09 | 0.06 | 0.04 | -0.04 |

Note:    The boldface scores on the diagonal are the square root of AVE.
         Significant at different levels: ***0.001    **0.01    *0.05    N=416

### Table 5.17: Correlation Matrix and Discriminant Validity – Part B

| | 8. | 9. | 10. | 11A. | 11B. | 11C. | 11D. |
|---|---|---|---|---|---|---|---|
| 8. Technological Turbulence | **0.85** | | | | | | |
| 9. Firm Resources | 0.25*** | **0.75** | | | | | |
| 10. Management Capabilities | 0.34*** | 0.72*** | **0.79** | | | | |
| 11A. EO - Innovativeness | 0.33*** | 0.58*** | 0.48*** | **0.83** | | | |
| 11B. EO - Proactiveness | 0.30*** | 0.45*** | 0.40*** | 0.61*** | **0.82** | | |
| 11C. EO – Risk-taking | 0.37*** | 0.46*** | 0.40*** | 0.53*** | 0.56*** | **0.78** | |
| 11D. EO - Comp. Aggressiveness | 0.31*** | 0.40*** | 0.34*** | 0.52*** | 0.41*** | 0.55*** | **0.88** |
| 12A. FMK - F. I. Knowledge | 0.23*** | 0.45*** | 0.35*** | 0.39*** | 0.38*** | 0.39*** | 0.32*** |
| 12B. FMK - F. B. Knowledge | 0.21*** | 0.49*** | 0.39*** | 0.42*** | 0.45*** | 0.36*** | 0.36*** |
| 12C. FMK - Intern. Knowledge | 0.23*** | 0.46*** | 0.37*** | 0.41*** | 0.36*** | 0.39*** | 0.37*** |
| 13A. EA - Scanning and Search | 0.37*** | 0.56*** | 0.51*** | 0.52*** | 0.50*** | 0.48*** | 0.37*** |
| 13B. EA - Association and Connection | 0.35*** | 0.45*** | 0.37*** | 0.46*** | 0.47*** | 0.44*** | 0.35*** |
| 13C. EA - Evaluation and Judgment | 0.22*** | 0.40*** | 0.37*** | 0.38*** | 0.32*** | 0.28*** | 0.30*** |
| 14A. AC - Acquisition | 0.38*** | 0.57*** | 0.59**** | 0.49*** | 0.48*** | 0.46*** | 0.37*** |
| 14B. AC - Assimilation | 0.24*** | 0.53*** | 0.62*** | 0.41*** | 0.39*** | 0.30*** | 0.29*** |
| 14C. AC - Transformation | 0.32*** | 0.53*** | 0.70*** | 0.41*** | 0.35*** | 0.40*** | 0.34*** |
| 14D. AC - Exploitation | 0.35*** | 0.49*** | 0.52*** | 0.52*** | 0.53*** | 0.45*** | 0.35*** |
| 15. Gst - Innovation Differentiation | 0.29*** | 0.43*** | 0.40*** | 0.49*** | 0.54*** | 0.47*** | 0.34*** |
| 16. Gst - Marketing Differentiation | 0.38*** | 0.37*** | 0.36*** | 0.39*** | 0.34*** | 0.37*** | 0.32*** |
| 17. Gst - Cost Leadership | 0.23*** | 0.30*** | 0.31*** | 0.34*** | 0.32*** | 0.25*** | 0.32*** |
| 18. Gst - Quality and Service Differentiation | 0.25*** | 0.46*** | 0.48*** | 0.47*** | 0.43*** | 0.31*** | 0.37*** |
| 19. ISN - Value Chain Social Network | 0.21*** | 0.19*** | 0.19*** | 0.22*** | 0.19*** | 0.31*** | 0.27*** |
| 20. ISN - Institutional Social Network | 0.24*** | 0.01 | 0.06* | 0.09 | 0.04 | 0.22*** | 0.20*** |
| 21. ISN - Foreign Knowledge Social Network | 0.21*** | 0.10* | 0.11* | 0.13* | 0.10* | 0.23*** | 0.21*** |
| 22. International Performance | 0.18*** | 0.35*** | 0.31*** | 0.34*** | 0.34*** | 0.31*** | 0.35*** |
| 23. Firm Size | -0.09 | -0.09 | -0.15** | -0.09 | -0.07 | -0.08 | -0.03 |
| 24. Industry | 0.11* | 0.21*** | 0.23*** | 0.18*** | 0.13** | 0.20*** | 0.10* |
| 25. Degree of Internationalization | -0.12* | -0.05 | -0.07 | -0.08 | -0.02 | 0.04 | 0.06 |
| 26. International Experience | 0.01 | 0.03 | 0.01 | 0.08 | 0.11* | 0.02 | 0.08 |

Note:   The boldface scores on the diagonal are the square root of AVE.
        Significant at different levels: ***0.001    **0.01    *0.05    N=416

## Table 5.18: Correlation Matrix and Discriminant Validity – Part C

| | 12A. | 12B. | 12C. | 13A. | 13B. | 13C. | 14A. |
|---|---|---|---|---|---|---|---|
| 12A. FMK - F. I. Knowledge | **0.83** | | | | | | |
| 12B. FMK - F. B. Knowledge | 0.79*** | **0.85** | | | | | |
| 12C. FMK - Intern. Knowledge | 0.73*** | 0.77*** | **0.90** | | | | |
| 13A. EA - Scanning and Search | 0.48*** | 0.50*** | 0.47*** | **0.82** | | | |
| 13B. EA - Association and Connection | 0.48*** | 0.45*** | 0.43*** | 0.71*** | **0.75** | | |
| 13C. EA - Evaluation and Judgment | 0.38*** | 0.37*** | 0.38*** | 0.53*** | 0.52*** | **0.87** | |
| 14A. AC - Acquisition | 0.44*** | 0.45*** | 0.42*** | 0.70*** | 0.51*** | 0.42*** | **0.86** |
| 14B. AC - Assimilation | 0.36*** | 0.38*** | 0.31*** | 0.51*** | 0.36*** | 0.43*** | 0.65*** |
| 14C. AC - Transformation | 0.39*** | 0.41*** | 0.36*** | 0.54*** | 0.35*** | 0.41*** | 0.67*** |
| 14D. AC - Exploitation | 0.31*** | 0.39*** | 0.31*** | 0.52*** | 0.43*** | 0.42*** | 0.60*** |
| 15. Gst - Innovation Differentiation | 0.30*** | 0.37*** | 0.32*** | 0.52*** | 0.42*** | 0.31*** | 0.52*** |
| 16. Gst - Marketing Differentiation | 0.35*** | 0.36*** | 0.31*** | 0.48*** | 0.38*** | 0.26*** | 0.46*** |
| 17. Gst - Cost Leadership | 0.22*** | 0.23*** | 0.20*** | 0.35*** | 0.30*** | 0.39*** | 0.36*** |
| 18. Gst - Quality and Service Differentiation | 0.34*** | 0.39*** | 0.37*** | 0.52*** | 0.40*** | 0.48*** | 0.51*** |
| 19. ISN - Value Chain Social Network | 0.34*** | 0.32*** | 0.29*** | 0.32*** | 0.35*** | 0.26*** | 0.32*** |
| 20. ISN - Institutional Social Network | 0.20*** | 0.13** | 0.11* | 0.12* | 0.13** | 0.08 | 0.13* |
| 21. ISN - Foreign Knowledge Social Network | 0.20*** | 0.16*** | 0.19*** | 0.21*** | 0.25*** | 0.16*** | 0.23*** |
| 22. International Performance | 0.41*** | 0.44*** | 0.44*** | 0.43*** | 0.39*** | 0.44*** | 0.41*** |
| 23. Firm Size | -0.01 | -0.03 | -0.02 | -0.01 | 0.02 | -0.02 | -0.06 |
| 24. Industry | 0.10* | 0.08 | 0.15** | 0.18*** | 0.15** | 0.04 | 0.22*** |
| 25. Degree of Internationalization | 0.08 | 0.10* | 0.12* | -0.08 | -0.04 | -0.03 | -0.06 |
| 26. International Experience | -0.03 | 0.04 | 0.01 | 0.01 | 0.04 | 0.06 | -0.01 |

Note:   The boldface scores on the diagonal are the square root of AVE.
        Significant at different levels: ***0.001    **0.01    *0.05    N=416

### Table 5.19: Correlation Matrix and Discriminant Validity – Part D

| | 14B. | 14C. | 14D. | 15. | 16. | 17. | 18. |
|---|---|---|---|---|---|---|---|
| 14B. AC - Assimilation | **0.87** | | | | | | |
| 14C. AC - Transformation | 0.69*** | **0.95** | | | | | |
| 14D. AC - Exploitation | 0.57*** | 0.64*** | **0.87** | | | | |
| 15. Gst - Innovation Differentiation | 0.41*** | 0.40*** | 0.52*** | **0.81** | | | |
| 16. Gst - Marketing Differentiation | 0.37*** | 0.38*** | 0.35*** | 0.61*** | **0.81** | | |
| 17. Gst - Cost Leadership | 0.34*** | 0.36*** | 0.39*** | 0.43*** | 0.22*** | **0.79** | |
| 18. Gst - Quality and Service Differentiation | 0.55*** | 0.52*** | 0.48*** | 0.47*** | 0.31*** | 0.62*** | **0.76** |
| 19. ISN - Value Chain Social Network | 0.24*** | 0.27*** | 0.24*** | 0.24*** | 0.27*** | 0.27*** | 0.34*** |
| 20. ISN - Institutional Social Network | 0.08 | 0.15** | 0.06 | 0.16*** | 0.38*** | 0.11* | 0.06 |
| 21. ISN - Foreign Knowledge Social Network | 0.11* | 0.15** | 0.11* | 0.13** | 0.28*** | 0.12* | 0.23*** |
| 22. International Performance | 0.34*** | 0.41*** | 0.36*** | 0.35*** | 0.31*** | 0.34*** | 0.45*** |
| 23. Firm Size | -0.09 | -0.10* | -0.04 | -0.04 | -0.05 | 0.00 | -0.12* |
| 24. Industry | 0.13** | 0.23*** | 0.11* | 0.07 | 0.19*** | -0.14** | 0.04 |
| 25. Degree of Internationalization | -0.03 | -0.05 | -0.06 | -0.09 | -0.04 | -0.02 | -0.01 |
| 26. International Experience | 0.01 | -0.03 | 0.07 | 0.06 | 0.00 | 0.05 | -0.01 |

Note:   The boldface scores on the diagonal are the square root of AVE.
          Significant at different levels: ***0.001    **0.01    *0.05    N=416

### Table 5.20: Correlation Matrix and Discriminant Validity – Part E

| | 19. | 20. | 21. | 22. | 23. | 24. | 25. | 26. |
|---|---|---|---|---|---|---|---|---|
| 19. ISN - Value Chain Social Network | **0.77** | | | | | | | |
| 20. ISN - Institutional Social Network | 0.50*** | **0.82** | | | | | | |
| 21. ISN - Foreign Knowledge Social Network | 0.42*** | 0.47*** | **0.81** | | | | | |
| 22. International Performance | 0.31*** | 0.11* | 0.15** | **0.81** | | | | |
| 23. Firm Size | -0.01 | -0.04 | -0.11* | 0.00 | **n.a.** | | | |
| 24. Industry | 0.07 | 0.01 | -0.02 | 0.07 | -0.13** | **n.a.** | | |
| 25. Degree of Internationalization | 0.07 | 0.08 | 0.05 | 0.10* | 0.14** | -0.04 | **n.a.** | |
| 26. International Experience | 0.01 | 0.03 | -0.113** | 0.02 | 0.16*** | -0.03 | 0.09 | **n.a.** |

Note:   The boldface scores on the diagonal are the square root of AVE.
          Significant at different levels: ***0.001    **0.01    *0.05    N=416

Additionally, for the sake of parsimony, and in order to ensure convergence in the model and guarantee robust structural equation modeling, it was decided to build composite measures. The selection of the constructs was not arbitrary: it was decided to transform the second-order measures into composite measures, since these constructs present a high number of items to measure a specific construct, despite being organized by dimensions. Therefore, new composite measures were developed for each dimension of the second-order constructs: *foreign market knowledge*; *entrepreneurial orientation*; *entrepreneurial alertness*; and *absorptive capacity*. In the global model, *foreign market knowledge* was measured using three composite items; *entrepreneurial orientation* was measured using four items; *entrepreneurial alertness* was measured with three composite items; and the *absorptive*

*capacity* was measured using four items. This procedure was suggested by the literature (Bagozzi & Yi, 2012), and the assessment of the overall measurement model fit was accomplished with the composites instead of the observable variables.

## 5.5.2 Assessing Overall Measurement Model

After assessing the individual measurement models, the overall measurement model was examined using the composites for second-order variables.

The results of the goodness-of-fit indexes related to the overall measurement model are presented in Table 5.21. Although the measurement model obtains a significant chi-squared statistic ($\chi^2$=5624.26, df=2333, p=0.000), this statistic is sensitive to sample size: with the increase of the sample size, the likelihood of rejecting the model also increases (Bagozzi & Yi, 1988, 2012; Diamantopoulos & Siguaw, 2008; Iacobucci, 2010). Alternatively, when computing the relative chi-squared statistic ($\chi^2$/df), the result is 2.4, which is better than the threshold of 3.0 presented by several researchers (Diamantopoulos & Siguaw, 2008; Iacobucci, 2010; Kline, 2005; Netemeyer et al., 2001; Vieira, 2009, 2011). The other absolute indexes present good model fit: SRMR is 0.064, thus performing better than the recommendation that SRMR≤0.08 for reasonable fit (Hu & Bentler, 1999), and RMSEA is equal to 0.058 – a value that is better than the recommendation of RMSEA≤0.06 for good fit (Hu & Bentler, 1999).

Additionally, when considering the relative fit indexes, some results obtained also support a good model fit: NFI is 0.93, NNFI is 0.95, CFI is 0.96, IFI is 0.96, and RFI is 0.91, all of them above the 0.90 cutoff. The PGFI, which is the GFI adjusted to take into consideration the complexity of the model, presents a value of 0.60. This value is also interesting, since it is above the suggested 0.50 cutoff (Diamantopoulos & Siguaw, 2008; Mulaik et al., 1989).

**Table 5.21: Global Measurement Model Goodness-of-Fit Results**

**Goodness-of-fit Indexes:**

$\chi^2$ **= 5624.26 (p=0.000); df = 2333; $\chi^2$/df = 2.4**

**RMSEA=0.058;SRMR=0.064; NFI=0.93; NNFI=0.95; CFI=0.96; IFI=0.96; RFI=0.91; GFI=0.73; AGFI=0.68; PGFI=0.60**

## 5.6 Assessment of Structural Model

### *5.6.1 Overall Fit*

Previously, all the constructs measured through multiple-items were validated, and satisfactory fit of measurement models achieved (Anderson & Gerbing, 1988; Hair et al., 2009; Kline, 2005). Building on these results, and following the two-step approach for SEM (Anderson & Gerbing, 1988), the proposed set of connections between the latent variables will be analyzed. At the same time, this exercise comprises the assessment of nomological validity (Bagozzi & Yi, 2012; Hair et al., 2009; Steenkamp & van Trijp, 1991).

As mentioned in the methodology chapter, when assessing the structural model, the first stage will be related with the analysis of the goodness-of-fit indexes. The purpose of this is to examine whether the hypothesized structural model fits the data (Anderson & Gerbing, 1988; Bagozzi & Yi, 2012; Diamantopoulos & Siguaw, 2008; Hair et al., 2009; Kline, 2005).

Consequently, in terms of overall fit (see Table 5.22), the majority of the model's goodness-of-fit indexes are within the thresholds that indicate good fit. Nevertheless the chi-squared test is significant ($\chi^2$ = 6963.77, p=0.000), the ratio chi-square/degree of freedom is below 3.0 (df=2707, $\chi^2$/df=2.6) indicating a good fit (Diamantopoulos & Siguaw, 2008; Iacobucci, 2010; Kline, 2005; Netemeyer et al., 2001; Vieira, 2009, 2011). The RMSEA is equal to 0.066 – a value that is slightly higher than the recommendation of RMSEA≤0.06 (Hu & Bentler, 1999), but even so with reasonable fit.

In addition, several other indices indicate good fit: the value of NFI is 0.91; NNFI is 0.94; CFI and IFI present coincident values of 0.95; and the value of RFI is 0.91; all of which are above the thresholds of 0.90 (Diamantopoulos & Siguaw, 2008; Iacobucci, 2010; Vieira, 2009, 2011). Complementarily, PGFI presents a value of 0.61, which is above the suggested 0.50 threshold (Diamantopoulos & Siguaw, 2008; Mulaik et al., 1989).

**Table 5.22: Global Structural Model Goodness-of-Fit Results**

**Goodness-of-fit Indexes:**

$\chi^2$ = 6963.77 (p=0.000); df = 2707; $\chi^2$/df = 2.6

RMSEA=0.066; SRMR=0.11; NFI=0.91; NNFI=0.94; CFI=0.95; IFI=0.95; RFI=0.91; GFI=0.68; AGFI=0.64; PGFI=0.61

After assessing the goodness-of-fit measures, an analysis of the structural model was focused on the proposed hypotheses that specify a relationship between the latent variables. The analysis of these relationships should consider three main issues (Diamantopoulos &

Siguaw, 2008): i) the direction of the relationship (i.e. positive or negative); ii) the magnitude of estimated parameters (and significance); and iii) the sum of variance of the endogenous variables that is explained by the proposed determinants ($R^2$). These results are presented in Table 5.23.

## Table 5.23: Structural Model Results

| Path | Estimate | SE | T-Value | $R^2$ | Hip. | Result |
|---|---|---|---|---|---|---|
| Education ➔ Foreign Market Knowledge | 0.081 | 0.031 | 2.62 | | H1a | Yes (**) |
| Interest in Traveling ➔ Foreign Market Knowledge | 0.25 | 0.038 | 6.75 | | H1b | Yes (***) |
| Professional Experience Abroad ➔ Foreign Market Knowledge | 0.075 | 0.024 | 3.09 | | H1c | Yes (**) |
| Foreign Educational Experience ➔ Foreign Market Knowledge | 0.049 | 0.025 | 1.98 | 0.24 | H1d | Yes (*) |
| Risk Propensity ➔ Entrepreneurial Orientation | 0.37 | 0.049 | 7.57 | | H1e | Yes (***) |
| Languages➔ Entrepreneurial Orientation | 0.14 | 0.040 | 3.50 | | H1f | Yes (***) |
| Technological Turbulence ➔ Entrepreneurial Orientation | 0.51 | 0.050 | 10.06 | 0.49 | H2 | Yes (***) |
| Professional Experience Industry ➔ Management Capabilities | 0.013 | 0.030 | 0.42 | | H1g | No (n.s.) |
| Professional Experience Management ➔ Management Capabilities | 0.076 | 0.029 | 2.58 | | H1h | Yes (**) |
| Competitive Intensity ➔ Management Capabilities | 0.44 | 0.056 | 7.83 | 0.23 | H3 | Yes (***) |
| Firm Resources ➔ Value Chain Social Network | -0.22 | 0.059 | -3.82 | | H4a | Yes (***) |
| Foreign Market Knowledge ➔ Value Chain Social Network | 0.27 | 0.052 | 5.22 | | H5a | Yes (***) |
| Entrepreneurial Orientation ➔ Value Chain Social Network | 0.41 | 0.060 | 6.84 | 0.24 | H8a | Yes (***) |
| Firm Resources ➔ Institutional Social Network | -0.30 | 0.059 | -5.15 | | H4b | Yes (***) |
| Foreign Market Knowledge ➔ Institutional Social Network | 0.16 | 0.051 | 3.15 | | H5b | Yes (**) |
| Entrepreneurial Orientation ➔ Institutional Social Network | 0.30 | 0.057 | 5.28 | 0.15 | H8b | Yes (***) |
| Firm Resources ➔ Foreign Knowledge Social Network | -0.23 | 0.060 | -3.78 | | H4c | Yes (***) |
| Foreign Market Knowledge ➔ Foreign Knowledge Social Network | 0.18 | 0.053 | 3.40 | | H5c | Yes (***) |
| Entrepreneurial Orientation ➔ Foreign Knowledge Social Network | 0.30 | 0.059 | 5.10 | 0.13 | H8c | Yes (***) |
| Foreign Market Knowledge ➔ Entrepreneurial Alertness | 0.30 | 0.041 | 7.47 | | H6 | Yes (***) |
| Entrepreneurial Orientation ➔ Entrepreneurial Alertness | 0.62 | 0.052 | 12.08 | | H9 | Yes (***) |
| Management Capabilities ➔ Entrepreneurial Alertness | 0.21 | 0.044 | 4.71 | 0.66 | H12 | Yes (***) |
| Foreign Market Knowledge ➔ Absorptive Capacity | 0.12 | 0.034 | 3.37 | | H7 | Yes (***) |
| Entrepreneurial Orientation ➔ Absorptive Capacity | 0.42 | 0.044 | 9.61 | | H10 | Yes (***) |
| Management Capabilities ➔ Absorptive Capacity | 0.62 | 0.053 | 11.76 | 0.76 | H13 | Yes (***) |
| Entrepreneurial Orientation ➔ Innovation Differentiation Strategy | 0.67 | 0.060 | 11.25 | | H11a | Yes (***) |
| Management Capabilities ➔ Innovation Differentiation Strategy | 0.13 | 0.048 | 2.77 | 0.53 | H14a | Yes (**) |
| Entrepreneurial Orientation ➔ Marketing Differentiation Strategy | 0.51 | 0.063 | 8.04 | | H11b | Yes (***) |
| Management Capabilities ➔ Marketing Differentiation Strategy | 0.15 | 0.053 | 2.89 | 0.33 | H14b | Yes (**) |
| Entrepreneurial Orientation ➔ Qua./Serv. Differentiation Strategy | 0.52 | 0.060 | 8.59 | | H11c | Yes (***) |
| Management Capabilities ➔ Qua./Serv. Differentiation Strategy | 0.27 | 0.053 | 5.08 | 0.42 | H14c | Yes (***) |
| Entrepreneurial Orientation ➔ Cost Leadership Strategy | 0.47 | 0.060 | 7.82 | | H11d | Yes (***) |
| Management Capabilities ➔ Cost Leadership Strategy | 0.12 | 0.053 | 2.34 | 0.27 | H14d | Yes (*) |
| Value Chain Social Network ➔ International Performance | 0.095 | 0.047 | 2.03 | | H15a | Yes (*) |
| Institutional Social Network ➔ International Performance | -0.092 | 0.042 | -2.18 | | H15b | No (-/*) |
| Foreign Knowledge Social Network ➔ International Performance | 0.010 | 0.043 | 0.24 | | H15c | No (n.s.) |
| Entrepreneurial Alertness ➔ International Performance | 0.32 | 0.069 | 4.58 | | H16 | Yes (***) |
| Absorptive Capacity ➔ International Performance | 0.23 | 0.063 | 3.58 | | H17 | Yes (***) |
| Innovation Differentiation Strategy ➔ International Performance | -0.93 | 0.059 | -1.58 | | H18a | No (n.s.) |
| Marketing Differentiation Strategy ➔ International Performance | 0.19 | 0.052 | 3.56 | | H18b | Yes (***) |
| Qua./Serv. Differentiation Strategy ➔ International Performance | 0.17 | 0.056 | 3.10 | | H18c | Yes (**) |
| Cost Leadership Strategy ➔ International Performance | 0.075 | 0.048 | 1.57 | 0.55 | H18d | No (n.s.) |
| Firm Size ➔ International Performance | -0.031 | 0.063 | -0.49 | | - | (n.s.) |
| International Experience ➔ International Performance | -0.009 | 0.018 | -0.48 | | - | (n.s.) |
| Industry (services) ➔ International Performance | -0.055 | 0.120 | -0.47 | | - | (n.s.) |
| Degree of Internationalization ➔ International Performance | 0.85 | 0.290 | 2.95 | | - | (**) |

Note: *** p<0.001; ** p<0.01; * p<0.05;
Two-tailed test for all hypotheses.

For each of the paths or relationships originally considered in the structural model, the value of the parameters, as well as the standard error, the t-value, the designation of subjacent hypothesis, and conclusions about the support of the hypothesis was presented. The

organization of results is prepared by dependent variables in order to present the $R^2$ for each of the variables.

## 5.6.2 Entrepreneurs Antecedents of Foreign Market Knowledge

In the conceptual model, four of the entrepreneurs' characteristics were identified as determinants or exogenous variables of foreign market knowledge, specifically: level of education; interest in traveling; professional experience abroad; and foreign educational experience. These four antecedents of foreign market knowledge explain 24% of the variance of this variable, and all four relationships obtain significance in the structural model results.

The higher the entrepreneur's level of education, the higher will be the foreign market knowledge; thus the estimate is positive and significant ($\beta=0.081$, $p<0.01$). Therefore, support for H1a was found.

The estimate of the relationship between the interest in traveling variable and foreign market knowledge is positive and significant ($\beta=0.25$, $p<0.001$). Therefore, there was support for H1b.

The professional experience of an entrepreneur abroad is also positively associated with foreign market knowledge ($\beta=0.075$, $p<0.01$), which supports H1c.

Likewise, the foreign educational experience of an entrepreneur is positively associated with foreign market knowledge ($\beta=0.049$, $p<0.05$). Thus, there was found to be support for H1d.

## 5.6.3 Industry and Entrepreneur Antecedents of Entrepreneurial Orientation

Considering the three independent variables (risk propensity, number of foreign languages spoken, and technological turbulence) related to entrepreneurial orientation, the results show that they explain about 49% of the observed variance in entrepreneurial orientation. Concerning hypotheses testing, all relationships reached significance.

Risk propensity is positively related to entrepreneurial orientation ($\beta=0.37$, $p<0.001$), thus supporting H1e.

Similarly, the higher the number of foreign languages spoken by the entrepreneur, the higher the entrepreneurial orientation of the firm, supporting H1f. The results present a significant and high relationship ($\beta=0.14$, $p<0.001$).

Technological turbulence is also positively related to entrepreneurial orientation ($\beta=0.51$, $p<0.001$), in support of H2.

## 5.6.4 Industry and Entrepreneur Antecedents of Management Capabilities

Three variables were hypothesized as antecedents of management capabilities, namely the professional experience of the entrepreneur in the same industry and the professional experience of the entrepreneur in management (in both cases before founding the firm), and competitive intensity. These three variables explain about 23% of the observed variance in management capabilities, although after hypotheses testing, only two of the three relationships obtained significance.

The relationship between professional experience in the same industry and management capabilities displays the sign which is to be expected, but it is not significant. Therefore, the results do not support H1g.

In a different way, the professional experience of the entrepreneur in management before founding the firm is positively related to the management capabilities of the firm ($\beta=0.076$, $p<0.01$), therefore supporting H1h.

The competitive intensity is also positively related to management capabilities ($\beta=0.44$, $p<0.001$), in support of H3.

## 5.6.5 Firm Antecedents: International Social Network

As already presented, international social networks were included in the framework to distinguish between three complementary types of social networks: the value chain social network; institutional social network; and foreign knowledge social network. The results for each type of international social network will be presented below.

**Value Chain Social Network**

The three antecedents of the value chain social network, namely entrepreneurial orientation, foreign market knowledge, and firm resources, explain about 24% of this variable's variance. In terms of hypotheses testing, all three relationships obtained significance.

Specifically, the estimate of the relationship between firm resources and the value chain social network is negative and significant ($\beta$=-0.22, $p<0.001$). Therefore, it supported H4a.

The positive relationship between foreign market knowledge and the value chain social network, presented by H5a was supported, since the relationship obtained was positive and significant ($\beta$=0.27, $p<0.001$).

The results also support H8a, suggesting that entrepreneurial orientation is positively related to the value chain social network ($\beta$=0.41, $p<0.001$).

**Institutional Social Network**

The relationships between the antecedents of the institutional social network (entrepreneurial orientation, foreign market knowledge and firm resources) and this specific variable explain about 15% of this variable's variance ($R^2$=0.15).

In terms of hypotheses testing, firm resources are negatively and significantly associated with the institutional social network ($\beta$=-0.30, $p<0.001$). Therefore, it supported H4b.

Foreign market knowledge and the institutional social network are positively associated, and thus H5b was supported, since the relationship obtained was positive and significant ($\beta$=0.16, $p<0.01$).

The results also support H8b, suggesting that the entrepreneurial orientation of firm resources are positively related to the institutional social network ($\beta$=0.30, $p<0.001$).

**Foreign Knowledge Social Network**

The three antecedents of the foreign knowledge social network explain about 13% of variance of this variable. Regarding the test of the hypotheses, the results are as follows:

- The estimate of the relationship between firm resources and the foreign knowledge social network is negative and significant ($\beta$=-0.23, $p<0.001$). Therefore, it was found to be in support of H4c.
- The estimate of the relationship between foreign market knowledge and the foreign knowledge social network is positive and significant ($\beta$=0.18, $p<0.001$). Therefore, it was found to be in support of H5c.
- The estimate of the relationship between entrepreneurial orientation and the foreign knowledge social network is positive and significant ($\beta$=0.30, $p<0.001$). Therefore, it was found to be in support of H8c.

## *5.6.6 Firm Antecedents: Entrepreneurial Alertness*

Together, foreign market knowledge, entrepreneurial orientation, and management capabilities explain about 66% of the observed variance in entrepreneurial alertness.

In terms of hypotheses testing, all three of the relationships theoretically presented between variables regarding firm antecedents and entrepreneurial alertness are empirically supported. Foreign market knowledge is positively associated with entrepreneurial alertness ($\beta$=0.30, p<0.001). Therefore, it was found to support H6.

Entrepreneurial orientation is positively related to entrepreneurial alertness ($\beta$=0.62, p<0.001), which is in support of H9.

The results also support H12, suggesting that management capabilities are positively related to entrepreneurial alertness ($\beta$=0.21, p<0.001).

## *5.6.7 Firm Antecedents: Absorptive Capacity*

Analyzing the results of the relationship between the firm antecedents and absorptive capacity variable, it was found that foreign market knowledge, entrepreneurial orientation and management capabilities explain about 76% of the observed variance in the absorptive capacity simultaneously, since the three relationships are positive, high, and significant.

In particular, foreign market knowledge is positively associated with its absorptive capacity ($\beta$=0.12, p<0.001). Therefore, it was found to be in support of H7.

Entrepreneurial orientation is positively related to the absorptive capacity ($\beta$=0.42, p<0.001) in support of H10.

The results also support H13, suggesting that management capabilities are positively related to the absorptive capacity ($\beta$=0.62, p<0.001).

## *5.6.8 Firm Antecedents: Competitive Generic Strategies*

**Innovation Differentiation Strategy**

Two variables were hypothesized as firm antecedents of innovation differentiation strategy, namely entrepreneurial orientation and management capabilities. These two variables are responsible for the explanation of 53% of the observed variance in the innovation

differentiation strategy. Concerning the hypotheses testing, both relationships are empirically supported.

Entrepreneurial orientation is positively related to the competitive strategy of innovation differentiation ($\beta=0.67$, $p<0.001$). Thus, it was found to be in support of H11a.

The results also support H14a, suggesting that management capabilities are positively related to innovation differentiation strategy ($\beta=0.13$, $p<0.01$).

**Marketing Differentiation Strategy**

In the conceptual model, two variables were hypothesized as firm antecedents of marketing strategy: management capabilities and entrepreneurial orientation. These variables account for 33% of the observed variance in the marketing differentiation strategy. In terms of hypotheses testing, both relationships are empirically supported:

- Entrepreneurial orientation is positively related to the marketing differentiation strategy ($\beta=0.51$, $p<0.001$), in support of H11b.
- Management capabilities are positively related to the marketing differentiation strategy ($\beta=0.15$, $p<0.01$), in support of H14b.

**Quality and Service Differentiation Strategy**

Together, entrepreneurial orientation and management capabilities explain about 42% of the observed variance in the quality and service differentiation strategy. Concerning the hypotheses testing, both relationships are empirically supported.

Entrepreneurial orientation is positively related to the quality and service differentiation strategy ($\beta=0.52$, $p<0.001$). Thus, it was found to be in support of H11c.

The results also support H14c, which stated management capabilities are positively related to the quality and service differentiation strategy ($\beta=0.27$, $p<0.001$).

**Cost Leadership Strategy**

Entrepreneurial orientation and management capabilities explain about 27% of the cost leadership strategy. Both the hypothesized relationships of these variables with cost leadership strategy are empirically supported.

Entrepreneurial orientation is positively related to the cost leadership strategy ($\beta=0.47$, $p<0.001$). Thus, it was found to be in support of H11d.

Management capabilities are positively related to the cost leadership strategy ($\beta$=0.12, p<0.05). Thus, it was found to be in support of H14d.

## 5.6.9 Firm Actions: International Performance

The strategic actions or decisions considered as antecedents of international performance in the conceptual framework explain about 33% of the variance of this variable. In terms of hypotheses testing, from all the nine relationships initially anticipated, only five hypotheses obtained significance, namely: the value chain social network; entrepreneurial alertness; absorptive capacity; marketing differentiation strategy; and quality and service differentiation strategy.

The estimate of the relationship between the value chain social network and international performance is positive and significant ($\beta$=0.095, p<0.05). Therefore, it was found to be in support of H15a.

The results of the relationships of other constructs related to international social networking with international performance are different. Actually, the positive relationships between both the institutional social network and the foreign knowledge social network with international performance – H15b and H15c respectively – were not supported. Even so, the relationship between the institutional social network and international performance is significant, although with an unexpected negative sign ($\beta$=-0.092, p<0.05).

The results of the structural model show that entrepreneurial alertness is positively related to international performance ($\beta$=0.32, p<0.001), and therefore it was found to support H16.

Similarly, the hypothesized relationship between the absorptive capacity and international performance obtain support. The relationship presents an expected positive sign, and is significant ($\beta$=0.23, p<0.001); therefore the results support H17.

In terms of the relationships between the several competitive generic strategies and international entrepreneurship, the results are miscellaneous. On one hand, both innovation differentiation and cost leadership strategies did not present significant relationships with the international performance construct. Consequently, the results do not support H18a or H18d.

On the other hand, the results support the positive relationships between marketing differentiation and quality/service differentiation strategies with international performance. The marketing differentiation strategy is positively and significantly related to international performance ($\beta$=0.19, p<0.001), supporting H18b. The quality and service differentiation

strategy is also positively and significantly related to international performance (β=0.17, p<0.01), supporting H18c.

## 5.6.10    Control Variables

Concerning the four control variables included in the model, only the degree of internationalization is significant (β=0.85, p<0.01), indicating that more internationalized INV have a tendency to exhibit better international performance. The other control variables – firm size, firm industry, and international experience – are not significant.

## 5.6.11    Summary of Results

In order to systematize the results, Table 5.24 presents the summary of the hypotheses and their empirical conclusion.

### Table 5.24: Summary of hypotheses and empirical conclusions

| # Hip. | Hypotheses | Expected Signal | Empirical Conclusions |
|---|---|---|---|
| H1a | An entrepreneur's educational level is positively related to a firm's foreign market knowledge. | + | Supported (**) |
| H1b | An entrepreneur's interest in traveling is positively related to a firm's foreign market knowledge. | + | Supported (***) |
| H1c | An entrepreneur's professional experience abroad is positively related to a firm's foreign market knowledge. | + | Supported (**) |
| H1d | An entrepreneur's foreign educational level is positively related to a firm's foreign market knowledge. | + | Supported (*) |
| H1e | An entrepreneur's risk propensity is positively associated with a firm's entrepreneurial orientation. | + | Supported (***) |
| H1f | An entrepreneur's knowledge of foreign languages is positively associated with a firm's entrepreneurial orientation. | + | Supported (***) |
| H1g | An entrepreneur's previous professional experience in the same industry is positively associated with a firm's management capabilities. | + | Not Supported (n.s.) |
| H1h | An entrepreneur's previous professional experience in management is positively associated with a firm's management capabilities. | + | Supported (***) |
| H2 | Technological turbulence is positively associated with a firm's entrepreneurial orientation. | + | Supported (***) |
| H3 | Competitive Intensity is positively associated with a firm's management capabilities. | + | Supported (***) |
| H4a | A firm's resources are negatively associated with their value chain social network. | - | Supported (***) |

| | | | |
|---|---|---|---|
| **H4b** | A firm's resources are negatively associated with their institutional social network. | - | Supported (***) |
| **H4c** | A firm's resources are negatively associated with their foreign knowledge social network. | - | Supported (***) |
| **H5a** | A firm's foreign market knowledge is positively associated with its value chain social network. | + | Supported (***) |
| **H5b** | A firm's foreign market knowledge is positively associated with its institutional social network. | + | Supported (**) |
| **H5c** | A firm's foreign market knowledge is positively associated with its foreign knowledge social network. | + | Supported (***) |
| **H6** | A firm's foreign market knowledge is positively associated with its entrepreneurial alertness. | + | Supported (***) |
| **H7** | A firm's foreign market knowledge is positively associated with its absorptive capacity. | + | Supported (***) |
| **H8a** | A firm's entrepreneurial orientation is positively associated with its value chain social network. | + | Supported (***) |
| **H8b** | A firm's entrepreneurial orientation is positively associated with its institutional social network. | + | Supported (***) |
| **H8c** | A firm's entrepreneurial orientation is positively associated with its foreign knowledge social network. | + | Supported (***) |
| **H9** | A firm's entrepreneurial orientation is positively associated with its entrepreneurial alertness. | + | Supported (***) |
| **H10** | A firm's entrepreneurial orientation is positively associated with its absorptive capacity. | + | Supported (***) |
| **H11a** | A firm's entrepreneurial orientation is positively associated with its innovation differentiation strategy. | + | Supported (***) |
| **H11b** | A firm's entrepreneurial orientation is positively associated with its marketing differentiation strategy. | + | Supported (***) |
| **H11c** | A firm's entrepreneurial orientation is positively associated with its quality and service differentiation strategy. | + | Supported (***) |
| **H11d** | A firm's entrepreneurial orientation is positively associated with its cost leadership strategy. | + | Supported (***) |
| **H12** | A firm's management capabilities are positively associated with their entrepreneurial alertness. | + | Supported (***) |
| **H13** | A firm's management capabilities are positively associated with their absorptive capacity. | + | Supported (***) |
| **H14a** | A firm's management capabilities are positively associated with their innovation differentiation strategy. | + | Supported (**) |
| **H14b** | A firm's management capabilities are positively associated with their marketing differentiation strategy. | + | Supported (**) |

| | | | |
|---|---|---|---|
| **H14c** | A firm's management capabilities are positively associated with their quality and service differentiation strategy. | **+** | Supported (***) |
| **H14d** | A firm's management capabilities are positively associated with their cost leadership strategy. | **+** | Supported (*) |
| **H15a** | A firm's value chain social network is positively associated with its international performance. | **+** | Supported (*) |
| **H15b** | A firm's institutional social network is positively associated with its international performance. | **+** | Not Supported (-/*) |
| **H15c** | A firm's foreign knowledge social network is positively associated with its international performance. | **+** | Not Supported (n.s.) |
| **H16** | A firm's entrepreneurial alertness is positively associated with its international performance. | **+** | Supported (***) |
| **H17** | A firm's absorptive capacity is positively associated with its international performance. | **+** | Supported (***) |
| **H18a** | A firm's innovation differentiation strategy is positively associated with its international performance. | **+** | Not Supported (n.s.) |
| **H18b** | A firm's marketing differentiation strategy is positively associated with its international performance. | **+** | Supported (***) |
| **H18d** | A firm's quality and service differentiation strategy is positively associated with its international performance. | **+** | Supported (**) |
| **H18c** | A firm's cost leadership strategy is positively associated with its international performance. | **+** | Not Supported (n.s) |

The empirical results could be presented in the following figure.

Figure 5.7: Internationalization Process of INV: The Results
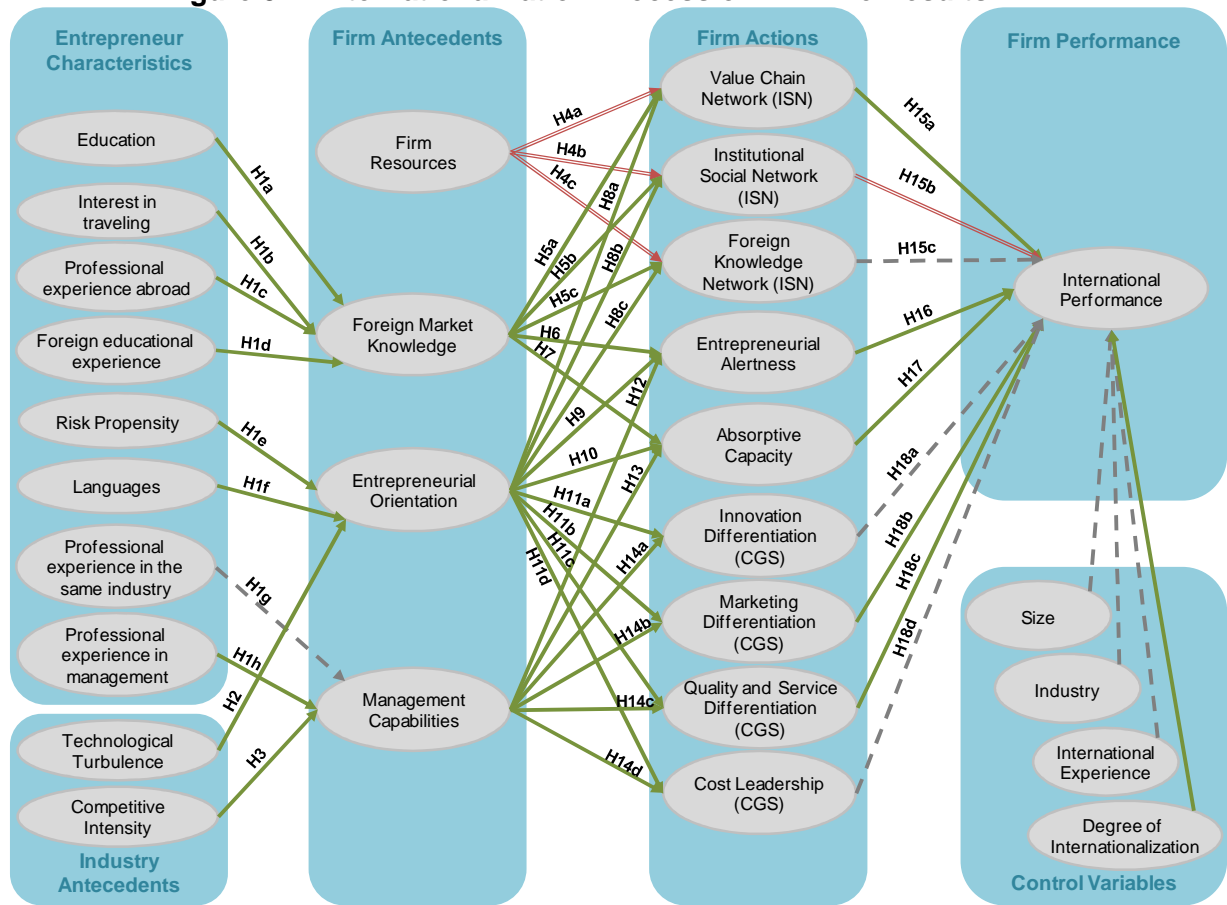
**Legend:**

→ : positive and significant connection

→ : negative and significant connection

- → : non-significant connection

# 6   Discussion of Findings

The main purpose of the chapter is to examine the results of this empirical research, compare them with the existing literature, and to identify the major findings and contributions of this study to the IE field of research. As the findings have different levels of importance, the discussion is structured in two levels: i) generic findings; and ii) specific findings. In order to help the writing process, within each level, the discussion is arranged by findings. A total of three generic findings and eleven specific findings will be presented and discussed below.

## 6.1   Generic Findings

***Finding 1 -   The analysis of complex processes, such as INVs' internationalization process, requires the use of complementary theoretical approaches.***

The framework developed in the present dissertation builds upon three theoretical foundations, namely, resource-based theory, knowledge-based view, and network theory. The integration of these different theories enables the development and test of a framework which incorporates several complementary explanations for the same phenomenon – the INVs' internationalization process. The inclusion of each variable in the model, as well as the relationships hypothesized were supported by one or more of these theories.

Since the results support the majority of the relationships hypothesized (37 from a total of 42 sub-hypotheses), and the global framework achieves a good overall fit, this means that the framework is well designed and validates the necessity to analyze the INVs' internationalization process using complementary theories. The results of this empirical research seem to confirm that the INV's internationalization process is a complex phenomenon, as suggested by Jones and Coviello (2005), and therefore cannot be fully clarified by only one theory.

The results of this dissertation, therefore contribute to provide empirical evidence to the suggestions of several authors (e.g. Crick & Spence, 2005; Mtigwe, 2006; Rialp et al., 2005a) for whom is essential to comprehend the new ventures' internationalization process using multiple theories. The development of this framework aligns with the suggestions of many authors who have a more integrated view of the theoretical foundations responsible for the IE research progress (e.g. Crick & Spence, 2005; Dimitratos & Jones, 2005; Keupp & Gassmann, 2009; Rialp et al., 2005a).

***Finding 2 -*** ***The framework developed provides an integrated view regarding the INVs' internationalization process. The results confirm that the data present a good fit to the hypothesized structural framework, which validates the framework.***

As mentioned above, in this dissertation a framework was developed and tested that intended to answer the call of several researchers for a holistic or integrated view of the internationalization process of INVs (Aspelund et al., 2007; Crick et al., 2001; Crick & Spence, 2005; Jones, 2009; Jones & Coviello, 2005; Keupp & Gassmann, 2009; McAuley, 1999; Rialp et al., 2005a).

The present research tests empirically a conceptual framework that includes a total of 24 variables addressing entrepreneurs' characteristics, firm characteristics, industry antecedents, firm actions, and international performance. Therefore, in this research it was possible to develop and test a framework that includes a high number of variables, related to different types of antecedents and to different positions in the INVs' internationalization process. In this framework the INVs' characteristics or antecedents are affected by the entrepreneurs' characteristics and shaped by industry antecedents. To explain the impact of these INVs' antecedents on their international performance, some managerial actions or decisions were highlighted. The results support the majority of expectations regarding the causality effects between the variables included in these five major blocks of variables related to the INVs' internationalization process. To my knowledge, this is the first study that develops and tests empirically an integrated view of the complex process regarding the internationalization process of the INVs, based on complementary theoretical foundations.

This research seeks to unfold the 'black box' that still exists concerning the INVs' internationalization process, uncovering some reasons – here called firm actions or decisions – that justify why some antecedents of the INVs' internationalization process (related to the entrepreneurs, the industry, and the firm) affect their international performance. This study highlights the relevance of four main actions that INVs implement (international social networks, entrepreneurial alertness, absorptive capacity, and competitive generic strategies), which are affected by the set of antecedents, and impact on INVs' international performance.

The results of the structural model support all the hypotheses with the following exceptions: $H_{1g}$, $H_{15b}$, $H_{15c}$, $H_{18a}$, and $H_{18d}$. Complementarily, the explained variance of the endogenous variables included in the conceptualized framework is considerable. The $R^2$ for the variables regarding firm antecedents is 0.24 for the foreign market knowledge, 0.49 for the entrepreneurial orientation, and 0.23 for the management capabilities. Concerning the firm actions, $R^2$ values are set in 0.24 for the value chain social network, 0.15 for the institutional

social network and 0.13 for the foreign knowledge social network, 0.66 for the entrepreneurial alertness, 0.76 for the absorptive capacity, 0.53 for the innovation differentiation strategy, 0.33 for the marketing differentiation strategy, 0.42 for the quality and service differentiation strategy, and 0.27 for the cost leadership strategy. The explained variance of INVs' international performance by the impact of all the four types of firm actions is about 0.55. Finally, the assessment of the structural model presented a good overall fit, as the majority of the goodness-of-fit measures are within the cutoffs that indicate good fit.

These results are of major importance for the field of IE, and particularly for the study of INVs, since they provide empirical evidence to the importance of analyzing this process using a holistic framework. Some literature presented integrated models specifying several main blocks of variables (e.g. Jones & Coviello, 2005; Rialp et al., 2005a), yet even if they identify relevant variables, they did not test empirically any of these holistic designs (Jones & Coviello, 2005; Rialp et al., 2005a). There has been another empirical research (e.g. Belso-Martínez, 2006; Zucchella et al., 2007) that included variables regarding entrepreneurs' characteristics, firms' characteristics, and certain variables related to networking or strategy. However, usually these are used as direct antecedents of early internationalization. Other empirical studies (e.g. Knight, 2000; Knight, 2001; Knight & Cavusgil, 2004) carried out more complex analysis, including mediator variables. International entrepreneurial orientation and international marketing orientation are presented as antecedents of several variables related to strategy and other firms' characteristics, which afterwards influence international performance. Nevertheless, these studies did not integrate the entrepreneur characteristics, the industry or managerial actions.

Although the framework is not intended to capture all the relevant features regarding the INVs' internationalization process, this research goes a step beyond the previous studies that somehow suggest a holistic analysis of the INVs' internationalization process, since this research develops and tests a holistic framework that includes a large group of variables, related to different building blocks, and organized in different positions. A group of variables related to firm actions assumes a preponderant role between the set of antecedent variables and the INVs' international performance variable.

**Finding 3 -** ***All the INVs' actions types included in the framework are found to be relevant as mediators of the INVs' internationalization process.***

According to the results of this research, the majority of the relationships conceptualized within the antecedents (related to the firm, the entrepreneur, and the industry) and all the hypothesized relationships between the INVs' antecedents and actions were confirmed.

Hence, in order to answer this study's research question: "Which is the thread of the process through which entrepreneur, industry and firm's antecedents influence INVs' international performance?" the relationships mediated by INVs' actions should be analyzed in detail. This finding is a major contribution for the IE field, since this research highlights six firm's actions as relevant to explain the INVs' internationalization process: value chain social network; institutional social network; entrepreneurial alertness; absorptive capacity; marketing differentiation strategy; and quality and service differentiation strategy.

The three types of international social networks are affected by INVs' lack of resources, level of foreign market knowledge and entrepreneurial orientation. However, only value chain social networks were found to be positively related to the INVs' international performance. Institutional social networks were found to impact negatively on INVs' international performance. The two types of international social networks present similar weights as determinants of the INVs' international performance: value chain social network - $\beta=0.095$ (with $p<0.05$); institutional social network - $\beta=-0.092$ (with $p<0.05$). Therefore, the social ties that are established within value chain social networks will have a higher positive impact on international performance. The reason for this result relates to the fact that these social ties may subsequently evolve into business networks in foreign markets, and facilitate future exchanges and market transactions with foreign partners or foreign customers, and, therefore, impact directly on international performance (e.g. Chen & Chen, 1998; Chen, 2003; Ellis & Pecotich, 2001; Ellis, 2011; Harris & Wheeler, 2005). In comparison, INVs that use more institutional social networks present lower international performance. Possible explanations for this result may be related to the fact that these relationships are not directly related to instant sales, and these relationships may produce some 'noise' which complicates to start doing business. Hence, the INVs' characteristics impact on their international performance by using value chain social networks and institutional social networks.

The results do indicate that entrepreneurial alertness was the most important determinant of the INVs' international performance, judging by the strength of the path coefficients ($\beta=0.32$, $p<0.001$). This managerial action is positively affected by the level of INVs' foreign market knowledge, their entrepreneurial orientation and their management capabilities. These INVs' characteristics will impact on their international performance by developing their capacity to "notice without search opportunities" (Kirzner, 1979, p. 48). Hence, this managerial action of being continuously vigilant enables these firms to identify gaps in foreign markets and to find the best market opportunities. This will impact on higher performances (Ardichvili et al., 2003).

Absorptive capacity was the second most important determinant of the INVs' international performance, presenting a path coefficient of $\beta=0.23$ (with $p<0.001$). This firm action is also positively affected by the level of INVs' foreign market knowledge, their entrepreneurial orientation and their management capabilities. Since INVs do not have the time to learn about foreign markets through a long time-consuming process, they must be able to learn and acquire, assimilate, transform, and exploit knowledge more rapidly than other firms (Chetty & Campbell-Hunt, 2004). The INVs' characteristics impact on their international performance because INVs can learn rapidly everything that concerns knowledge about foreign markets, operations in foreign markets, international opportunities, and potential customers (Knight & Cavusgil, 1996; Oviatt & McDougall, 1997, 2005b).

Although the four competitive generic strategies included in the framework (innovation differentiation, marketing differentiation, quality and service differentiation, and cost leadership) are affected by INVs' entrepreneurial orientation and management capabilities, only two of them were found to be significant (marketing differentiation strategy and quality and service differentiation strategy). These two strategies present similar importance as determinants of the INVs' international performance: marketing differentiation strategy - $\beta=0.19$ (with $p<0.001$); quality and service differentiation strategy - $\beta=0.17$ (with $p<0.01$). Hence, the results suggest that the INVs that follow competitive generic strategies related to marketing, and quality and service will achieve higher international performances, than INVs that follow innovation differentiation and cost leadership strategies. According to these results, INVs' entrepreneurial orientation and management capabilities will impact on their international performance, by selecting marketing or quality and service differentiation strategies.

## 6.2  Specific Findings

***Finding 4 -   The entrepreneurs' characteristics included in the framework influence firms' antecedents.***

In this framework, the entrepreneurs' characteristics have been considered to affect firm characteristics (such as foreign market knowledge, entrepreneurial orientation, and management capabilities) instead of directly impacting firm performance or firm actions. The entrepreneurs' characteristics considered were level of education, interest in traveling, professional experience abroad, foreign educational experience, risk propensity, foreign languages spoken, professional experience in the same industry, and professional experience in management.

The results show that the majority of the entrepreneurs' characteristics included in the framework are found to be significant antecedents of firm characteristics. The only exception was professional experience in the same industry, which is found to be not significant.

This finding is a major contribution for the IE field, since the majority of research analyzes simultaneously the direct relationship between entrepreneurs' characteristics and firms' characteristics with INVs' internationalization process outcomes (e.g. Belso-Martínez, 2006; McDougall et al., 2003; Zucchella et al., 2007). Although these two types of antecedents are important to define the INVs' internationalization process, they were found to influence these processes in different points. The results provide empirical evidence to the arguments of McDougall et al. (1994a) that entrepreneurs or entrepreneurial teams 'format' the new ventures according to their experiences, values and characteristics. Therefore this result extend for IE field arguments that have already been used in entrepreneurship: the entrepreneurs' characteristics are important in structuring the new venture characteristics (Hambrick, 2007; Hambrick & Mason, 1984; McDougall et al., 1994b).

Regarding the specific results of the present study, evidence was found that several characteristics of the entrepreneur or entrepreneurial team, such as educational level, interest in traveling, professional experience abroad, and foreign educational level, act as antecedents of foreign market knowledge. These findings are in line with empirical research in the IE field (e.g. Belso-Martínez, 2006; Bloodgood et al., 1996; Kuemmerle, 2002; Reuber & Fischer, 1997; Zucchella et al., 2007). The results also provide empirical evidence to the arguments of Shrader et al. (2000), who emphasize that INVs' foreign market knowledge is more related to the entrepreneur than to the firm, which is usually still in an embryonic phase of development.

The predictions regarding the positive effect exerted by entrepreneurs' risk propensity and the number of languages spoken on entrepreneurial orientation were also confirmed. This is an interesting result, since the analysis of the relationship between firm entrepreneurial orientation and the entrepreneurs' characteristics is still scarce. These findings suggest that the entrepreneurs' level of risk propensity is directly related to the entrepreneurial attitude of new ventures – these are two sides of the same coin. Therefore the conclusions of the study by Entrialgo et al. (2000), that SMEs with high entrepreneurial orientation are managed by individuals with great tolerance to ambiguity, are also valid for INVs. These results extend the empirical evidence to the IE field. Regarding the knowledge of foreign languages, the result is in line with the literature that highlights the relevance of this entrepreneurs' characteristic to INVs' early internationalization (Acedo & Jones, 2007; Zucchella et al., 2007).

The results provide partial support to the predictions regarding the positive impact of previous professional experience of entrepreneurs on INVs' management capabilities. The prediction regarding the positive effect of previous professional experience in management on INVs' management capabilities was confirmed, but the prediction that positively relates previous professional experience in the same industry to INVs' management capabilities was not confirmed. Although both of these prior professional experiences help managers to develop their managerial skills, expertise and knowledge that will be used in the management of the new firm (Castanias & Helfat, 2001), the results seem to suggest that only the previous experience directly related to management is important to define INVs' management capabilities. A possible explanation might be related to the fact that the management of a complex process, such as the INVs' internationalization process has more to do with the experience on management than with the knowledge of the industry.

### Finding 5 - *The industry antecedents included in the framework influence firms' antecedents.*

The two industry antecedents included in the framework – technological turbulence and competitive intensity – are found to be significant antecedents of two firm characteristics – entrepreneurial orientation and management capabilities – respectively.

This finding answers the claims of researchers (e.g. Fernhaber et al., 2007; Zahra & George, 2002a), who discuss the existence of limited research that analyzes the impact and the role of industry structure on the new ventures internationalization process. These results provide empirical evidence to the Oviatt and McDougall's (2005b) model of forces influencing internationalization speed, in which competition is a motivating force, and technology a enabling force. These results provide empirical evidence to the role of industry structure factors into the INVs' internationalization process. These environmental factors influence the characteristics of new ventures, and afterwards the managerial strategic decisions that they decide to follow. Through these results it is possible to provide empirical evidence, and to extend to the IE field, the arguments of the environment-strategy-performance framework (Luo & Park, 2001), according to which firms must react to their environmental conditions by selecting the strategy that better adapts to the specific environmental factors, in order to achieve higher performances.

Regarding technological turbulence, it was found that it is positively related to the INVs' entrepreneurial orientation. Hence, in technologically turbulent industries the INVs show high entrepreneurial orientation, taking risks, innovating, and exhibiting proactive behaviors. In these industries INVs have short time windows of opportunity to capitalize their innovations,

and they must follow proactive and risky behaviors (Autio et al., 2000; Bell et al., 2004). This result is in line with the arguments of Covin and Slevin (1991), who suggest that environmental technological sophistication is positively related to entrepreneurial posture or orientation. When acting in demanding and difficult environmental conditions, such as industries with technology turbulence, INVs reply by adopting an entrepreneurial posture, confirming the conclusions of Khandwalla (1987).

Similarly, the results support the relationship predicted between competitive intensity and management capabilities. In a globalized market, INVs have to compete with both domestic and international competitors. Acting in highly competitive industries, in which customers have many alternatives (Kohli & Jaworski, 1990), if INVs want to overcome the liabilities of newness, smallness, and foreignness, they must react rapidly to market or industry changes, and, therefore, management capabilities are an essential resource to recognize effectively customers' needs (Cui et al., 2005). Hence, both results seem to suggest that highly competitive and turbulent industries stimulate firms' entrepreneurial reactions and demand management capabilities in order to present competitive advantages to customers.

*Finding 6 -*   *The relationships between INVs' firm resources and the three types of international social networks, are found to be negative and significant.*

When examining the relationships between firm resources and the three types of social networks, the results fully support the expected negative impacts. This research provides empirical evidence for the inverse relationship that exists between INVs' resources and the use of international social networks. This is a somewhat challenging finding, since this result contradicts the studies that made a strict interpretation of the resource-based view of the firm (Barney, 1991; Wernerfelt, 1984). According to these, firms need abundant resources in order to implement entrepreneurial activities (e.g. Covin & Slevin, 1991; Wiklund & Shepherd, 2005). In this vein, other authors (Wu et al., 2008) also argue that firms with abundant resources can achieve higher success, survival, and performance. The results are more aligned with the arguments of some authors (e.g. Gassmann & Keupp, 2007; Mathews & Zander, 2007; Oviatt & McDougall, 1994), who argue that new ventures can select an internationalization strategy which works well under conditions of resource scarcity.

Actually, this is one of the arguments for network theory support of INVs' internationalization process, and has been used by several authors (Andersson & Wictor, 2003; Autio, 2005; Coviello, 2006; Coviello & Cox, 2006; Coviello & Munro, 1995, 1997; Oviatt & McDougall, 1994, 2005b; Sharma & Blomstermo, 2003). This research confirm the Oviatt and McDougall's (1994) argument that INVs are firms that often have a resource insufficiency,

which is the reason why they use some 'alternative governance structures', such as networks to access critical resources without owning them. This research provides empirical evidence for the use of international social networks, when facing resource insufficiency. Therefore, the results of this empirical research confirm the arguments of several studies that suggest that social networks may substitute resources that INVs or their founders cannot obtain otherwise (Chetty & Agndal, 2007; Chetty & Campbell-Hunt, 2003; Kogut, 2000; Zhou et al., 2007), and may facilitate new venture internationalization (Gassmann & Keupp, 2007; Holmlund & Kock, 1998; Kiss & Danis, 2008, 2010). This results are aligned to the studies that suggest that networks and, particularly, social networks, may act as a substitute for the ownership of physical resources, enabling the access to other critical resources, such as information and knowledge regarding foreign markets, foreign business opportunities, and experiential learning about foreign business operations (Ellis, 2011; Komulainen et al., 2006; Zhou et al., 2007) or access to foreign exchange partners (Ellis, 2000; Komulainen et al., 2006; Simões & Câmara, 2006).

### Finding 7 - *Foreign market knowledge has a positive and significant impact on several firm actions: the three types of international social networks, entrepreneurial alertness, and absorptive capacity.*

The results of this research confirm the positive impact of foreign market knowledge on several firm actions, such as value chain social network, institutional social network, foreign knowledge social network, entrepreneurial alertness, and absorptive capacity. This finding validates the literature that highlights the relevance of foreign market knowledge in order to understand the INVs' internationalization (e.g. Autio et al., 2000; Knight & Cavusgil, 2004; Oviatt & McDougall, 1994; Zhou, 2007).

This study goes a step beyond previous research by showing that foreign market knowledge impacts primarily on a set of firm decisions or actions, which then affect INVs international performance. Previous research, typically focus on the direct relationship between this feature of the firm and internationalization precocity or international activity (e.g. Belso-Martínez, 2006; Kuemmerle, 2002; Reuber & Fischer, 1997; Zucchella et al., 2007), or international performance (Autio et al., 2000).

The results show that foreign market knowledge is a relevant antecedent of the three types of international social network. This supports the idea that foreign market knowledge can influence the decisions to activate relationships in social networks associated with INVs' internationalization process. These results are compatible with the conclusions of several studies arguing that INVs may activate some relationships in networks in addition to

leveraging existing ones (Coviello & Munro, 1997; Loane & Bell, 2006; Welch & Welch, 1996). Foreign market knowledge originally possessed by the entrepreneurs or developed at the beginning of the internationalization process will be relevant to activate some relationships in social networks in new markets. These social relationships will be established with individuals in potential foreign agents, distributors and clients, or institutions somehow related to the new markets where the firm wants to explore business opportunities (Welch & Welch, 1996). This is also consistent with the arguments of Reuber and Fisher (1997), that managers with more international experience and as such more foreign market experience and knowledge, are more likely to form networks linkages required for internationalization.

Regarding the positive and significant relationship of foreign market knowledge with entrepreneurial alertness, this result extends for IE field similar conclusions of research in the entrepreneurship field (Ardichvili et al., 2003; Shane, 2000; Tang, Kacmar, & Busenitz, 2011; Venkataraman, 1997). The result suggests that higher foreign market knowledge, by increasing the entrepreneurial alertness can contribute to improve international opportunity discovery. Hence, prior knowledge about foreign markets may enable the alertness for international opportunities that are related to that knowledge. This is an interesting contribution to the IE field of research, because there is still a lack of research that specifically analyzes the international dimension of entrepreneurial alertness. This validates for IE field the conclusions of the literature in entrepreneurship field, according to which prior knowledge will enhance the alertness for opportunities that are connected to the new information (Shane, 2000; Venkataraman, 1997).

The results also confirm that foreign market knowledge is a determinant of absorptive capacity. Since absorptive capacity depends on previous knowledge possessed by the firm (Cohen & Levinthal, 1990; Lane et al., 2006; Zahra & George, 2002b), there is the requirement of initial international knowledge, in order to assimilate and use new knowledge regarding the internationalization process. This result validates Sharma and Blomstermo's (2003) arguments that INVs, or their managers, possess international market knowledge before their first entry into foreign markets. Given that INVs are young firms, their lack of organizational experience and knowledge may be balanced by the founders/entrepreneurs' experience or knowledge (Cooper & Dunkelberg, 1986; McDougall et al., 2003). The finding that several characteristics of the entrepreneurs related to previous experience (such as interest in traveling, professional experience abroad, and foreign educational experience) were found to be determinants of foreign market knowledge was a major contribution of the present dissertation. These characteristics of the entrepreneurs can also impact on

absorptive capacity using firm's foreign market knowledge as a mediator variable. This research extended previous research in IE literature by integrating in the same framework measures of knowledge and experience related with the entrepreneur and the firm. In previous research, prior foreign experience and knowledge are associated with the owners/founders/entrepreneurs, and their positive influence on the internationalization of the new ventures has been extensively demonstrated, both theoretically (e.g. Jones & Coviello, 2005; Madsen & Servais, 1997; McDougall et al., 1994b) and empirically (e.g. Belso-Martínez, 2006; Kuemmerle, 2002; Reuber & Fischer, 1997; Simões, 2012; Zucchella et al., 2007).

### Finding 8 - Entrepreneurial orientation has a positive and significant impact on all firm actions.

In the framework designed and tested in this research, the entrepreneurial orientation is a INVs' antecedent that was hypothesized to influence positively all the INVs' actions. The results confirm that entrepreneurial orientation has a positive and significant impact on all firm actions, namely: the three types of international social networks (value chain social network, institutional social network, and foreign knowledge social network), entrepreneurial alertness, absorptive capacity, and all the four competitive generic strategies (innovation differentiation, marketing differentiation, quality and service differentiation, and cost leadership).

This finding is a major contribution for the IE field, since the majority of research analyzes the direct relationship between entrepreneurial orientation and a firm's performance (Rauch et al., 2009). Therefore, these results fulfill the need to analyze the role of mediator variables regarding the relationship between entrepreneurial orientation and performance (Dess et al., 1997; Rauch et al., 2009). In this research entrepreneurial orientation was defined as a fundamental posture of firms that reflects their propensity to develop innovative, proactive, risk-seeking, and competition-aggressive behaviors in order to accomplish strategic objectives (Covin & Slevin, 1991; Lumpkin & Dess, 1996, 2001; Miller & Friesen, 1978; Wang, 2008). Strong support is provided for the hypothesized impact that INVs' entrepreneurial orientation will have on several firm actions or decisions in order to gain competitive advantage and superior performance (Dess et al., 1997; Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003), since in the analyzed framework INVs' actions will also be related to their international performance.

Regarding the positive and significant relationship between entrepreneurial orientation and the three types of international social networks, the results are consistent with the

conclusions of several works that also confirm this relationship (Awang et al., 2011; Manev et al., 2005; Martins, 2012; Mort & Weerawardena, 2006; Ripollés & Blesa, 2005). Using social networks, entrepreneurial firms like INVs (and their entrepreneurial or management teams) can access resources, capabilities, information, knowledge, and opportunities (Chetty & Agndal, 2007; Chetty & Campbell-Hunt, 2003; Ellis, 2011; Komulainen et al., 2006; Zhou et al., 2007), which may enable them to internationalize and obtain higher performance (Ireland et al., 2003; Stam & Elfring, 2008).

The expectation regarding the positive impact exerted by entrepreneurial orientation on entrepreneurial alertness was also confirmed. Therefore, the results are in line with the arguments of the resource-based view (Wernerfelt, 1984), according to which new ventures that present high entrepreneurial orientation will use their resources superiorly to discover and exploit opportunities. The results suggest that INVs (and their entrepreneurial teams) with high levels of entrepreneurial orientation proactively search for potential changes in their environment in order to take calculated risks to seize new innovative opportunities related to new technologies, new markets, or new ways of operating (Lumpkin & Dess, 1996). This result seems to extend to international opportunities the suggestion of several authors according to which to discover new opportunities, the firms and the entrepreneurial team, must be in a constant state of alertness (Ardichvili et al., 2003; Ray & Cardozo, 1996).

Similarly, the prediction concerning the positive impact of entrepreneurial orientation on absorptive capacity was also confirmed. This result is consistent with the idea in the literature that inherent to the entrepreneurial posture of firms, like INVs, is their ability to identify, understand, and exploit rapidly new knowledge about foreign markets, foreign operations, international opportunities, and potential foreign customers (Knight & Cavusgil, 1996; Oviatt & McDougall, 1997, 2005b; Zahra & George, 2002b).

Finally, the expectations about the hypothesized positive relationships between entrepreneurial orientation and the four competitive generic strategies (innovation differentiation, marketing differentiation, quality and service differentiation, and cost leadership) were also confirmed. Analyzing the strength of path estimates, entrepreneurial orientation presents strong path coefficients for all competitive strategies. This is indicative of the importance of entrepreneurial orientation in INVs' competitive generic strategy selection. These results support prior research, in both entrepreneurship and IE fields, that highlights strategy or strategic processes as moderators or mediators of the relationship between entrepreneurial orientation and performance (Covin et al., 2006; Knight, 2000, 2001; Knight & Cavusgil, 2004; Moreno & Casillas, 2008; Yu, 2012).

***Finding 9 -*** ***Management capabilities have a positive and significant impact on***
***several firm actions: entrepreneurial alertness, absorptive capacity, and***
***all the four competitive generic strategies.***

This finding helps to answer to the questions of authors who have identified the lack of research on firm capabilities in the IE field (Cumming et al., 2009; Jones et al., 2011; Keupp & Gassmann, 2009). The results of this study fully support the expectations regarding the positive impact of management capabilities on several firm actions, namely, entrepreneurial alertness, absorptive capacity, and all the four competitive generic strategies (innovation differentiation, marketing differentiation, quality and service differentiation and cost leadership). Therefore, these results confirm that management capabilities are an important intangible asset of INVs, which help to mitigate the liabilities of newness and foreignness (Oviatt & McDougall, 1994), and hence achieve and sustain competitive advantages, since firms with superior management capabilities may introduce better human resources practices, undertake more promising competitive strategies, and identify better opportunities in foreign markets (Westhead et al., 2001a).

The positive and significant relationship between management capabilities and entrepreneurial alertness is consistent with the arguments of Ucbasaran et al. (2008), who argue that entrepreneurs and entrepreneurial firms that present superior human capital profiles, with superior managerial capabilities, may have a better cognitive capacity to be alert and identify new opportunities. Along the same line of reasoning, this result also validates the argument of other authors (e.g. Molina et al., 2004; Park, 2005; Westhead et al., 2001a) who identify management capabilities as a basis to discover and exploit the best opportunities with regard to new products and/or new markets in INVs.

In terms of the relationship between management capabilities and absorptive capacity, the positive and significant results are aligned with the initial work of Cohen and Levinthal (1990), though their research only focuses on technological capabilities. However, similar conclusions may be obtained regarding management capabilities (Alvarez & Busenitz, 2001). Since management capabilities have an inherent stock of knowledge attached, the higher the INVs' management capabilities, the larger their absorptive capacity (Castanias & Helfat, 2001).

Finally, regarding the positive relationships obtained between management capabilities and several differentiation and cost leadership strategies, the results are in line with the previous work of Acar and Zehir (2010), who found that management capabilities are positively related to both cost leadership and differentiation strategies. These findings can be framed according to the resource-based view, since with these capabilities firms can exploit and

leverage efficiently their resources in order to allow them to achieve sustained competitive advantage (Barney, 1991; Penrose, 1959; Wernerfelt, 1984). Additionally, these results show that management capabilities encompass the unique capabilities of the INVs' management team to delineate, communicate, and empower the firm members with a strategic vision (Lado & Wilson, 1994).

***Finding 10 - The relationship between value chain social network and INVs' international performance is found to be positive and significant, whereas the relationship between institutional social network and INVs' international performance is found to be negative and significant.***

From the three types of INVs' international social networks included in the framework as firm actions (value chain social network, institutional social network, and foreign knowledge social network), only value chain social network and institutional social network are found to be significant antecedents of INVs' international performance. Moreover, institutional social network presents an unexpected negative relationship. Therefore, the results of this study do not fully support the predictions of positive relationships between the three types of international social networks and INVs' international performance. This result is particularly interesting since previous research supports both theoretically (Johanson & Vahlne, 2003, 2006; Jones & Coviello, 2005) and empirically (Ellis, 2011; Peng & Luo, 2000; Yeoh, 2004; Yli-Renko et al., 2002; Zhou et al., 2007) a positive relationship between social networks and firm performance.

This finding goes a step beyond the previous research, since the existing works often think about social networks as a whole (Ellis, 2011; Yli-Renko et al., 2002), and did not distinguish between different types of social networks. However, not all firms have similar objectives when entering, using, activating or constructing a relationship within a social network. This was the reason why it was decided, when developing this particular measure, to maintain the three types of international social networks as separate constructs, instead of considering such a construct as a second order measure with three dimensions. The results are very appealing, as they show that not all types of international social network present similar impact on INVs' international performance.

Only the value chain social network presents the expected positive sign and a level of significance that supports the prediction. Therefore, the results support the idea that when INVs use international social networks related to their value chain (namely, ties with key-informants in international customers, suppliers, companies with access to international distribution networks, and the management team of other companies), they achieve higher international performance. This result is in line with several studies that support empirically

the positive link between social networks and firm performance (e.g. Peng & Luo, 2000; Yeoh, 2004; Zhou et al., 2007).

Regarding the relationship between institutional social network and international performance the result is contrary to expectations. INVs that use more of this type of international social network (relationships with key-informants in national and international institutions that support internationalization, industry or business associations, banks or other financial institutions, as well as scientists, researchers, and academics) present lower international performance. This result is unexpected, since there is some empirical evidence that such a relationship is positive. For instance, Peng and Luo (2000) analyzed the Chinese *guanxi* networks and concluded that micro interpersonal ties of top managers with government officials improve macro business performance. Even so, an early work in this research field (McDougall et al., 1994b) concluded that INVs sometimes do not follow cost reduction as their main objective and may not have performance as their main concern. Hence, for INVs the completion of strategic alliances, as well as, the use of business and social networks to enter into foreign markets can be more important than international performance (McDougall et al., 1994b; Oviatt & McDougall, 1994). Therefore, one possible explanation for the result is that the major outcome of this type of international social network is more related to the entry into a particular new foreign market (Ellis & Pecotich, 2001), to better access to market knowledge (Prashantham, 2005) or to the intention of establishing a connection or identifying a exchange partner in a foreign country (Ellis, 2000; Komulainen et al., 2006; Simões, 2012), than with the performance itself. Another possible explanation might be that these institutional network ties may introduce some 'noise' on business relationships. This explanation is aligned with a suggestion of Ellis (2011), regarding the constrains of social ties. The use of institutional social networks to identify international opportunities may be confined in terms of geographic, psychical and linguistic distance (Ellis, 2011), as well as in terms of contacts obtainable. This may act as brake for INVs start doing business.

Unexpectedly, the foreign knowledge social network (the type of social network related to the access to foreign market knowledge) did not significantly affect international performance, although it exhibited the expected sign. This type of international social network includes the relationships with key-informants with knowledge about international markets, countries of destination, market knowledge in the destination countries, and personal relations in countries of destination. One possible explanation for this result may be related to the level of foreign market knowledge that our sample presents. The analysis of the correlation matrix presented before (see Table 5.18) shows correlations between international performance and foreign market knowledge dimensions with significant values above 0.40 (FIK = 0.41;

FBK = 0.44; IK = 0.44). Hence, this result may suggest that the main objective inherent to the construction of international social networks is not to access to market knowledge, since the level of foreign market knowledge of the INVs is already high.

***Finding 11 - The relationship between INVs' entrepreneurial alertness and international performance is found to be positive and significant.***

In this research it was found empirical evidence of a positive relationship between entrepreneurial alertness and international performance. Therefore, results confirm that the higher the ability of INVs to perceive 'without search' opportunities, namely international opportunities, the better their international performance will be.

Entrepreneurial alertness has been identified as one of the ways to recognize or discover opportunities (Busenitz, 1996; Gaglio & Katz, 2001; Kirzner, 1973; Tang et al., 2012). The results of this research is aligned with the study developed by Sambasivan et al. (2009), who argue that opportunity recognition skills influence the venture performance, and that alertness, in particular, mediated the relationship between personal and management skills and venture performance. The results of this study are further in line with the findings of Zahra and Garvis (2000), who analyzed the relationship between international corporate entrepreneurship and firm performance. They also suggested that entrepreneurial oriented firms actively seek new opportunities in international markets, through new operating modes that improve their performance.

This finding also provides important insight into the IE field, and, therefore, answers the questions of several researchers, who identify the gap regarding the study of opportunity recognition (Cumming et al., 2009; Jones et al., 2011; Keupp & Gassmann, 2009), and particularly the necessity to identify the role of entrepreneurial alertness in the IE research field (Tang et al., 2012).

The positive and significant relationship that was found between INVs' entrepreneurial alertness and their international performance seems to extend for the IE field, conclusions that have been identified mainly in the entrepreneurship field. This result, seems to corroborate the argument that when the entrepreneurial teams or INVs present higher alertness, they have a kind of sensor that allows recognition of new opportunities that others do not identify (Kirzner, 1973, 1979), namely in foreign markets. Hence, if INVs identify the best market opportunities, they will discover new innovative ways of satisfying the customers' needs, as well as using new products, services or processes. Consequently, they will achieve success in foreign markets and present higher international performances (Ardichvili et al., 2003).

*Finding 12 - **The relationship between the INVs' absorptive capacity and international performance is found to be positive and significant.***

The expected positive relationship between absorptive capacity and international performance was also confirmed. This finding corroborates the idea that INVs are firms that do not have the time to learn about foreign markets through a protracted consuming process. They are able to learn more rapidly, if they follow more aggressive and hyperactive strategies (Chetty & Campbell-Hunt, 2004). This confirms the arguments whereby the ability to learn by actively seeking knowledge about foreign markets, international opportunities, potential customers, and questions about operations in foreign markets is innate to the entrepreneurial nature of INVs (Knight & Cavusgil, 1996; Oviatt & McDougall, 1997, 2005b).

Consequently, results suggest that the higher the capability of INVs to acquire, assimilate, transform, and exploit knowledge, namely knowledge about foreign markets, international opportunities, and international operations, the better their international performance will be. This results confirm the arguments of Autio et al. (2000), that the superior absorptive capacity of entrepreneurial firms, or their founders, facilitates the acquisition and accumulation of new foreign market knowledge which, in turn, decreases the uncertainty of operating in international markets, and increases the internationalization commitment and the probability of entering new countries, and, therefore, of obtaining success in international markets.

This finding is particularly relevant because it has been recognized by several authors (e.g. Fernhaber et al., 2009; Rhee, 2005; Zahra & Hayton, 2008) that IE is one of the research fields in which absorptive capacity is less studied. Additionally, this result provides empirical evidence to a relationship that has been empirically supported in some studies in international business and entrepreneurship fields (Flatten et al., 2011b; Lichtenthaler, 2009; Zahra & Hayton, 2008; Zahra et al., 2000), and therefore extends empirical evidence for the IE field. The results are congruous with one of the few studies in this field, developed by Zahra et al. (2000), who identify a direct positive relationship between international expansion and new venture performance, but this link is also mediated by technological learning and reinforced by the organizational capability of absorbing and integrating new knowledge from international activities. This is also in line with the argument that to be successful in foreign markets, INVs must be able to identify, understand, absorb, and exploit the specificities of each market (Eriksson et al., 1997).

*Finding 13 - **The competitive generic strategies more suitable to INVs achieve higher international performances are marketing differentiation and quality and service differentiation.***

The predictions that present a positive impact of all the four competitive generic strategies (innovation differentiation, marketing differentiation, quality and service differentiation, and cost leadership) on INVs' international performance were only partially supported. Only marketing differentiation and quality and service differentiation strategies are found to be significant antecedents of INVs' international performance. This somehow contradicts the results obtained by Namiki (1988), who argues that exporting SMEs generally adopt four main strategies: marketing differentiation, segmentation differentiation, innovation differentiation, and product oriented service (customer service and high quality products). However, he concluded that exporting SMEs that follow the segmentation differentiation and innovation differentiation strategies achieve higher performances (Namiki, 1988). These different conclusions may be justified by the fact that Namiki (1988) addressed SMEs in general, whereas in this research a particular type of SMEs is studied. Nevertheless, these results are in line with some research developed by McDougall, Oviatt, and colleagues (McDougall, 1989; McDougall et al., 2003), in which they compare INVs and DNVs, and conclude that INVs usually follow differentiation strategies, namely, quality and marketing strategies.

The positive and significant relationship obtained between marketing differentiation strategy and INVs' international performance aligns with the results of some studies developed in the international business or IE fields (Hughes et al., 2010; Knight, 2000). Therefore, INVs that employ more innovative marketing techniques, use patents and copyrights, invest in developing the company's brand and identification, and invest in advertising, and promotional programs, obtain higher international performances.

Likewise, the positive and significant relationship obtained between quality and service differentiation strategy and the INVs' international performance is in line with the conclusions of other empirical studies that also highlight the relevance of this strategy for INVs (Knight & Cavusgil, 2004; McDougall et al., 2003), and conclude that it could lead to higher international performances (Knight & Cavusgil, 2004). According to the results of our research, when INVs follow a strategy that is related to the improvement of existing manufacturing processes, improvement of efficiency and productivity, development of new manufacturing processes, and reduction of overall costs, they achieve higher international performances.

The expectations regarding the positive relationship between cost leadership strategy and the INVs' international performance were not supported. This result is not completely unexpected and is consistent with research that argues that SMEs generally adopt

differentiation strategies in order to achieve higher performances (Knight, 2000; Knight & Cavusgil, 2004; Namiki, 1988).

Quite surprising is the rejection of the hypothesis regarding the positive impact that innovation differentiation strategy exerts on INVs' international performance. This relationship did not obtain statistical significance, which contradicts several studies in the innovation management and entrepreneurship fields (e.g. Cillo et al., 2010; Hult et al., 2004; Kropp et al., 2006; Podmetina et al., 2009; Salomo et al., 2008). In the same way, this result is not aligned with previous studies in the IE field (e.g. Knight & Cavusgil, 2004; Kropp et al., 2006), which found that innovative INVs present higher international performance. The reason why the innovation differentiation strategy did not find support in this study can be also related to the multi-industry nature of the sample.

That said, this research goes a step beyond previous research examining the role of strategy within the INVs' internationalization process, by analyzing simultaneously the impact of several strategies on performance. In comparison, the majority of previous studies only analyzed the impact of a single strategy variable on performance (e.g. Julien & Ramangalahy, 2003; Knight, 2001). The few exceptions in the IE field are Bloodgood et al. (1996), Knight (2000), and Knight and Cavusgil (2004). On the other hand, there is a limited number of studies in the field that analyze the antecedents of competitive strategies, namely with regard to the characteristics of the firm (e.g. Julien & Ramangalahy, 2003; Knight, 2001; Knight & Cavusgil, 2004).

This finding is particularly important since it provides empirical evidence for the decision about which competitive generic strategies are more appropriate to INVs to follow in order to obtain higher international performance. Contrary to the Porter's (1980, 1985) arguments that the most important is to have a strategy and avoid the 'stuck in the middle' situation, in this research it is possible to conclude that the specific strategies that lead INVs to achieve higher performances are marketing differentiation, and quality and service differentiation.

This finding also provides important insights into the IE field, since it answers to the questions of several researchers (e.g. Rialp-Criado et al., 2010; Rialp et al., 2005a), who recognize the need for further analysis regarding the role played by a firm's strategy in INV internationalization processes, and others (e.g. Jones et al., 2011; Keupp & Gassmann, 2009), who consider competitive strategy as an under-researched topic in the IE field.

***Finding 14 -  The INVs' internationalization degree is found to be positively related to their international performance.***

These results suggest that the higher the INVs' internationalization degree, the higher is the managers' evaluation of their international performance. This result validates the conclusions of several studies in the IE field (e.g. Bloodgood et al., 1996; Lu & Beamish, 2006a; Lu & Beamish, 2001; McDougall & Oviatt, 1996; Qian & Lee, 2003; Zahra & Hayton, 2008; Zahra et al., 2000) that also suggest the existence of a positive link between the level of internationalization of the firm and their performance. Nevertheless, other research in this field also presents some results showing a negative relationship or a 'U' curve relationship (Lu & Beamish, 2006a; Lu & Beamish, 2001). The divergence of results regarding this relationship is strongly affected by the relatively wide array of internationalization and performance measures used. This may undermine the comparability and the consistence of the findings.

# 7   Conclusions, Limitations and Further Research

## 7.1   Main Conclusions

In contrast to the majority of studies in the IE field of research, this study has focused on the relevance of several types of managerial actions that INVs' undertake in the internationalization process, integrating these actions within a holistic framework for this process. Similar to the theoretical work developed by Oviatt and McDougall (2005b), the purpose of this study is to advance the identification of the organizational processes through which the antecedents impact on the outcomes of the INVs' internationalization process, the 'swollen middle' of this process. Four types of managerial issues – here called 'actions' –that have relevance in the INVs' internationalization process were selected: the international social network; the absorptive capacity; the entrepreneurial alertness; and the competitive generic strategies.

The antecedents were aggregated into three main blocks: antecedents related to the entrepreneur's characteristics; environmental antecedents related to the industry; and antecedents about firm characteristics. Regarding the design of the conceptual framework, instead of organizing those blocks of antecedents side by side, as proposed by several theoretical (e.g. Jones & Coviello, 2005; Thai & Chong, 2008) and empirical studies (e.g. Belso-Martínez, 2006; Gleason & Wiggenhorn, 2007; Mudambi & Zahra, 2007; Zucchella et al., 2007), the entrepreneurial characteristics and industry antecedents were conceptualized as antecedents of firm characteristics.

Therefore, several characteristics of entrepreneurs (namely, degree of education, interest in traveling, professional experience abroad, and foreign educational experience) were found to have an impact on INVs' foreign market knowledge. In the same vein, other characteristics of the entrepreneurs, in particular risk propensity and number of foreign languages spoken, were found to affect positively INVs' entrepreneurial orientation. Finally, entrepreneurs' professional experience in management has a positive impact on INVs' management capabilities.

Regarding the environmental antecedents related to the industry, technological turbulence affects positively the INVs' entrepreneurial orientation, whilst competitive intensity affects their management capabilities.

In a second level, this set of firm characteristics or antecedents was found to influence a group of managerial actions (international social networks, entrepreneurial alertness, absorptive capacity and competitive generic strategies).

Expectations regarding the positive influence of INVs' entrepreneurial orientation on all the firm actions introduced in the model were fully confirmed. Therefore, the higher the entrepreneurial orientation of INVs, the higher their use of the three types of international social networks (value chain social networks, institutional social networks, and foreign knowledge social networks), the higher the entrepreneurial alertness, the greater their absorptive capacity, and the higher the probability that they will follow one of the three differentiation strategies included in the framework (based on innovation, marketing, or quality and service) or a cost leadership strategy. It was also concluded that firm resources taken as a whole impact negatively on the use of the three types of international social networks, and therefore, that when INVs lack resources, they will use international social networks more extensively. Foreign market knowledge was also found to be positively related to all three international social networks, as well as with entrepreneurial alertness and their absorptive capacity. The last firm antecedent included in the model – management capabilities – was found to impact positively on INVs' entrepreneurial alertness, absorptive capacity, and on all four competitive generic strategies.

Complementarily, from the nine positive relationships hypothesized between the firm actions and the INVs' international performance, only five were confirmed, namely: value chain social network; entrepreneurial alertness; absorptive capacity; marketing differentiation strategy; and quality and service differentiation strategy. Interestingly, institutional social networks present a negative and significant relationship with international performance. These results are a major contribution to the IE field, since they help to understand why the entrepreneur, industry and firm's antecedents influence INVs' international performance. Hence, the reason why some INVs' antecedents influence their international performance is related to several managerial actions or decisions that the managers of these firms take. These actions are related to the use of value chain social networks and institutional social networks, with their level of entrepreneurial alertness, their absorptive capacity and the decision to follow strategies of marketing differentiation or quality and service differentiation.

To conclude, this study takes a step forward in the analysis of INVs internationalization process, since it conceptualizes and tests a holistic framework that includes a total of twenty-four variables (plus four control variables). The results provide a strong theoretical and empirical foundation to analyze firm actions as relevant aspects regarding INVs' internationalization process, particularly to understand their international performance.

## 7.2 Theoretical Implications

The analysis of the results of this doctoral dissertation allowed us to identify ten main theoretical contributions. First, since the framework conceptualized and tested was based on three theoretical foundations – the resource-based theory, the knowledge-based view, and the network theory – and the global framework achieved a good overall fit, it is possible to conclude that the INVs' internationalization process is a complex phenomenon, which cannot be fully clarified using only one theory. Therefore, this research contributes to the IE field literature by increasing the comprehension of the phenomenon of study using complementary approaches. The INVs' internationalization process, and specially the INVs' international performance, may be theoretically supported by their use of a set of specific resources, highlighting some knowledge-based resources, and by the use of networks, that enable these firms to achieve sustained competitive advantage, and obtain higher international performances. This research provides empirical evidence to the opinions of several authors that argue that the INVs' internationalization process cannot be completely explained in the light of a single theory (Crick & Spence, 2005; Mtigwe, 2006; Rialp et al., 2005a). These results also advance the IE research by answering to previous claims of several authors regarding the development of a more integrated view of the theoretical foundations supporting INVs' internationalization process (Crick & Spence, 2005; Dimitratos & Jones, 2005; Keupp & Gassmann, 2009; Rialp et al., 2005a).

The second contribution is related to the conceptualization and empirical test of the holistic framework, which aims to explain the internationalization of INVs, particularly their international performance. This research extended previous research regarding INVs' international process, by providing empirical evidence to an integrated framework and validating the complexity of this phenomenon. This framework combines several types of variables, namely variables related to entrepreneurs' characteristics, environmental aspects of the industry, firm characteristics, firm actions, and international performance. Complementarily these variables are organized sequentially in order to explain INVs' international performance, as an alternative to organize these variables as parallel dyads that impact directly on this measure of performance.

This contribution is very important, since it answers claims for a holistic or integrated view of the INVs' internationalization process (e.g. Aspelund et al., 2007; Crick et al., 2001; Crick & Spence, 2005; Jones, 2009; Jones & Coviello, 2005; Keupp & Gassmann, 2009; McAuley, 1999; Rialp et al., 2005a). The framework here developed constitutes a step forward from the studies in this field that only present theoretical frameworks (e.g. Jones & Coviello, 2005; Rialp et al., 2005a) or the ones that include entrepreneurs' characteristics, firms'

characteristics and variables related with networking or strategy (e.g. Belso-Martínez, 2006; Zucchella et al., 2007), but only test these variables as parallel relationships that impact directly on INVs' internationalization process outcomes.

Third, the holistic framework integrates several types of antecedents, namely ones related to entrepreneur, the industry, and the firm itself. As mentioned above, these antecedents are not included in the framework at the same level. This research contributes to better understand the role of entrepreneurs' characteristics on INVs' internationalization process. Entrepreneurs' characteristics have been shown to impact on firm characteristics, instead of directly impacting on INVs' actions or their international performance. In contrast to some research in the IE field (e.g. Belso-Martínez, 2006; Gleason & Wiggenhorn, 2007; Jones & Coviello, 2005; Thai & Chong, 2008; Zucchella et al., 2007), this study demonstrates how entrepreneurs' characteristics are important in configuring new venture's characteristics (Hambrick, 2007; Hambrick & Mason, 1984; McDougall et al., 1994b). New venture's characteristics are a manifestation of their founders/entrepreneurs' values, characteristics and knowledge. Consequently, their knowledge, capabilities, and orientations reflect the features of the founders/entrepreneurs/entrepreneurial team.

In the same way, the environmental antecedents (only features regarding the industry were considered in this research) were identified as a precedent of firms' characteristics rather of being directly linked to INVs' actions or their international performance. Hence, this research contributes to extend to the IE field the environment-strategy-performance framework (e.g. Luo & Park, 2001), according to which firms reply to their environmental conditions by selecting the strategy that better adapts to the specific environmental factors, to achieve high performances. Therefore, the INVs' characteristics, their knowledge, capabilities, and structure are affected by the characteristics of the particular industry where those firms are integrated.

Fourth, this research contributes for the literature of social networks by developing the concept of international social networks. This concept was defined as personal relationships between persons from private, professional, or business life, which can act as facilitators of the internationalization process.

Fifth, in addition to the previous theoretical contribution, this research brings an original perspective to the IE literature by disentangling the international social networks concept in three different types of networks: value chain social networks, institutional social networks, and foreign knowledge social networks. The advantage of this action was the identification of different impacts that each one of these networks presents on INVs' international

performance: value chain social networks presented a positive impact, while institutional social networks presented a negative impact, and foreign knowledge social networks did not present any significant impact. Possible suggestions to understand the negative relationship between the use of institutional social networks and INVs' international performance may be: i) these networks are used mainly when the objective is something else than direct performance; or ii) this type of relationships may introduce some 'noise' on business relationships, slowing down INVs to start doing business.

Sixth, this research contributes to narrowing the gap that still exists in the literature around INVs' internationalization process (Keupp & Gassmann, 2009; Rialp et al., 2005a) by unlocking a 'black box' and providing an exploratory framework on: *why* the antecedents of INVs' internationalization process affect the outcomes usually analyzed, and particularly international performance. Several entrepreneurial actions or decisions (international social networks, entrepreneurial alertness, absorptive capacity, and competitive generic strategies) were identified as mediators between the INVs' characteristics and their international performance.

Seventh, this is the first study to provide empirical evidence to the arguments of several researchers (e.g. Chetty & Agndal, 2007; Chetty & Campbell-Hunt, 2003; Kogut, 2000; Zhou et al., 2007) who suggest that social networks may perform for INVs as a substitute in case of resources scarcity. The results highlight the importance of these international social networks as an alternative when firm resources are scarce. Entrepreneurial firms will use these networks in order to facilitate the internationalization process. The finding that foreign market knowledge positively impacts all three types of international social network is particularly interesting. This supports the suggestion that foreign market knowledge might influence network-activation decisions associated with INVs' internationalization process. These results are compatible with the conclusions of several studies that argue that INVs may activate relationships in networks in addition to leveraging existing ones (Coviello & Munro, 1997; Loane & Bell, 2006; Welch & Welch, 1996).

Eight, this is the first study to extend to the IE field the relevance of entrepreneurial alertness as a managerial action. Entrepreneurial alertness was identified as an important action that mediates the relationship between several of the INVs' characteristics and their international performance. When the entrepreneurial teams or INVs present higher entrepreneurial alertness, they have a predisposition to discover new opportunities in the market, particularly in foreign markets (Kirzner, 1973, 1979). If these firms recognize the best opportunities, they will achieve success and present higher performances (Ardichvili et al., 2003).

Ninth, this research answers to the claims of several authors (e.g. Jones et al., 2011) in order to clarify the role of absorptive capacity in INVs' internationalization process. Absorptive capacity was recognized as a firm action that mediates the relationship between the INVs' firm antecedents (such as foreign market knowledge, entrepreneurial orientation, and management capabilities) and their international performance. The results of this study suggest that for INVs to achieve higher international performances, they must have the capability to acquire, assimilate, transform, and exploit knowledge, namely knowledge about foreign markets, international opportunities, and international activities.

Finally, this research clarifies that not all the competitive generic strategies have the same role in the INVs' internationalization process, namely when the main objective is international performance. Existent literature provides contradictory arguments supporting some particular competitive generic strategies. The inclusion of four competitive generic strategies in the model (innovation differentiation strategy, marketing differentiation strategy, quality and service differentiation strategy, and cost leadership) enlightened this discussion. All four strategies were found to be related to the INVs' internationalization process. The selection of these strategies was influenced by INVs' entrepreneurial orientation, as well as by their level of management capabilities. But even so, only when INVs follow a marketing differentiation strategy or quality and service differentiation strategy are they able to obtain higher international performances.

## 7.3 Managerial Implications

This study also provides important insights for practitioners. First, the holistic framework developed and tested herein may help potential entrepreneurs, actual entrepreneurs, new venture founders, and new venture managers to better understand the complexity of the INVs' internationalization process. Although the framework here developed is not exhaustive, it comprises several blocks of variables that incorporate several important aspects related to the internationalization of these firms.

Second, the findings make clear that the characteristics of the entrepreneurs, or entrepreneurial team, are vital to define the characteristics of the INVs, namely characteristics that are considered central to their internationalization process: foreign market knowledge, entrepreneurial orientation, and management capabilities. When potential entrepreneurs, or potential founders, are thinking about founding a new venture, they must be aware that their characteristics will be reflected in that venture. This may be particularly important while forming the entrepreneurial team, and founding the new venture. For instance, when forming the entrepreneurial team to found a new venture, if there is the

expectation to go international, then it will be better to have someone with international experience and knowledge in the entrepreneurial team.

Third, the results indicate that industry characteristics push INVs to present some characteristics. The INVs are more likely to present a high entrepreneurial posture and strong management capabilities if they operate in industries that are technologically turbulent and competitive. Hence, when INVs operate in these demanding industries, then managers will know that their competitors probably present those firm characteristics. To achieve success, managers must organize their INVs to react to the requirements of their industries. Whenever an INV operates in a highly competitive industry, it should present high managerial capabilities; if an INV operates in a technologically turbulent industry, it must have a high entrepreneurial posture.

Fourth, when facing resource scarcity, managers benefit from using international social networks to facilitate the internationalization of their new ventures. Even so, this study called managers attention to the fact that not all types of international social networks present the same outcome regarding international performance.

Fifth, the findings also show that some specific characteristics of INVs (foreign market knowledge, entrepreneurial orientation, and management capabilities) enable them to take several decisions or actions that are associated with the achievement of their international performance. Managers may react and adapt if they have an idea of where their ventures stand on these characteristics, so as to achieve higher international performance.

Sixth, the results indicate that INVs are more likely to improve their international performance if they use, activate, or build value chain social networks. Managers are encouraged to use this type of international social network, since it will be more effective to obtain superior international performance. These relationships may act as precursors of future foreign transactions with foreign partners or customers.

Seventh, in opposition to the previous contribution, the results also indicate that the use of institutional social networks is associated with INVs attaining lower international performances. A possible explanation for this result can be derived from the fact that these relationships may act more as supporters for accessing general knowledge about a foreign market, or for identifying a potential contact or first potential customer in that market. Another potential explanation is related with possible obstacles that these relationships can place to INVs start doing business. Managers must be aware that these relationships do not have a positive impact in international performance, and use these networks whenever the foremost objective is diverse from achieving immediate international performance.

Eighth, it is particularly relevant for INVs wanting to obtain higher international performances to also present higher entrepreneurial alertness. This is particularly relevant for practitioners, since in order to achieve success in international markets, firms – and consequently their managers – must be always alert, in order to identify new opportunities in foreign markets, and exploit successfully those opportunities.

Ninth, the development of absorptive capacity is also an important action to INVs achieve higher international performances. Since INVs do not have the time to slowly learn about foreign markets, their managers must be capable of rapidly acquiring, assimilating, transforming, and exploiting knowledge, namely knowledge about foreign markets, international opportunities, and international activities. Managers must organize their INVs to promote and facilitate this process of using knowledge. In this way, these firms may rapidly achieve and use knowledge necessary for internationalization, decrease the uncertainty in relation to international markets, increase the internationalization commitment, and obtain higher performances.

Tenth, the findings suggest that managers of INVs should follow marketing differentiation strategy and quality and service differentiation strategy to achieve higher international performances. Only these two strategies act as mediators of the relationship between firm antecedents and INVs' international performance.

Finally, this research identifies a positive relationship between INVs' degree of internationalization and their international performance. This study called managers attention to the fact that the increasing of the commitment to internationalization, lead managers to grade their international performance as better. This suggests that the higher the internationalization level, the higher will be their international performance.

## 7.4  Main Limitations and Suggestions for Further Research

This research answers to appeals for more research on the nature of managerial decision-making of early internationalizing firms (Rialp et al., 2005a), and addresses Keupp and Gassmann's (2009) request for the development of an integrated or holistic framework to analyze the IE process. Therefore, this research aims to broaden the theoretical and empirical knowledge about INVs' internationalization process. This research has been developed based on relevant theoretical foundations, in order to develop a holistic framework regarding INVs' internationalization process and their international performance. The conceptualized framework has been tested using a valid survey instrument, launched in order to acquire accurate and reliable data. However, this study still presents some limitations that could be related to possible future research developments.

In spite of the fact that the phenomenon analyzed – INVs' internationalization process – is very complex, the framework developed in this research still provides a limited view of the process. Other views, highlighting different themes will help to better understand the phenomenon. Although the framework here developed and tested is complex, the first main limitation of the study is related to the variables included in the framework. Hence, the main natural extension of this study is related to the inclusion of other relevant variables such as antecedents, firm actions, or outcomes. For instance, concerning the latter: could it be possible that this framework also explains a firm's performance measured through objective data related to financial results? Can this framework explain the degree, speed, and scope of internationalization as well?

Similarly, the managerial actions which are included in the central part of the conceptual framework do not necessarily encompass all relevant actions. These strategic actions were identified through a literature review, but several other actions could be added; for instance, decisions concerning entry mode or choice of flexibility strategy. On the one hand, entry mode choice is an important issue for INVs. Since new ventures usually lack resources, their selection of an appropriate entry mode for a specific foreign market, may improve resource allocation (Rasheed, 2005; Rhee, 2008). Extant literature indicates that the selection of a specific market entry strategy may influence both the level of internationalization (Shrader et al., 2000; Westhead, Wright, Ucbasaran, & Martin, 2001b) and the international performance (Gleason & Wiggenhorn, 2007; Lu & Beamish, 2006a; Lu & Beamish, 2001; Rasheed, 2005). However, in the IE research, the most common aspect to consider is the entry mode as a dependent variable, in order to identify the reasons that the firm has chosen a specific mode of entry over another (e.g. Burgel & Murray, 2000; Gleason & Wiggenhorn, 2007; Harzing, 2002; Lu & Beamish, 2006b; Nakos & Brouthers, 2002; Ojala & Tyrväinen, 2006; Tsai & Cheng, 2002; Yiu & Makino, 2002). The inclusion of entry mode decisions as managerial actions in a holistic framework may be relevant to understand their determinants and their impact on INVs' international performance.

On the other hand, the study of the flexibility strategy as managerial action may be also a motivating avenue of research. The flexibility to adapt to rapidly changing external environmental challenges and opportunities is among the strategic factors identified by Rialp et al. (2005a) as facilitators of early internationalization. There is empirical evidence indicating that flexibility strategies are positively related to firm performance in small firms (Ebben & Johnson, 2005; Malik & Kotabe, 2009; Yu, 2012). Ebben and Johnson (2005) found that small firms that draw on operational flexibility strategy perform better. Malik and Kotabe (2009) concluded that manufacturing flexibility is positively related to performance in

a set of manufacturing firms. There is also some evidence that the flexibility strategy is a critical factor for a firm to achieve superior performance in e-commerce approaches (Saini & Johnson, 2005). The extension of this research to the IE field may be very interesting.

Another stream of possible research is related to the inclusion of other environmental variables, namely related to both home and foreign market characteristics. The inclusion of environmental variables related with the industry may be complemented with variables related with the markets. These characteristics have been studied as determinants of the emergence of new ventures, and of their internationalization processes. Several researchers found a positive relationship between environmental uncertainty and entrepreneurship (Balabanis & Katsikea, 2003; Miller, 1983; Miller, Droge, & Toulouse, 1988; Miller & Friesen, 1982). Additionally, it was found that entrepreneurial firms that work in environments with high levels of uncertainty are likely to achieve superior performance (Covin & Covin, 1990; Khandwalla, 1987; Zahra & Covin, 1995).

It has been argued that domestic market environmental conditions – namely uncertainty and hostility – are likely to influence internationalization (Das, 1994; Hax, 1989; Zahra et al., 1997). Accordingly, high uncertainty and hostility in the domestic market may lead firms to achieve higher international performance (Hitt, Hoskisson, & Ireland, 1994; Porter, 1990; Zahra et al., 1997). The reasons behind these findings are related to the search for opportunities in foreign markets as a means of achieving additional profits, and to compensate for uncertainty and hostility in the home country (McDougall et al., 1994a; Oviatt & McDougall, 1994).

Regarding foreign market conditions, it appears that firms who demonstrate entrepreneurial behavior may be better prepared to handle hostile conditions in these markets (Hitt, Hoskisson, & Kim, 1997). Several authors have also found that when entrepreneurial firms operate in hostile countries (domestic or foreign) they exhibit higher performance (Covin & Slevin, 1989, 1991; Miller, 1993; Zahra & Covin, 1995).

To sum up, these types of managerial decisions, other environmental characteristics related to the domestic and foreign market, and other outcomes could have all been included in the framework, but it was decided to exclude them in order to avoid overcomplicating the framework.

The second main limitation is related to the relationships included in the present framework. It is acknowledged that there is scope for additional work concerning the association between the variables included in each block. Taking the case of firm actions included in the framework, it is possible to hypothesize some relationships between them. For instance a

positive relationship between the absorptive capacity and entrepreneurial alertness may be hypothesized. With the aim of discovering business opportunities in foreign markets, INVs must be able to understand different country's characteristics and conditions (Eriksson et al., 1997). Therefore, they must be able to acquire, assimilate, transform, and exploit knowledge about foreign markets almost instantly (absorptive capacity), in order to enhance their alertness to opportunities connected with new related information. Typically, firms that have a good base of knowledge in a specific field will present high absorptive capacity. These firms will be capable of evaluating and acting on the new information, knowledge, or business opportunities regarding a specific field of knowledge (Cohen & Levinthal, 1990; Zahra & George, 2002b). It was decided to keep this particular connection out of the analysis in order to avoid increasing the complexity of the framework, and also due to the requirements of the statistical method used for data analysis (SEM) regarding the ratio between the sample size and the free parameters to be estimated. Nevertheless, this type of relationships may be tested in future studies.

The third limitation deals with the measure of international performance used. In this research a self-reported measure of international performance was used, and the reasons supporting this decision were already presented. The most relevant is the fact that financial data related with profitability may not evaluate accurately the real performance of INVs, due to their newness, and focus in developing the business and gaining market positions (Baum et al., 2001; Mudambi & Zahra, 2007). However, self-reported measures of performance face the vulnerability of respondents to answer based in expectations instead of the real evaluation of performance. For that reason, it may be interesting to test this framework using financial data. In this case, the financial data should be collected some years after obtaining the other data, in order to be able to express causal relationships.

The fourth limitation is associated to the assumption that entrepreneurial alertness and absorptive capacity are firm actions. The argument to consider entrepreneurial alertness as a firm's action was based in McMullen and Shepherd's (2006) reasoning that alertness involves action. This concept is only entrepreneurial if it holds both judgment and movement to action. The argument to consider absorptive capacity as a firm's action was based in the Cohen and Levinthal's (1990) definition, which assumes that this concept involves the application or exploitation of knowledge to commercial ends. However, other judgments may exist, and these variables may be included on a framework regarding INVs' internationalization process as firm's characteristics.

The fifth limitation is related to the cross-sectional nature of the research design employed. Although the data obtained by the survey refers to different moments in a firm's life cycle, all

the information was obtained at the same point in time. Therefore, longitudinal data that follows the path sequence of the constructs in the presented framework will present new insights into this framework. A longitudinal research may disclose whether the connections studied and identified in this research will maintain their relevance.

The sixth limitation is related to the sample. Although the size of the sample used in this study meets the criterion of minimum size required by the statistical method used, a larger sample – namely a sample obtained in multiple countries – may enhance the generalization of this study's findings. In the same vein, the use of data from INVs from different countries may also increase the generalization of the framework, and test the external validity of the present study.

The seventh limitation is related to the method of data collection employed. In order to test the conceptualized framework, the data here applied was gathered using self-administrated web surveys. The use of self-completion questionnaires can present some issues related to self-report bias (Donaldson & Grant-Vallone, 2002). Moreover, since the invitation to answer to the web survey was sent by e-mail, and the respondents completed the survey by accessing the survey website on their own, the researchers could not clarify right away the doubts that the respondents may have when completing the survey. They had to contact the researcher by phone or e-mail in order to find an answer to their reservations. Even so, the self-administered web survey is increasingly common and accepted in this field of research (e.g. Jantunen et al., 2008; Kyläheiko et al., 2011; Zahra & Hayton, 2008; Zucchella et al., 2007).

Finally, the last limitation is related with SEM. On the one hand, due to the complexity of the framework of this research, the inclusion of some specific relationships generates problems of convergence, while assessing the structural model. For instance, following the resources-strategy-performance framework, grounded in the resource-based view (e.g. Grant, 1991; Mahoney & Pandian, 1992), it might be interesting to hypothesize relationships between firm resources and competitive generic strategies. Similarly, following the arguments presented by Kuemmerle (2002), INVs' foreign market knowledge may be linked to their entrepreneurs/founders knowledge of foreign languages. Therefore it may be hypothesized a positive relationship between those two variables. The inclusion of those relationships, didn't allow the model to converge, reason why they were excluded from the framework. These difficulties also maintain for the inclusion of feedback relationships. Other frameworks which examine these relationships will help to better understand this phenomenon.

On the other hand, although there is a causality rationale inherent to the construction of the framework of this research, SEM by itself does not prove causality (Bagozzi & Yi, 2012). To support causal relationships, some statistical procedures need to be executed, such as experimentation, quasi-experiments, longitudinal studies, etc. (Bagozzi & Yi, 2012; Iacobucci, 2009). Therefore, other researches that explore these aspects are welcome.

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# 9 Appendixes

## 9.1 Appendix 1: Interview Guide

**Tópicos de Introdução:**

- O meu nome é Nuno Fernandes Crespo;
- Sou docente no Instituto Superior de Economia e Gestão da Universidade Técnica de Lisboa;
- Desenvolvimento de projeto de investigação no âmbito do Doutoramento em Gestão no ISEG;
- Objeto de estudo: empresas que foram constituídas entre 2000-2009 e que já iniciaram o seu processo de internacionalização;
- Objetivo: entender os fatores que influenciam o sucesso e o grau de internacionalização destas empresas;
- Para responder a estes objetivos, elaborou-se o questionário que lhe irei apresentar de seguida;
- Neste momento estou a realizar um estudo exploratório junto de várias empresas portuguesas que apresentam as características referidas, como é o caso da (<u>FIRM</u>).
- O objetivo desta etapa é perceber se o questionário é adequado ao tema em estudo;
- Sendo esta uma das etapas mais importantes da construção de um questionário, peço-lhe o favor de responder ao mesmo, identificado todas as situações em que o mesmo não é claro ou lhe suscita alguma dúvida;
- Duração prevista para preenchimento do inquérito: 30 minutos;
- Após o preenchimento, gostaria de discutir consigo os principais problemas identificados;
- Duração total prevista da reunião: entre 60 e 120 minutos.

**Tópicos a desenvolver após preenchimento de inquérito:**

- Informação recolhida em cada questão – clareza e adequação ao respondente;
- Clareza dos itens e adequação dos mesmos ao contexto da empresa;
- Compreensão das escalas usadas em cada questão;
- Sugestão de itens adicionais em algumas questões em desenvolvimento;
- Dimensão do questionário;
- Pessoa a quem deverá ser dirigida a carta de convite para resposta ao inquérito;

- Carta de apresentação;

- Método de envio do questionário;

- Disponibilidade da informação solicitada.

**Encerramento**

- A entrevista terminou;

- Agradecimento da participação;

- Valorização da contribuição;

- Informação sobre o envio dos resultados finais do estudo.

## 9.2 Appendix 2: Email Letter of Invitation to Participate in the Survey

Exmo(a). Sr(a). **{FISTNAME}**,
**{COMPANY}**,

Vimos por este meio solicitar à sua empresa a colaboração para participar num projecto de investigação de doutoramento desenvolvido por professores do ISEG (Universidade Técnica de Lisboa) e do LNEG (ex-INETI: Instituto Nacional de Engenharia, Tecnologia e Inovação).

O principal objectivo deste projecto é estudar as empresas jovens e empreendedoras nacionais que foram constituídas entre 2000 e 2009 e que já iniciaram o seu processo de internacionalização. Pretende-se entender os factores que têm maior impacto no sucesso e no processo de internacionalização destas empresas.

O sucesso deste projecto passa em grande medida pela cooperação de uma grande diversidade de empresas. Deste modo, solicitamos que possa preencher um inquérito online, em que a quase totalidade das questões é de resposta múltipla, e que lhe ocupará aproximadamente 20 minutos. Atendendo à tipologia de questões colocadas, este inquérito deverá ser preenchido preferencialmente por um dos membros da equipa de gestão da empresa **{COMPANY}** (Administrador/ Director Geral/ Sócio-Gerente/ Propietário/ Director/ Gestor).

**Por favor clique no seguinte endereço e será encaminhado para o inquérito:**

**http://emp-empreendedoras-internacionais.limequery.com/83883/lang-pt/tk-zv6mvd3hgxgwh2e**

As respostas são estritamente confidenciais e os dados apenas serão utilizados de forma agregada para fins estatísticos.

De forma a vincular a importância deste estudo, apresentam-se de seguida os links para 2 cartas de apoio ao mesmo, por parte do IAPMEI (Vice-Presidente do IAPMEI, Dr. Pedro Matias) e do ISEG (Presidente do ISEG, Prof. Dr. João Duque).

- Carta de apoio IAPMEI
- Carta de apoio ISEG

Como forma de agradecimento pela sua participação, ser-lhe-á enviado um relatório com as conclusões gerais do presente estudo, bem como dois convites para a conferência de apresentação dos resultados deste estudo.

Agradecendo desde já a sua cooperação e o seu tempo,

Com os meus melhores cumprimentos,

Nuno Fernandes Crespo: (Coordenador Nacional do Estudo / Estudante Doutoramento/ ISEG - Univ. Técnica de Lisboa)

**Se existir qualquer questão no preenchimento do questionário, por favor não hesite em contactar-me:**
Nuno Fernandes Crespo (E-mail: ncrespo@iseg.utl.pt; Tlm: 96 620 5145).

## 9.3 Appendix 3: Email First Reminder Letter

Exmo(a). Sr(a). **{FIRSTNAME}**,
**{COMPANY}**

Há cerca de duas semanas, foi-lhe enviado um mail com o pedido de participação no Estudo Nacional às Empresas Empreendedoras e com Negócios Internacionais através da resposta a um inquérito. Este estudo está a ser elaborado no âmbito de uma tese de doutoramento em Gestão no ISEG/Universidade Técnica de Lisboa.

Venho desta forma pedir-lhe novamente que possa preencher o inquérito, uma vez que o contributo da sua empresa é muito importante para a realização deste trabalho. A **{COMPANY}** pertence a um pequeno conjunto de empresas Portuguesas que, tendo nascido entre 2000 e 2009, são empresas de características empreendedoras e que se internacionalizaram muito rapidamente.

Tenho consciência de que têm várias solicitações, mas apelo à importância que este estudo tem até pelo momento em que o mesmo está a ser feito, pelo facto da internacionalização (e exportações) serem vitais para ultrapassar este período de crise económica. O valor deste estudo é reforçado pelo apoio dado pelo IAPMEI e pelo ISEG (**ver link**).

Só ouvindo as empresas é que será possível entender os factores que têm maior impacto no sucesso e no processo de internacionalização destas empresas.

Deste modo, solicitamos que possa preencher um inquérito online, em que a quase totalidade das questões é de resposta múltipla, e que lhe ocupará aproximadamente 20 minutos.

Atendendo à tipologia de questões colocadas, este inquérito deverá ser preenchido **preferencialmente** por um dos membros da **equipa de gestão** da empresa **{COMPANY}**.

**Por favor clique no seguinte endereço e será encaminhado para o inquérito:**

**http://emp-empreendedoras-internacionais.limequery.com/83883/lang-pt/tk-bgysek7hkf2ujjn**

As respostas são estritamente confidenciais e os dados serão utilizados de forma conjunta.

Como forma de agradecimento pela sua participação, ser-lhe-á enviado um relatório com as conclusões gerais do presente estudo, bem como dois convites para a conferência de apresentação dos resultados deste estudo, caso assim o indique no final do inquérito.

Agradecendo desde já a sua cooperação e o seu tempo,

Com os meus melhores cumprimentos,

Nuno Fernandes Crespo: (Coordenador Nacional do Estudo / Estudante Doutoramento/ ISEG - Univ. Técnica de Lisboa)

**Se existir qualquer questão no preenchimento do questionário, por favor não hesite em contactar-me:**

Nuno Fernandes Crespo (E-mail: ncrespo@iseg.utl.pt; Tlm: 96 620 5145).

## 9.4 Appendix 4: Email Second Reminder Letter

Exmo(a). Sr(a). **{FIRSTNAME}**,
**{COMPANY}**,

**Há cerca de um mês, foi-lhe enviado um mail com o pedido de participação no Estudo Nacional às Empresas Empreendedoras e com Negócios Internacionais através da resposta a um inquérito.** Este estudo está a ser elaborado no âmbito de uma **tese de doutoramento** em Gestão no ISEG/Universidade Técnica de Lisboa.

**Venho mais uma vez pedir-lhe que possa preencher o inquérito, uma vez que o contributo da sua empresa é muito importante para a realização deste trabalho.** A **{COMPANY}** pertence a um pequeno conjunto de empresas Portuguesas que, tendo nascido entre 2000 e 2009, são empresas de características empreendedoras e que se internacionalizaram rapidamente.

**Tenho consciência de que têm várias solicitações e de que a altura de final de ano é especialmente atribulada, mas apelo à importância que este estudo tem até pelo momento em que o mesmo está a ser feito, pelo facto da internacionalização (e exportações) serem vitais para ultrapassar este período de crise económica.** O valor deste estudo é reforçado pelo apoio dado pelo IAPMEI e pelo ISEG (ver link).

**Só ouvindo as empresas é que será possível entender os factores que têm maior impacto no sucesso e no processo de internacionalização destas empresas.**

Deste modo, solicitamos que possa preencher um inquérito online, em que a quase totalidade das questões é de resposta múltipla, e que lhe ocupará **aproximadamente 20 minutos.**

Atendendo à tipologia de questões colocadas, este inquérito deverá ser preenchido **preferencialmente** por um dos membros da **equipa de gestão** da empresa **{COMPANY}**.

**Por favor clique no seguinte endereço e será encaminhado para o inquérito:**

**http://emp-empreendedoras-internacionais.limequery.com/83883/lang-pt/tk-rh9fq7ruyh74vwf**

As respostas são estritamente confidenciais e os dados serão utilizados de forma conjunta.

**Como forma de agradecimento pela sua participação, ser-lhe-á enviado um relatório com as conclusões gerais do estudo, bem como dois convites para a conferência de apresentação dos resultados, caso assim o indique no final do inquérito.**

Agradecendo desde já a sua cooperação e o seu tempo,

Com os meus melhores cumprimentos,

Nuno Fernandes Crespo: (Estudante Doutoramento/ ISEG - Univ. Técnica de Lisboa/ Coordenador Nacional do Estudo)

**Se existir qualquer questão no preenchimento do questionário, por favor não hesite em contactar-me:**

Nuno Fernandes Crespo (E-mail: ncrespo@iseg.utl.pt; Tlm: 96 620 5145).

## 9.5 Appendix 5: Letter of Support from IAPMEI



Exmos. Senhores Empresários/Gestores,

ASSUNTO: Estudo das Decisões Estratégicas que Contribuem para a Internacionalização e Desempenho das Empresas Jovens e Empreendedoras

Exn.ª Senhor Empresário,

Um dos vectores estratégicos de actuação do IAPMEI – Instituto de Apoio às Pequenas e Médias Empresas e à Inovação, passa pela promoção de estratégias empresariais de crescimento inovador e internacional. Para dar suporte a este desafio, o IAPMEI promove a elaboração de estudos que originem informação relevante para auxiliar à intervenção externa deste Instituto.

Nesse sentido, ao tomar conhecimento do estudo que o Nuno Fernandes Crespo, Docente do ISEG – Universidade Técnica de Lisboa, está a desenvolver no âmbito da sua **Tese de Doutoramento** sobre as *"Decisões Estratégicas que Contribuem para a Internacionalização e Desempenho das Empresas Jovens e Empreendedoras"*, não pode o IAPMEI deixar de louvar esta iniciativa e de prestar todo o apoio possível ao desenvolvimento da mesma, que, estamos certos, será um excelente contributo para o aprofundamento desta área de conhecimento.

Todos os estudos sobre o tecido empresarial nacional contribuem para melhorar o conhecimento sobre as características das nossas empresas, podendo os resultados ser usados para ajudar ao desenvolvimento de políticas e apoios públicos adaptados à realidade empresarial nacional. Adicionalmente, pelo facto deste estudo incidir sobre as empresas que foram criadas na última década e que já apresentam um percurso de internacionalização, poderá dar pistas para afirmação das novas empresas nacionais nos mercados externos.

Assim, tendo em conta o apoio do IAPMEI, que se baseia no facto de entender que este estudo poderá contribuir para perceber melhor os aspectos que levam as PME jovens a internacionalizar-se e a atingir melhores performances, **muito agradeceríamos o seu maior empenho para que um membro da equipa de gestão da V/ empresa pudesse colaborar neste estudo que consideramos de maior importância.**

Com a certeza da sua maior compreensão, apresento os meus melhores cumprimentos,

O Vice-Presidente do Conselho Directivo do IAPMEI

(Pedro de Almeida Matias)

MINISTÉRIO DA ECONOMIA E DO EMPREGO

Instituto de Apoio às Pequenas e Médias Empresas e à Inovação

## 9.6  Appendix 6: Letter of Support from ISEG

Instituto Superior de Economia e Gestão
UNIVERSIDADE TÉCNICA DE LISBOA

Presidência

**ASSUNTO:** Estudo das Decisões Estratégicas que Contribuem para a
Internacionalização e Desempenho das Empresas Jovens e
Empreendedoras

**Exmos. Senhores Empresários/Gestores,**

São frequentes os comentários sobre a necessidade de aumentar a relação
entre o mundo académico e o mundo empresarial, entre as Universidades e as
Empresas. O ISEG – Instituto Superior de Economia e Gestão da Universidade
Técnica de Lisboa, escola que este ano comemora o seu centésimo
aniversário, é uma das grandes responsáveis pela educação de grande parte
dos líderes empresariais e económicos nacionais e dos investigadores nas
áreas da gestão e da economia. Os docentes desta escola têm participado em
diversos trabalhos e movimentos que visam promover a ligação entre o tecido
empresarial e a Universidade, para que cada parte aprenda com as
experiências, vivências e conhecimentos da outra parte.

Nesse sentido, o estudo nacional que o Nuno Fernandes Crespo, docente
desta escola, está a desenvolver no âmbito da sua **Tese de Doutoramento**
sobre as **"Decisões Estratégicas que Contribuem para a
Internacionalização e Desempenho das Empresas Jovens e
Empreendedoras"** procura entender aspectos que levam as empresas jovens
a internacionalizar-se e a atingir melhores performances. Só através da
auscultação do tecido empresarial se consegue desenvolver conhecimento,
políticas e apoios públicos adaptados à realidade empresarial nacional.

Adicionalmente, pelo facto deste estudo incidir sobre as empresas que foram
criadas na última década e que já apresentam um percurso de
internacionalização, poderá dar pistas para afirmação das novas empresas
nacionais nos mercados externos.

Rua do Quelhas, n.º 6 – 1200-781 Lisboa (Portugal) Tel. (+351) 213 970 770 /1 Fax (+351) 213 971 192
presidencia@iseg.utl.pt   www.iseg.utl.pt

Instituto Superior de Economia e Gestão

UNIVERSIDADE TÉCNICA DE LISBOA

Deste modo, **muito agradeceria o seu maior empenho para que a sua empresa possa colaborar neste estudo que reputo de maior importância.**

Com a certeza da sua maior compreensão, apresento os meus melhores cumprimentos.

Presidente do ISEG e
Professor Catedrático de Finanças

(Prof. Doutor João Duque)

## 9.7 Appendix 7: Online Survey Print Outs

**Estudo das Decisões Estratégicas que Contribuem para a Internacionalização e Desempenho de Empresas Jovens e Empreendedoras**

Antes de mais, agradecemos a disponibilidade para responder às questões deste inquérito.

Apenas três notas:
- A quase totalidade das questões é de resposta múltipla, razão pela qual o inquérito se preenche em aproximadamente 20 minutos;
- Solicitamos que leia com atenção cada afirmação, para dar uma resposta reflectida;
- Não há respostas certas ou erradas. O importante é o seu caso específico. Seleccione a opção que melhor representa a sua opinião ou situação.

Caso tenha alguma dúvida ao preencher este questionário por favor contacte:
Nuno Fernandes Crespo
Tlm: 96 620 5145; E-Mail: ncrespo@iseg.utl.pt
Departamento de Gestão
ISEG – Universidade Técnica de Lisboa, Lisboa, Portugal.

*Uma nota sobre privacidade*
Este inquérito é anónimo.
O registo guardado das suas respostas ao inquérito não contém nenhuma informação identificativa a seu respeito, salvo se alguma pergunta do inquérito o pediu expressamente. Se respondeu a um inquérito que utilizasse um token identificativo para lhe permitir o acesso, pode ter a certeza de que o token identificativo não foi guardado com as respostas. É gerido numa base de dados separada e será actualizado apenas para indicar se completou ou não este inquérito. Não é possível relacionar os tokens de identificação com as respostas a este inquérito.

Carregar inquérito incompleto     Seguinte >>     Sair e limpar inquérito

*SECÇÃO A - CARACTERIZAÇÃO DA EMPRESA E DO SECTOR*

**1. Qual o ano de constituição da empresa?**

*Neste campo só se aceitam números*

**2. Quando a empresa foi criada, como poderia definir os principais fundadores?**
*Escolha uma das seguintes respostas*

- ○ Empresa fundada por sócios/accionistas individuais
- ○ Empresa fundada por outra empresa Portuguesa
- ○ Empresa fundada por outra empresa estrangeira
- ○ Empresa fundada por uma empresa/organização pública
- ○ Spinoff de outra empresa Portuguesa
- ○ Spinoff de uma empresa estrangeira
- ○ Spinoff de uma empresa/organização pública
- ○ Outro

**3. Actualmente, como classifica a empresa em termos de propriedade?**
*Escolha uma das seguintes respostas*

- ○ Maioria do capital detida por sócios/accionistas individuais
- ○ Maioria do capital pertence a outra empresa Portuguesa
- ○ Maioria do capital pertence a outra empresa estrangeira
- ○ Maioria do capital pertence a empresa/organização pública
- ○ Outro

**4. Neste caso, em que a empresa é detida por sócios/accionistas individuais, como classifica a empresa relativamente à propriedade familiar?**
*Escolha uma das seguintes respostas*

- ○ Maioria da propriedade familiar
- ○ Maioria da propriedade não-familiar

**5. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente  4=Nem concordo nem discordo  7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| As competências especializadas da empresa são superiores à média do sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os meios financeiros da empresa são superiores à média do sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| As capacidades de gestão operacional da empresa são superiores à média sectorial. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A reputação da empresa é superior à média do sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A experiência da empresa em alianças cooperativas é superior à média do sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Temos os meios financeiros necessários para abordar mercados internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão não tem tempo para se focar nas oportunidades internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa tem as competências necessárias para avaliar o potencial dos mercados internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Fazemos regularmente uma análise sistemática de oportunidades em mercados internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**6. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| A nossa empresa tem uma forte reputação de excelência tecnológica. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| O nosso negócio tem a característica de ser intensivo em conhecimento. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os nossos produtos ou serviços têm uma forte componente de conhecimento. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| As competências e conhecimentos dos empregados podem ser usados totalmente e de forma eficiente. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os empregados têm um grande compromisso organizacional e sentimento de pertença à empresa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os empregados são capazes de discutir problemas operacionais de forma aberta, sincera e construtiva. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os empregados são encorajados e apoiados a inovar. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os gestores procuram e aceitam ideias sobre mudança organizacional. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os empregados de todos os níveis procuram atingir objectivos e padrões de elevado desempenho. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**7. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Pensamos em primeiro lugar nas aplicações internacionais da nossa tecnologia. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os mercados e os clientes internacionais são essenciais para pagar os custos de desenvolvimento dos nossos produtos ou serviços. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os mercados internacionais são mais lucrativos que o mercado doméstico. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Temos que entrar nos mercados estrangeiros antes que as nossas tecnologias fiquem obsoletas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Temos que entrar nos mercados estrangeiros antes que os nossos concorrentes nos alcancem. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa dá importância à inovação. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Para haver crescimento, a nossa empresa sublinha a necessidade de inovação. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa promove o crescimento e a utilização de novos recursos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Na relação com os concorrentes, a nossa empresa tipicamente inicia acções a que depois os concorrentes reagem. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Na relação com os concorrentes, a nossa empresa é muitas vezes a primeira a introduzir novos produtos/serviços, técnicas administrativas, tecnologias operacionais, etc. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Em geral, os gestores da nossa empresa têm uma forte tendência para estar à frente dos outros na introdução de novas ideias, produtos ou serviços. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Em geral, os gestores da nossa empresa favorecem uma forte ênfase na I&D, liderança tecnológica e inovações. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Nos últimos 3 anos, a empresa introduziu no mercado muitas novas linhas de produtos ou serviços. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| As alterações nas linhas de produtos ou serviços da empresa têm sido muito significativas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa tem uma forte orientação para projectos de elevado risco (com possibilidade de rendimentos altos). | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Dada a natureza da envolvente, são necessárias acções ousadas e abrangentes para conseguir atingir os objectivos da empresa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Quando confrontada com decisões com incerteza, a nossa empresa adopta tipicamente uma posição ousada para maximizar a probabilidade de explorar oportunidades. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Tipicamente, a nossa empresa adopta uma postura competitiva anti-concorrentes. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa é muito agressiva e competitiva. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**8. Comparativamente com os principais concorrentes, qual a posição da empresa nos seguintes aspectos:**
(Considere a escala: 1=Muito pior   4=Nem pior nem melhor   7=Muito melhor)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Aquisição de informação importante sobre tecnologia. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Identificação de novas oportunidades tecnológicas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Resposta a mudanças de tecnologia. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Domínio das tecnologias de ponta. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Constante desenvolvimento de inovações. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conhecimento da nossa equipa de gestão sobre línguas e normas estrangeiras. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conhecimento da nossa equipa de gestão sobre regulamentos e legislação de negócios internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conhecimento da nossa equipa de gestão sobre agências governamentais dos países estrangeiros onde a empresa actua. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conhecimento da nossa equipa de gestão sobre concorrentes estrangeiros. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conhecimento da nossa equipa de gestão sobre as necessidades dos clientes/consumidores estrangeiros. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conhecimento da nossa equipa de gestão sobre canais de distribuição nos mercados internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conhecimento da nossa equipa de gestão sobre marketing eficaz em mercados estrangeiros. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Experiência da nossa equipa de gestão em negócios internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Capacidade da nossa equipa de gestão para detectar oportunidades de negócio em mercados externos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Experiência da nossa equipa de gestão para lidar com contactos de negócios internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Capacidade da nossa equipa de gestão para gerir operações internacionais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**9. Indique o seu grau de concordância com as afirmações abaixo, sobre o seu sector:**
(Considere a escala: 1=Discordo totalmente   4=Nem concordo nem discordo   7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| A concorrência no nosso sector é muito intensa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Existem muitas guerras promocionais no nosso sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Tudo o que um concorrente consegue oferecer pode ser facilmente igualado pelos outros. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A competição pelo preço é uma característica marcante do nosso sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Ouve-se falar de novas jogadas competitivas quase diariamente. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os nossos concorrentes são relativamente fracos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| No nosso sector a tecnologia está a mudar rapidamente. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| As mudanças tecnológicas geram grandes oportunidades no nosso sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Grande parte das novas ideias de produtos/serviços no nosso sector têm sido possíveis através de avanços tecnológicos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os desenvolvimentos tecnológicos no nosso sector são bastante pequenos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Continuar mais tarde    << Anterior    Seguinte >>    Sair e limpar inquérito

SECÇÃO B - FACTORES INTERNOS

**1. Actualmente, como pode definir a sua posição na empresa?**
*Escolha uma das seguintes respostas*

Por favor, seleccione...

**2. Indique, por favor, o seu nível educacional completo mais elevado:**
*Escolha uma das seguintes respostas*

○ 4ª Classe ou menos
○ 9º Ano
○ Ensino Secundário Completo (12º Ano)
○ Curso Profissional ou Bacharelato
○ Licenciatura
○ Pós-Graduação ou Curso de Especialização
○ Mestrado
○ Doutoramento

**3. Quantas línguas estrangeiras fala fluentemente?**

*Neste campo só se aceitam números*

**4. Foi um dos fundadores desta empresa?**

○ Sim     ○ Não

**5. Com pode descrever a experiência dos fundadores em termos de:**
(Considere a escala: 1= Muito reduzida    4=Média    7=Muito elevada)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Gosto por viajar. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Experiência profissional no estrangeiro anterior à fundação da empresa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Experiência profissional anterior à fundação da empresa no mesmo sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Experiência profissional anterior à fundação da empresa em gestão. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Experiência profissional anterior à fundação da empresa em negócios de família. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Experiência educativa no estrangeiro (ex. Erasmus). | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**6. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Gosto de trabalhar em situações inconstantes. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A incerteza em torno da minha empresa impede-me de fazer o meu melhor. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Irrito-me quando acontecimentos inesperados estragam os meus planos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Eu gosto do desafio de situações de incerteza. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Estou sempre à procura de coisas que vão melhorar a minha vida. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Em qualquer situação, fui sempre um factor importante para a mudança construtiva. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Nada é mais excitante do que ver as minhas ideias tornarem-se realidade. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Se eu vejo algo de que não gosto, eu tento corrigi-lo. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Independentemente das probabilidades, se eu acreditar numa coisa, faço-a acontecer. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Eu adoro quando as minhas ideias vencem, mesmo quando contra outras visões. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Eu sou muito bom a identificar oportunidades. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Estou sempre à procura de melhores formas de fazer as coisas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Se acredito numa ideia, nenhum obstáculo me impedirá de a executar. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Eu consigo ver oportunidades muito antes de outros verem. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Surpreendo frequentemente as pessoas com as minhas novas ideias. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| As pessoas pedem-me frequentemente ajuda em actividades criativas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Obtenho maior satisfação em apresentar uma nova ideia do que dominar uma aptidão. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Prefiro um trabalho que requer pensamento original. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Não costumo continuar a fazer um novo trabalho exactamente da forma que me foi ensinado. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Prefiro um trabalho que exija capacidade de invenção em vez de habilidade e prática. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Não sou uma pessoa muito criativa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Gosto de experimentar várias formas de fazer a mesma coisa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**7. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
|---|---|---|---|---|---|---|---|
| A minha empresa tem interacções frequentes com outras entidades para adquirir nova informação. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão procura sistematicamente novas ideias de negócio. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão procura nova informação de forma sistemática, deliberada e activa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão procura regularmente nova informação através da leitura de publicações económicas e de negócios. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão procura regularmente nova informação através de pesquisa electrónica. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão revela uma boa capacidade para estabelecer ligações entre peças de informação aparentemente não relacionadas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| É frequente a equipa de gestão relacionar situações que ocorrem no seu dia-a-dia privado com a tomada de decisões no seu negócio. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão aplica situações ou práticas de outras empresas nas decisões do seu próprio negócio. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão da empresa consegue distinguir entre oportunidades lucrativas e oportunidades menos lucrativas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Quando a equipa de gestão da empresa está perante diversas oportunidades consegue seleccionar as melhores. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A avaliação de novas oportunidades de negócio já é algo natural para a empresa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão consegue reconhecer novas oportunidades de negócio em sectores ou mercados em que não tem qualquer experiência. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Ao longo dos anos, as novas oportunidades de negócio que a equipa de gestão identificou estavam pouco relacionadas entre elas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Reconhecer boas oportunidades requer normalmente a imersão num sector ou mercado específico. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Enquanto a equipa de gestão faz actividades do dia-a-dia, vê potenciais novas ideias por todo o lado. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão tem especial sensibilidade e estado de alerta para novas oportunidades. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Ver novas oportunidades de negócio é algo muito natural para a equipa de gestão. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**8. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente   4=Nem concordo nem discordo   7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| A equipa de gestão, em geral, concorda que a capacidade da nossa organização para aprender é crucial para a nossa vantagem competitiva. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os valores base da empresa incluem a aprendizagem como chave para a melhoria. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Existe a ideia na empresa de que a aprendizagem dos empregados é um investimento e não uma despesa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A aprendizagem na empresa é vista como algo necessário para garantir a sobrevivência da organização. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Existe uma comunhão dos objectivos por toda a nossa empresa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Existe uma partilha total da visão organizacional entre todos os níveis, funções e divisões da empresa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Todos os empregados estão empenhados nos objectivos desta organização. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os empregados vêem-se como parceiros na definição da orientação da empresa. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Não temos medo de reflectir criticamente acerca dos pressupostos básicos que fizemos sobre os nossos clientes. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os colaboradores da empresa consideram que a forma como o mercado é entendido deve ser questionada contínuamente. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Enquanto colectivo, a nossa empresa raramente coloca em questão o nosso negócio relativamente ao modo como interpretamos as informações dos clientes. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**9. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente   4=Nem concordo nem discordo   7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Na nossa empresa a pesquisa de informação relevante sobre o nosso sector é constante. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão motiva os empregados a usar fontes de informação dentro do nosso sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão espera que os empregados lidem com informação para além do nosso sector. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Na nossa empresa as ideias e conceitos são comunicados entre departamentos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão dá ênfase ao apoio entre departamentos para resolver problemas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Na nossa empresa existe um rápido fluxo de informação, ou seja, se um departamento obtém uma informação importante comunica-a rapidamente aos outros departamentos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão promove reuniões entre departamentos para partilha de novos desenvolvimentos, problemas e resultados. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os nossos empregados são usados para absorver novos conhecimentos, bem como para os prepararem para outras finalidades e para os tornar disponíveis. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os nossos empregados têm a capacidade de estruturar e usar o novo conhecimento recolhido. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os nossos empregados relacionam com sucesso o conhecimento existente com novas informações. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Os nossos empregados estão aptos a aplicar novo conhecimento no seu trabalho prático. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão apoia o desenvolvimento de protótipos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa reutiliza tecnologias e adapta-as ao novo conhecimento existente com regularidade. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa tem a capacidade de trabalhar de forma eficaz quando adopta novas tecnologias. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

*SECÇÃO C - INTERNACIONALIZAÇÃO*

**1. Em que ano é que, pela primeira vez, a empresa gerou receitas (vendas de produtos, prestação de serviços, receitas de outras formas contratuais, etc) com as suas actividades internacionais?**

*Neste campo só se aceitam números*

**2. Qual a primeira forma de actividade internacional usada pela empresa?**
*Escolha uma das seguintes respostas*

○ Exportação

○ Contratos de licença

○ Contratos de franchising

○ Sub-contratação da produção no estrangeiro

○ Acordos internacionais para desenvolvimento de produtos ou serviços

○ Escritórios comerciais

○ Subsidiárias detidas em parceria (Joint ventures)

○ Subsidiárias detidas totalmente pela empresa

**3. Classifique o grau de concordância com as afirmações seguintes, considerando o período antes de a vossa empresa iniciar as vendas dos produtos e serviços em mercados internacionais:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Procurámos activamente informação sobre as condições de mercado, procura do mercado ou grau de concorrência em um ou mais mercados estrangeiros. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Alocámos recursos humanos e financeiros significativos às operações de vendas para o estrangeiro. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Nós modificámos de forma significativa produtos, embalagens ou serviços para responder às necessidades dos clientes em mercados estrangeiros. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**4. A sua empresa realiza pelo menos 25% do seu Volume de Negócios anual em mercados internacionais?**

○ Sim    ○ Não

**6. Actualmente, quais os modos de actividade internacional que a vossa empresa utiliza (respostas múltiplas permitidas):**
*Seleccione todas as que se apliquem*

☐ Exportação

☐ Contratos de licença

☐ Contratos de franchising

☐ Sub-contratação da produção no estrangeiro

☐ Acordos internacionais para desenvolvimento de produtos ou serviços

☐ Escritórios comerciais

☐ Subsidiárias detidas em parceria (Joint ventures)

☐ Subsidiárias detidas totalmente pela empresa

**7. Qual o número de mercados internacionais para os quais exporta regularmente?**

*Neste campo só se aceitam números*

**8. Qual o número de países em que actua regularmente através de outros modos de actividade internacional para além da exportação?**

*Neste campo só se aceitam números*

**9. Indique o grau de importância que os vários motivos apresentados abaixo tiveram para o processo de internacionalização da sua empresa:**
(Considere a escala: 1=Nada importante    4=Importância média    7=Muito importante)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Suportar o processo de crescimento da empresa; | O | O | O | O | O | O | O |
| Utilização da capacidade produtiva existente; | O | O | O | O | O | O | O |
| Utilização dos conhecimentos existentes; | O | O | O | O | O | O | O |
| Acesso a capacidade produtiva em melhores condições nos países de destino; | O | O | O | O | O | O | O |
| Resposta à reduzida dimensão do mercado doméstico; | O | O | O | O | O | O | O |
| Facilitar a prestação de serviços de suporte aos clientes dos países de destino; | O | O | O | O | O | O | O |
| Resposta a pedidos colocados por empresas estrangeiras ou clientes importantes; | O | O | O | O | O | O | O |
| Diversificar os riscos "apostando" em diversos mercados; | O | O | O | O | O | O | O |
| Procura de mercados em que o nosso produto seja mais competitivo; | O | O | O | O | O | O | O |
| Obtenção de capital nos mercados de destino; | O | O | O | O | O | O | O |
| Desenvolvimento de novos produtos; | O | O | O | O | O | O | O |
| Desenvolvimentos de novos processos produtivos ou de prestação de serviços; | O | O | O | O | O | O | O |
| Desenvolvimentos de novos segmentos de mercado; | O | O | O | O | O | O | O |
| Desenvolvimento de novos modelos de negócio; | O | O | O | O | O | O | O |
| Acesso a novo conhecimento através de alianças estratégicas; | O | O | O | O | O | O | O |
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| Acesso a conhecimentos tecnológicos ou I&D existentes nos países de destino; | O | O | O | O | O | O | O |
| Acesso a outros tipos de conhecimento existentes nos países de destino; | O | O | O | O | O | O | O |
| Resposta aos movimentos da concorrência. | O | O | O | O | O | O | O |

**10. Qual a importância das relações da equipa de gestão com os grupos de pessoas abaixo descritos, para o processo de internacionalização da empresa?**
(Considere a escala: 1=Nada importante    4=Importância intermédia    7=Totalmente importante)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Pessoas chave em clientes internacionais; | O | O | O | O | O | O | O |
| Pessoas chave em fornecedores; | O | O | O | O | O | O | O |
| Membros da equipa de gestão de outras empresas (ex.: complementadores, concorrentes); | O | O | O | O | O | O | O |
| Pessoas em instituições governamentais nacionais que apoiam internacionalização; | O | O | O | O | O | O | O |
| Pessoas em instituições internacionais que apoiam internacionalização (ex.: UNCTAD, UE, OMC); | O | O | O | O | O | O | O |
| Pessoas de empresas nacionais com acesso a redes internacionais de distribuição; | O | O | O | O | O | O | O |
| Pessoas em empresas de distribuição nos mercados internacionais de destino; | O | O | O | O | O | O | O |
| Pessoas chave em associações empresariais ou industriais; | O | O | O | O | O | O | O |
| Cientistas, investigadores e professores universitários; | O | O | O | O | O | O | O |
| Pessoas chave em bancos e outras instituições financeiras; | O | O | O | O | O | O | O |
| Pessoas com conhecimento dos mercados internacionais, em termos globais; | O | O | O | O | O | O | O |
| Pessoas das relações pessoais com conhecimento dos países de destino; | O | O | O | O | O | O | O |
| Pessoas com conhecimento de mercado nos países de destino; | O | O | O | O | O | O | O |
| Pessoas das relações pessoais, a viver nos países de destino; | O | O | O | O | O | O | O |
| Pessoas de anteriores relações profissionais, a viver nos países de destino. | O | O | O | O | O | O | O |

**11. Qual o principal mercado internacional da vossa empresa (maior peso no Volume de Negócios)?**

**12. Avalie o ambiente competitivo do sector da sua empresa no mercado nacional e no principal mercado internacional, nos últimos 3 anos, considerando as dimensões apresentadas abaixo:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | Mercado Doméstico | | | | | | | Principal Mercado Internacional | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Ambiente competitivo muito seguro, não ameaça à sobrevivência e bem-estar da minha empresa. | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| As iniciativas da minha empresa contam muito pouco contra a elevada concorrência ou forças políticas e tecnológicas. | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| Ambiente competitivo muito stressante, exigente, hostil, e muito difícil manter a empresa "à tona". | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| A minha empresa tem que mudar as práticas de marketing com elevada frequência (mais de uma vez por ano). | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| Os produtos ou serviços caem em desuso muito rapidamente no nosso sector. | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| As acções dos concorrentes são imprevisíveis. | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| O nível da procura e os gostos dos consumidores são quase imprevisíveis. | O | O | O | O | O | O | O | O | O | O | O | O | O | O |
| A tecnologia de produção/serviço não está sujeita a muitas alterações e está bem estabelecida. | O | O | O | O | O | O | O | O | O | O | O | O | O | O |

**13. Como classifica a frequência com que se verificam as situações apresentadas abaixo:**
(Considere a escala: 1=Frequência reduzida    4=Frequência média    7=Frequência elevada)

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Participação em feiras internacionais para estabelecer contactos com clientes internacionais; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Participação noutros eventos para estabelecer contactos com clientes internacionais; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Visitas a clientes internacionais; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Visitas a fornecedores internacionais; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Relação com instituições nacionais de apoio à internacionalização; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Relação com instituições internacionais de apoio à internacionalização. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**14. Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Vender produtos ou prestar serviços em mercados estrangeiros implica elevado risco; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A exportação é uma oportunidade importante para a minha empresa; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A actividade internacional é algo de positivo para o meu negócio; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A minha emporesa tem uma elevada probabilidade de sucesso nos mercados estrangeiros; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conseguimos novos clientes internacionais através de clientes já estabelecidos; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conseguimos novos clientes internacionais através de fornecedores; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conseguimos novos clientes internacionais através de concorrentes; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conseguimos novos clientes internacionais através de intermediários nacionais; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conseguimos novos clientes internacionais através de intermediários nos mercados de destino; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Conseguimos novos clientes internacionais através da nossa participação em associações e redes empresariais. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Continuar mais tarde        << Anterior    Seguinte >>        Sair e limpar inquérito

*SECÇÃO D - DECISÕES ESTRATÉGICAS*

**Indique o grau de importância que a sua empresa deu aos métodos competitivos apresentados abaixo, nos últimos 3 anos:**
(Considere a escala: 1=Sem importância    4=Importância média    7=Importância elevada e constante)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| I&D de novos produtos ou serviços; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Marketing de novos produtos ou serviços; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Venda de produtos ou serviços de preço elevado; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Obtenção de patentes ou direitos de autor; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Técnicas de marketing inovadoras; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Construção de identidade de marca/empresa; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Programas de publicidade ou promoção; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Garantir canais de distribuição confiáveis; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Melhorar produtos ou serviços existentes; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Produzir uma ampla gama de produtos; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Melhorar a eficiência e a produtividade; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Desenvolver novos processos de produção; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Melhorar os processos de produção existentes; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Reduzir os custos totais; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Reduzir os custos de produção; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Rigoroso controlo de qualidade dos produtos ou serviços; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Benchmarking com os melhores processos produtivos do sector; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Benchmarking com os melhores processos produtivos existentes (de outros sectores); | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Resolução imediata dos problemas dos clientes; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Melhoria dos produtos ou serviços baseada na identificação de lacunas na resposta às expectativas dos clientes; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Novos serviços aos clientes; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Melhoria dos serviços actualmente prestados aos clientes; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Melhoria do desempenho da força de vendas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Indique o seu grau de concordância com as afirmações abaixo:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| A nossa empresa dá muita atenção à inovação. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa dá ênfase à necessidade de inovação para se conseguir desenvolver. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A nossa empresa dá muita atenção ao desenvolvimento e utilização de novos recursos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| A equipa de gestão da nossa empresa atrevem-se a inovar e assumir riscos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Para dar resposta às mudanças da envolvente, a estratégia da sua empresa dá mais destaque a:**
(Considere a escala: 1=Discordo totalmente    4=Nem concordo nem discordo    7=Concordo totalmente)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Flexibilidade na distribuição de recursos de marketing (como publicidade, promoção e distribuição) para comercializar linhas de produtos ou serviços diferentes. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Flexibilidade na distribuição de recursos de produção para produzir uma ampla gama de variações de produtos ou serviços. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Flexibilidade de design de produtos (tal como desenho modular de produtos) para dar suporte a uma ampla gama de aplicações potenciais dos produtos (ou serviços). | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Redefinição das estratégias de produto: podendo afectar os produtos ou serviços que a empresa oferece e os segmentos alvo a que se dirige. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Reconfiguração das combinações de recursos que a empresa pode usar no desenvolvimento, produção e entrega dos produtos ou serviços aos mercados-alvo. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Redistribuir os recursos organizacionais de forma eficaz para apoiar as estratégias de produto pretendidas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

| Continuar mais tarde | | << Anterior | Seguinte >> | | Sair e limpar inquérito |
|---|---|---|---|---|---|

*SECÇÃO E - RESULTADOS*

**Qual o desempenho da sua empresa comparativamente com os seus principais concorrentes nos seguintes aspectos:**
(considere a escala:    1=Muito pior    4=Nem melhor nem pior    7=Muito melhor)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Crescimento do volume de negócios. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Crescimento do número de trabalhadores. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Quota de mercado. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Resultados brutos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Resultados líquidos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Inovação nos produtos e serviços. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Velocidade de desenvolvimento de novos produtos e serviços. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Qualidade dos produtos e serviços. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Controlo de custos. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Satisfação dos clientes. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Indique o seu grau de satisfação com as actividades internacionais da sua empresa, durante os últimos 3 anos, nas dimensões referidas abaixo:**
(considere a escala:    1=Muito insatisfeito    4=Nem satisfeito nem insatisfeito    7=Muito satisfeito)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Volume de negócios; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Quota de mercado; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Rendibilidade; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Entrada em novos mercados; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Desenvolvimento de imagem; | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Desenvolvimento de conhecimento. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**ASPECTOS FINAIS**
(considere a escala:    1=Muito reduzido    4=Nem reduzido nem elevado    7=Muito elevado)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Indique por favor o seu grau de conhecimento sobre as questões apresentadas. | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Qual o grau de alteração das respostas ao inquérito pelo facto de estarmos actualmente numa crise aconómica? | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Indique por favor o seu interesse em receber:**

| | Sim | Não |
|---|---|---|
| Dois convites para a conferência de apresentação dos resultados deste estudo. | ○ | ○ |
| Relatório com as conclusões do presente estudo | ○ | ○ |

Continuar mais tarde    << Anterior    Submeter    Sair e limpar inquérito

Muito obrigado pela sua colaboração neste estudo!
O questionário está completo!

A sua participação é um contributo essencial para a realização deste trabalho.

Com os meus melhores cumprimentos,
Nuno Fernandes Crespo

## 9.8 Appendix 8: Individual Measurement Models

### 9.8.1 Entrepreneur Antecedents

#### 9.8.1.1 Risk Perception

To begin the analysis of the risk perception construct, and following the procedure presented before, the reliability test (using the Cronbach's alpha reliability coefficient) was calculated using SPSS. Results suggest the removal of the reverse-coded item **RP_it1R**, since its removal improved the Cronbach's $\alpha$ from 0.56 to 0.84.

With the purpose of assessing the psychometric properties of this construct, a CFA was performed in LISREL 8.8. As presented in Table 9.1, results for the three-item model are consistent with the underlying theory (Bagozzi & Yi, 1988; Hair et al., 2009), since the parameter estimates present the correct signs and sizes. On the other hand, standard errors were not very large.

**Table 9.1: Confirmatory Factor Analysis for Risk Perception (RP)**

| Items | Description | Standardized Factor Loadings | T-Values |
|-------|-------------|------------------------------|----------|
| RP_it1R | Selling products or services in foreign markets implies high risk[a]. | | |
| RP_it2 | Exports are an important opportunity for my firm. | 0.90 | 17.09 |
| RP_it3 | International activity is a positive thing in my business | 0.91 | 23.43 |
| RP_it4 | My firm has a high probability of success in foreign markets | 0.74 | 16.63 |
| **Cronbach's Alpha** | | **0,84** | |
| **Composite Reliability** | | **0,90** | |
| **Average Variance Extracted** | | **0,75** | |

Notes:    R - reverse coded.
          [a] – This item was deleted during the scale purification process.

In the next paragraphs, the issues related with dimensionality, convergent validity, reliability and discriminant validity are assessed.

**Unidimensionality**

The fact that the three items of risk perception present high ($\geq 0.74$) and significant loadings seems to be a first good sign supporting this construct unidimensionality. With three items, the measurement model for risk perception was just-identified and its fit could not be evaluated. Nevertheless, the observation of the matrix of standardized residuals do not contain any value above 2.58 (Gerbing & Anderson, 1988), and thus it is possible to suggest the nonexistence of major threats to unidimensionality of this construct.

**Convergent Validity**

Again, each of the three retained items loaded strongly onto the risk perception latent variable (≥0.74), presenting values that are higher than the cutoffs of 0.60 or 0.70 recommended by the literature (Bagozzi & Yi, 1988, 2012). As referred by Anderson and Gerbing (1988), the coefficients are greater than twice their standard errors, therefore suggesting support for convergent validity.

Additionally, the fact that all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70, reinforces the support of convergent validity (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991).

**Reliability Tests**

As already mentioned, Cronbach's alpha is above the cutoff of 0.70 recommended by Nunnally (1978), suggesting adequate reliability. Complementarily, the composite reliability ($\rho_c$) of risk perception is 0.90, clearly above the 0.60 cutoff referred by Bagozzi and Yi (1988) and also above the more frequently used threshold value of 0.70 (Hair et al., 2009), supporting the construct's good reliability.

**Discriminant Validity**

It is possible to access the discriminant validity analyzing both the average variance extracted (AVE) and also comparing the AVE from any two constructs with the square of the correlation estimate ($r^2$) between those two constructs (Fornell & Larcker, 1981).

The AVE of this construct is 0.75, which is above the 0.50 minimum proposed by Fornell and Larcker (1981). On the other hand, the results presented in Table 5.16, also support the verification of discriminant validity for the construct of risk perception, since the squared root of risk perception's AVE is higher than all the correlation between this construct and the other constructs included in the model (Hair et al., 2009; Ping, 2004).

## 9.8.2  Industry Antecedents

### 9.8.2.1  Competitive Intensity

The reliability test (using the Cronbach's alpha reliability coefficient) of the competitive intensity construct, suggest the removal of **CI_it6R**. This suggestion was supported by an increase of Cronbach's $\alpha$ from 0.74 to 0.82.

Next, an initial CFA was performed, in order to assess the psychometric properties of this construct (see Table 9.2). This procedure resulted in the removal of the item CI_it3, since the factor loading is inferior to the cutoff of 0.70 (the factor loading was 0.50).

**Table 9.2: Confirmatory Factor Analysis for Competitive Intensity (CI)**

| Items | Description | Standardized Factor Loadings | | T-Values |
| --- | --- | --- | --- | --- |
| | | Initial | Final | |
| CI_it1 | Competition in our industry is cutthroat. | 0.75 | 0.76 | 17.06 |
| CI_it2 | There are many "promotion wars" in our industry. | 0.84 | 0.87 | 20.30 |
| CI_it3 | Anything that one competitor can offer, others can match readily. [a] | 0.50 | | |
| CI_it4 | Price competition is a hallmark of our industry. | 0.71 | 0.68 | 14.59 |
| CI_it5 | One hears of a new competitive move almost every day. | 0.72 | 0.71 | 15.49 |
| CI_it6R | Our competitors are relatively weak. [a] | - | | |
| **Cronbach's Alpha** | | | **0.83** | |
| **Composite Reliability** | | | **0.89** | |
| **Average Variance Extracted** | | | **0.66** | |

**Goodness-of-fit Indexes:**
$\chi^2$ = 28.37 (p=0.000); df = 2; $\chi^2$/df = 14.18
RMSEA=0.178; SRMR=0.038; NFI=0.96; NNFI=0.90; CFI=0.97; IFI=0.97; RFI=0.87; GFI=0.97;AGFI=0.83

Notes: R - reverse coded.
[a] – This item was deleted during the scale purification process.

In the next paragraphs, the issues related with dimensionality, convergent validity, reliability and discriminant validity are assessed.

**Unidimensionality**

After this procedure, the four items retained present high and significant loadings ($\geq 0.68$), above cutoffs of 0.60 or 0.70 recommended by the literature (Bagozzi & Yi, 1988, 2012). On the other hand, the majority of the model fit indexes presented by LISREL are reasonable, considering all the established thresholds. Although RMSEA, chi-square statistic and the ratio chi-square per degrees of freedom are higher than desirable, all the other indices (SRMR, NFI, NNFI, CFI, IFI, RFI, GFI and AGFI) give an indication of good fit.

On the other hand the analysis of the matrix of standardized residuals contains only two absolute values above 2.58 and only two modification indices, hence suggesting the absence of major threats to unidimensionality of competitive intensity (Gerbing & Anderson, 1988; Hair et al., 2009).

Consequently, taken collectively these three aspects give support to competitive intensity unidimensionality.

**Convergent Validity**

Both, the fact that the four items loaded strongly onto the competitive intensity latent variable ($\geq 0.68$), and the good overall fit of the model, are reasons for supporting the convergent validity of the competitive intensity construct (Hair et al., 2009).

In addition, the coefficients are greater than twice their standard errors (Anderson & Gerbing, 1988), all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991). All together, these results support convergent validity.

**Reliability Tests**

The Cronbach's alpha ($\alpha$) of this competitive intensity construct is 0.83, and the composite reliability ($\rho_c$) is 0.89, values that are higher than the thresholds of 0.70 (Nunnally, 1978) and 0.60 (Bagozzi & Yi, 1988), respectively. These results support competitive intensity reliability.

**Discriminant Validity**

The AVE of competitive intensity is 0.66, value that is above the 0.50 thresholds suggested by Fornell and Larcker (1981). Complementarily, comparing the square root of the AVE of this latent variable ($\rho_V=0.66$) with all the correlations between this and the other latent variables included in the model (see Table 5.16), it is possible to conclude that square root of AVE of this latent variable is higher, thus supporting competitive intensity discriminant validity (Hair et al., 2009; Ping, 2004).

### 9.8.2.2 Technological Turbulence

Starting the analysis of the construct of technological turbulence, the reliability test performed (Cronbach's alpha) suggest the removal of **TT_it4R**, based in the proposed increase of Cronbach's $\alpha$ from 0.83 to 0.88. In a second moment, a CFA was performed in order to assess the unidimensionality, reliability and both convergent and discriminant validity of this construct (see Table 9.3). In the next paragraphs, those issues are assessed.

## Unidimensionality

The three items retained to measure technological turbulence present high and significant loadings ($\geq$0.72), above criterion of 0.60-0.70 recommended (Bagozzi & Yi, 1988, 2012), thus supporting technological turbulence unidimensionality. Since only three items were retained to measure technological turbulence, the measurement model for this construct was just-identified and its fit could not be evaluated. Even so, the analysis of the matrix of standardized residuals does not contain any absolute value above |2.58| and any modification indices, hence suggesting the absence of threats to technological turbulence unidimensionality (Gerbing & Anderson, 1988; Hair et al., 2009). Together these results support technological turbulence unidimensionality.

**Table 9.3: Confirmatory Factor Analysis for Technological Turbulence (TT)**

| Items | Description | Standardized Factor Loadings | T-Values |
|---|---|---|---|
| TT_it1 | The technology in our industry is changing rapidly. | 0.72 | 16.50 |
| TT_it2 | Technological changes provide big opportunities in our industry. | 0.89 | 21.83 |
| TT_it3 | A large number of new product ideas have been made possible through technological breakthroughs in our industry. | 0.92 | 22.92 |
| TT_it4R | Technological developments in our industry are rather minor. [a] | | |
| **Cronbach's Alpha** | | **0,88** | |
| **Composite Reliability** | | **0,88** | |
| **Average Variance Extracted** | | **0,72** | |

Notes:   R - reverse coded.
[a] – This item was deleted during the scale purification process.

## Convergent Validity

Results provide support for technological turbulence convergent validity. First, the three items loaded strongly onto the latent variable ($\geq$0.72), above the criterion of 0.60-0.70 referred by Bagozzi and Yi (1988, 2012).The coefficients are greater than twice their standard errors (Anderson & Gerbing, 1988), and all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991). These results support convergent validity.

## Reliability Tests

Both the Cronbach's alpha ($\alpha$), and the composite reliability ($\rho_c$) values for technological turbulence construct are 0.88, values that are higher than the thresholds of 0.70 for the Cronbach's alpha (Nunnally, 1978), and 0.60 for the composite reliability (Bagozzi & Yi, 1988). These results support the reliability of the technological turbulence construct.

**Discriminant Validity**

The average variance extracted (AVE) of technological turbulence is 0.72, which is above the 0.50 cutoff (Fornell & Larcker, 1981). Comparing the square root of AVE of this latent variable with all the correlations between this and the other latent variables included in the model (see Table 5.16 and Table 5.17), it is possible to conclude that the variance extracted is higher, thus supporting technological turbulence discriminant validity (Hair et al., 2009; Ping, 2004).

## 9.8.3  Firm Antecedents

### 9.8.3.1  Firm Resources

With the purpose of analyzing the firm resources, an initial CFA was performed, in order to assess the psychometric properties of this construct (see Table 9.4). This procedure resulted in the removal of the items **FR_it2** and **FR_it5**, since its factor loadings were below the 0.60 cutoff recommended by the literature (Bagozzi & Yi, 1988, 2012).

**Table 9.4: Confirmatory Factor Analysis for Firm Resources (FR)**

| Items | Description | Standardized Factor Loadings | | T-Values |
|---|---|---|---|---|
| | | Initial | Final | |
| FR_it1 | The specialized expertise of the firm was above the industry average. | 0.70 | 0.71 | 14.56 |
| FR_it2 | Firm capital was above the industry average. [a] | 0.57 | | |
| FR_it3 | The operational management capability of the company was above the industry average. | 0.79 | 0.74 | 15.19 |
| FR_it4 | The reputation of the company was above the industry average. | 0.74 | 0.79 | 16.20 |
| FR_it5 | The cooperative alliance experience of the company was above the industry average. [a] | 0.52 | | |
| **Cronbach's Alpha** | | | **0.79** | |
| **Composite Reliability** | | | **0.82** | |
| **Average Variance Extracted** | | | **0.56** | |

Notes:    [a] – This item was deleted during the scale purification process.

Next, the issues related with dimensionality, convergent validity, reliability and discriminant validity of the firm resources construct are assessed.

**Unidimensionality**

The three items retained present high and significant loadings ($\geq 0.71$), above the 0.60 - 0.70 cutoffs recommended (Bagozzi & Yi, 1988, 2012), thus suggesting the construct unidimensionality.

Nevertheless, since the matrix of standardized residuals does not present any absolute value above |2.58| and also any suggestion of modification indices, there are no threats to firm resources unidimensionality (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988; Hair et al., 2009).

**Convergent Validity**

As already referred, the fact that the three items retained loaded strongly onto the firm resources latent variable (≥0.71), suggest also support for the construct convergent validity (Hair et al., 2009). Also, the coefficients are greater than twice their standard errors (Anderson & Gerbing, 1988), all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991). All together, these results support firm resources convergent validity.

**Reliability Tests**

Concerning firm resources reliability tests, the Cronbach's alpha value is 0.79, which is above the 0.70 cutoff (Nunnally, 1978), suggesting adequate reliability. In addition, as presented in Table 9.4, the composite reliability ($\rho_c$) of firm resources is clearly above the 0.60 cutoff (Bagozzi & Yi, 1988) and also above the more frequently used threshold value of 0.70 (Hair et al., 2009), providing confirmation of construct's good reliability.

**Discriminant Validity**

The results also support the construct's discriminant validity. First, the average variance extracted (AVE) of the construct is 0.56, which is above the 0.50 cutoff (Fornell & Larcker, 1981). On the other hand, the square root of AVE is higher than the correlations between this and the other latent variables included in the model (see Table 5.16 and Table 5.17). These results support firm resources discriminant validity (Hair et al., 2009; Ping, 2004).

### 9.8.3.2  Management Capabilities

To begin the analysis related with the construct of management capabilities, the result of the reliability test (using Cronbach's alpha reliability coefficient) is 0.91[4], and does not suggest the removal of any item.

Next, a CFA was executed on the items of management capabilities in order to assess the psychometric properties of the construct (Bagozzi & Yi, 2012). The results of the initial six-

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[4] This was the Cronbach's alpha before dropping the items MC_it5 and MC_it2.

item model are consistent with the theory (Bagozzi & Yi, 1988; Hair et al., 2009), since the parameter estimates present the correct signs and sizes, and the standard errors were not very large (see Table 9.5). Next, the issues related with dimensionality, convergent validity, reliability, and discriminant validity are assessed.

**Table 9.5: Confirmatory Factor Analysis for Management Capabilities (MC)**

| Items | Description | Standardized Factor Loadings | T-Values |
|---|---|---|---|
| MC_it1 | Employees' skills and knowledge can be fully and effectively utilized. | 0.71 | 0.68 | 14.89 |
| MC_it2 | Employees have a strong organizational commitment and sense of belonging. | 0.82 | | |
| MC_it3 | Employees are able to discuss operational issues in an open, sincere and constructive manner. | 0.80 | 0.81 | 18.87 |
| MC_it4 | Employees are encouraged and supported to innovate. | 0.82 | 0.80 | 18.44 |
| MC_it5 | Managers will seek for, and accept, ideas relating to organizational transformation. | 0.69 | | |
| MC_it6 | Achievement of high performance goals and standards is sought by employees at all levels. | 0.83 | 0.84 | 19.76 |
| **Cronbach's Alpha** | | **0.87** | |
| **Composite Reliability** | | **0.86** | |
| **Average Variance Extracted** | | **0.62** | |

**Goodness-of-fit Indexes:**
$\chi^2$= 1.43 (p=0.48899); df=2; $\chi^2$/df=0.72; RMSEA=0.0; SRMR=0.007; NFI=1.00; NNFI=1.00; CFI=1.00; IFI=1.00; RFI=1.00; GFI=1.00

## Unidimensionality

The initial six items of management capabilities present high and significant loadings (≥0.69), and therefore support the unidimensionality of this construct. Still, the examination of the matrix of standardized residuals reveals some values above |2.58|, and some modification indices above 5.0 (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988; Hair et al., 2009). These results suggest that items **MC_it5** and **MC_it2** threat the management capabilities construct unidimensionality. The option was, therefore, to discard these problematic items and re-run the measurement model of management capabilities again (Hair et al., 2009).

Subsequently, the four items retained present high and significant loadings (≥0.68), and a new examination of the matrix of standardized residuals does not reveal any problematic value above |2.58|, and neither any value of modification indices (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988).

Finally, the analysis of the model fit indexes also support the management capabilities unidimensionality, since the null hypothesis concerning the chi-square test is rejected at

p=0.489[5], and all the other indices (SRMR, NFI, NNFI, CFI, IFI, RFI, and GFI) give an indication of good fit.

For that reasons, all the arguments strengthen the unidimensionality of management capabilities.

**Convergent Validity**

As presented before, the fact that the four items loaded strongly on the management capabilities construct ($\geq$0.68) and, also, the good overall fit of the model, are reasons for support both the unidimensionality and the convergent validity of this construct (Hair et al., 2009).

On the other hand, since the coefficients are greater than twice their standard errors (Anderson & Gerbing, 1988), all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991), reinforce the evidence of convergent validity.

**Reliability Tests**

The Cronbach's alpha ($\alpha$) of the management capabilities construct, considering the retained four-items, is 0.87 (above the 0.70 cutoff suggested by Nunnally (1978)). The reliability of this construct is also reinforced by the composite reliability ($\rho_c$=0.86), which is also higher than the thresholds of 0.60 (Bagozzi & Yi, 1988).

**Discriminant Validity**

The average variance extracted of management capabilities (AVE=0.62) is higher than 0.50, thus providing support for discriminant validity, according to Fornell and Larcker (1981) criterion.

This conclusion is reinforced by the comparison between the square root of AVE of this latent variable and all the correlations between this and the other latent variables included in the model (see Table 5.16 and Table 5.17). The management capabilities square root of AVE is higher than the correlations with other variables, thus supporting discriminant validity (Hair et al., 2009; Ping, 2004).

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[5] As already mentioned, in SEMs a good fit is obtained when Chi-square statistic is non-significant, which happens for p-values>0.05.

### *9.8.3.3 Foreign Market Knowledge*

Since the construct of foreign market knowledge was originally presented as a second-order factor (Eriksson et al., 1997; Zhou, 2007), it was performed a CFA, organizing the items on the original three low-order dimensions (see Table 9.6): foreign institutional knowledge (FIK), foreign business knowledge (FBK), and internationalization knowledge (IK). The results of CFA, and the results of the reliability tests using Cronbach's alpha reliability, do not suggest the removal of any item (FIK=0.85; FBK=0.90; IK=0.95)[6].

The results of the eleven-item model, organized in the three correspondent dimensions, present the parameter estimates with the correct signs and sizes, and with standard errors not very large (Bagozzi & Yi, 1988; Hair et al., 2009). The topics related with dimensionality, convergent validity, reliability and discriminant validity of this construct are judged in the following paragraphs.

**Unidimensionality**

To achieve unidimensionality, the latent variable foreign market knowledge, needs to have three low-order unidimensional dimensions. Thus, the unidimensionality of the first-order dimensions must be tested and, also, it must be tested if the unidimensionality holds in the second-order construct (Steenkamp & van Trijp, 1991).

To assess this issue, second-order CFA was performed in order to clarify if there is support for the second-order factor structure, and also to check the unidimensionality of each of the three first-order dimensions (FIK, FBK and IK). In a first glance, the initial eleven items of foreign market knowledge, present high and significant loadings on the specific dimensions or first-order factors they are supposed to measure ($\geq$0.78). These loadings are above the threshold of 0.70 (Bagozzi & Yi, 1988, 2012), consequently supporting the unidimensionality of these three dimensions: FIK, FBK, and IK.

Complementarily, it is necessary to examine possible threats to unidimensionality, which can be identified through the identification of standardized residuals above |2.58| (Gerbing & Anderson, 1988; Hair et al., 2009; Steenkamp & van Trijp, 1991) and also modification indices above 5.0 (Anderson & Gerbing, 1988). Actually, analyzing the matrix of standardized residuals it was possible to identify several values above |2.58| (Gerbing & Anderson, 1988; Hair et al., 2009), and also, several modification indices above 5.0 (Anderson & Gerbing, 1988). In order to surpass these problems, it was decided to drop the items **FMK_it10** and

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[6] These were the Cronbach's alpha before dropping the items FMK_it10 and FMK_it7.

**FMK_it7**, and subsequently the measurement model of second-order construct foreign market knowledge was again re-run (Hair et al., 2009).

**Table 9.6: Confirmatory Factor Analysis for Foreign Market Knowledge (FMK)**

| Items | Description | Initial | Standardized Factor Loadings | | | T-Values |
|---|---|---|---|---|---|---|
| | | | Foreign Institutional Knowledge | Foreign Business Knowledge | Internationalization Knowledge | |
| FMK_it1 | Our top managers' knowledge about foreign language and norms. | 0.79 | 0.79 | | | 18.56 |
| FMK_it2 | Our top managers' knowledge about foreign business laws and regulations. | 0.91 | 0.91 | | | 23.28 |
| FMK_it3 | Our top managers' knowledge about host government agencies. | 0.78 | 0.78 | | | 18.48 |
| FMK_it4 | Our top managers' knowledge about foreign competitors. | 0.83 | | 0.84 | | 20.38 |
| FMK_it5 | Our top managers' knowledge about the needs of foreign clients/customers. | 0.81 | | 0.83 | | 19.72 |
| FMK_it6 | Our top managers' knowledge about foreign distribution channels. | 0.89 | | 0.87 | | 22.93 |
| FMK_it7 | Our top managers' knowledge about effective marketing in foreign markets.[a] | 0.83 | | | | |
| FMK_it8 | Our top managers' international business experience. | 0.90 | | | 0.93 | 23.59 |
| FMK_it9 | Our top managers' ability in determining foreign business opportunities. | 0.88 | | | 0.88 | 22.82 |
| FMK_it10 | Our top managers' experience in dealing with foreign business contacts. [a] | 0.94 | | | | |
| FMK_it11 | Our top managers' capability for managing international operations. | 0.93 | | | 0.89 | 24.74 |
| **Cronbach's Alpha** | | | **0.85** | **0.87** | **0.93** | |
| **Composite Reliability** | | | **0.87** | **0.88** | **0.93** | |
| **Average Variance Extracted** | | | **0.69** | **0.72** | **0.81** | |
| **Coefficient from fist-order factor ($\Upsilon$)** | | | **0.90** | **0.98** | **0.88** | |
| **Standard-error** | | | **0.06** | **0.05** | **0.05** | |
| **T-Value** | | | **16.46** | **19.58** | **19.57** | |
| **Relationship between Factors** | | | **FIK $\leftrightarrow$ FBK** | **FIK $\leftrightarrow$ IK** | **FBK $\leftrightarrow$ IK** | |
| **Correlation between Factors** | | | **0.88** | **0.79** | **0.86** | |
| $\chi^2$ **Differences for Standard vs 'NonDiscriminant' CFA Models ($\Delta$df=1, p=.000)** | | | **63.01** | **167.35** | **184.97** | |

**Goodness-of-fit Indexes:**
$\chi^2 = 69.82$ (p=0.000); df = 24; $\chi^2$/df = 2.91
    RMSEA=0.07; SRMR=0.025; NFI=0.99; NNFI=0.99; CFI=0.99; IFI=0.99; RFI=0.98; GFI=0.97;AGFI=0.94

Notes:   [a] – This item was deleted during the scale purification process.

After this procedure, each of the first-order dimensions was measured through three items, and all the nine items retained present high and significant loadings ($\geq 0.78$). Complementarily, a new observation of the matrix of standardized residuals does not reveal any major threat to the unidimensionality of each of three dimensions of foreign market knowledge, FIK, FBK, and IK.

Also, the overall model fit statistics are within the generally accepted cutoffs, and suggest a excellent goodness-of-fit (see Table 9.6). Although the chi-square test is significant ($\chi^2$ = 69.82, p=0.000), the ratio chi-square/degree of freedom is below 3.0 (df=24, $\chi^2$/df=2.91), what indicates an acceptable fit (Iacobucci, 2010; Kline, 2005). In addition, all the other indices indicate good fit, namely: RMSEA=0.07, SRMR = 0.025, GFI=0.97, AGFI=0.94, NFI=0.99, NNFI=0.99, IFI=0.99 and RFI=0.98.

In conclusion, all the elements presented before support the unidimensionality of the three dimensions of foreign market knowledge, and also the second-order structure of this construct.

## Convergent Validity

As mentioned before, in first-order models, convergent validity is supported if each item loads significantly (i.e. coefficients must be greater than twice its standard error) on the latent variables that they are intended to measure (Anderson & Gerbing, 1988; Hair et al., 2009; Steenkamp & van Trijp, 1991). This is true for all the eleven observable variables analyzed here, namely, three items for Foreign Institutional Knowledge, four items for Foreign Business Knowledge and four items for Internationalization Knowledge. The convergent validity is also reinforced by the fact that those loadings are all higher than the reference of 0.60 or 0.70 recommended by the literature (Bagozzi & Yi, 1988, 2012; Garver & Mentzer, 1999).

On the other hand, the reasonable overall fit of the model also suggest convergent validity (Hair et al., 2009; Steenkamp & van Trijp, 1991). Analyzing all factor regression coefficients, it is possible to conclude that all the values are larger than 0.50, what reinforces convergent validity (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991).

Nevertheless, in second-order CFA exists an additional requirement to achieve convergent validity: the coefficients of the relationship between the first-order dimensions and the second-order construct must be significant (Bagozzi & Yi, 2012; Benson & Bandalos, 1992). For the model under analysis, this requirement is also true ($\Upsilon_{FIK}$=0.89, s.d.$_{FIK}$=0.04, t-

value$_{FIK}$=16.14; $\Upsilon_{FBK}$=0.98, s.d.$_{FBK}$=0.05, t-value$_{FIK}$=19.26; $\Upsilon_{IK}$=0.84, s.d.$_{IK}$=0.05, t-value$_{FIK}$=18.26), suggesting that there is sufficient evidence of convergent validity.

## Reliability Tests

The reliability is analyzed only after assessing the unidimensionality and convergent validity, since a construct can demonstrate an acceptable reliability even if it does not meet the convergent validity and unidimensionality criteria (Hulin, Cudeck, Netemeyer, Dillon, McDonald, & Bearden, 2001; Ping, 2004; Steenkamp & van Trijp, 1991). All the Cronbach's alphas of the first-order dimensions present values above the 0.70 cutoff suggested by Nunnally (1978): FIK=0.85, FBK=0.90, and IK=0.95. In addition, the composite reliability of FIK is 0.87, of FBK is 0.91, and IK is 0.95, values that are higher than the threshold of 0.60 (Bagozzi & Yi, 1988) or 0.70 (Hair et al., 2009). All these results indicate a good reliability for foreign market knowledge.

## Discriminant Validity

Results seem to suggest foreign market knowledge convergent validity. First of all, the correlations between the three dimensions are significantly different from the unity, which suggests discriminant validity (Steenkamp & van Trijp, 1991).

On the other hand, several CFA models were performed for each pair of dimensions, with the purpose of examining the Chi-Square differences between the standard model and the model with the correlations between the factors constrained to 1.0 (called 'non-discriminant' model). The null hypothesis is that the dimensions are indistinct. Discriminant validity is supported in case of rejection of the null hypothesis. As presented in Table 9.6, the differences of $\chi^2$ are significant for all the three pairs of dimensions with one degree of freedom ($\Delta$df=1), hence providing support for discriminant validity.

Finally, all the first order factors meet the Fornell and Larcker (1981) criterion of discriminant validity, since the average variance extracted of the three dimensions are higher than the cutoff of 0.5 (FIK=0.69, FBK=0.71, and IK=0.83), implying that the variance explained by each factor is larger than the variance related with the measurement error. Complementarily, comparing the square roots of the AVE of the three dimensions of foreign market knowledge with the correlations estimates between those dimensions and all the other constructs included in the model (see Table 5.16, Table 5.17, and Table 5.18), it is possible to conclude that the items of the dimensions of foreign market knowledge explain better those dimensions than another constructs (Hair et al., 2009; Ping, 2004). But even so, it is important to note that although the dimensions of foreign market knowledge are conceptually

and empirically distinct, there is a considerable amount of shared variance among them. So, this type of discriminant validity can be called as the 'weak form' of discriminant validity (Bagozzi & Heatherton, 1994).

### 9.8.3.4 *Entrepreneurial Orientation*

The construct of entrepreneurial orientation used in this study was formerly developed as a second-order factor (Lumpkin & Dess, 2001). Therefore, in order to evaluate the measurement theory by comparing the theoretical measurement models against reality, it was performed a CFA, organizing the items on the original four low-order dimensions (see Table 9.7): innovativeness (Innov), proactiveness (Proac), risk taking (RT) and competitive aggressiveness (CA). The results of the reliability tests using Cronbach's alpha reliability, do not suggest the removal of any item (Innov=0.86 Proac=0.85; RT=0.82; CA=0.88).

Furthermore, the CFA results for the measurement model of the second-order entrepreneurial orientation construct confirm that the parameter estimates present the correct signs and sizes, and standard errors were not very large (Bagozzi & Yi, 1988; Hair et al., 2009). The assessment of the dimensionality, convergent validity, reliability and discriminant validity of this construct is presented in the next paragraphs.

**Unidimensionality**

Similarly to the procedure presented in earlier second-order constructs, a second-order CFA was performed with the purpose of finding support for the second-order factor structure (Steenkamp & van Trijp, 1991), and for the unidimensionality of each of the four first-order dimensions (Innov, Proac, RT, and CA).

As already referred, the eleven items of entrepreneurial orientation, present high and significant loadings on the specific dimensions they are supposed to measure ($\geq 0.73$), higher than the 0.60-0.70 thresholds (Bagozzi & Yi, 1988, 2012). Thus, the results support the unidimensionality of these four dimensions: innovativeness, proactiveness, risk taking and competitive aggressiveness.

Examining the standardized residuals matrix, in order to discover possible threats to unidimensionality, it was possible to identify several values above |2.58| (Gerbing & Anderson, 1988; Hair et al., 2009), and also, several modification indices above 5.0 (Anderson & Gerbing, 1988). The item that seem more dangerous to unidimensionality was item **EO_it4**, reason why it was decided to drop it, and subsequently the measurement

model of second-order construct foreign market knowledge was again re-run (Hair et al., 2009).

Subsequently to this action, ten items were retained, with the dimensions innovativeness and risk taking measured through three items and the other two dimensions (proactiveness and competitive aggressiveness) measured through two items. All the items retained present high and significant loadings ($\geq 0.75$), suggesting the unidimensionality of the four first-order dimensions of the entrepreneurial orientation construct.

In terms of goodness-of-fit, the majority of the model fit indexes presented by LISREL support a good model fit, considering all the established thresholds (see Table 9.7). Although the chi-square test is significant ($\chi 2 = 123.23$, p=0.000), and the ratio chi-square/degree of freedom is above 3.0 (df=31, $\chi 2 /df=3.97$), all the other indices indicate reasonable or good fit, namely: RMSEA is 0.085, SRMR is 0.047, GFI is 0.94, AGFI is 0.90, NFI is 0.97, NNFI is 0.97, CFI 0.98, IFI is 0.98 and RFI is 0.96.

Accordingly, all the elements presented before support the unidimensionality of the four dimensions of entrepreneurial orientation, and also of the second-order structure of this construct.

**Convergent Validity**

All the ten observable variables analyzed here, namely, three items for *innovativeness*, two items for *proactiveness*, three items for *risk taking*, and two items for *competitive aggressiveness,* present loadings above the harder threshold of 0.70 recommended by the literature (Bagozzi & Yi, 1988, 2012; Garver & Mentzer, 1999), evidencing convergent validity (Anderson & Gerbing, 1988; Garver & Mentzer, 1999; Hair et al., 2009; Steenkamp & van Trijp, 1991).

Moreover, the good overall fit of the entrepreneurial orientation measurement model, presented in the previous topic related with the unidimensionality of the construct, also suggest convergent validity (Hair et al., 2009; Steenkamp & van Trijp, 1991).

As already mentioned, in second-order CFA exist an additional requirement in order to accomplish convergent validity: the coefficients of relationship between the first-order dimensions and the second-order construct must be significant (Bagozzi & Yi, 2012; Benson & Bandalos, 1992). In this case, all these loadings are high and significant, namely: in innovativeness ($\Upsilon_{Innov}$ =0.84, s.d.=0.06, t-value=13.98), proactiveness ($\Upsilon_{Proac}$ =0.78, s.d. $_{Proac}$=0.05, t-value $_{Proac}$=15.56), risk taking ($\Upsilon_{RT}$ =0.82, s.d. $_{RT}$ =0.06, t-value $_{RT}$=13.41), and

competitive aggressiveness ($\Upsilon_{CA}$=0.70, s.d. $_{CA}$ =0.06, t-value $_{CA}$=12.77). Thus, it is possible to conclude that there is sufficient evidence for convergent validity of this construct.

**Table 9.7: Confirmatory Factor Analysis for Entrepreneurial Orientation (EO)**

| Items | Description | Standardized Factor Loadings | | | | | T-Values |
|---|---|---|---|---|---|---|---|
| | | Initial | Innov. | Proact. | RT | CA | |
| EO_it1 | In dealing with competitors, my firm typically initiates actions which competitors then respond to. | 0.75 | 0.75 | | | | 17.28 |
| EO_it2 | In dealing with competitors, my firm is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc. | 0.88 | 0.88 | | | | 21.79 |
| EO_it3 | In general, the top managers of my firm have a strong tendency to be ahead of others in introducing novel ideas or products. | 0.85 | 0.84 | | | | 20.25 |
| EO_it4 | In general, the top managers of my firm favor a strong emphasis on R&D, technological leadership, and innovations.[a] | 0.73 | | | | | |
| EO_it5 | Very many new lines of products/services marketed in the past 5 years. | 0.89 | | 0.93 | | | 22.68 |
| EO_it6 | Changes in product or service lines have usually been quite dramatic. | 0.83 | | 0.84 | | | 19.66 |
| EO_it7 | A strong proclivity for high risk projects (with chances of very high returns). | 0.76 | | | 0.75 | | 16.83 |
| EO_it8 | Owing to the nature of the environment, bold, wide-ranging acts are necessary to achieve the firm's objectives. | 0.77 | | | 0.76 | | 17.04 |
| EO_it9 | When confronted with decisions involving uncertainty, my firm typically adopts a bold posture in order to maximize the probability of exploiting opportunities. | 0.82 | | | 0.83 | | 19.43 |
| EO_it10 | My firm typically adopts a very competitive "undo-the-competitors" posture. | 0.87 | | | | 0.90 | 21.16 |
| EO_it11 | My firm is very aggressive and intensely competitive. | 0.90 | | | | 0.88 | 20.54 |
| **Cronbach's Alpha** | | | **0.86** | **0.85** | **0.82** | **0.88** | |
| **Composite Reliability** | | | **0.87** | **0.86** | **0.83** | **0.88** | |
| **Average Variance Extracted** | | | **0.69** | **0.67** | **0.61** | **0.78** | |
| **Coefficient from fist-order factor ($\Upsilon$)** | | | **0.84** | **0.78** | **0.82** | **0.70** | |
| **Standard-error** | | | **0.06** | **0.05** | **0.06** | **0.06** | |
| **T-Value** | | | **13.98** | **15.56** | **13.41** | **12.77** | |
| **Relationship between Factors** | Innov↔Proac | Proac↔RT | RT↔CA | Innov↔RT | Innov↔CA | Proac↔CA | |
| **Correlation between Factors** | **0.71** | **0.63** | **0.67** | **0.64** | **0.59** | **0.46** | |
| **$\chi^2$ Differences for Standard vs 'NonDiscriminant' CFA Models ($\Delta$df=1, p=.000)** | **192.83** | **231.52** | **257.36** | **286.81** | **264.91** | **294.94** | |

**Goodness-of-fit Indexes:**
$\chi^2$ = 123.23 (p=0.000); df = 31; $\chi^2$/df = 3.97
RMSEA=0.085; SRMR=0.047; NFI=0.97; NNFI=0.97; CFI=0.98; IFI=0.98; RFI=0.96; GFI=0.94; AGFI=0.90

Notes: [a] – This item was deleted during the scale purification process.

**Reliability Tests**

The Cronbach's alphas of the first-order dimensions present values above the 0.70 cutoff recommended by Nunnally (1978): Innov=0.86, Proac=0.85, RT=0.82 and CA=0.88. In addition, the composite reliability values are above both cutoffs of 0.60 (Bagozzi & Yi, 1988) and 0.70 (Hair et al., 2009), respectively: 0.87 for *innovation*, 0.86 for *proactiveness*, 0.83 for *risk taking* and 0.88 for *competitive aggressiveness*. These results suggest good reliability for the entrepreneurial orientation construct.

**Discriminant Validity**

The results presented in Table 9.7 also support this construct's convergent validity. First, the correlations between the four dimensions are significantly different from the unity (Steenkamp & van Trijp, 1991).

Second, several CFA models were performed for each pair of dimensions, with the purpose of examining the Chi-Square differences between the standard model and the model with the correlations between the factors constrained to 1.0 ('non-discriminant' model). Discriminant validity is supported in case of rejection of the null hypothesis, which state that the dimensions are indistinct. Results show that the differences of $\chi^2$ are significant for all the pairs of dimensions with one degree of freedom ($\Delta df=1$), hence providing support for discriminant validity.

At last, the AVE of all the four dimensions are higher than the threshold of 0.5 (Innov=0.69, Proac=0.67, RT=0.61, and CA=0.78), implying that the variance explained for by each factor is larger than the variance related with the measurement error (Fornell & Larcker, 1981). In addition, contrasting the square roots of the AVE from the four dimensions of entrepreneurial orientation with the correlations estimates between those dimensions and all the other constructs included in the model (see Table 5.16 and Table 5.17), it is possible to conclude that the entrepreneurial orientation items dimensions explain better those dimensions than other constructs (Hair et al., 2009; Ping, 2004).

## 9.8.4  Firm Actions

### 9.8.4.1  Competitive Generic Strategy

After the initial procedures, it was decided to consider each one of the competitive strategies identified as a different construct. The initial Cronbach's alpha reliability tests suggested that all the items should be retained in their specific competitive strategies (**quality and service**

**differentiation**=0.88, **marketing differentiation**=0.86, **cost leadership**=0.89, and **innovation differentiation**=0.82), with values above the cutoff of 0.70 suggested by Nunnally (1978).

It was decided to divide and analyze the constructs separately, since these are not different dimensions of a same latent variable called competitive generic strategy, and the antecedents and results of these diverse strategies could also be distinct. Afterwards, confirmatory factor analyses (CFA) were performed with the purpose of assessing the psychometric properties (Bagozzi & Yi, 2012) of these constructs (see Table 9.8). This procedure resulted in the removal of the item **Gst_it23** from the **marketing differentiation** measurement model, since the factor loading (0.57) is under the minimum 0.60 threshold recommended by the literature (Bagozzi & Yi, 1988, 2012).

After this exclusion the results of the measurement models for each of the four constructs related with different competitive generic strategies are consistent with the theory (Bagozzi & Yi, 1988; Hair et al., 2009), since the parameter estimates present the correct signs and sizes, and the standard errors were not very large. The questions related with dimensionality, convergent validity, reliability, and discriminant validity of these four constructs are assessed in the next paragraphs.

**Table 9.8: Item Factor Loadings for Competitive Strategies Constructs**

| Item | Description | Standardized Factor Loadings | | T-Values | α | ρc | ρv |
|---|---|---|---|---|---|---|---|
| | | Initial | Final | | | | |
| **Innovation Differentiation** | | | | | 0.82 | 0.89 | 0.65 |
| Gst_it1 | R&D of new products | 0.78 | 0.78 | 18.03 | | | |
| Gst_it2 | Marketing of new products | 0.94 | 0.94 | 23.41 | | | |
| Gst_it3 | Selling high-priced products | 0.68 | 0.68 | 14.96 | | | |
| Gst_it10 | Producing broad range of products | 0.60 | 0.60 | 12.84 | | | |

**Goodness-of-fit Indexes:**
$\chi^2$ = 8.51 (p=0.0142); df = 2; $\chi^2$/df = 4.3
RMSEA=0.089; SRMR=0.023; NFI=0.99; NNFI=0.98; CFI=0.99; IFI=0.99; RFI=0.97; GFI=0.99; AGFI=0.95

| Item | Description | Standardized Factor Loadings | | T-Values | α | ρc | ρv |
|---|---|---|---|---|---|---|---|
| | | Initial | Final | | | | |
| **Marketing Differentiation** | | | | | 0.83 | 0.87 | 0.65 |
| Gst_it4 | Obtaining patents or copyrights | 0.70 | 0.72 | 16.46 | | | |
| Gst_it5 | Innovative marketing techniques | 0.88 | 0.92 | 23.29 | | | |
| Gst_it6 | Building brand/company identification | 0.73 | 0.70 | 15.74 | | | |
| Gst_it7 | Advertising/promotional programs | 0.88 | 0.87 | 21.42 | | | |
| Gst_it8 | Securing reliable distribution channels[a] | 0.68 | | | | | |
| Gst_it23 | Improvement of sales force performance[a] | 0.57 | | | | | |

**Goodness-of-fit Indexes:**
$\chi^2$ = 7.57 (p=0.0227); df = 2; $\chi^2$/df = 3.8
RMSEA=0.082; SRMR=0.017; NFI=0.99; NNFI=0.98; CFI=0.99; IFI=0.99; RFI=0.98; GFI=0.99; AGFI=0.95

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Cost Leadership** | | | | 0.86 | 0.87 | 0.62 |
| Gst_it11 | Improving efficiency and productivity | 0.72 | 0.72 | 16.20 | | | |
| Gst_it12 | Developing new manufacturing processes | 0.80 | 0.84 | 20.08 | | | |
| Gst_it13 | Improving existing manufacturing processes | 0.89 | 0.93 | 23.33 | | | |
| Gst_it14 | Reducing overall costs | 0.74 | 0.63 | 13.73 | | | |
| Gst_it15 | Reducing manufacturing costs[a] | 0.77 | | | | | |

**Goodness-of-fit Indexes:**

$\chi^2$ = 18.40 (p=0.0001); df = 2; $\chi^2$/df = 9.2

RMSEA=0.141; SRMR=0.033; NFI=0.98; NNFI=0.95; CFI=0.98; IFI=0.98; RFI=0.94; GFI=0.98; AGFI=0.89

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | **Quality and Service Differentiation** | | | | 0.87 | 0.87 | 0.58 |
| Gst_it9 | Improving existing products | 0.66 | 0.66 | 14.35 | | | |
| Gst_it16 | Strict product quality control | 0.68 | 0.68 | 14.94 | | | |
| Gst_it19 | Immediate resolution of customer problems | 0.80 | 0.84 | 20.20 | | | |
| Gst_it20 | Product improvements based on gaps in meeting customer expectations | 0.82 | 0.83 | 19.86 | | | |
| Gst_it21 | New customer services[a] | 0.71 | | | | | |
| Gst_it22 | Improvement of existing customer services | 0.83 | 0.77 | 17.88 | | | |

**Goodness-of-fit Indexes:**

$\chi^2$ = 7.67 (p=0.1754); df = 5; $\chi^2$/df = 1.5

RMSEA=0.036; SRMR=0.015; NFI=0.99; NNFI=1.00; CFI=1.00; IFI=1.00; RFI=0.99; GFI=0.99; AGFI=0.98

Notes: [a] – This item was deleted during the scale purification process.

## Unidimensionality

A first analysis of the results of each measurement model related with these four constructs present items with high and significant loadings ($\geq$0.60), what consequently seems support the unidimensionality of these four constructs.

However, the examination of the standardized residuals matrixes reveals some values above |2.58|, and some modification indices above 5.0 (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988; Hair et al., 2009) in all the constructs, with exception of **innovation differentiation**. This procedure resulted in the removal of item **Gst_it8** in **marketing differentiation**, item **Gst_it15** in **cost leadership**, and item **Gst_it21** in **quality and service differentiation**. After this procedure, each measurement model was re-run again, as suggested by the literature (Hair et al., 2009).

Subsequently, the items retained present high and significant loadings ($\geq$0.60), and a new examination of the standardized residuals matrixes did not reveal any problematic values above |2,58|, and neither any value of modification indices above 5.0 (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988).

To conclude, the greater part of the models fit indexes support good or reasonable models fit, considering all the established thresholds (see Table 9.8). In the case of the **innovation differentiation** model, although the chi-square test is significant ($\chi^2$ = 8.51, p=0.0142), the ratio chi-square/degree of freedom is higher than desirable (df=2, $\chi^2$/df=4.3), all the other indices indicate reasonable or good fit: RMSEA is 0.089, SRMR is 0.023, GFI is 0.99, AGFI is 0.95, NFI is 0.99, NNFI is 0.98, CFI is 0.99, IFI is 0.99, and, finally, RFI is 0.97. Similarly, in the case of the **marketing differentiation** construct, the chi-square test is significant ($\chi^2$ = 7.57, p=0.0227), the ratio chi-square/degree of freedom is higher than desirable (df=2, $\chi^2$/df=3.8), all the other indices indicate reasonable or good fit: RMSEA is 0.076, SRMR is 0.017, GFI is 0.99, AGFI is 0.95, NFI is 0.99, NNFI is 0.98, CFI is 0.99, IFI is 0.99, and, lastly, RFI is 0.97. Considering the **cost leadership** construct, the model fit indexes are: $\chi^2$ = 18.40 (p=0.0227), $\chi^2$/df=9.2 (df=2), RMSEA is 0.141, SRMR is 0.033, GFI is 0.98, AGFI is 0.89, NFI is 0.98, NNFI is 0.95, CFI is 0.98, IFI is 0.98, and RFI is 0.94. The better model fit is achieved by the last construct, **quality and service differentiation**, since the chi-square test is rejected at p=0.1754, and all the other indices give an indication of good fit (RMSEA=0.036, SRMR=0.015, NFI=0.99, NNFI=1.00, CFI=100, IFI=1.00, RFI=0.99, GFI=0.99, and AGFI=0.98).

In conclusion, and although the results of the model fit indexes presented for each construct are slightly diverse, it exists sufficient support for the unidimensionality of the latent variables: innovation differentiation, marketing differentiation, cost leadership and quality and service differentiation.

**Convergent Validity**

In line with the preceding conclusions, the fact that all the items loaded strongly is each of the constructs related with the competitive strategies considered (**innovation differentiation** $\geq$ 0.60; **marketing differentiation** $\geq$ 0.70, **cost leadership** $\geq$ 0.63, and **quality and service differentiation** $\geq$ 0.66) and, also, the good overall fit of the models, support the convergent validity of these three constructs (Hair et al., 2009).

Also, the fact that the coefficients are greater than twice their standard errors (Anderson & Gerbing, 1988), and all factor regression coefficients are larger than 0.50 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991), reinforce the evidence of convergent validity.

**Reliability Tests**

The Cronbach's alpha reliability tests for all the four constructs present values above the cutoff of 0.70 suggested by Nunnally (1978), namely: **innovation differentiation** = 0.82, **marketing differentiation** = 0.83, **cost leadership** = 0.86, and **quality and service differentiation** = 0.87.

The reliability of these constructs is also reinforced by the composite reliability results (**innovation differentiation** = 0.89, **marketing differentiation** = 0.87, **cost leadership** = 0.87, and **quality and service differentiation** = 0.87), values that are also superior to the thresholds of 0.60 (Bagozzi & Yi, 1988).

**Discriminant Validity**

The results also support the discriminant validity of these four constructs. First, the average variances extracted obtained by the four constructs are higher than 0.50 (**innovation differentiation** = 0.65, **marketing differentiation** = 0.65, **cost leadership** = 0.62, and **quality and service differentiation** = 0.58), thus providing support for discriminant validity, according to the Fornell and Larcker (1981) criterion.

This conclusion is reinforced through the comparison of AVE (square root) of these latent variables with all the correlations between these and the other latent variables included in the structural model (see Table 5.16, Table 5.17, Table 5.18, and Table 5.19). The square roots of the AVE of innovation differentiation, marketing differentiation, cost leadership and quality and service differentiation are higher than all the correlations with other constructs, thus supporting discriminant validity of these four constructs (Hair et al., 2009; Ping, 2004).

### 9.8.4.2 International Social Networking

Three CFA were performed with the purpose of assessing the psychometric properties (Bagozzi & Yi, 2012) of these constructs (see Table 9.10). Results of the measurement models for each of the three constructs related with different types of international social networks are consistent with the theory (Bagozzi & Yi, 1988; Hair et al., 2009), since the standard errors were not very large, and the parameter estimates present the correct signs and sizes. In the next paragraphs, the issues related with dimensionality, convergent validity, reliability, and discriminant validity are assessed.

**Table 9.9: Item Factor Loadings for International Social Networking Measure**

| Items | Items | Factor 1 | Factor 2 | Factor 3 |
|---|---|---|---|---|
| ISN_it1 | Key-informants in international costumers; | | | 0.84 |
| ISN_it2 | Key-informants in suppliers; | | | 0.81 |
| ISN_it3 | Key-informants in the management team of other companies (e.g.: complementors, competitors); | | | 0.81 |
| ISN_it4 | Key-informants in national government institutions that support internationalization; | 0.86 | | |
| ISN_it5 | Key-informants in international institutions that support internationalization (e.g.: UNCTAD, EU, WTO); | 0.87 | | |
| ISN_it6 | Key-informants in national companies with access to international distribution networks; | | | 0.63 |
| ISN_it7 | Key-informants in companies with distribution network in the international market of destination; | | | 0.66 |
| ISN_it8 | Key-informants in industry or business associations; | 0.70 | | |
| ISN_it9 | Scientists, researchers and academics; | 0.81 | | |
| ISN_it10 | Key-informants in banks and other financial institutions; | 0.76 | | |
| ISN_it11 | Key-informants with knowledge of international markets, in general; | | 0.74 | |
| ISN_it12 | Key-informants of the personal relations with knowledge about the countries of destination; | | 0.89 | |
| ISN_it13 | Key-informants with market knowledge in the destination countries; | | 0.84 | |
| ISN_it14 | Key-informants from personal relations, living in countries of destination; | | 0.76 | |
| ISN_it15 | Key-informants from previous business relationships, living in countries of destination. | | 0.73 | |
| | **Explained Variance** | **25.6%** | **23.3%** | **20.9%** |
| | **Cronbach's Alpha** | **0.81** | **0.91** | **0.89** |

Note: only loadings > 0.5 are shown.

**Unidimensionality**

All the items present high and significant loadings (≥0.68), above the cutoff of 0.60 recommended by Baggozzi and Yi (1988, 2012), thus suggesting the unidimensionality of the constructs.

Next, the standardized residuals matrixes were analyzed, revealing some values above |2.58|, and some modification indices above 5.0 (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988; Hair et al., 2009) in two constructs: value chain social network and foreign knowledge social network. This action indicated that the items **ISN_it6** and **ISN_it15** threat the unidimensionality of the constructs value chain social network and foreign knowledge social network, respectively, and therefore should be dropped. After dropping these problematic items, the three measurement models of international social network constructs were again re-run, as recommended by the literature (Hair et al., 2009).

**Table 9.10: Confirmatory Factor Analysis for International Social Networking (ISN)**

| Item | Description | Standardized Factor Loadings | | T-Values | α | ρc | ρv |
|------|-------------|---------|--------|----------|---|----|----|
| | | Initial | Final | | | | |
| **Value Chain Social Network** | | | | | 0.84 | 0.85 | 0.59 |
| ISN_it1 | Key-informants in international costumers; | 0.72 | 0.82 | 18.99 | | | |
| ISN_it2 | Key-informants in suppliers; | 0.73 | 0.81 | 18.86 | | | |
| ISN_it3 | Key-informants in the management team of other companies | 0.88 | 0.79 | 18.11 | | | |
| ISN_it6 | Key-informants in national companies with access to international distribution networks; [a] | 0.72 | | | | | |
| ISN_it7 | Key-informants in companies with distribution network in the international market of destination; | 0.72 | 0.63 | 13.38 | | | |

**Goodness-of-fit Indexes:**
$\chi^2 = 64.47$ (p=0.0000); df = 2; $\chi^2/df = 32.23$
RMSEA=0.27; SRMR=0.055; NFI=0.93; NNFI=0.79; CFI=0.93; IFI=0.93; RFI=0.79; GFI=0.93; AGFI=0.64

| Item | Description | Initial | Final | T-Values | α | ρc | ρv |
|------|-------------|---------|--------|----------|---|----|----|
| **Institutional Social Network** | | | | | 0.91 | 0.91 | 0.67 |
| ISN_it4 | Key-informants in national government institutions that support internationalization; | 0.93 | 0.93 | 24.57 | | | |
| ISN_it5 | Key-informants in international institutions that support internationalization (e.g.: UNCTAD, EU, WTO); | 0.93 | 0.93 | 24.84 | | | |
| ISN_it8 | Key-informants in industry or business associations; | 0.76 | 0.76 | 17.83 | | | |
| ISN_it9 | Scientists, researchers and academics; | 0.71 | 0.71 | 16.45 | | | |
| ISN_it10 | Key-informants in banks and other financial institutions; | 0.73 | 0.73 | 17.05 | | | |

**Goodness-of-fit Indexes:**
$\chi^2 = 30.59$ (p=0.0000); df = 5; $\chi^2/df = 6.1$
RMSEA=0.11; SRMR=0.03; NFI=0.98; NNFI=0.97; CFI=0.99; IFI=0.99; RFI=0.97; GFI=0.97; AGFI=0.91

| Item | Description | Initial | Final | T-Values | α | ρc | ρv |
|------|-------------|---------|--------|----------|---|----|----|
| **Foreign Knowledge Social Network** | | | | | 0.87 | 0.88 | 0.65 |
| ISN_it11 | Key-informants with knowledge of international markets, in general; | 0.76 | 0.78 | 18.18 | | | |
| ISN_it12 | Key-informants of the personal relations with knowledge about the countries of destination; | 0.90 | 0.92 | 23.22 | | | |
| ISN_it13 | Key-informants with market knowledge in the destination countries; | 0.84 | 0.85 | 20.76 | | | |
| ISN_it14 | Key-informants from personal relations, living in countries of destination; | 0.72 | 0.66 | 14.57 | | | |
| ISN_it15 | Key-informants from previous business relationships, living in countries of destination. [a] | 0.68 | | | | | |

**Goodness-of-fit Indexes:**
$\chi^2 = 17.80$ (p=0.0001); df = 2; $\chi^2/df = 8.9$
RMSEA=0.14; SRMR=0.024; NFI=0.98; NNFI=0.96; CFI=0.99; IFI=0.99; RFI=0.95; GFI=0.98; AGFI=0.90

Notes: [a] – This item was deleted during the scale purification process.

The items retained present high and significant loadings ($\geq$0.63), and a new examination of the standardized residuals matrixes did not reveal any problematic values above |2,58|, and neither any modification indices above 5.0 (Anderson & Gerbing, 1988; Gerbing & Anderson, 1988), thus not threatening the unidimensionality of the three variables **value chain social network**, **institutional social network** and **foreign knowledge social network**.

On the other hand, the majority of the models fit indexes support good or reasonable models fit, considering the established thresholds (see Table 9.10). In relation to the **value chain social network** model, although the chi-square test is significant ($\chi^2$ = 64.47, p=0.0000), the ratio chi-square/degree of freedom is higher than desirable (df=2, $\chi^2$/df=32.23), and RMSEA is 0.27 several other indices indicate good fit: SRMR is 0.055, GFI is 0.95, NFI is 0.93, CFI is 0.93, and IFI is 0.93. In the case of the **institutional social network** construct, the chi-square test is significant ($\chi^2$ = 30.59, p=0.0000), the ratio chi-square/degree of freedom is higher than desirable (df=5, $\chi^2$/df=6.1), and RMSEA is 0.11, but all the other indices indicate good fit: SRMR is 0.03, GFI is 0.97, AGFI is 0.91, NFI is 0.98, NNFI is 0.97, CFI is 0.99, IFI is 0.99, and, by last, RFI is 0.97.Finnally, concerning the **foreign knowledge social network** construct, some of the model fit absolute indexes are inferior to desirable ($\chi^2$ = 17.80 (p=0.0001), $\chi^2$/df=8.9 (df=2), RMSEA=0.14). Even so, all the remaining indexes present good fit results: SRMR is 0.024, GFI is 0.98, AGFI is 0.90, NFI is 0.98, NNFI is 0.96, CFI is 0.99, IFI is 0.99, and RFI is 0.95.

Concluding, even though the results of the model fit indexes presented for each construct are a little worst than wanted, it is arguable that exists sufficient support for the unidimensionality of the latent variables: **value chain social network**, **institutional social network** and **foreign knowledge social network**.

**Convergent Validity**

Using the results referred previously, the fact that all the items loaded strongly for each of the constructs related with the international social networks considered (**value chain social network**$\geq$ 0.63; **institutional social network**$\geq$ 0.71, **foreign knowledge social network**$\geq$ 0.66) and, the reasonable overall fit of the models, support the convergent validity of these three constructs (Hair et al., 2009).

Moreover, the fact that coefficients are greater than twice their standard errors (Anderson & Gerbing, 1988), and all factor regression coefficients are larger than 0.50 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991), reinforce the evidence of convergent validity of these constructs.

**Reliability Tests**

The Cronbach's alpha reliability tests for the three constructs present values above the cutoff of 0.70 suggested by Nunnally (1978), specifically: **value chain social network**=0.84; **institutional social network**=0.91, **foreign knowledge social network**=0.87.

The reliability of these constructs is also reinforced by the composite reliability results (**value chain social network**=0.85; **institutional social network**=0.91, **foreign knowledge social network**=0.88), values that are also superior to the thresholds of 0.60 (Bagozzi & Yi, 1988).

**Discriminant Validity**

The results also support the discriminant validity of these three constructs. First, the AVE of the three constructs are higher than 0.50 (**value chain social network**=0.59; **institutional social network**=0.67, and **foreign knowledge social network**=0.65), thus supporting discriminant validity, according to Fornell and Larcker (1981) criterion.

This conclusion is reinforced by the comparison of square roots of AVE of these latent variables with all the correlations between these and the other latent variables included in the structural model (see Table 5.16, Table 5.17, Table 5.18, Table 5.19, and Table 5.20). The square roots of the AVE of value chain social network, institutional social network, and foreign knowledge social network are higher than the correlations between these constructs and the other constructs included in the model, thus supporting the discriminant validity for these three constructs (Hair et al., 2009; Ping, 2004).

### 9.8.4.3 *Entrepreneurial Alertness*

Since the construct of entrepreneurial alertness was originally developed as a second-order factor (Tang et al., 2012), in the evaluation of the measurement model of this construct, the eleven items were organized into the original three first-order dimensions: Scanning and Search (SS), Association and Connection (AC), and Evaluation and Judgment (EJ). Making a first CFA with the observable variables organized through the three dimensions of entrepreneurial alertness, it was found that the reliability tests using Cronbach's alpha for all the dimensions do not suggest the removal of any of these observable variables (SS=0.92, AC=0.79; EJ=0.87)[7].

Also, the CFA results for the measurement model of the second-order entrepreneurial alertness construct confirm that the parameter estimates present the correct signs and sizes,

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[7] These were the initial Cronbach's alphas before dropping any items in the scale purification process.

and standard errors were not very large (Bagozzi & Yi, 1988; Hair et al., 2009). The discussion about dimensionality, convergent validity, reliability and discriminant validity of this latent variable is appraised in the following lines.

**Unidimensionality**

A second-order CFA was performed in order to find support for the second-order factor structure (Steenkamp & van Trijp, 1991), and also for the unidimensionality of each of the three first-order dimensions: *scanning and search*, *association and connection*, *and evaluation and judgment.*

The eleven items of entrepreneurial alertness, present high and significant loadings on the specific dimensions they are supposed to measure (≥0.61), yet higher than the less demanding cutoff (0.60) recommended (Bagozzi & Yi, 1988, 2012). So, even with an item with a loading near the cutoff, the results support the unidimensionality of these three dimensions.

When analyzing the standardized residuals matrix, it were identified some values above |2.58| (Gerbing & Anderson, 1988; Hair et al., 2009), and also, several modification indices above 5.0 (Anderson & Gerbing, 1988), which can be possible threats to unidimensionality. These results indicate that the items **EA_it2** and **EA_it11** could be a major threat to the unidimensionality of the *scanning and search*, and *evaluation and judgment* dimensions, respectively, and therefore were dropped. Once these items were dropped, the measurement model of entrepreneurial alertness construct was again re-run (Hair et al., 2009).

After this procedure, nine items were retained: four in the *scanning and search* dimension, three in the *association and connection* dimension, and two in the *evaluation and judgment*. The items retained maintained the high and significant loadings (≥0.61), suggesting the unidimensionality of these three first-order dimensions of the entrepreneurial alertness construct.

The majority of the model fit indexes support a good model fit (see Table 9.11). Although the chi-square test is significant ($\chi^2$ = 76.85, p=0.000), and the ratio chi-square/degree of freedom is slightly above 3.0 (df=24, $\chi^2$/df=3.2), all the other indices indicate good fit. The RMSEA is 0.073, SRMR is 0.03, GFI is 0.96, AGFI is 0.93, NFI is 0.98, NNFI is 0.98, CFI is 0.99, IFI is 0.99, and, finally, RFI is 0.97.

### Table 9.11: Confirmatory Factor Analysis for Entrepreneurial Alertness (EA)

| Items | Description | Standardized Factor Loadings | | | | T-Values |
|---|---|---|---|---|---|---|
| | | Initial | SS | AC | EJ | |
| EA_it1 | My company has frequent interactions with other entities to acquire new information. | 0.75 | 0.73 | | | 16.68 |
| EA_it2 | Our management team looks systematically new business ideas. [a] | 0.88 | | | | |
| EA_it3 | Our management team is always actively looking for new information. | 0.92 | 0.90 | | | 22.99 |
| EA_it4 | Our management team search regularly new information through the reading of economic and business publications. | 0.79 | 0.82 | | | 19.96 |
| EA_it5 | Our management team search regularly new information through the Internet. | 0.82 | 0.84 | | | 20.82 |
| EA_it6 | Our management team sees links between seemingly unrelated pieces of information. | 0.88 | | 0.88 | | 21.25 |
| EA_it7 | Is usual our management team relate day-to-day private situations with the business decisions. | 0.73 | | 0.73 | | 16.49 |
| EA_it8 | Management team implements practices or solutions from other companies in our own business decisions. | 0.61 | | 0.61 | | 12.93 |
| EA_it9 | Our management team can distinguish between profitable opportunities and not-so-profitable opportunities. | 0.84 | | | 0.87 | 19.51 |
| EA_it10 | When facing multiple opportunities, management team is able to select the good ones. | 0.86 | | | 0.87 | 19.46 |
| EA_it11 | The evaluation of new business opportunities is something ordinary for the company.[a] | 0.80 | | | | |
| **Cronbach's Alpha** | | | **0.89** | **0.79** | **0.79** | |
| **Composite Reliability** | | | **0.89** | **0.66** | **0.86** | |
| **Average Variance Extracted** | | | **0.68** | **0.56** | **0.76** | |
| **Coefficient from fist-order factor ($\Upsilon$)** | | | **0.94** | **0.93** | **0.66** | |
| **Standard-error** | | | **0.06** | **0.05** | **0.06** | |
| **T-Value** | | | **14.67** | **17.88** | **12.09** | |
| **Relationship between Factors** | | | **SS↔AC** | **AC↔EJ** | **SS↔EJ** | |
| **Correlation between Factors** | | | **0.87** | **0.61** | **0.62** | |
| **$\chi^2$ Differences for Standard vs 'NonDiscriminant' CFA Models ($\Delta df=1$, p=.000)** | | | **61.96** | **229.1** | **234.41** | |

**Goodness-of-fit Indexes:**
$\chi^2$ = 76.85 (p=0.000); df = 24; $\chi^2/df$ = 3.2
RMSEA=0.073; SRMR=0.03; NFI=0.98; NNFI=0.98; CFI=0.99; IFI=0.99; RFI=0.97; GFI=0.96; AGFI=0.93

Notes: [a] – This item was deleted during the scale purification process.

Based on these arguments, it exist support for both, the unidimensionality of the three dimensions of entrepreneurial alertness, and also for the second-order structure of this construct.

## Convergent Validity

All the nine items analyzed here, present loadings above the cutoff of 0.60 (Bagozzi & Yi, 1988, 2012; Garver & Mentzer, 1999), what is an evidence of convergent validity (Anderson & Gerbing, 1988; Garver & Mentzer, 1999; Hair et al., 2009; Steenkamp & van Trijp, 1991). This is reinforced by the fact that coefficients are higher than twice their standard errors (Anderson & Gerbing, 1988), all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991).

Furthermore, the good overall fit of the entrepreneurial alertness measurement model, also suggests convergent validity (Hair et al., 2009; Steenkamp & van Trijp, 1991).

Since entrepreneurial alertness is a second-order construct, to achieve convergent validity the loadings of relationship between the first-order dimensions and the second-order construct must also be significant (Bagozzi & Yi, 2012; Benson & Bandalos, 1992). All these loadings are high and significant: *scanning and search* ($\Upsilon_{SS}$ =0.94, s.d.$_{SS}$=0.06, t-value$_{SS}$=14.67), *association and connection* ($\Upsilon_{AC}$=0.93, s.d.$_{AC}$=0.05, t-value$_{AC}$=17.88), and *evaluation and judgment* ($\Upsilon_{EJ}$=0.66, s.d.$_{EJ}$=0.06, t-value$_{EJ}$=10.09).

Concluding, there is sufficient evidence suggesting the entrepreneurial alertness convergent validity.

## Reliability Tests

The Cronbach's alphas of first-order dimensions of entrepreneurial orientation present values above the Nunnally's (1978) 0.70 cutoff: SS=0.89, AC=0.79, and EJ=0.79. The values of the other statistic related with reliability, the composite reliability, are also above the cutoffs of 0.60 recommended by Bagozzi and Yi (1988): the *scanning and search* dimension has a value of 0.89, *association and connection* dimension has a value of 0.66, and *evaluation and judgment* dimension has a value of 0.86.

These results support the conclusion of good reliability for this construct.

## Discriminant Validity

In terms of the discriminant validity for the entrepreneurial alertness construct, three results can be presented in order to support it: i) correlations between the dimensions; ii) chi-square tests and iii) average variance extracted.

First, the correlations between the three dimensions are different from the unity, which supports for discriminant validity (Steenkamp & van Trijp, 1991). Second, different CFA models were ran for the three pairs of dimensions, with the purpose of examining the Chi-Square differences between the standard model and the model with the correlations between the factors constrained to 1.0 ('non-discriminant' model). Results show that the differences of $\chi^2$ are significant for all the pairs of dimensions with one degree of freedom ($\Delta df=1$), hence providing support for discriminant validity. This way the null hypothesis (which states that the dimensions are indistinct) was rejected.

Third, the AVE of the three dimensions are higher than the threshold of 0.5 (Fornell & Larcker, 1981): SS=0.68, AC=0.56, and EJ=0.76. Additionally, the results presented in Table 5.16, Table 5.17, and Table 5.18, contrasting the square root of AVE from the three dimensions of entrepreneurial alertness with the correlations estimates between those dimensions and all the other constructs included in the model, it is possible to conclude that the items of the dimensions of entrepreneurial orientation explain better those dimensions than another constructs (Hair et al., 2009; Ping, 2004)

## 9.8.4.4 Absorptive Capacity

In this study, absorptive capacity is measured as a second-order factor with four dimensions (Flatten et al., 2011a): *acquisition* (ACQ), *assimilation* (ASS), *transformation* (TRF), and *exploitation* (EXP). With the objective of evaluating the measurement theory by comparing the theoretical measurement model against reality, it was performed a CFA where the items were allocated on the original four low-order dimensions (see Table 9.12). The initial results of the reliability tests using Cronbach's alpha reliability, do not suggest the removal of any item (ACQ=0.86, ASS=0.91, TRF=0.94, EXP=0.87).

Also, initial results of the CFA for the second-order absorptive capacity construct confirm that the parameter estimates present the correct signs and sizes, and standard errors were not very large (Bagozzi & Yi, 1988; Hair et al., 2009). The assessment of the dimensionality, convergent validity, reliability and discriminant validity of this construct is presented next.

**Unidimensionality**

In order to make clear if there is support for the second-order factor structure (Steenkamp & van Trijp, 1991), and also for the unidimensionality of each of the four first-order dimensions of absorptive capacity (ACQ, ASS, TRF, EXP), it is necessary to run a second-order CFA.

The fourteen observable variables used to measure the absorptive capacity construct, present high and significant initial loadings on the specific dimensions they are supposed to measure (≥0.81), higher than the most demanding thresholds recommended of 0.70 (Bagozzi & Yi, 1988, 2012). These results support the unidimensionality of these four dimensions: *acquisition*, *assimilation*, *transformation*, and *exploitation*.

Through the examination of the standardized residuals matrix, it were identified some values above |2.58| (Gerbing & Anderson, 1988; Hair et al., 2009), and also, several modification indices above 5.0 (Anderson & Gerbing, 1988), which indicate possible threats to unidimensionality. These results specify that items **AC_it4**, **AC_it5** and **AC_it8** could be a major threat to the unidimensionality of the dimensions *assimilation*, and *transformation*, and therefore were dropped. After dropping these items, the absorptive capacity measurement model was again re-run (Hair et al., 2009).

Afterwards, eleven items were retained organized as follows: three items in each of the dimensions *acquisition*, *assimilation*, and *exploitation*, and two items in the dimension *transformation*. All the items retained maintained high and significant loadings (≥0.81), suggesting the unidimensionality of these four first-order dimensions of the absorptive capacity construct.

The analysis of the goodness-of-fit statistics support a good model fit, considering all the established thresholds (see Table 9.12). Though the chi-square test is significant ($\chi^2$ = 151.31, p=0.000), and the ratio chi-square/degree of freedom is above 3.0 (df=40, $\chi^2$/df=3.78), all the other indices indicate reasonable or good fit, namely: RMSEA=0.082, SRMR=0.027, GFI=0.94, AGFI=0.90, NFI=0.98, NNFI=0.98, CFI=0.99, IFI=0.99 and RFI=0.98.

Based in these results, it can be concluded that exists support for the unidimensionality of the four dimensions of absorptive capacity, and also for the second-order structure of this construct.

### Table 9.12: Confirmatory Factor Analysis for Absorptive Capacity (AC)

| Items | Description | Standardized Factor Loadings | | | | | T-Values |
|---|---|---|---|---|---|---|---|
| | | Initial | ACQ | ASS | TRF | EXP | |
| AC_it1 | The search for relevant information concerning our industry is every-day business in our company. | 0.83 | 0.83 | | | | 20.48 |
| AC_it2 | Our management motivates the employees to use information sources within our industry. | 0.93 | 0.94 | | | | 24.60 |
| AC_it3 | Our management expects that the employees deal with information beyond our industry. | 0.82 | 0.81 | | | | 19.56 |
| AC_it4 | In our company ideas and concepts are communicated cross-departmental.[a] | 0.96 | | | | | |
| AC_it5 | Our management emphasizes cross-departmental support to solve problems. [a] | 0.94 | | | | | |
| AC_it6 | In our company there is a quick information flow, e.g., if a business unit obtains important information it communicates this information promptly to all other business units or departments. | 0.81 | | 0.83 | | | 19.87 |
| AC_it7 | Our management demands periodical cross-departmental meetings to interchange new developments, problems, and achievements. | 0.82 | | 0.91 | | | 22.60 |
| AC_it8 | Our employees have the ability to structure and to use collected knowledge. [a] | 0.85 | | | | | |
| AC_it9 | Our employees are used to absorb new knowledge as well as to prepare it for further purposes and to make it available. | 0.94 | | | 0.94 | | 25.33 |
| AC_it10 | Our employees successfully link existing knowledge with new insights. | 0.97 | | | 0.98 | | 27.66 |
| AC_it11 | Our employees are able to apply new knowledge in their practical work. | 0.93 | | | 0.94 | | 25.38 |
| AC_it12 | Our management supports the development of prototypes. | 0.81 | | | | 0.81 | 19.49 |
| AC_it13 | Our company regularly reconsiders technologies and adapts them accordant to new knowledge. | 0.86 | | | | 0.85 | 21.11 |
| AC_it14 | Our company has the ability to work more effective by adopting new technologies. | 0.92 | | | | 0.92 | 24.16 |
| **Cronbach's Alpha** | | | 0.86 | 0.83 | 0.95 | 0.87 | |
| **Composite Reliability** | | | 0.90 | 0.86 | 0.97 | 0.90 | |
| **Average Variance Extracted** | | | 0.74 | 0.76 | 0.91 | 0.75 | |
| **Coefficient from fist-order factor (ϒ)** | | | 0.86 | 0.88 | 0.89 | 0.83 | |
| **Standard-error** | | | 0.05 | 0.05 | 0.04 | 0.05 | |
| **T-Value** | | | 16.76 | 16.49 | 20.36 | 15.74 | |

| Relationship between Factors | ACQ↔ASS | ASS↔TRF | TRF↔EXP | ACQ↔TRF | ACQ↔EXP | ASS↔EXP |
|---|---|---|---|---|---|---|
| **Correlation between Factors** | 0.77 | 0.78 | 0.75 | 0.75 | 0.71 | 0.71 |
| **$\chi^2$ Differences for Standard vs 'NonDiscriminant' CFA Models ($\Delta$df=1, p=.000)** | 144.94 | 126.32 | 406.31 | 371.91 | 351.34 | 189.97 |

**Goodness-of-fit Indexes:**
$\chi^2$ = 151.31 (p=0.000); df = 40; $\chi^2$/df = 3.78
RMSEA=0.082; SRMR=0.027; NFI=0.98; NNFI=0.98; CFI=0.99; IFI=0.99; RFI=0.98; GFI=0.94; AGFI=0.90

Notes: [a] – This item was deleted during the scale purification process.

**Convergent Validity**

All the eleven items analyzed here present loadings above both thresholds of 0.60 and 0.70 recommended by the literature (Bagozzi & Yi, 1988, 2012; Garver & Mentzer, 1999), evidencing convergent validity (Anderson & Gerbing, 1988; Garver & Mentzer, 1999; Hair et al., 2009; Steenkamp & van Trijp, 1991). Also, the good overall fit of the measurement model presented before, similarly suggests convergent validity (Hair et al., 2009; Steenkamp & van Trijp, 1991).

Finally, the additional requirement in order to accomplish convergent validity related with the loadings of the first-order dimensions onto the second-order construct must be significant (Bagozzi & Yi, 2012; Benson & Bandalos, 1992) is also accomplished: *acquisition* ($\Upsilon_{ACQ}$=0.86, s.d.$_{ACQ}$=0.05, t-value$_{ACQ}$=16.76), *assimilation* ($\Upsilon_{ASS}$=0.88, s.d.$_{ASS}$=0.05, t-value$_{ASS}$=16.49), , *transformation* ($\Upsilon_{TRF}$=0.89, s.d.$_{TRF}$=0.04, t-value$_{TRF}$=20.36), and *exploitation* ($\Upsilon_{EXP}$=0.83, s.d.$_{EXP}$=0.05, t-value$_{EXP}$=15.74).Thus, it is possible to conclude that there is evidence suggesting the absorptive capacity convergent validity.

**Reliability Tests**

The Cronbach's alphas of the first-order dimensions present values above the 0.70 cutoff recommended by Nunnally (1978): ACQ=0.86, ASS=0.83, TRF=0.95 and EXP=0.87. In addition, the composite reliabilities are: *acquisition* 0.90, *assimilation* 0.86, *transformation* 0.97, and *exploitation* 0.90. These values are above both cutoffs of 0.60 (Bagozzi & Yi, 1988) and 0.70 (Hair et al., 2009). Thus results support the good reliability of absorptive capacity construct.

**Discriminant Validity**

In order to analyze the convergent validity of this construct, the correlations between the four dimensions are different from the unity, which suggests discriminant validity (Steenkamp & van Trijp, 1991).

On the other hand, the CFA models were performed for each pair of dimensions, with the purpose of examining the Chi-Square differences between the standard model and the model with the correlations between the factors constrained to 1.0 ('non-discriminant' model). Results show that the differences of $\chi^2$ are significant for all the pairs of dimensions with one degree of freedom ($\Delta$df=1), hence the dimensions are distinct, providing support for discriminant validity.

Finally, the AVE of all the four dimensions are higher than the threshold of 0.5 (ACQ=0.74, ASS=0.76, TRF=0.91, and EXP=0.75), implying that the variance explained by each factor is larger than the variance related with the measurement error (Fornell & Larcker, 1981). In addition, contrasting the square root of AVE from the four dimensions of absorptive capacity with the correlation estimates between those dimensions and all the other constructs included in the model (see Table 5.16, Table 5.17, Table 5.18, and Table 5.19), it is possible to conclude that the items of the dimensions of absorptive capacity explain better those dimensions than another constructs (Hair et al., 2009; Ping, 2004).

## 9.8.5  Firm Performance

### 9.8.5.1  International Performance

Starting the analysis of the international performance construct, the reliability test (Cronbach's $\alpha$) does not suggest the removal of any item, and presents a value of 0.92[8].

The results of the CFA conducted on the items relating to international performance are presented in the Table 9.13. Results of the six-item model are consistent with the underlying theory (Bagozzi & Yi, 1988; Hair et al., 2009), since the parameter estimates present the correct signs and sizes, and standard errors were not very large.

**Table 9.13: Confirmatory Factor Analysis for International Performance (IPer)**

| Items | Description | Standardized Factor Loadings | | T-Values |
|-------|-------------|:----:|:----:|:----:|
| | | Initial | Final | |
| IP_it1 | Sales Volume; | 0.87 | 0.89 | 22.44 |
| IP_it2 | Market share; | 0.82 | 0.85 | 20.75 |
| IP_it3 | Profitability; | 0.84 | 0.85 | 20.64 |
| IP_it4 | Market entry; | 0.70 | 0.64 | 14.00 |
| IP_it5 | Image development; | 0.68 | | |
| IP_it6 | Knowledge development. | 0.72 | | |
| **Cronbach's Alpha** | | | **0.88** | |
| **Composite Reliability** | | | **0.89** | |
| **Average Variance Extracted** | | | **0.66** | |

**Goodness-of-fit Indexes:**
$\chi^2$ = 6.24 (p=0.044); df = 2; $\chi^2$/df = 3.1
RMSEA=0.071; SRMR=0.015; NFI=0.99; NNFI=0.99; CFI=1.00; IFI=1.00; RFI=0.98; GFI=0.99;AGFI=0.96

In the next paragraphs, the issues related with dimensionality, convergent validity, reliability and discriminant validity are assessed.

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[8] This was the initial Cronbach's alpha before dropping any items in the scale purification process.

**Unidimensionality**

The initial six items of international performance present high and significant loadings (≥0.70), which support this construct unidimensionality. However, when analyzing the standardized residuals matrix, several values above |2.58| were identified (Gerbing & Anderson, 1988; Hair et al., 2009). These results indicate that the items **IP_it5** and **IP_it6** threat the unidimensionality of the international performance construct, and therefore should be dropped. After dropping these problematic items, the measurement model of international performance construct was again re-run, as recommended (Hair et al., 2009).

After this procedure, the four items retained presented high and significant loadings (≥0.64), and a new observation of the standardized residuals matrix did not reveal any problematic value (above 2.58, or below -2.58). On the other hand, the majority of the model fit indexes are quite good, considering all the established thresholds. Even though RMSEA presents only reasonable fit and the ratio chi-square per degrees of freedom is slightly higher than desirable, the null hypothesis of chi-square test is rejected at p=0.044, and all the other indices (SRMR, NFI, NNFI, CFI, IFI, RFI, GFI and AGFI) indicate good fit.

Therefore, taken together these aspects support the unidimensionality of international performance.

**Convergent Validity**

As mentioned before, each of the four retained items loaded strongly onto the international performance construct (≥0.64), which can suggest convergent validity. Also, the coefficients are higher than twice their standard errors, therefore supporting convergent validity (Anderson & Gerbing, 1988). The evidence of convergent validity is also reinforced by the overall fit of the model (Hair et al., 2009).

Complementarily, all factor regression coefficients are larger than 0.50, and all the parameter estimates are higher than 0.70, reinforcing the support to convergent validity (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991).

**Reliability Tests**

Like already mentioned, Cronbach's alpha is equal to 0.88, value above the 0.70 cutoff suggested (Nunnally, 1978). Also, the composite reliability ($\rho_c$) of international performance is 0.89, clearly above the 0.60 cutoff (Bagozzi & Yi, 1988) and also above the more frequently

used threshold value of 0.70 (Hair et al., 2009). Taken together, these two statistics support construct good reliability.

## Discriminant Validity

The AVE of the international performance construct is 0.66, which is above the 0.50 cutoff (Fornell & Larcker, 1981). On the other hand, comparing the square root of international performance AVE with the correlation estimates between international performance and all the other constructs included in the model (see Table 5.16, Table 5.17, Table 5.18, Table 5.19, and Table 5.20), it is possible to conclude that the items of international performance explain better the international performance construct than another constructs (Hair et al., 2009; Ping, 2004).